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| **PROTOCOL** |
| Eliminating the Major Helminth Neglected Tropical Diseases from the Lower Mekong Basin |
| ***The Magic Glasses e-Asia Joint Research Program*** |

NH&MRC Project Grant, Australia

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# Introduction

## Rationale

Helminths are among the most common human infections worldwide, with over 1.5 billion people, mainly in low and middle income settings of Africa, Asia, and the Americas, infected.1 Helminths are parasitic worms that cause human disease. In the Lower Mekong Basin, two of the most common helminth related Neglected Tropical Diseases (NTDs) are soil transmitted helminths (STH) –comprising roundworm (*Ascaris lumbricoides*), whipworm (*Trichuris trichiura*) and hookworm (*Necator americanus and Anyclostoma duodenale*) – and the liver fluke *Opisthorchis viverrini* (OV). The SE Asian region, and the Lower Mekong Basin in particular, have the highest reported prevalence of infection with both of these NTDs. Helminths are of significant public health concern in the Lower Mekong Basin; infections have major health impacts, causing physical disability, particularly for children, in terms of anaemia, malnutrition stunted growth and cognitive deficit. Some chronic helminth infections in the Lower Mekong Basin (particularly OV) are classed as **biological carcinogens,** found to have a causal link to cancer of the bile duct and bladder.2 The Lower Mekong Basin has the highest rate of bile duct cancer, cholangiocarcinoma, in the world, with estimates of up to 10 million people in Lao PDR and Thailand infection.3 In addition to physical health, helminths also contribute to the maintenance of poverty and impede socio-economic development: poor communities are disproportionately affected as infections are driven by inadequate sanitation and hygiene, and lack of clean water.4 High rates of infection restrict educational attainment and economic output, in turn slowing socio-economic growth in affected areas. Persistent mass drug administration (MDA) is the primary control strategy, however it is unable to prevent reinfection, and after treatment is stopped, prevalence returns to pre-treatment levels within 6-18 months.5-11 This leads many to question the sustainability of STH control based on deworming alone. Additional control measures as part of an integrated approach are necessary to augment chemotherapy to treat and prevent infection. **Our central thesis** is that a multi-component elimination package, developed by our group, can influence the behaviour of adults and children in a way conducive to the prevention of parasitic worm infections, thereby playing a pivotal role in the sustainable control and prevention of NTDs globally.

## Study objectives and hypotheses

**We will test the hypothesis that:** A multi-component elimination program based on deworming + the Lawa Model + Magic Glasses can interrupt transmission of major helminth NTDs, leading to their elimination in the Lower Mekong Basin.

**We will test this hypothesis with the following specific aims:**

**1)** To develop a multi-component elimination program tailored for the Lower Mekong Basin and aimed at the major helminth NTDs.

**2)** To evaluate the impact of the multi-component elimination program in sentinel sites across Thailand, Lao PDR and Cambodia – Lower Mekong Basin.

**3)** To design a scaling-up protocol and guidelines based on geospatial and mathematic modelling to expand the elimination program across all endemic areas of the Lower Mekong Basin.

## Background

### Helminthiases (STH)

STHs – including roundworms *(Ascaris lumbricoides)*,the most prevalent STH/NTD with an estimated 1 billion infections globally;whipworms *(Trichuris trichiura)* and hookworms (*Necator americanus* and *Ancylostoma duodenale*), each infecting approximately 600-800 million – are intimately connected to rural poverty, inadequate sanitation and waste disposal, lack of clean water and poor hygiene, as well as limited access to health care and preventive measures through health education.12-14 STHs impact significantly on public health and cause severe disability in the world’s poorest communities.15 According to the WHO, children and pregnant women are most at risk of STH infections, which have a particularly debilitating effect on the health and economic well-being of children.4 Hookworm infections reduce child survival by causing severe anaemia during pregnancy, which leads to low birth weight and increased infant and maternal mortality. Chronic helminth infection can lead to iron deficiency anaemia and anaemia of inflammation, protein malnutrition, intestinal obstruction, chronic pain, exercise intolerance, stunting, wasting, diarrhoea, and poor mental and physical development. Helminth infection is also associated with poor economic outcomes for children including a reduction in school enrolment, school performance and attendance, and adverse effects on future earnings.16 Chronic STH infection causes these outcomes because they impair cognition and memory, growth, development, and physical fitness.17 Nevertheless, STH have remained, until recently, largely neglected by the medical and international community. Estimates put the global disease burden for STH infections as high as 39 million disability-adjusted life years (DALYs).17

### Opisthorchiasis (*O. viverrini*)

*O. viverrini* (OV) or Southeast Asian liver fluke is a food borne trematode parasite which infects the bile duct. Human infection occurs via the consumption of uncooked or fermented Cyprinid fish (freshwater fish with scales).18-21 This raw or fermented fish consumption is deeply embedded in the food culture of the lower Mekong region.22 Transmission occurs through the excretion of eggs in human faeces with hatched larvae infecting *Bithynia* snails and then fish intermediate hosts. Dogs and cats are also infected with cats acting as an important reservoir host.23,24 Whilst the direct health impacts of OV infection can be mild, or even asymptomatic, the secondary impacts in terms of causation of hepatobiliary abnormalities are serious. Consequences of OV infection occur mainly in the liver, bile ducts, gall bladder and kidney. The most serious consequence of OV infection however is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer. In Thailand, the burden of CCA is estimated at 216,530 DALYs with men 1.5 times higher than women.25 This association with the development of cholangiocarcinoma has led to OV being classed as Group 1 biological carcinogen.

### Public health importance of STHs and OV in the Lower Mekong Basin

According to the World Bank, STH are responsible for 16.7 million DALYs lost among children aged 5-14 years. STH present a significant public health challenge in Southeast Asia, with approximately one third of global STH cases occurring there. A particular area of concern is the lower Mekong Basin (Lao PDR, Cambodia, Northeast Thailand) where some of the highest prevalences occur. In Lao PDR, Cambodia and Thailand STH prevalence has been reported to be as high as 86%;17-23 70%;5 and 39% respectively.

OVinfections affect at least 10 million people in the Lower Mekong Basin, giving the region the highest burden for this condition.3,19 The largest number of cases are found in Northeast Thailand, with >6 million infections.26 Despite decades of control effort in this region, prevalence of OV infection remains around 10-15% in most provinces of Northeast Thailand and is up to 60% in certain areas, and this prevalence disguises substantial community level variation.20 Lao PDR is home to the second largest number of infected humans, at around 2 million.26 Given the smaller population however, prevalence is higher in Laos, and is particularly high in the Mekong border provinces of Central Laos. Recent studies have found the prevalence of opisthorchiasis is likely above 30% in most non-mountainous provinces of Lao PDR and exceeds 50% in some communities. Cambodia, also has a significant burden of OV infection, with similar infection levels in some provinces to those found in Thailand and Lao PDR. In the most recent large scale survey in Cambodia, national prevalence was estimated at 7.7%, while some provinces recorded prevalence at over 30%, and in one District over 60%.

### STH and OV control

The mainstay of helminth control is mass drug administration (deworming) with Albendazole (ALB; or Mebendazole) for STH and Praziquantel (PZQ) for OV. The current WHO strategy for STH is to continually treat pre-school and school-age children, women of childbearing age and adults at high risk once or twice per year depending on prevalence.27 Similarly, the WHO recommends universal MDA for OV control, at 12- or 24-month intervals depending on population risk (or annual treatment for high risk individuals in low risk populations).28 These methods are effective in achieving morbidity control, however they do not prevent re-infection. A number of studies have shown that once helminth treatment is stopped prevalence returns to pre-treatment levels within 6-18 months.1,5,29 Therefore, deworming alone is not sustainable in the long-term because persistent treatment is required. Furthermore, there are many examples of drug resistance developing against nematodes of sheep and other livestock as a result of continued MDA;30-32 and it is believed that, given the current treatment pressure, it will be only a matter of time before drug resistance is seen in nematode species that infect humans.30,31 As such, a holistic approach to infection control is needed. We posit that interventions preventing re-infection (e.g. hygiene improvement achieved through health education) are required to augment chemotherapy as part of an integrated approach, whereby chemotherapy reduces morbidity and prevalence, and preventive interventions (e.g. health education) prevent environmental exposure and re-infection/incidence. This will limit the number of treatment cycles required for effective control and subsequently reduce the treatment pressure, as well as creating a more sustainable long-term approach to control.

Schools provide an existing, efficient and cost-effective platform for the delivery of interventions to students and the rest of the community. WHO has long recognised the importance of schools to strengthen health promotion33,34 and, in 1995, launched its Global School Health Initiative, which seeks to mobilise and strengthen health promotion and education activities at the local, national, regional and global levels. The initiative, which is still one of the organization's primary health promotion efforts, is designed to improve the health of students, school personnel, families and other members of the community through schools.35

One Health is an integrated approach that emphasises the importance of interdisciplinary collaboration in achieving optimal health for people.36 One Health has endorsed by WHO, United States Agency for International Development, Food and Agriculture Organization, and the World Organization for Animal Health, and received empirical support across infectious disease research.36-38EcoHealth refers to the recognises the co-dependent relationship between humans, animals and the environment in health outcomes.36

### Application of a multi-component elimination program

Our team has pioneered the development of an engaging and effective health education package for the prevention of STH in schoolchildren. The educational package was based on a 12-min educational cartoon video called “The Magic Glasses” (Figure 1), developed by our team, combined with classroom discussions, drawing and essay competitions and a pamphlet (derived from the cartoon) containing relevant messages on the transmission and prevention of STH. We evaluated “The Magic Glasses” via a cluster RCT in China and results showed an unprecedented (for educational interventions targeting STH) 50% decrease in the incidence of STH infection (OR = 0.5, 95% CI 0.35-0.7, P<0.0001) in the intervention schools compared with the control schools; a two-fold increase in knowledge scores between intervention and control schools (P<0.0001); and the proportion of students washing hands after using the toilet increased by a factor of two in intervention group (P<0.02). Published in the New England Journal of Medicine,39 these results showed that the video-based health educational package widens student knowledge and changes behaviour, resulting in fewer STH infections.



**Figure 1**. DVD cover of "The Magic Glasses"

Many of the key prevention messages for STH are applicable to all helminth NTDs in the Mekong, and can be adapted to fit other infectious diseases. Thus, we will adapt "The Magic Glasses" to examine OV in addition to STH. “The Magic Glasses” will be implemented alongside the "Lawa Model", a multifaceted infection control intervention developed in Khon Kaen by CI Sripa. The "Lawa Model" employs an EcoHealth/One Health approach to the control of OV and is comprised of human and feline PZQ chemotherapy, novel intensive health education methods (particularly around diet behaviour change) both in the communities and in schools, ecosystem monitoring and active community participation. The main features of the approach have been:

1. Intensive community education and dietary behaviour change interventions which emphasise community led approaches and two-way learning between researchers and community members. The comprehensive understanding of local diet patterns, and their cultural determinants, including food sharing practices, has been essential to the intervention’s effectiveness;
2. school based control activities;
3. the use of an Ecosystems, or Ecohealth approach. A system thinking approach has been used to assess the potential for intervention in parasite transmission at all stages of the O. viverrini life cycle. PZQ can decrease the egg burden in the environment and health education can induce behavioural changes including in diets and the feeding practices of domesticated animal reservoirs. These approaches require multi-disciplinary cooperation and the involvement of various levels of local government.40

Evaluated in 12 villages surrounding the Lawa Lake, the prevalence of O. viverrini was reduced from 60% to less than 10%.40 Strikingly, the Cyprinid fish species, which are the intermediate host, now show less than 1% prevalence compared to a maximum of 70% during the baseline survey. This liver fluke control program, now named “Lawa model,” has become recognized nationally and internationally.40

### Mapping and mathematical modelling

Spatial clustering of parasite infections is a well-described phenomenon;41-43 and we have shown in multiple Southeast Asian countries that STH distribution is heterogeneous across varying environmental conditions (climate, vegetation, rainfall and proximity to water bodies),44,45 as is the distribution of OV.46 The Mekong region which is the target of this proposal comprises numerous ecological areas and so helminth distribution will vary here. Recent work by our team has shown that STH disease maps that identify disease clusters, based on spatial prediction techniques, can provide an evidence base to support decisions on geographical targeting of large-scale control programs, thereby increasing their efficiency.41-44 Helminth distribution maps produced here (Aim 3) will be able to guide control program managers in Thailand, Lao PDR and Cambodia as to where to prioritize and implement our multifaceted control program – evaluated in Aim 2 – as part of up-scaling to areas in need of intervention. Geographical information systems (GIS) and spatial analysis methods have had only localised health applications in Lao PDR and Cambodia to date and most jurisdictions within these countries do not have operational GIS programmes to improve the efficiency of health care delivery. Delineation of clusters to enable efficient helminth disease control is urgently required.

Our mathematical model47 allows for the simulation of steady state *S. japonicum* transmission dynamics as well as prediction of the impact of imposed interventions (alone and in combination) on transmission over time. In regards to control options, we have used this model to predict that bovine vaccination in conjunction with other interventions, including human chemotherapy, will result in a significant reduction in schistosome transmission in China.48 This will form the mathematical basis of the OV model that we’ll develop here and highlights our expertise in this field for the development of the STH model as well.

# 2. Research plan: Aim 1

To develop a multi-component elimination program tailored for the Lower Mekong Basin and aimed at the major helminth NTDs.

Year 1 of this research program will be dedicated to formative research, community engagement and consultation. This is a fundamental principle of the “Lawa Model” and “Magic Glasses”; and critical for integrating and adapting them to the Lower Mekong Basin as a comprehensive multi-component elimination program targeting opisthorchiasis and STH – the major helminth NTDs in this setting.

## 2.1. Preliminary Assessment

## 2.1.1. Formative Research

A preliminary survey (**commencing 2021**) applying a community participation approach, including both quantitative and qualitative research methods, will be conducted in two (?) selected schools (outside the main trial study area) in two communities in each country. This will be undertaken to identify barriers to the elimination program – this will be used to guide community engagement activities for successful trial implementation

The preliminary assessment includes the following:

1. Household survey will be conducted involving 40 households with Grade 4 children in 2 randomly selected communities (N=20 households in a selected village per community). The survey will involve in-depth interview with the household head, household observations, and infrastructure assessment using a household questionnaire (**Appendix x**);
2. Knowledge, Attitude, Practices (KAP) survey (N=200) with the Grade 4 schoolchildren (aged 9-10 years old) in two randomly selected schools (100 students per school) to assess their KAP associated with intestinal worm infection, schistosomiasis and liver fluke or opisthorchiasis **(Appendix x);**
3. Qualitative *draw and write* assessment and semi-structured interviews with 20 schoolchildren in 2 selected schools in the same municipalities (10 schoolchildren per school) will be conducted to assess their previous knowledge on intestinal worms, schistosomiasis and liver fluke or opisthorchiasis **(Appendix x);**
4. Focus group discussion with 20 schoolchildren in 2 selected schools in the same municipalities (10 schoolchildren per school) **(Appendix x);**
5. Key informant interviews with teachers (n=6; 1 district supervisor, 2 principals, 2 language teachers, and 1 mathematics teacher), doctors (n=2; 1 municipal health officer and 1 paediatrician), and nurses (n=2; 2 health education promotion officers); and government officials of health, education and veterinary bureaus using a semi-structure questionnaire (**Appendix x**).
6. Behaviour observations to record risk behaviour/ hygiene practices on video to identify risk factors for STH, schistosomiasis and OV infections

## Intervention development

## Educational video

Our existing educational cartoon video “Magic Glasses” will be adapted to the Lower Mekong Basin and to target the major helminth NTDs in this setting **using the same approach we employed in its original development**.39 Following the formative research above, a review of Thailand, Cambodia and Lao PDR animation history and popular cartoons will also be conducted. Our research team, in consultation with our professional animator (Mr Andrew Bedford) – who developed the original video – will use this information to adapt the script and storyboard to the major helminth NTDs and the Lower Mekong Basin culture.

To ensure the cartoon is both engaging and informative, educational behaviour theories such as the Health Belief Model (to predict general health behaviours),49,50 Integrated Behavioural Model (IBM) (comprised of: Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB)) and Social Cognitive Theory (theory that people learn by watching what others do and will not do)49,50 will be explored. Following script and storyboard adaption, concept art will be developed and the animation process finalised using Adobe Creative Suite, Autodesk 3DS Max and Motion-builder software.

A beta version of the cartoon (“Magic Glasses: Mekong”) will be piloted in 3 schools (N = 120) in the same endemic region (outside of the study areas) prior to deployment. This will ensure the cartoon has been appropriately adapted and technical issues rectified. Pilot testing forms are shown in **Appendix xx.**

In addition, accompanying classroom discussions, drawing and essay competitions and the educational pamphlet will also be adapted in consultation with local educators.

## Community health promotion media

Community initiatives based on the “Lawa Model” will be supportive of the school-based “The Magic Glasses” related to sanitation and hygiene, hand washing, culinary practices and interaction with animal reservoirs. Formative research above will inform their development in collaboration with village leaders, especially those dealing with education and health in the development and implementation of a local media-based educational campaign. This social marketing campaign will focus on knowledge of and attitude to major helminth NTDs, its transmission, symptoms, treatment and prevention and hygiene and culinary behaviour. Materials developed will be piloted prior to implementation.

# Research plan: Aim 2

To evaluate the impact of the multi-component elimination program in sentinel sites across Thailand, Lao PDR and Cambodia – Lower Mekong Basin.

Year 2 of this research program will be dedicated to implementation, analyses, and evaluation of the multi-component elimination program.

## Study setting

The study will be undertaken across three sentinel sites (Chonnabot District, Thailand; Chhaeb District, Cambodia; and Champhone district, Lao PDR) in the Lower Mekong Basin that are co-endemic for the major helminth NTDs (opisthorchiasis and STH) (**Figure 2**). Helminth NTD prevalence ranges from 30 – 80% for O. viverrini; and 30 – 60% for STH in these sentinel sites. Four endemic villages per site (N=12 villages) will be selected as the study setting.

**Figure 2**. Study sites



## Study design

A cluster-randomised controlled trial will be undertaken to determine the impact of our elimination program that combines “Lawa Model” + “Magic Glasses” compared to PZQ/ALB chemotherapy alone. The trial profile is shown in **Figure 3**. Twelve endemic villages (clusters) will be selected and matched into pairs (as closely as possible based on factors related to transmission: i.e. infection levels, transmission ecology and force of infection (e.g. culinary, sanitation and hygiene practices)) to reduce confounding and to increase statistical efficiency. One village within each pair will be randomly assigned intervention status leaving the remaining as the control (6 intervention; 6 control villages). In each village, a fixed sentinel cohort (n = 500) of people will be selected and followed up over one year. **See sample size calculations below**. Cohort inclusion criteria include:

1. resident of the village selected for the study,
2. resident of the village for >12 months,
3. 5-75 years of age,
4. will not be migrating in the next year,
5. will continuously reside in the study area over the study period,
6. the resident has given informed consent,
7. resident minors have the informed consent of their parent/guardian.

The primary endpoint will be cumulative incidence of human OV and STH infection.



Figure 3. Trial profile

## Study procedures

## Baseline

## Recruitment, enrollment of study participants, KAP and stool survey

The recruitment of study participants will be done through household visits of selected villages. Prior to the survey, the list of households will be requested from the health center/post of the selected villages. With an average household size of 4-5 people, the survey is expected to select and visit 100 or more households to ensure enrolment of 500 study participants per village.

In each selected household, the household head will be the respondent for the Household Interview. The research staff will first ask the permission of the household head to conduct the interview. The project objectives and procedures will be explained by the field interviewer using the Information Sheet. If the household head agrees to participate in the survey, he/she will be asked to sign the Informed Consent Form for Household Interview (**Form 1a).** The Household Interview questionnaire (**Form 2**) includes questions on the names of all the household members and their corresponding demographic information. The interview will also cover questions that aim to assess the economic situation of the family, such as family income, house and land ownership, among others.

After the Household Interview, all household members >=5 years old will be invited to participate in the trial. The contents of the Information Sheet, including the activities to be undertaken in the study (i.e., KAP survey, stool examination, nutritional assessments, and delivery of the intervention (i.e., for intervention villages) will be explained to each eligible member, and they will all be asked to sign the Informed Consent if they agree to participate in the trial. For participants 17 years old and younger, Parental Consent (**Form 1b**) will be obtained and Informed Assent (**Form 1c**) will be also taken from participants aged 12-17 years,

After obtaining consent, the KAP survey will follow. The KAP questionnaire (**Form 3**) contains questions on knowledge of STH, schisto and Ov, their signs and symptoms, causes, transmission, diagnosis, prevention and treatment. Also included in the questionnaire are items assessing the attitudes and behaviour of respondents towards these infections.

Two stool samples will be requested from each participants as part of their involvement and they will be instructed to collect in two consecutive days. The participants will be provided with a stool collection kit that include a stool container, gloves, applicator stick and instruction on how to collect a stool sample. Additionally, the research staff will briefly orient the participant on how to collect the stool sample.

The research staff will also inform the study participants of their scheduled return visits to collect the samples. To ensure completeness of the baseline procedures on each of the household member who consented to participate in the study, the study team will allot three to four days for the household visits.

## Human stool collection and examination procedure

Stool sample collected in the households will be transported to the designated laboratory and will be processed within two hours after collection, and read the same day using 3 KK thick smears (41.7 mg of stool/smear) prepared per sample (with blind reading) for the assessment of STH and schistosomiasis infection rates and intensity while formalin ethyl-acetate concentration technique (FECT) will be employed for the assessment of Opisthorchiasis (*O. viverrini).* Quality control will be carried out by independent microscopists on 20% of slides using both KK and FECT. Stool submission and results of the stool processing and examination will be recorded in **Form 4, 5 and 6,** respectively.

In addition, a specimen of two to three grams of each stool sample will be transferred to a 15 ml plastic tube and stored in 80% (v/v) ethanol at 4°C for molecular analysis.

## Nutrition Assessment

## Animal stool collection and examination procedure

One stool sample will be collected from felines (N=100) and dog (N=100) in the selected villages and FECT will be undertaken. Quality control will be carried out by independent microscopists on 20% of slides using FECT. Result of stool processing and examination will be recorded in **Form 8**.

## Snail sampling and cercarial shedding

Random quadrat sampling and cercarial shedding will be used for snail surveys.51

Fresh water snails that will be collected per site will be put in a plastic bags and labeled by study sites and time period and then will be brought back to the local laboratory for Ov cercarial quantification (**Form 9**).

## Fish sampling and metacercariae sedimentation

Fish collected in rivers, ponds/lakes and dams in proximity to study sites will be identified, counted, weighed, and digested using pepsin-HCl, and then examined for OV by a sedimentation method, and metacercariae identified under a stereomicroscope.52 **Form 10**

## Treatment and delivery of the intervention

Following baseline, in **intervention** villages all residents will be treated with PZQ/ALB (40 mg/kg & 400 mg) followed by the *Lawa Model* + *Magic Glasses*. *Lawa Model*: community health promotion materials optimised in Aim 1 will be implemented along with feline PZQ (40 mg/kg);53 “*The Magic Glasses*” will be shown in schools linked to study villages – this will be done twice a year in January and another in June. Residents of ***Control*** villages will all receive PZQ/ALB (40 mg/kg and 400 mg) treatment only.

The treatment, community and school health education intervention coverage will be recorded using **Form 11 and 12**.

## Follow-up

At **follow-up:** we will undertake stool examinations; questionnaires; and intermediate host surveys as per baseline. For ethical reasons any person found positive for OV or STH infection at follow-up will be referred to the MOH for clinical care and treatment. Following trial completion, control villages will receive the intervention – for ethical reasons and key for mobilisation of the study population.

## Statistical analysis

Preliminary analysis will calculate human prevalence of infection and intensity in those infected for each time-point and each village, with 95% CIs. Exposure-related variables (age, sex, occupation, e.g.) will be examined across villages. Multivariate regression (covariates will include baseline infection, relevant others selected from preliminary analyses) will be used for formal analyses of follow-up incidence (log-binomial model) and intensity of infection (log-negative binomial model). A multi-level model, stratified by country and with village as a random effect will be applied using SAS software (SAS Institute, Cary, NC). Relative risk estimates will be converted to estimates of control program effectivenessagainst incident infection. Intermediate host data will be summarised descriptively in terms of prevalence and infection density (e.g. mean number of snails per metre2; mean number of infected snails per metre2; and prevalence of infected snails). Sample size calculations: For STH (as the rate limiter), assuming a design effect of 4 (determined from regional STH data) an alpha of 0.05 and power of >80%, a sample size of N=4800 at the end of the trial will be required to detect as low as a 30% combined efficacy of “Lawa model” + “Magic Glasses”, assuming an incidence rate of at least 25% in the non-intervention group. As such we will recruit a sentinel cohort of N=6000 across 6 village pairs (N=500/village) to account for 20% attrition. The OV incidence is higher than STH and so we also have >80% power with this sample.

# Research plan: Aim 3

To design a scaling-up protocol and guidelines based on geospatial and mathematic modelling to expand the elimination program across all endemic areas of the Lower Mekong Basin.

Year 3 of the research program will be dedicated to spatial analysis of STH and OV distribution in the Lower Mekong Basin, and modelling to inform the multi-component elimination plan.

4.1. Spatial analysis

We will use spatial analyses to produce robust maps of the distribution of opisthorchiasis and STH infection and risk across the Lower Mekong Basin. This will be critical for geographically guiding the implementation of a scaled-up version of our elimination program (***Aim 2***) and ensuring the efficient allocation of scarce resources. Predicted prevalences will be used to inform baseline parameters for modelling the short, medium and long-term impacts of the inventions (below).

Geo-referenced data sourced from the Global Atlas of Helminth Infections, previous studies undertaken in the region, and the CASCAP study,54 will be used for spatial analyses and the production of infection and risk maps. We will apply the cutting-edge spatial prediction method, model-based geostatistics (MBG)55 in which **CI Clements** is an internationally recognised expert. The approach is illustrated in **Figure 4**, with data from a study undertaken by the **CI team** in the Philippines for STH, using national survey data.

From **Figure 4** it can be seen that MBG uses a generalised linear modelling approach, which is implemented in a Bayesian framework. In the case of predicting prevalence, the binomial response variable is modelled using logistic regression. The model contains covariates (spatially varying environmental predictors, usually including satellite-derived estimates of temperature, rainfall and vegetation, or interpolated weather station data) and a function of spatial autocorrelation, all of which influence the spatial predictions. The outputs will be a continuous risk surface indicating the average predicted prevalence (and associated uncertainty) for villages distributed throughout the Lower Mekong Basin. These risk surfaces will be used to plan where to roll out our multifaceted elimination program. A process of ranking communities according to their predicted risk will be discussed with leaders of the national helminth control programme in each country during meeting at the end of the project. In a control context, a potential decision could be that communities with a high probability (e.g. >95%) of having predicted prevalence above an intervention threshold dictated by WHO will receive the highest priority for delivery of the intervention; whereas for an elimination setting, all communities with a non-negligible probability (e.g. >5%) of having a prevalence above a level that could lead to ongoing transmission on the basis of a mathematically determined threshold (say, 1%) could be targeted. In this comparison, the additional resourcing required for transition from control to elimination could be estimated.

**Figure 4.** MBG approach

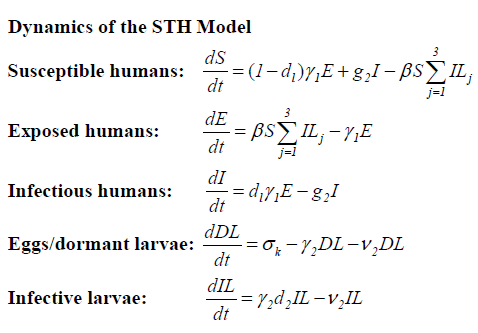


## 4.2. Mathematical Modelling

Mathematical models will be developed and applied to simulate, opisthorchiasis and STH transmission dynamics over time; and to simulate the short, medium and long-term impacts of our multifaceted elimination program across various endemicities in the Lower Mekong Basin, for varying efficacy, coverage, and sustainability.

**The STH model (Figure 5)** will be based on that developed by Bartsch et al 2016,56 which incorporates births, deaths and ageing (through pre-school children, school-aged children and adults), as well as the pre-patent period. Hosts are either **S**usceptible (infection-free), Exposed (infected, but not producing eggs), or Infectious (producing eggs). The parasite is either in the form of eggs or dormant larvae (DL, pre-infective form) of infective larvae (IL). The life cycle of the parasites will be modelled in host and environment, with a negative binomial distribution assumed for the distribution of worms across each age-group, and a fecundity-based fecundity model used for egg production. See example of model equations for hookworm (demography suppressed for simplicity of presentation) which govern rates of change over time for various states in humans and parasites. Parameters are estimated from the known lifecycle stages of the various hosts,47 and baseline epidemiological data collected in the three sites.

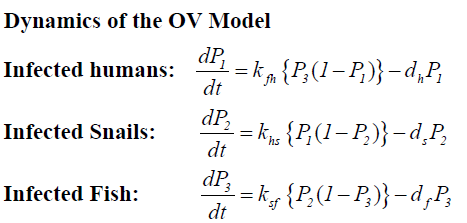
**Figure 5**. STH model



Interventions are then simulated, with varying coverage, efficacy and sustainability. Model equations are solved numerically to predict prevalence and incidence over time.

**The opisthorchiasis model** will be based on the *S. japonicum* model developed by **CI Williams**, which is an extension of that developed by Barbour.57 It will be further adapted to include human demography as described above for the STH model. The model is based on the *O. viverrini* lifecycle and allows for heterogeneity within definitive and intermediate hosts. It consists of a set of simultaneous equations which model rate of change in prevalence over time, *P1* = prevalence in humans; *P2* = prevalence in snails and *P3* = prevalence in fish; d = death rate (h = humans, s= snails, f = fish) *kfh / khs / ksf* = composite transmission parameters for fish 🡪 human; human 🡪 snail; and snail 🡪 fish respectively.

The model is parameterised using data of *O. viverrini* epidemiology including: the distribution of endemic prevalences within host classes, and known features of opisthorchiasis transmission such as infection duration. Interventions are then simulated as described above.



**Figure 6**. Dynamics of OV Model

## 4.3. Intervention costs

In parallel with evaluation of interventions, the **costs of interventions** will be accumulated, to enable a cost-effectiveness analysis (CEA) of the trialled elimination program and varying levels of intervention coverage. Unit costs will be estimated in 2023 US$ for the following components:

### 4.3.2.. Control measures associated with interventions

Control program staff time to implement intervention (delivery of drugs, implement health education, community engagement); additional casual staff for intervention activities; materials (drugs, associated materials); equipment for diagnostic tests for case-finding; and design/production of health promotion packages.

The CEA indicators to be used to compare these interventions will be cost per infection prevented, cost per infected-year prevented over a 5-year period, to achieve infection prevalence below 1%, and to achieve elimination. The **long-term health care costs** associated with prevention of infections will also be estimated by projecting the incidence of disease (e.g. CCA) within infected persons based on the predicted number of prevented infections and statistical models predicting disease within infected persons (by age, sex, occupation) from previous data and the following health care costs: patient access to health care, including opportunity costs; loss of income associated with illness or reduced life expectancy, cost of treatment (e.g. clinic/hospital staff time, diagnostic test costs, drugs, hospitalisation).

## 4.4. Cost effectiveness

Results from both **Aims 2 and 3** (experimental proof of principal of elimination program success (**Aim 2**); short, medium and long-term impacts of interventions across varying levels of endemicity (**Aim 3**); cost-effectiveness of the elimination package and the cost of national roll-out (**Aim 3**) will be used to develop a scaling protocol and guidelines for the roll-out of our multifaceted elimination program across the endemic regions of the Lower Mekong Basin.

# Ethical consideration

This study will comply with the provision contained in the NHMRC National Statement on Ethical Conduct in Human Research. The study protocol will be submitted for review to the Australian National University (ANU) Human Research Ethics Committee. Informed consent will also be obtained from all the study participants (in all study sites) before the study activities. All the information collected from the study respondents will be kept highly confidential.

**Informed Consent**

Before starting the formative research and the main trial activities, the study staff shall obtain the respondent’s informed consent. The respondent will be given a copy of the Information Sheet that he/she will be read while the research staff explains the study objectives and procedures by going through the Information Sheet. The respondent will be given the chance to ask questions about the study. He/she will also be informed that participation in the study is voluntary and that he/she may choose to stop the interview and screening at any time. Once the respondent agrees to participate, he/she will have to sign the Informed Consent Form (ICF). For eligible participants less than 18 years old, the guardian will sign the ICF. Assent to participate will be also obtained from the participating children with age 12-17 years old.

The information sheets, informed consent and assent forms to be used for the formative research and the main trial are shown in the appendices.

**Risk**

There is no foreseeable harm for the study participants if they will participate in this study. The topic of this study is not controversial nor will it label the participants in any way.

All participants (including children, parents, teachers, and household members) may choose not to answer any questions (related to STH and Ov), during either the formative research phase (i.e., qualitative draw and write, semi-structured interviews, KIIs, FGDs and KAP survey) or the main trial if they feel uncomfortable in any way. Moreover, they will be informed during the consent/assent process that they do not have to complete the study if they choose not to at any point while participating.

Treatment for STH (Albendazole) and Ov (Praziquantel) will also be provided to the study participants by the Ministry of Health. These medications are known to carry very low risk of reaction, but in case of adverse events, the Health authorities (with many years of experience in administering this medication) will be able to assist.

**Benefits**

There are no direct benefits to the participants of this study. We will also not provide any incentives to them. However, the information obtained through this study will assist the researchers and the respective Health Ministries of each country to develop the most effective intervention and improve the health of people in the community.

**Privacy and Confidentiality**

The researchers in this project guarantee confidentiality of the data as far as the law allows. All information collected in this study will be kept highly confidential. All study forms if not in use will be kept locked in a filing cabinet and/or electronic study forms will be keep in password protected computers placed in a secured office at each respective country site. Data from the computer will be backed-up on an external drive. The audiotaped KIIs and FGDs will only state the municipality of the respondent, her designation, and not the names of the interviewees.

Personal information that will be collected from the study participants will be stored separately from the rest of the research data. Only the study researchers will have access to the data and any reports that will be written using this project’s data will only contain the summary of the data and will not include any information that identifies the participants’ name. Databases to be used in this study will be password protected known to study team members only. The data will also be stored in an encrypted server at the Australian National University.

# Timeline

|  |  |  |  |
| --- | --- | --- | --- |
| Milestone/Year | 2021 | 2022 | 2023 |
| Magic Glasses: Mekong development (**Aim 1**) |  |  |  |
| Adapting Lawa Model to Mekong (**Aim 1**) |  |  |  |
| Cluster-RCT (**Aim 2**) |  |  |  |
| Data analyses (**Aims 1 & 2**) |  |  |  |
| Spatial & Mathematical modelling & CEA (**Aim 3**) |  |  |  |
| Dissemination of findings |  |  |  |

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# Questionnaires and Forms

## Formative Research and development of the video

## Data Collection tools

## Household Survey Questionnaire

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID:** |  |  |  |  |  |  |
|  | MUN ID. | | VILL ID. | | HH No. | |

|  |
| --- |
| **HOUSEHOLD QUESTIONNAIRE** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. SURVEY IDENTIFICATION** | | | | | | | | | | | | |
| 1 | Municipality |  | | | | | | | | | | |
| 2 | Village (Name and Code) | *|\_\_|\_\_|* | | | | | | | | | | |
| 4 | Household No. | *|\_\_|\_\_|* | | | | | | | | | | |
| 7 | Date of Interview (mm-dd-yyyy) | *|\_\_|\_\_|-|\_\_|\_\_|-|\_\_|\_\_|\_\_|\_\_|* | | | | | | | | | | |
| 8 | Time Started |  | | | | | | | | | | |
| 9 | Time Ended |  | | | | | | | | | | |
| 10 | Signature Over Printed Name and ID of Interviewer |  | | | | | | | | | | |
| **B. HOUSEHOLD GEOREFERENCE** | | | | | | | | | | | | |
| 1 | Latitude (N) |  | | | | | | | | | | |
| 2 | Longitude (E) |  | | | | | | | | | | |
| **C. HOUSEHOLD RESPONDENT** | | | | | | | | | | | | |
| 1 | First Name of Respondent |  | | | | | | | | | | |
| 2 | Last Name of Respondent |  | | | | | | | | | | |
| 3 | Sex | ☐ 1- Male ☐ 2- Female | | | | | | | | | | |
| 4 | Date of Birth (mm-dd-yyyy) |  | | | | | | | | | | |
| **D. BACKGROUND AND VILLAGE** | | | | | | | | | | | | |
| 1 | How long has your family been living in this village? | ☐ 1 - <1 year | | | | | | | | | | |
| ☐ 2 - >1 to < 5 years | | | | | | | | | | |
| ☐ 3 - > 5 years to <10 years | | | | | | | | | | |
| ☐ 4 - >10 years | | | | | | | | | | |
| ☐ 5 - All my life | | | | | | | | | | |
| 2 | How long have you been living in the village | ☐ 1 - <1 year | | | | | | | | | | |
| ☐ 2 - >1 to < 5 years | | | | | | | | | | |
| ☐ 3 - > 5 years to <10 years | | | | | | | | | | |
| ☐ 4 - >10 years | | | | | | | | | | |
| ☐ 5 - All my life | | | | | | | | | | |
| 3 | Do you spend all your time in this village? | ☐ 0 – No ***(Next)*** | | | | | | | | | | |
| ☐ 1 – Yes **(*Go to D4)*** | | | | | | | | | | |
| 4 | If no, how much time do you spend in this village? | *|\_\_\_|* Number of days/week | | | | | | | | | | |
| *|\_\_\_|* Number of days/month | | | | | | | | | | |
| *|\_\_\_|* Number of days/year | | | | | | | | | | |
| 5 | What is/are the serious health concern/s in the village? Please mention and rank the 5 biggest health concerns in the village. The biggest problem ranked 1. | *|\_\_|* Diarrhea | | | | | | | | | | |
| *|\_\_|* Cardio-vascular diseases | | | | | | | | | | |
| *|\_\_|* Flu | | | | | | | | | | |
| *|\_\_|* Dust/Air pollution | | | | | | | | | | |
| *|\_\_|* Infertility/impotence | | | | | | | | | | |
| *|\_\_|* Short-sightedness | | | | | | | | | | |
| *|\_\_|* Abdominal pain | | | | | | | | | | |
| *|\_\_|* Tuberculosis | | | | | | | | | | |
| *|\_\_|* Malnutrition | | | | | | | | | | |
| *|\_\_|* Breathing problems | | | | | | | | | | |
| *|\_\_|* High blood pressure | | | | | | | | | | |
| *|\_\_|* Roundworm | | | | | | | | | | |
| *|\_\_|* Parasite (Specify) | | | | | | | | | | |
| *|\_\_|* Intestinal Fluke (F. buski) | | | | | | | | | | |
| *|\_\_|* Hepatitis | | | | | | | | | | |
| *|\_\_|* Liver fluke (*O. viverrini)* | | | | | | | | | | |
| *|\_\_|* Covid-19 | | | | | | | | | | |
| *|\_\_|* Diabetes | | | | | | | | | | |
| *|\_\_|* Liver cancer | | | | | | | | | | |
| *|\_\_|* Cancer | | | | | | | | | | |
| *|\_\_|* Dengue | | | | | | | | | | |
| *|\_\_|* Others, please specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| **E. SOCIO-ECONOMIC STATUS** | | | | | | | | | | | | |
| 1 | How many people (including yourself) are there in the household? | ☐ 1= Just me | | | | | | | | ☐ 4= 4-5 | | |
| ☐ 2= 2 | | | | | | | | ☐ 5= 6-7 | | |
| ☐ 3= 3 | | | | | | | | ☐ 6= > 7 | | |
| 2 | How many children live in your household? | ☐ 1= 1 | | | | | | | | ☐ 5= 5 | | |
| ☐ 2= 2 | | | | | | | | ☐ 6= > 5 | | |
| ☐ 3= 3 | | | | | | | | ☐ 7= None | | |
| ☐ 4= 4 | | | | | | | |  | | |
| 3 | How many children do you have? | ☐ 1= 1 | | | | | | | | ☐ 5= 5 | | |
| ☐ 2= 2 | | | | | | | | ☐ 6= > 5 | | |
| ☐ 3= 3 | | | | | | | | ☐ 7= None | | |
| ☐ 4= 4 | | | | | | | |  | | |
| 4 | How many people (including yourself) in your immediate family earn an income? | ☐ 0= 0 | | | | | | | | ☐ 4= 4-5 | | |
| ☐ 1= 1 | | | | | | | | ☐ 5= 6-7 | | |
| ☐ 2= 2 | | | | | | | | ☐ 6= > 7 | | |
| ☐ 3= 3 | | | | | | | |  | | |
| 5 | Where does most of your family income come from? (Choose one answer) | ☐ 1= Fishing | | | | | | | | | | |
| ☐ 2= Farming | | | | | | | | | | |
|  |  | ☐ 3= Business | | | | | | | | | | |
|  |  | ☐ 4= Unemployed/No salary | | | | | | | | | | |
|  |  | ☐ 5= Government worker | | | | | | | | | | |
|  |  | ☐ 6= Others, specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 6 | Can you save your earnings? | ☐ 0 – No | | |  | | | | | | | |
| ☐ 1 – Yes | | |  | | | | | | | |
| 7 | Do you have any land for farming? | ☐ 0 – No ***(Go to E.9)*** | | |  | | | | | | | |
| ☐ 1 – Yes ***(Next)*** | | |  | | | | | | | |
| 8 | If yes, what kind of farmland is it? | ☐ 1= Dry land | | | | | | | | | | |
| ☐ 2= Wet land | | | | | | | | | | |
|  |  | ☐ 3= Both | | | | | | | | | | |
| 9 | At home, do you or any of your immediate family own the following | | | | | | | | | | | |
| a. Medicine | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| b. Tap water for drinking | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| c. Hand pump for water | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| d. Flushable toilet at home | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| e. Radio | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| f. Television | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| g. DVD player | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| h. Satellite dish | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| i. Soap | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| j. Computer | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| k. Internet connection | ☐ 0 = No ☐ 1 = Yes | | | | | | | | | | |
| 10 | Do people in your household including yourself own any animals and/or pets? | ☐ 0 – No ***(Go to F.1)*** | | | | | | | | | | |
| ☐ 1 – Yes ***(Next)*** | | | | | | | | | | |
| 11 | If yes, how many | *|\_\_|* Buffaloes | | | | | *|\_\_|* Ducks | | | | | |
| *|\_\_|* Cows | | | | | *|\_\_|* Geese | | | | | |
| *|\_\_|* Goats | | | | | *|\_\_|* Dogs | | | | | |
| *|\_\_|* Cats | | | | | *|\_\_|* Others, specify | | | | | |
| *|\_\_|* Pigs | | | | |  | | | | | |
| *|\_\_|* Chicken | | | | |  | | | | | |
| **F. BEHAVIOR** | | | | | | | | | | | | |
| 1 | Do you have a vegetable garden? | ☐ 0 – No ***(Go to F.6)*** | | | | | | | | | | |
| ☐ 1 – Yes ***(Next)*** | | | | | | | | | | |
| 2 | How much of the food you consume do you grow yourself? | ☐ 1= Everything | | | | | | | | | | |
| ☐ 2= Half | | |  | | | | | | | |
| ☐ 3= Less than half | | | | | | | | | | |
| ☐ 4= None | | | | | | | | | | |
| 3 | How many hours a day do you spend working on your vegetable garden? | ☐ 1= <1 | | | | | | | | | | |
| ☐ 2= 1-2 | | | | | | | | | | |
| ☐ 3= 2-5 | | | | | | | | | | |
| ☐ 4= >5 | | | | | | | | | | |
| 4 | How many hours a day do your children spend working in your vegetable field? | | | | | | | | | | | |
| Child 1 | ☐ 1= 0 ☐ 2= <1 ☐ 3= 1-2 ☐ 4= >2 | | | | | | | | | | |
| Child 2 | ☐ 1= 0 ☐ 2= <1 ☐ 3= 1-2 ☐ 4= >2 | | | | | | | | | | |
| Child 3 | ☐ 1= 0 ☐ 2= <1 ☐ 3= 1-2 ☐ 4= >2 | | | | | | | | | | |
| 5 | What do you use to fertilize your garden? More than one possible answer. | ☐ 1= Artificial Fertilizer | | | | | | | | | | |
| ☐ 2= Animal night soil | | | | | | | | | | |
| ☐ 3= Human night soil | | | | | | | | | | |
| ☐ 4= Plant compost | | | | | | | | | | |
| ☐ 5= Others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 6 | Where do your children help with work? More than one possible answer. | ☐ 1= in the kitchen | | | | | | | | | | |
| ☐ 2= in the vegetable field | | | | | | | | | | |
| ☐ 3= on the field | | | | | | | | | | |
| ☐ 4= nowhere | | | | | | | | | | |
| ☐ 5= others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 7 | How many hours a week do children help with work above | | | | | | | | | | | |
| Child 1 | ☐ 1= 0 ☐ 2= 1-2 ☐ 3= 3-5 ☐ 4= 6-10 ☐ 5= >10 | | | | | | | | | | |
| Child 2 | ☐ 1= 0 ☐ 2= 1-2 ☐ 3= 3-5 ☐ 4= 6-10 ☐ 5= >10 | | | | | | | | | | |
| Child 3 | ☐ 1= 0 ☐ 2= 1-2 ☐ 3= 3-5 ☐ 4= 6-10 ☐ 5= >10 | | | | | | | | | | |
| 8 | Do children sometimes tell you what they learn at school? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 9 | What are your children’s favorite leisure activities | | | | | | | | | | | |
| Child 1 |  | | | | | | | | | | |
| Child 2 |  | | | | | | | | | | |
| Child 3 |  | | | | | | | | | | |
| 10 | Do you wear footwear (shoes/slippers) at home? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 11 | Do you wear footwear (i.e., shoes/slippers) in the garden? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| ☐ 4= NA | | | | | | | | | | |
| 12 | Do you wear footwear (i.e., shoes/slippers) when you are working in the field? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| ☐ 4= NA | | | | | | | | | | |
| 13 | Where does your neighbor usually defecate? Choose one answer. | ☐ 1= Home latrine | | | | | | | | | | |
| ☐ 2= Public /shared latrine | | | | | | | | | | |
| ☐ 3= Field | | | | | | | | | | |
| ☐ 4= River | | | | | | | | | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| ☐ 6= Don’t Know | | | | | | | | | | |
| 14 | Where does your family defecate? Choose one answer. | ☐ 1= Home latrine | | | | | | | | | | |
| ☐ 2= Public latrines | | | | | | | | | | |
| ☐ 3= Field | | | | | | | | | | |
| ☐ 4= River | | | | | | | | | | |
| ☐ 5= Others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 15 | Where do other usually defecate? Choose one answer. | ☐ 1= Home latrine | | | | | | | | | | |
| ☐ 2= Public latrines | | | | | | | | | | |
| ☐ 3= Field | | | | | | | | | | |
| ☐ 4= River | | | | | | | | | | |
| ☐ 5= Others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 16 | Where does your family usually defecate? | ☐ 1= Home latrine | | | | | | | | | | |
| ☐ 2= Public latrines | | | | | | | | | | |
| ☐ 3= Field | | | | | | | | | | |
| ☐ 4= River | | | | | | | | | | |
| ☐ 5= Others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 17 | Do you wash your hands after going to toilet? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 17.1 | With soap? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 18 | Do you wash your hands before eating? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 18.1 | With soap | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 19 | Do you wash fruit and vegetables before eating them IF RAW? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 20 | How often does your family consume raw fish? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 21 | How often do you consume raw fish? | ☐ 1= Always | | | | | | | | | | |
| ☐ 2= Sometimes | | | | | | | | | | |
| ☐ 3= Never | | | | | | | | | | |
| 22 | How do you prepare the raw-fish dish? | ☐ 1= Fish salad | | | | | | | | | | |
| ☐ 2= Short fermented fish | | | | | | | | | | |
| ☐ 3= Others, specify: | | | | | | | | | | |
| 23 | How do you dispose your waste food? | ☐ 1= Disposal by giving it to dogs or cats | | | | | | | | | | |
| ☐ 2= Discarding to an open pits to which animals had access | | | | | | | | | | |
| ☐ 3= Compose pit at home | | | | | | | | | | |
| ☐ 4= Others, specify? | | | | | | | | | | |
| **G. KNOWLEDGE ABOUT INTESTINAL WORMS** | | | | | | | | | | | | |
| 1 | What do you know about intestinal worms (Roundworm, Whipworm, and Hookworm)? |  | | | | | | | | | | |
| 2 | Have you heard about Roundworms? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 3 | Have you heard about Whipworms? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 4 | Have you heard about the Hookworms? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 5 | If you heard about intestinal worms, where have you heard of it? | ☐ 1= Friend | | | | | | | | | | |
| ☐ 2= Poster | | | | | | | | | | |
| ☐ 3= TV | | | | | | | | | | |
| ☐ 4= Radio | | | | | | | | | | |
| ☐ 5= Textbook | | | | | | | | | | |
| ☐ 6= Brochure | | | | | | | | | | |
| ☐ 7= School | | | | | | | | | | |
| ☐ 8= Others, specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 6 | For children infected with intestinal worms, where do you think they got the infection? | ☐ 0 = Don’t know | | | | | | | | | | |
| ☐ 1 = Swimming in the canal/river | | | | | | | | | | |
| ☐ 2 = Walk Barefoot | | | | | | | | | | |
| ☐ 3 = Eat dirty food | | | | | | | | | | |
| ☐ 4 = Fishing | | | | | | | | | | |
| ☐ 5 = Long and dirty fingernails | | | | | | | | | | |
| ☐ 6 = Flies landing on wounds | | | | | | | | | | |
| ☐ 7 = Playing in dirty places | | | | | | | | | | |
| ☐ 8 = Mosquito bite | | | | | | | | | | |
| ☐ 9 = Dirty hands | | | | | | | | | | |
| ☐ 10 = Playing with soil | | | | | | | | | | |
| ☐ 11 = Others, please specify | | | | | | | | | | |
| 7 | What should the health education program include? |  | | | | | | | | | | |
| 8 | What will happen if you are infected with intestinal worms (more than one possible answer)? | ☐ 1= Feeling tired | | | | | | | | | | |
| ☐ 2= Blindness | | | | | | | | | | |
| ☐ 3= High blood pressure | | | | | | | | | | |
| ☐ 4= Diarrhea | | | | | | | | | | |
| ☐ 5= Overweight | | | | | | | | | | |
| ☐ 6= Slow growth | | | | | | | | | | |
| ☐ 7= Can’t concentrate at school | | | | | | | | | | |
| ☐ 8= Fever | | | | | | | | | | |
| ☐ 9= Poor appetite | | | | | | | | | | |
| ☐ 10= Belly ache | | | | | | | | | | |
| ☐ 11= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| ☐ 12= Don’t Know | | | | | | | | | | |
| 9 | Do you think intestinal worm infection can be treated? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 10 | If yes, where can you go for treatment? (More than 1 possible answer) | ☐ 0= Don’t know | | | | | | | | | ☐ 3= Hospital | |
| ☐ 1= School | | | | | | | | | ☐ 4= Traditional or Faith Healer | |
| ☐ 2= Health Center | | | | | | | | |
| 11 | If you already have intestinal worms, where did you go for treatment? | ☐ 0= Don’t know | | | | | | | | | ☐ 3= Hospital | |
| ☐ 1= School  ☐ 2= Health Center | | | | | | | | | ☐ 4= Traditional or Faith Healer | |
| 12 | Can taking medicine cure intestinal worms? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 13 | The medicine for the treatment of soil-transmitted helminthes is/are: (more than one possible answer) | ☐ 1= Aspirin | | | | | | | | | | |
| ☐ 2= Albendazole | | | | | | | | | | |
| ☐ 3= Don’t know | | | | | | | | | | |
| ☐ 4= Others, specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| 14 | Would you be interested to attend a video based health education session for intestinal worm at your child’s school? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| **H. KNOWLEDGE ABOUT LIVER FLUKE OR OPISTHORCHIASIS** | | | | | | | | | | | | |
| 1 | What do you know about liver fluke? |  | | |  | | | | | | | |
| 2 | Where did you hear about liver fluke? | ☐ 1= Friend | | | | | | | | | | |
| ☐ 2= Poster | | | | | | | | | | |
| ☐ 3= Radio | | | | | | | | | | |
| ☐ 4= Book | | | | | | | | | | |
| ☐ 5= Brochure | | | | | | | | | | |
| ☐ 6= School | | | | | | | | | | |
| ☐ 7= Doctor/Nurse | | | | | | | | | | |
| ☐ 8= Family members | | | | | | | | | | |
| ☐ 9= Others, specify: | | | | | | | | | | |
| 3 | Have you ever had liver fluke? | ☐ 0= Don’t know | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= No | | | | | | | | | | |
| 4 | How can you get liver fluke? | ☐ 0= Don’t know | | | | | | | | | | |
| ☐ 1= Mosquito bite | | | | | | | | | | |
| ☐ 2= Swimming in the river/canal | | | | | | | | | | |
| ☐ 3= Fishing | | | | | | | | | | |
| ☐ 4= Playing with soil | | | | | | | | | | |
| ☐ 5= Dirty hands | | | | | | | | | | |
| ☐ 6= Habit of eating unsafely prepared fish (raw/undercooked and fermented) | | | | | | | | | | |
| ☐ 7= Habit of eating unsafely prepared by family | | | | | | | | | | |
| ☐ 8= Habit of eating unsafely prepared by neighbor | | | | | | | | | | |
| ☐ 9= Habit of eating unsafely prepared by close friends | | | | | | | | | | |
| ☐ 10= Water contact (with snails infected with O.v.) | | | | | | | | | | |
| ☐ 11= Others, specify | | | | | | | | | | |
| 5 | In your opinion, how can you avoid liver fluke? | ☐ 0= Don’t know | | | | | | | | | | |
| ☐ 2= Using latrine | | | | | | | | | | |
| ☐ 3= Sleeping under a mosquito net | | | | | | | | | | |
| ☐ 4= Doing exercise | | | | | | | | | | |
| ☐ 5= Better sewerage system | | | | | | | | | | |
| ☐ 6= Avoid consumption of unsafely prepared fish raw/undercooked fish | | | | | | | | | | |
| ☐ 7= Others, specify | | | | | | | | | | |
| 6 | Do you think liver fluke can be treated? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 7 | If yes, where can you go for treatment | ☐ 0= Don’t know | | | | | | | | | | |
| ☐ 1= School  ☐ 2= Health Center | | | | | | | | | | |
| ☐ 3= Hospital | | | | | | | | | | |
| ☐ 4= Traditional or Faith Healer | | | | | | | | | | |
| 9 | Can taking medicine cure liver fluke? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 10 | What do you think is the treatment for the liver fluke? | ☐ 0= Don’t know | | | | | | | | | | |
| ☐ 1= Aspirin | | | | | | | | | | |
| ☐ 2= Praziquantel | | | | | | | | | | |
| ☐ 3= Albendazole | | | | | | | | | | |
| ☐ 4= Others, specify: | | | | | | | | | | |
| 11 | Have you ever been treated for opisthorchiasis infection? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| 12 | Would you be interested to attend a DVD based health education session for liver fluke or Opisthorchiasis at your child’s school? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| ☐ 2= Don’t know | | | | | | | | | | |
| **H. HOUSEHOLD INFRASTRUCTURE AND OBSERVATION** | | | | | | | | | | | | |
| 1 | Is the house located near a water resource (i.e., canal, lake or river)? | ☐ 0= No | | | | | | | | | | |
| ☐ 1= Yes | | | | | | | | | | |
| 2 | If yes, specify, type of water resource habitat | ☐ 1= River | | | | | | | | | | |
| ☐ 2= Lake | | | | | | | | | | |
| ☐ 3= Lake | | | | | | | | | | |
| 3 | What is the floor made of? | ☐ 1=Dirt floor/mud | | | | | | | | | | |
| ☐ 2= Wood | | | | | | | | | | |
| ☐ 3= Cement | | | | | | | | | | |
| ☐ 4= Tiles | | | | | | | | | | |
| ☐ 5= Others, specify | | | | | | | | | | |
| 4 | What material are the house walls made of? | ☐ 1= Brick (large/easily destroyed in rain) | | | | | | | | | | |
| ☐ 2= Brick (small/stronger) | | | | | | | | | | |
| ☐ 3= Wood | | | | | | | | | | |
| ☐ 4= Thatched reeds | | | | | | | | | | |
| 5 | What material is the house roof made of? | ☐ 1= Brick (large/easily destroyed in rain) | | | | | | | | | | |
| ☐ 2= Brick (small/stronger) | | | | | | | | | | |
| ☐ 3= Wood | | | | | | | | | | |
| ☐ 4= Thatched reeds | | | | | | | | | | |
| 6 | Overall impression of the house: |  | | | | | | | | | | |
| 6 | What is the kitchen floor made of? | ☐ 1=Dirt floor/mud | | | | | | | | | | |
| ☐ 2= Wood | | | | | | | | | | |
| ☐ 3=Cement | | | | | | | | | | |
| ☐ 4= Tiles | | | | | | | | | | |
| 7 | Location of water facilities | ☐ 1= Inside the kitchen | | | | | | | | | | |
| ☐ 2= Outside the kitchen | | | | | | | | | | |
| 8 | Soap available? | ☐ 1= Yes | | | | | | | ☐ 2= No | | | |
| 9 | Fridge available? | ☐ 1= Yes | | | | | | | ☐ 2= No | | | |
| 10 | Food covered? | ☐ 1= Yes | | | | | | | ☐ 2= No | | | |
| 11. | Number of flies | ☐ 1= <5 | |  | | | | | | | |  |
| ☐ 2= <20 | |  | | | | | | | |  |
| ☐ 3= >20 | | | | | | | | | | |
| 12 | Other insects observed: |  | | | | | | | | | | |
| 13 | General cleanliness? | ☐ 1= Reasonable | | | | | | | | | | |
| ☐ 2= Medium | | | | | | | | | | |
| ☐ 3= Dirty | | | | | | | | | | |
| 14 | Why? Remarks |  |  | | | | | | | | |  |
| 15 | What is the toilet/lavatory floor made of? | ☐ 0= No Toilet | | | | | | | | | | |
| ☐ 1= Dirt floor/mud | | | | | | | | | | |
| ☐ 2= Wood | | | | | | | | | | |
| ☐ 3= Cement | | | | | | | | | | |
| ☐ 4= Tiles | | | | | | | | | | |
| ☐ 5= Others, specify | | | | | | | | | | |
| 16 | Hand washing facilities: | ☐ 1= < 5m from lavatory | | | | | | | | | | |
| ☐ 2= > 5m from lavatory | | | | | | | | | | |
| 17 | Type of hand washing facilities: | ☐ 1= Tap water | | | | | | | | | | |
| ☐ 2= Hand pump | | | | | | | | | | |
| ☐ 3= Bucket | | | | | | | | | | |
| ☐ 4= None | | | | | | | | | | |
| 18 | Soap available? | ☐ 1= Yes | | | | | | ☐ 2= No | | | | |
| 19 | The lavatory is: | ☐ 1= Attached to house | | | | | | | | | | |
| ☐ 2= Freestanding/outside | | | | | | | | | | |
| 20 | Type of lavatory | ☐ 1= Flush toilet | | | | | | | | | | |
| ☐ 2= Latrine | | | | | | | | | | |
| ☐ 3= Bucket | | | | | | | | | | |
| ☐ 4= Other | | | | | | | | | | |
| 21 | How many lavatories are there? | ☐ 1= 0 | | | | | | ☐ 3= 2 | | | | |
| ☐ 2= 1 | | | | | | ☐ 4= >2 | | | | |
| 22 | Where does the wastewater go? | ☐ 1= Pipe | | | | | | | | | | |
| ☐ 2= Underground septic tank | | | | | | | | | | |
| ☐ 3= Above ground septic | | | | | | | | | | |
| ☐ 4= River | | | | | | | | | | |
| ☐ 5= Manure pit | | | | | | | | | | |
| 23 | Number of flies | ☐ 1= <5 | | | | | | | | | | |
| ☐ 2= <20 | | | | | | | | | | |
| ☐ 3= >20 | | | | | | | | | | |
| 24 | Other insects observed? |  | | | | | | | | | | |
| 25 | Overall impression of lavatory: |  | | | | | | | | | | |
| 1. **GARDEN INFRASTRUCTURE** | | | | | | | | | | | | |
| 1 | Presence of garden? | ☐ 1= Yes | | | | ☐ 2= No | | | | | | |
| 2 | If yes, what is grown in the garden? |  | | | | | | | | | | |
| 3 | How is the garden fertilized? | ☐ 1= Human nightsoil | | | | | | | | | | |
| ☐ 2= Animal nightsoil | | | | | | | | | | |
| ☐ 3= Chemical fertilize | | | | | | | | | | |
| ☐ 4= Other | | | | | | | | | | |
| 4 | Is there a fish pond? If yes, how are the fish fed? | ☐ 1= Animal waste | | | | | | | | | | |
| ☐ 2= Human waste | | | | | | | | | | |
| ☐ 3= Kitchen rests | | | | | | | | | | |
| ☐ 4= Other, specify: | | | | | | | | | | |

## KAP Questionnaire for schoolchildren

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID:** |  |  |  |  |  |  |  |  |
|  | Mun ID. | | School ID. | | Class ID. | | Student No. | |

|  |
| --- |
| **Development of an educational cartoon to prevent intestinal worm and liver fluke infections in the Mekong region** |
| **Baseline Questionnaire for School Children** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_|  ***To be filled in by research team:*** | | | | | | |
| 1 | Municipality | | |\_\_|\_\_| | | | |
| 2 | School (Name and Code) | | |\_\_|\_\_| | | | |
| 3 | Class/Section | | |\_\_|\_\_| | | | |
| 4 | Student Number | | |\_\_|\_\_| | | | |
| **B. PERSONAL INFORMATION**  ***To be filled in by children:*** *Please fill in this questionnaire truthfully with the help of your teacher. All responses will be kept confidential and will not be used against you in any way. The info will be used for research purposes only. Please check the most suitable answer.* | | | | | | |
| 1 | First Name | |  | | | |
| 2 | Last Name | |  | | | |
| 3 | Sex | | ☐ 1- Male ☐ 2- Female | | | |
| 4 | Date of Birth (yyyy-mm-dd) | | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | | | |
| 5 | Grade at School | | |\_\_|\_\_| | | | |
| **C. KNOWLEDGE ABOUT INTESTINAL WORMS**  *Please write down what you have heard and what you know about worms (Roundworm/Whipworm/Hookworm) that make you sick. You may also write down:” I don’t know.”)* | | | | | | |
| 1 | Have you ever heard about worms? | | ☐ 1 – Yes ***(Go 1.a- 1.c)*** | | | |
| ☐ 2 – No ***(Go to C.3)*** | | | |
| ☐ 3 - Don’t know ***(Go to C.3)*** | | | |
| 1.a Roundworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | |
| 1.b. Whipworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | |
| 1.c. Hookworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | |
| 2 | If you have heard of it where? (You can choose more than one answer) | | ☐ 1 = Friend | | | |
| ☐ 2 = Poster | | | |
| ☐ 3 = TV | | | |
| ☐ 4 = Radio | | | |
| ☐ 5 = Book | | | |
| ☐ 6 = Brochure | | | |
| ☐ 7 = School | | | |
| ☐ 8 = Parents/Family | | | |
| ☐ 9 = Others, please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| 3 | Have you ever had worms (Roundworms, Whipworms, and Hookworms) yourself? | | ☐ 1 = Yes | | | |
| ☐ 2 = No | | | |
| ☐ 3 = Don’t know | | | |
| 4 | Has somebody you know already had worms (Roundworms, Whipworms, and Hookworms)? | | ☐ 1 = Yes | | | |
| ☐ 2 = No | | | |
| ☐ 3 = Don’t know | | | |
| **D. TRANSMISSION, SYMPTOMS AND TREATMENT OF INTESTINAL WORMS**  *The following questions ask about how you can get, what will happen and what you can do when you have worms.* | | | | | | |
| 1 | How can you get infected with worms (Roundworms, Whipworms, and Hookworms)? Name all the possibilities you might know | | ☐ 0 = Don’t know | | | |
| ☐ 1 = Swimming in the canal/river | | | |
| ☐ 2 = Walk Barefoot | | | |
| ☐ 3 = Eat dirty food | | | |
| ☐ 4 = Fishing | | | |
| ☐ 5 = Long and dirty fingernails | | | |
| ☐ 6 = Flies landing on wounds | | | |
| ☐ 7 = Playing in dirty places | | | |
| ☐ 8 = Mosquito bite | | | |
| ☐ 9 = Dirty hands | | | |
| ☐ 10 = Playing with soil | | | |
| ☐ 11 = Others, please specify | | | |
| 2 | Do you think intestinal worms can cause serious diseases? | | ☐ 1= Yes | | | |
| ☐ 2= No | | | |
| ☐ 3= Don’t know | | | |
| 3 | What happens if people are infected with intestinal worms? (You can chose more than one answer) | | ☐ 1= Feeling tired | | | |
| ☐ 2= Blindness | | | |
| ☐ 3= High blood pressure | | | |
| ☐ 4= Diarrhea | | | |
| ☐ 5= Overweight | | | |
| ☐ 6= Slow growth | | | |
| ☐ 7= Can’t concentrate at school | | | |
| ☐ 8= Fever | | | |
| ☐ 9= Poor appetite | | | |
| ☐ 10= Belly ache | | | |
| ☐ 11= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| ☐ 12= Don’t Know | | | |
| 4 | How can you prevent/ avoid a worm infection? (Choose all correct answers) | | ☐ 1= Washing fruit & vegetables if eating them raw | | | |
| ☐ 2= Sleeping under a mosquito net | | | |
| ☐ 3= Not playing in the dirt | | | |
| ☐ 4= Eating too much | | | |
| ☐ 5= Cover food | | | |
| ☐ 6= Using the latrine | | | |
| ☐ 7= Washing hands after toilet | | | |
| ☐ 8= Always wear shoes or sandals | | | |
|  |  | | ☐ 9= Not playing in the vegetable garden | | | |
|  |  | | ☐ 10= Washing hands before eating | | | |
|  |  | | ☐ 11= Doing enough exercise | | | |
| ☐ 12= Keeping up personal hygiene | | | |
| ☐ 13= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| ☐ 14= Don’t Know | | | |
| 5 | Do you think intestinal worm infection can be treated? | | ☐ 1= Yes | | | |
| ☐ 2= No | | | |
| ☐ 3= Don’t know | | | |
| 6 | If yes, where can I go for treatment?  (You can chose more than one answer) | | ☐ 1= School | | | |
| ☐ 2= Local Clinic | | | |
| ☐ 3= Hospital | | | |
| ☐ 4= My parents | | | |
| ☐ 5= Village doctor | | | |
| ☐ 6= Don’t know | | | |
| 7 | If you take medicine for intestinal worms, will you be cured forever? | | ☐ 1= Yes | | | |
| ☐ 2= No | | | |
| ☐ 3= Don’t know | | | |
| **E. ATTITUDE RELATED TO INTESTINAL WORMS**  *In the next few questions, please tell us how you feel about worms.* | | | | | | |
| 1 | Do you think you are at risk of getting worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 1.a | Why yes or why no? | | |  | | |
| 1.b | What is your risk of getting worms? | | | ☐ 0= None | | |
| ☐ 1= Low | | |
| ☐ 2= Medium | | |
| ☐ 3= High | | |
| 2 | Would you be anxious if I got worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 2.a | Why yes or why no? | | |  | | |
| 2.1 | Getting worms will prevent me from going to school? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 2.1.a | Why yes or why no? | | |  | | |
| 2.2 | Can you wash my hands at school after toilet use? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 2.2.a | Why yes or why no? | | |  | | |
| **F. HEALTH EDUCATION RELATED TO INTESTINAL WORMS**  *In the next paragraph, you will be asked what you have learned about worms (Roundworms, Whipworms, Hookworms).* | | | | | | |
| 1 | Has the teacher already told you about intestinal worms | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 2 | Have you watched a video on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 3 | Have you ever done an assignment on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 4 | Have you told your parents, sisters and brothers about worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| **G. BEHAVIOUR RELATED TO INTESTINAL WORMS**  *The next few questions will ask you about your family, your activities and habits. Please check the most suitable answer.* | | | | | | |
| 1 | | Do you wear shoes on a hot summer day, when you are playing with other children? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 2 | | Do you wear your slippers at home? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 3 | | Do you wear shoes at school | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
|  | |  | | ☐ 4= Never | | |
| 4 | | Where does your neighbor usually defecate? Choose one answer. | | ☐ 1= Home latrine | | |
| ☐ 2= Public latrine | | |
| ☐ 3= Field | | |
| ☐ 4= River | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| 5 | | Where does your family usually defecate? Choose one answer. | | ☐ 1= Home latrine | | |
| ☐ 2= Public latrine | | |
| ☐ 3= Field | | |
| ☐ 4= River | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| 6 | | Where do you usually defecate? Choose one answer. | | ☐ 1= Home latrine | | |
| ☐ 2= Public latrine | | |
| ☐ 3= Field | | |
| ☐ 4= River | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| 7 | | Do you wash your hands after going to the toilet? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 7.a. | | With soap? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 8 | | Do you wash your hands before eating? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 8.a | | With soap? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| 9 | | Do you wash fruit and vegetables before eating them if raw? | | ☐ 1= Always | | |
| ☐ 2= Usually | | |
| ☐ 3= Rarely | | |
| ☐ 4= Never | | |
| **H. KNOWLEDGE ABOUT LIVER FLUKE**  *Please write down what you have heard and what you know about liver fluke. You may also write down:” I don’t know.”)* | | | | | | |
| 1 | | Have you ever heard about the live fluke or Opisthorchiasis? | | ☐ 0= No (Go to F3) | | |
| ☐ 1= Yes | | |
| 2 | | If yes, where did you hear about liver fluke? | | ☐ 1= Friend | | ☐ 6= Brochure |
| ☐ 2= Poster | | ☐ 7= School |
|  | |  | | ☐ 3= Radio | | ☐ 8= Nurse |
|  | |  | | ☐ 4= Book | | ☐ 9= Family members |
|  | |  | | ☐ 5= Brochure | | ☐ 10= Others, specify: |
| 3 | | Have you ever had liver fluke | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 4 | | Do you know somebody who had liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 5 | | How can you get liver fluke? | | ☐ 0= Don’t know | | |
| ☐ 1= Mosquito bite | | |
| ☐ 2= Swimming in the river/canal | | |
| ☐ 3= Fishing | | |
| ☐ 4= Playing with soil | | |
| ☐ 5= Dirty hands | | |
| ☐ 6= Eating raw/undercooked and fermented fish | | |
| ☐ 7= Others, specify | | |
| 6 | | Do you think liver fluke can make you sick? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 7 | | What happens if you have liver fluke? | | ☐ 0= Don’t know | | |
| ☐ 1= Liver fluke cancer | | |
| ☐ 2= Blindness | | |
| ☐ 3= Fever | | |
| ☐ 4= High blood pressure | | |
| ☐ 5= Feeling tired | | |
| ☐ 6= Slow growth | | |
| ☐ 7= Others, specify: | | |
| 8 | | How can you prevent/avoid liver fluke? | | ☐ 0= Don’t know | | |
| ☐ 2= Using latrine | | |
| ☐ 3= Sleeping under a mosquito net | | |
| ☐ 4= Doing exercise | | |
| ☐ 5= Better sewerage system | | |
| ☐ 6= Avoid consumption of raw/undercooked fish | | |
| ☐ 7= Others, specify: | | |
| 9 | | Do you think liver fluke can be treated? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 10 | | If yes, where can you go for treatment | | ☐ 0= Don’t know | | |
| ☐ 1= School | | |
| ☐ 2= Health Center | | |
| ☐ 3= Hospital | | |
| ☐ 4= Traditional or Faith Healer | | |
| 11 | | Can taking medicine cure liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 12 | | What do you think is the treatment for the liver fluke? | | ☐ 0= Don’t know | | ☐ 3= Albendazole |
| ☐ 1= Aspirin | | ☐ 4= Others, specify: |
| ☐ 2= Praziquantel | |  |
| **I. HEALTH EDUCATION ABOUT LIVER FLUKE** | | | | | |  |
| 1 | | Has the teacher already told you about the liver fluke? | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 2 | | Have you watched a video about liver fluke? | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 3 | | Have you ever done an assignment on liver fluke? | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| 4 | | Have you told your parents, sisters and brothers about liver fluke | | ☐ 1= Yes | | |
| ☐ 2= No | | |
| ☐ 3= Don’t know | | |
| **J. ATTITUDE ABOUT LIVER FLUKE** | | | | | |  |
| 1 | | Do you believe that you are likely to be infected with liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 2 | | Why yes or why no? | |  |  |  |
| 3 | | What is your chance of getting liver fluke? | | ☐ 1= Low Possibility | | |
| ☐ 2= Medium Possibility | | |
| ☐ 3= High Possibility | | |
| 4 | | Would you be worried if you get infected with liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 5 | | Why yes or why no? | |  | | |
| **K. BEHAVIOR ABOUT LIVER FLUKE** | | | | | | |
| 1 | | How often do you consume raw fish? | | ☐ 1= Always | | |
| ☐ 2= Most of the time | | |
| ☐ 3= Some of the time | | |
| ☐ 4= Never | | |
| 2 | | Does your family consume raw fish? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 3 | | If yes, how often does your family prepare or consume raw fish? | | ☐ 1= Always | | |
| ☐ 2= Most of the time | | |
| ☐ 3= Some of the time | | |
| ☐ 4= Never | | |
| 4 | | How does your family prepare the raw-fish dish? | | ☐ 1= Fish salad | | |
| ☐ 2= Short fermented fish | | |
| ☐ 3= Others, specify? | | |
| 5 | | Do you have friends or anyone who have a habit of eating raw fresh fish? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | |
| 6 | | How does your family dispose your waste food? | | ☐ 1= Disposal by giving it to dogs or cats | | |
| ☐ 2= Discarding to an open pits to which animals had access | | |
| ☐ 3= Compose pit at home | | |
| ☐ 4= Others, specify? | | |

**THANK YOU FOR COMPLETING THE QUESTIONNAIRE**

## Draw and Write Assessment

|  |
| --- |
| **Draw and write assessment with schoolchildren (for STH)** |

|  |  |  |
| --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | | |
| 1 | Municipality | |\_\_|\_\_| |
| 2 | School (Name and Code) | |\_\_|\_\_| |
| 3 | Class/Section | |\_\_|\_\_| |
| 4 | Student Number | |\_\_|\_\_| |
| **B. PERSONAL INFORMATION** | | |
| 1 | First Name |  |
| 2 | Last Name |  |
| 3 | Sex | ☐ 1- Male ☐ 2- Female |
| 4 | Date of Birth (yyyy-mm-dd) | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| |
| 5 | Grade at School | |\_\_|\_\_| |

**Task: (Please choose A or B)**

1. Draw the scene where you saw intestinal worms or somebody (maybe yourself) infected with intestinal worms. Please include in your drawing:
   1. The worms.
   2. The people having the worms
   3. The place where you saw the worms or the sick people.
2. If you have never seen intestinal worms or somebody having intestinal worms, please draw:
   1. The place where you think you can get worms & how the place looks like.
   2. How you think the worms can enter your body
   3. The time/ season when you can get the worms
   4. How you can protect yourself from worms

**Question guide:**

|  |  |  |
| --- | --- | --- |
| 1. **Drawing** | | |
| 1 | Can you explain to us what we can see on your drawing? |  |
| 2 | What do you know about these worms? |  |
| 3 | Where do you know that from? |  |
| 1. **Knowledge of Worms** | | |
| 1 | Have you heard of Roundworm? |  |
| 2 | Have you heard of Whipworm? |  |
| 3 | Have you heard of Hookworm? |  |
| 4 | Where have you heard of it? |  |
| 8 | What happened to the person who had the worms? |  |
| 9 | Was that person seriously ill? |  |
| 1. **Cartoon and Comic** | | |
| 1 | What’s your favourite Cartoon on TV? |  |
| 2 | Why do you like your favourite Cartoon so much? |  |
| 3 | What’s your favourite Comic book? |  |
| 4 | Why do you like your favourite Comic so much |  |

|  |
| --- |
| **Draw and write assessment with schoolchildren (for *O.v.*)** |

|  |  |  |
| --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | | |
| 1 | Municipality | |\_\_|\_\_| |
| 2 | School (Name and Code) | |\_\_|\_\_| |
| 3 | Class/Section | |\_\_|\_\_| |
| 4 | Student Number | |\_\_|\_\_| |
| **B. PERSONAL INFORMATION** | | |
| 1 | First Name |  |
| 2 | Last Name |  |
| 3 | Sex | ☐ 1- Male ☐ 2- Female |
| 4 | Date of Birth (yyyy-mm-dd) | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| |
| 5 | Grade at School | |\_\_|\_\_| |

**Task: (Please choose A or B)**

1. Draw the scene where you saw liver fluke or somebody (maybe yourself) infected with liver fluke. Please include in your drawing:
   1. The liver fluke.
   2. The people having liver fluke
   3. The place where you saw the liver fluke or the sick people.
2. If you have never seen liver fluke or somebody with liver fluke, please draw:
   1. The place where you think you can get liver fluke & how the place looks like.
   2. How you think the liver fluke can enter your body.
   3. How you can protect yourself from liver fluke.

**Question guide:**

|  |  |  |
| --- | --- | --- |
| 1. **Drawing** | | |
| 1 | Can you explain us what we can see on your drawing? |  |
| 2 | What do you know about these liver fluke? |  |
| 3 | Where do you know that from? |  |
| 1. **Knowledge of Liver fluke** | | |
| 3 | Have you heard of liver fluke? |  |
| 4 | Where have you heard of it? |  |
| 8 | What happened to the person who had liver fluke? |  |
| 9 | Was that person seriously ill? |  |
| 1. **Cartoon and Comic** | | |
| 1 | What’s your favourite Cartoon on TV? |  |
| 2 | Why do you like your favourite Cartoon so much? |  |
| 3 | What’s your favourite Comic book? |  |
| 4 | Why do you like your favourite Comic so much |  |

## Focus Group Discussion with schoolchildren

**Guide Questions (FGD for schoolchildren)**

|  |  |
| --- | --- |
| Activity: |  |
| Date: |  |
| Time starts: |  |
| Time ends: |  |
| Participants: |  |
| Facilitator: |  |
| Documenter: |  |

Instruction: Please use the following guide questions to lead the participating schoolchildren in discussion. Remember to encourage the participants to share all thoughts and opinions - all ideas are valuable and differences in opinions are also important.

|  |  |
| --- | --- |
| **Questions related to intestinal worms** | |
| 1 | What do you know about intestinal worm? |
| 2 | Where do you know that from? |
| 3 | What do you think happens to the person who had intestinal worms? |
| 4 | What are the important things to do to prevent intestinal worms? |
| **Questions related to liver fluke** | |
| 1 | What do you know about liver fluke? |
| 2 | Where do you know that from? |
| 3 | What do you think happens to the person who has liver fluke? |
| 4 | What are the important things to do to prevent liver fluke? |
| **Questions related to favorite Cartoon/Comics** | |
| 8 | What is your favourite Cartoon on TV? |
| 9 | Why do you like your favourite Cartoon so much? |
| 10 | What is your favourite video game/ phone game app? |
| 11 | What is your favourite Comic book? |
| 12 | Why do you like your favourite Comic so much? |

## Key Informant Interview guide (school teacher and health staff)

## Interview Guide for school teacher

|  |
| --- |
| **Interview Guide for School teachers** |

|  |  |  |
| --- | --- | --- |
| 1. **Health Education at School** | | |
| 1 | Is **health education** part of the curriculum? |  |
| 2 | How important is health education at your school? |  |
| 3 | In our opinion, how important is health education? |  |
| 4 | Is **basic hygiene education** part of curriculum? |  |
| 5 | How important is hygiene education at your school? |  |
| 6 | In your opinion, how important is hygiene education? |  |
| 7 | Does a health education/ hygiene **education material** exist? |  |
| 8 | If yes, may we have a look at it? |  |
| **B. Knowledge on Intestinal Worms** | | |
| 1 | What’s the most significant health problem in the region? |  |
| 2 | Are you familiar with intestinal worms? |  |
| 3 | If yes, with which species? |  |
| 4 | Do you think intestinal worms are a major health problem in this region? |  |
| 5 | How are intestinal worms called in the local language? |  |
| 6 | Do you know the diagnostic method for intestinal worms? If yes, what are they? |  |
| 7 | How can you tell if a child is infected with intestinal worms? |  |
| 8 | Do you know the medication for treating intestinal worms? If yes, give the names? |  |
| 9 | Is there any curriculum for intestinal worms? How many hours per week/year? |  |
| 10 | Has there ever been **treatment** for intestinal worms at your school? If yes, when? |  |
| 11 | If yes, what did the treatment include? |  |
| **C. Infection Risk** | | |
| 1 | Do you think children are at risk of getting infected at school? |  |
| 2 | Do you think the **school’s sanitary installations** meet with basic hygiene standards? |  |
| 3 | How many children do you think are infected with intestinal worms at your school (estimation)? | (1) 0-10%  (2) 10-20%  (3) 20-30%  (4) more than 30% |
| 4 | According to you, where do children mostly get infected with intestinal worms? |  |
| 5 | According to you, due to which activity /**risk behaviour** do children mostly get infected? |  |
| 6 | If the children knew that …………………… we could prevent most STH infections |  |
| 7 | If children didn’t ……………………… (activity), we could prevent most STH infections |  |
| 8 | If parents ……………………… we could prevent most STH infections. |  |
| 9 | What’s the percentage of parents who work outside (i.e., in another city) and don’t live in the same household as the children? |  |
| **D. Health Education for STH** | | |
| 10 | According to you, what’s the most important measure to be taken in order to fight intestinal worms? |  |
| 11 | What can children do to sustainably avoid STH infections? |  |
| **12. Health education at schools for STH:** | | |
| 12.1 | Who should be in charge? |  |
| 12.2 | Important contacts to make it part of school curriculum? |  |
| 12.3 | What should it include? |  |
| 12.4 | Target age? |  |
| 12.4 | Methods? |  |
| 12.5 | How long? |  |
| 12.6 | How often? |  |
| 13 | How many repetitions? |  |
| 14 | What do you think about using a video for STH health education at schools? |  |
| 15 | How should that video look like? What should it include? How long should it be? |  |
| 16 | With which other methods would you combine it? |  |
| 17 | Have you used video in your lesson? |  |
| 18 | If yes, please tell us about your experience. |  |
| 19 | What’s the children’s favourite cartoon? |  |
| 20 | What’s the children’s favourite comic? |  |

## Interview Guide for Health Staff

|  |
| --- |
| **Key-informant interview: Health Staff** |

|  |  |
| --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | |
| Municipality | |\_\_|\_\_| |
| Hospital Code | |\_\_|\_\_| |
| KI Number | |\_\_|\_\_| |
| Name of interviewer |  |
| **B. PERSONAL INFORMATION** | |
| First Name |  |
| Last Name |  |
| Position |  |
| Year of position acquired |  |
| Work experience in the health sector (years) |  |
| Educational Background |  |
| Sex | ☐ 1- Male ☐ 2- Female |
| Date of Birth (yyyy-mm-dd) | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| |
| **C. HOSPITAL INFORMATION** | |
| Name of Hospital |  |
| Address |  |
| Area covered |  |
| Name of patients per year: |  |
| In-patients |  |
| Out-patients |  |
| Number of ambulant patients: |  |
| per day |  |
| per week |  |
| Three illness most frequently treated in this hospital |  |

**Question Guide**

|  |  |  |
| --- | --- | --- |
| 1. **Knowledge on Intestinal Worms** | | |
| 1 | What’s the most significant health problem in the region? |  |
| 2 | Are you familiar with intestinal worms? |  |
| 3 | If yes, with which species? |  |
| 4 | Do you think intestinal worms are a major health problem in this region? |  |
| 5 | How are intestinal worms called in the local language? |  |
| 6 | How do you diagnose intestinal worms? |  |
| 7 | How many STH infections do you diagnose a week? |  |
| 8 | Are STH infections preventable? If yes, how? |  |
| 9 | Which medication do you use to treat intestinal worms? |  |
| 10 | List the actions people take when they are infected with intestinal worms. List actions taken first on top of the list. |  |
| 11 | Do people take the right actions when infected with STH? Why yes, why no? |  |
| 12 | Where can people go for STH treatment? |  |
| 13 | Has there ever a STH control program been carried out in the area? |  |
| 14 | If yes, when, where and what did it include? |  |
| **B. Infection Risk** | | |
| 1 | According to you, where do children mostly get infected with intestinal worms? |  |
| 2 | According to you, due to which activity /**risk behaviour** do children mostly get infected? |  |
| 3 | If children knew that …………………………., we could prevent most STH infections. |  |
| 4 | If children didn’t ……………………… (activity), we could prevent most STH infections. |  |
| 5 | If parents ………………, we could prevent most STH infections. |  |
| **C. Health Education for STH** | | |
| 1 | According to you, what’s the most important measure to be taken in order to fight intestinal worms? |  |
| 2 | What can children do to sustainably avoid STH infections? |  |
| 3. Health Education at schools for STH: | | |
| 3.1 | Who should be in charge? |  |
| 3.2 | Important contacts to make it part of school curriculum? |  |
| 3.3 | What should it include? |  |
| 3.4 | Target age? |  |
| 3.5 | Methods? |  |
| 3.6 | How long? |  |
| 3.7 | How often? |  |
| 3.8 | How many repetitions? |  |
| 4 | What do you think about using a video for STH health education at schools? |  |
| 5 | How should that video look like? What should it include? How long should it be? |  |
| 6 | With which other methods would you combine it? |  |

**Thank you for answering the questions**

## Pilot testing of the education video

## Questionnaire for schoolchildren

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| ID: | School ID. | | Class ID. | | Student No. | |

**Development of an education cartoon to prevent intestinal worm and liver fluke infection in the Mekong region**

**Questionnaire for the students**

|  |  |  |  |
| --- | --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:**(mm-dd-yyyy) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_|  *To be filled out by the research team:* | | | |
| A1 | **School (Name and Code)** | |\_\_|\_\_| | |
| A2 | **Class/Section** | |\_\_|\_\_| | |
| A3 | **Student Number** | |\_\_|\_\_| | |
| **B. QUESTIONS RELATED TO THE KEY MESSAGES (CONTENT) OF THE VIDEO**  *Instructions to the student: Fill-out the following questions during the second showing of the video.* | | | |
| B1 | What can the person see when he/she wears the magic glasses? | | |
| B2 | What does the yellow colour mean in the cartoon? | | |
| B3 | How can you get worm infections? Name 3 possible ways. | | |
| B4 | How can you avoid worm infections? Name 3 possible ways | | |
| B3 | How can you get liver fluke infections? Name 3 possible ways. | | |
| B4 | How can you avoid liver fluke infections? Name 3 possible ways | | |
| **C. QUESTIONS RELATED TO THE QUALITY OF THE VIDEO**  *Instructions to the student: Fill-out the following questions after seeing the second showing of the video. These questions ask about your impression of the video.* | | | |
| C1 | Did you like the video? | | ☐ Yes  ☐ No |
| C1.1 | If YES, what are the things you LIKE in the video? | | |
| C1.2 | If NO, what are the things you DON’T like in the video? | | |
| C2 | Can you also relate to this video? To which character can you relate the most? | | |
| C3 | Are there characters whose voices you cannot understand? | | ☐ Yes  ☐ No |
| C3.1 | If Yes, please specify the character (s): | | |

## 8.1.1.6.2. FGD guide questions for schoolchildren

**Guide Questions (FGD for 10 schoolchildren)**

|  |  |
| --- | --- |
| Activity: |  |
| Date: |  |
| Time starts: |  |
| Time ends: |  |
| Participants: |  |
| Facilitator: |  |
| Documenter: |  |

Instruction: Randomly select 10 children per class/section. Please use the following guide questions to lead the participating schoolchildren in discussion. Remember to encourage the participants to share all thoughts and opinions- all ideas are valuable and differences in opinions are also important.

|  |  |
| --- | --- |
| **1** | What was the cartoon about? |
| **2** | What does the yellow colour mean in the cartoon? |
| **3** | What can boy/girl see when he/she wears the magic glasses? |
| **4** | Did you like the cartoon? (i.e., style, color, animations, sounds) If yes, what are the things you like in the video? If no, what are the things you don’t like in the video? |
| **5** | Can you relate to the video? If yes, which among the characters can you relate most? |

## 8.1.1.6.3. FGD guide questions for teachers

**Guide Questions (FGD for Teachers)**

|  |  |
| --- | --- |
| Activity: |  |
| Date: |  |
| Time starts: |  |
| Time ends: |  |
| Participants: |  |
| Facilitator: |  |
| Documenter: |  |

Instruction: Please use the following guide questions to lead the participating teachers in discussion. Remember to encourage the participants to share all thoughts and opinions- all ideas are valuable and differences in opinions are also important.

|  |  |
| --- | --- |
| **CONTENT** | |
| **1** | What do you think is the message of the video? |
| **2** | How can you get worm infections? Name 3 possible ways. |
| **3** | How can you avoid worm infections? |
| **2** | How can you get liver fluke infections? Name 3 possible ways. |
| **3** | How can you avoid liver fluke infections? |
| **AUDIO/VISUAL** | |
| **2** | Are the visual aspect of the video clear in the delivery of the message, relevant and professional looking? |
| **3** | Is the audio (e.g., dialogue, sounds) understandable? If no, cite scenes in which the dialogue or sounds are not understandable? |
| **AUDIENCE** *(the following questions aims to measure cultural acceptability*) | |
| 4 | Who do you think are the people who could benefit the most from watching this video? |
| 5 | Do you think they could relate to this video? Why? |
| 6 | As a teacher, can you also relate to this video? To which character can you relate the most? |

## 8.1.1.6.4. FGD guide questions for parents

**Guide Questions (FGD for parents)**

|  |  |
| --- | --- |
| Activity: |  |
| Date: |  |
| Time starts: |  |
| Time ends: |  |
| Participants: |  |
| Facilitator: |  |
| Documenter: |  |

Instruction: Please use the following guide questions to lead the participating teachers in discussion. Remember to encourage the participants to share all thoughts and opinions- all ideas are valuable and differences in opinions are also important.

|  |  |
| --- | --- |
| **CONTENT** | |
| **1** | What do you think is the message of the video? |
| **2** | How can you get intestinal worm infection? Name 3 possible ways. |
| **3** | How can you avoid intestinal worm infection? |
| **4** | How can you get liver fluke infection? Name 3 possible ways. |
| **5** | How can you avoid liver fluke infection? |
| **AUDIO/VISUAL** | |
| **2** | Are the visual aspect of the video clear in the delivery of the message, relevant and professional looking? |
| **3** | Is the audio (e.g., dialogue, sounds) understandable? If no, cite scenes in which the dialogue or sounds are not understandable? |
| **AUDIENCE** *(the following questions aims to measure cultural acceptability*) | |
| 4 | Who do you think are the people who could benefit the most from watching this video? |
| 5 | Do you think they could relate to this video? Why? |
| 6 | As a parent, can you also relate to this video? To which character can you relate the most? |

## Information Sheet and Informed Consent

## Household survey

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong**

**Participant Information Sheet**

**(Household Survey)**

**Researcher:**

I (name of researcher), representing the (local study partner in Cambodia, Thailand and Lao) and the Australian National University, would like to invite you to participate in our study. However, before you can make a decision, we would like you to read this information sheet, discuss it, ask question and then tell us if you want to participate in this activity.

**Project Title:** Development of an educational cartoon to prevent worm and liver fluke infection in the Mekong region.

**General Outline of the Project: Description and Methodology:**

The (name of partner agency in Cambodia, Thailand and Laos) and the Australian National University are conducting a formative study to develop a health education video on intestinal worms and liver fluke. Intestinal worms are a common cause of illness among schoolchildren and can lead to anaemia, malnourishment and impaired academic ability. Liver fluke infection on the other hand, is associated with liver (hepatobiliary) disease. The most serious consequence of OV infection however, is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer.

The main strategy to control for these infections is through mass drug administration using deworming tablets. However, deworming does not prevent reinfection and needs to be repeated regularly. To try to improve its effects, a hygiene and health behaviour education video is being developed to show to children in this country. This video will educate children regarding the health effects of infections and the best ways to avoid infection. This school education approach has been used previously in China, Vietnam and the Philippines, now we are adapting the video for your country. We now need to ensure that the video we develop in this country will be suitable and acceptable to the local setting. Among the activities of this study is the conduct of the household survey in your area. We would like to include your household in this survey.

**Participants:** We hope to interview approximately 10 households in your area as part of the process. **Use of Data and Feedback:** The information provided by you will be used to develop and adapt a new health education video for use among schoolchildren in the country. Your participation will help us to develop the most effective video content that will have the most powerful effect in reducing infection in your area. Once the video has been developed we will share it with local school teachers in your village to be shown to your children.

**Project Funding:** This research is funded by a grant from the Australian National Health and Medical Research Council.

**Participant Involvement:**

**Voluntary Participation & Withdrawal:** Your participation in this research is completely voluntary and you may withdraw your participation at any time without telling me why. You are able to refuse to answer any individual questions within the interviews or questionnaires. Should you decide not to join this study, the information you have shared prior to withdrawal will not be used.

**What does participation in the research entail?**

Your household is among the five households, which were randomly chosen to participate in the survey. Should you agree to participate in it, we will ask questions about your family; household infrastructure, health and sanitation facilities; what you know about intestinal worms and liver fluke, attitude towards intestinal worm infections and liver fluke and your personal practices such as handwashing, food handling, toilet use and the wearing of shoes.

**Location and Duration:** If you consent, we will conduct the interview at your home for approximately 20-30 minutes.

**Risks:** We do not foresee any risks to your or your family from participation in the research.

**Benefits:** Although it is unlikely that you will personally benefit from participating in this research, there will be a wider benefit in terms of the development of a health intervention that can help reduce infection rates in your community. Intestinal worm infections seriously impair the ability of children in terms of educational and economic development. Your contribution to this project will help develop the most effective intervention and improve the health of children in your community.

**Confidentiality:**

**Confidentiality:** For this research we will not be collecting any personal information about you or your family. The information you provide will not be able to be connected with you. Only the study researchers will have access to the data you provide and any reports which will be written using this project’s data will not contain any information that identifies any child or family as participants in this study.

**Privacy Notice:**

Australian privacy rules require me to tell you how my University handles your private information, and you can ask me to give you more details of that or how you can find out what information we have about you and to fix it if it is wrong.

**Data Storage:**

**Where:** The data collected from you will be stored in an encrypted server at the Australian National University. Access will only be by the lead investigator. As described above, there will be no personal information collected.

**How long:** The data you provide will be stored for 5 years from the date of the data collection. Following that period, the de-identified data will be archived.

**Queries and Concerns:**

**Contact Details for More Information:** If there is anything you do not understand or if you want more detail of the study please contact the lead investigator, Dr. Darren Gray at [Darren.gray@anu.edu.au](mailto:Darren.gray@anu.edu.au) OR

The local study team representative:

**CAMBODIA**

**Dr Virak Khieu (**[Virak.khieu@gmail.com](mailto:Virak.khieu@gmail.com))

Ministry of Health – Cambodia

**THAILAND**

**Prof Banchob Sripa** ([banchob@kku.ac.th](mailto:banchob@kku.ac.th))

Faculty of Medicine, Khon Kaen University

**LAOS**

**Dr Somphou Sayasone,**

Ministry of Health, Laos

**Ethics Committee Clearance:**

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 20xx/xxx). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong region**

*(Household Survey)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to this interview being audio-recorded YES ☐ NO

I agree to be identified in the following way within research outputs: YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

## 8.1.2.2. KAP Survey, Draw and Write Assessment; and FGD with schoolchildren

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong**

**Participant Information Sheet**

**(For Parents)**

***(KAP Survey, Draw and Write Assessment and FGD with schoolchildren)***

**Researcher:**

I (name of researcher), representing the (local study partner in Cambodia, Thailand and Lao) and the Australian National University, would like to invite you to participate in our study. However, before you can make a decision, we would like you to read this information sheet, discuss it, ask question and then tell us if you want to participate in this activity.

**Project Title:** Development of an educational cartoon to prevent worm and liver fluke infection in the Mekong region.

**General Outline of the Project**

**Description and Methodology:**

The (name of partner agency in Cambodia, Thailand and Laos) and the Australian National University are conducting a formative study to develop a health education video on intestinal worms and liver fluke. Intestinal worms are a common cause of illness among schoolchildren and can lead to anaemia, malnourishment and impaired academic ability. Liver fluke infection on the other hand, is associated with liver (hepatobiliary) disease. The most serious consequence of OV infection however, is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer.

The main strategy to control for these infections is through mass drug administration using deworming tablets. However, deworming does not prevent reinfection and needs to be repeated regularly. To try to improve its effects, a hygiene and health behaviour education video is being developed to show to children in this country. This video will educate children regarding the health effects of infections and the best ways to avoid infection. This school education approach has been used previously in China, Vietnam and the Philippines, now we are adapting the video in this country. We now need to ensure that the video we develop in this country will be suitable and acceptable to the local setting. We would like to invite your child to participate in this study.

**Participants:** We hope to invite approximately 200 schoolchildren, aged 9 to 11 years in n schools in one province for the quantitative KAP survey; n schoolchildren for the draw and write and n schoolchildren in n schools for focus group discussion (FGD).

**Use of Data and Feedback:** The information provided by you will be used to develop and adapt a new health education video for use among schoolchildren in the country. Your participation will help us to develop the most effective video content that will have the most powerful effect in reducing infection in your area. Once the video has been developed we will share it with local school teachers in your village to be shown to your children.

**Project Funding:** This research is funded by a grant from the Australian National Health and Medical Research Council.

**Participant Involvement:**

**Voluntary Participation & Withdrawal:** Your child’s participation in this study is voluntary. You may also choose not to have your child participate in it. Should you decide not to allow your child to join in this activity, it will not affect his school standing nor her/his standing in other school activities.

**What does participation in the research entail?** Should you allow her/him to join in this activity, we will ask her/him questions about her/his health related practices, what s/he know about intestinal worms and liver fluke infections (in KAP survey and FGDs); and ask her/him to make some drawings (in the draw and write assessment).

**Location and Duration:** If you consent, we will coordinate this activity with the school officials and their classroom teachers so that they can join in this activity. This will take some 20 – 30 minutes of their time at school.

**Risks:** We do not see any harm that will come to your child if s/he participate in this activity. He/she may however choose not to answer any questions during either the KAP survey, draw and write or FGD, Her/his answers to the questions and the drawings that s/he will make will not have bearing on his/her grades at school.

**Benefits:** There will be no direct benefit to your child if s/he joins in this work; we will also not provide any incentives to you or to her/him. However, the information we will obtain from her/him and from all the other children who will participate in this activity will be used in the development of a health education video about intestinal worms. This video will be shown in schools and can help the children be aware about intestinal worms and how to prevent themselves from getting sick.

**Confidentiality:**

**Confidentiality:** The researchers in this project guarantee confidentiality of the data as far as the law allows. We will not be collecting any personal information about you or your family. The information you provide will not be able to be connected with you. Only the study researchers will have access to the data you provide and any reports which will be written using this project’s data will not contain any information that identifies any child or family as participants in this study.

**Privacy Notice:**

Australian privacy rules require me to tell you how my University handles your private information, and you can ask me to give you more details of that or how you can find out what information we have about you and to fix it if it is wrong.

**Data Storage:**

**Where:** The data collected from you will be stored in an encrypted server at the Australian National University. Access will only be by the lead investigator. As described above, there will be no personal information collected.

**How long:** The data you provide will be stored for 5 years from the date of the data collection. Following that period, the de-identified data will be archived.

**Queries and Concerns:**

**Contact Details for More Information:** If there is anything you do not understand or if you want more detail of the study please contact the lead investigator, Dr. Darren Gray at [Darren.gray@anu.edu.au](mailto:Darren.gray@anu.edu.au) OR

The local study team representative:

**CAMBODIA**

**Dr Virak Khieu (**[Virak.khieu@gmail.com](mailto:Virak.khieu@gmail.com))

Ministry of Health – Cambodia

**THAILAND**

**Prof Banchob Sripa** ([banchob@kku.ac.th](mailto:banchob@kku.ac.th))

Faculty of Medicine, Khon Kaen University

**LAOS**

**Dr Somphou Sayasone,**

Ministry of Health, Laos

**Ethics Committee Clearance:**

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 20xx/xxx). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

*(KAP Survey, Draw and Write Assessments and FGD with schoolchildren)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to allow my child to participate in the project YES ☐ NO

I agree to allow my child to be identified in the following way within research outputs:

YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

**Participant Information Sheet**

**(For Schoolchildren)**

***(To be used for KAP survey, Draw and Write Assessment and FGD with schoolchildren)***

My name is \_\_\_\_\_\_\_\_\_\_\_\_ and I work at (name of local partner agency in Cambodia, Thailand and Laos). My team are making a cartoon to help children in the country to learn more about intestinal worm and liver fluke infections. These infections are some of the most important public health problems in our area. We want to help stop it spreading.

To make our video we need your help. There will be 3 activities that we will ask for help with, if you agree. Not everyone will do all activities. You might only be asked to do one.

1. We want to ask you some questions about what you know about intestinal worms and liver fluke. We will also ask what you know about how it spreads to other people. These questions will take around 20 minutes.
2. Some of you who agree to help our work will also be asked to talk for longer in a small group of your classmates. This is called a Focus Group Discussion. These groups will talk about more details about what you know about intestinal worms and liver fluke. These discussions will also take about 20 minutes.
3. One group of students will also be chosen to do an art activity. We will ask you to draw pictures and write about what you know about intestinal worms and liver fluke. This will take about 30 minutes as well.

The information you give us will help us make the best possible education cartoon. This will then help prevent the spread of infection in our country.

You don’t have to do this work. If you don’t want to take part, please tell your teachers or parents. That is not a problem.

You can also change your mind at any time. You can answer some questions but not others.

Nothing bad will happen if you don’t want to be part of this work.

If you have any questions you can ask me or your teacher, or parent. You can ask at any time.

Thank you for reading this. I hope we can work together and make a better cartoon.

WRITTEN ASSENT for Participants

(For Schoolchildren)

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

**(*KAP survey, Drawing Analysis and FGD with schoolchildren*)**

I have read and understood the Information Sheet you have given me about the research project [*or that the research staff have read this form aloud to me*], and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to let you make a recording of what I say /or being audio-recorded YES ☐ NO

Name of Child: …………………………………………….

Date: ………………………………………………….

## 8.1.2.3. Key Informant Interview (School teacher and health staff)

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong**

**Participant Information Sheet**

**(For school teachers and health staff)**

**Researcher:**

I (name of researcher), representing the (local study partner in Cambodia, Thailand and Lao) and the Australian National University, would like to invite you to participate in our study. However, before you can make a decision, we would like you to read this information sheet, discuss it, ask question and then tell us if you want to participate in this activity.

**Project Title:** Development of an educational cartoon to prevent worm and liver fluke infection in the Mekong region.

**General Outline of the Project:**

**Description and Methodology:**

The (name of partner agency in Cambodia, Thailand and Laos) and the Australian National University are conducting a formative study to develop a health education video on intestinal worms and liver fluke. Intestinal worms are a common cause of illness among schoolchildren and can lead to anaemia, malnourishment and impaired academic ability. Liver fluke infection on the other hand, is associated with liver (hepatobiliary) disease. The most serious consequence of OV infection however, is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer.

The main strategy to control for these infections is through mass drug administration using deworming tablets. However, deworming does not prevent reinfection and needs to be repeated regularly. To try to improve the effects of deworming, a hygiene and health behaviour education video is being developed to show to children in this country. This video will educate children regarding the health effects of infections and the best ways to avoid these infections. This school education approach has been used previously in Vietnam, China and the Philippines, now we are adapting the video in this country. We now need to ensure that the video we develop for your country will be suitable and acceptable to the local setting.

**Participants:** This information will be collected through interviews/ discussions with you using a questionnaire. We hope to interview approximately xx teachers and xx health workers as part of the process.

**Use of Data and Feedback:** The information provided by you will be used to develop and adapt a new health education video for use among schoolchildren in this setting. Your participation will help us to develop the most effective video content that will have the most powerful effect in reducing infection in your area. Once the video has been developed we will share it with local school teachers in your village to be shown to your children.

**Project Funding:** This research is funded by a grant from the Australian National Health and Medical Research Council.

**Participant Involvement:**

**Voluntary Participation & Withdrawal:** Your participation in this research is completely voluntary and you may withdraw your participation at any time without telling me why. You are able to refuse to answer any individual questions within the interviews or questionnaires. If you do pull out of the study, the information obtained will not be used against you.

**What does participation in the research entail?** For the development of this education video we hope to collect information from you with regard to how intestinal worms and liver fluke are transmitted; and theirs prevention and control. If you consent, we will record the in depth interview to ensure that we will be able to capture the things we have discussed.

**Location and Duration:** If you consent, we will conduct the interviews in a place/work place in which you are comfortable. That can either be your home, office, or any other place you prefer within your community. We will ask for approximately 30 minutes of your time to complete the questionnaires and the interviews.

**Risks:** We do not foresee any risks to you if you decide to participate in this study. Should you feel uncomfortable about any of the questions asked of you, you need not answer them at any point if you so decide.

**Benefits:** Although it is unlikely that you will personally benefit from participating in this research, there will be a wider benefit in terms of the development of a health intervention that can help reduce infection rates in your community. Intestinal worm infections seriously impair the ability of children in terms of educational and economic development. Your contribution to this project will help develop the most effective intervention and improve the health of children in your community.

**Confidentiality:**

**Confidentiality:** For this research we will not be collecting any personal information about you or your family. The information you provide will not be able to be connected with you. Only the study researchers will have access to the data you provide and any reports which will be written using this project’s data will not contain any information that identifies any child or family as participants in this study.

**Privacy Notice:**

Australian privacy rules require me to tell you how my University handles your private information, and you can ask me to give you more details of that or how you can find out what information we have about you and to fix it if it is wrong.

**Data Storage:**

**Where:** The data collected from you will be stored in an encrypted server at the Australian National University. Access will only be by the lead investigator. As described above, there will be no personal information collected.

**How long:** The data you provide will be stored for 5 years from the date of the data collection. Following that period, the de-identified data will be archived.

**Queries and Concerns:**

**Contact Details for More Information:** If there is anything you do not understand or if you want more detail of the study please contact the lead investigator, Dr. Darren Gray (The Australian National University) at [Darren.gray@anu.edu.au](mailto:Darren.gray@anu.edu.au) OR

The local study team representative:

**CAMBODIA**

**Dr Virak Khieu (**[Virak.khieu@gmail.com](mailto:Virak.khieu@gmail.com))

Ministry of Health – Cambodia

**THAILAND**

**Prof Banchob Sripa** ([banchob@kku.ac.th](mailto:banchob@kku.ac.th))

Faculty of Medicine, Khon Kaen University

**LAOS**

**Dr Somphou Sayasone,**

Ministry of Health, Laos

**Ethics Committee Clearance:**

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 20xx/xxx). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong region**

*(Key Informant Interview –School teacher and health staff)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to this interview being audio-recorded YES ☐ NO

I agree to be identified in the following way within research outputs: YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

**ORAL CONSENT SCRIPT**

**Development of an educational cartoon to prevent worm and liver fluke infections in the Mekong region**

*(Key Informant Interview –School teacher and health staff)*

I have read to you/You have read the Information Sheet about the research project.

Was this information clear?

Do you have any questions about the project?

Do you agree to participate in this project? (Record the answer as Yes/No)

Do you agree for this interview to be audio-recorded? (Record the answer as Yes/No)

When I prepare the research outputs, I can attribute information to you in three ways: full name, pseudonym, or I can use NO attribution and hold your information confidentially.

* Would you like information attributed using your full name? (Record Yes/No)
* Would you like to be referred to using a pseudonym (false name)? (Record Yes/No)
* Would you prefer that your information be not attributed to anyone at all? (Record Yes/No)

May we start the interview now?

Record the date of this script being read

## 8.1.2.4. Pilot testing of the video

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong**

**Participant Information Sheet**

**(For Parents)**

***(Pilot testing of the video)***

**Researcher:**

I (name of researcher), representing the (local study partner in Cambodia, Thailand and Lao) and the Australian National University, would like to invite you to participate in our study. However, before you can make a decision, we would like you to read this information sheet, discuss it, ask question and then tell us if you want to participate in this activity.

**Project Title:** Development of an educational cartoon to prevent worm and liver fluke infection in the Mekong region.

**General Outline of the Project**

**Description and Methodology:**

The (name of local partner agency in Cambodia, Thailand and Laos) and the Australian National University are conducting a formative study to develop a health education video on intestinal worms and liver fluke. Intestinal worms are a common cause of illness among schoolchildren and can lead to anaemia, malnourishment and impaired academic ability. Liver fluke infection on the other hand, is associated with liver (hepatobiliary) disease. The most serious consequence of OV infection however, is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer.

The main strategy to control for these infections is through mass drug administration using deworming tablets. However, deworming does not prevent reinfection and needs to be repeated regularly. To try to improve the effects of deworming, a hygiene and health behaviour education video is being developed to show to children in this country. This video will educate children regarding the health effects of infections and the best ways to avoid these infections. This school education approach has been used previously in Vietnam, China and the Philippines, now we are adapting the video in this country. We now need to ensure that the video we develop for your country will be suitable and acceptable to the local setting. Among the activities of this study is the conduct of the household survey in your area. Your child is invited to join in this activity.

**Participants:** We hope to invite approximately 120 schoolchildren, aged 9 to 11 years in n schools in one province for the pilot testing of the health education video.

**Use of Data and Feedback:** The information provided by you will be used to develop and adapt a new health education video for use among schoolchildren in this country. Your participation will help us to develop the most effective video content that will have the most powerful effect in reducing infection in your area. Once the video has been developed we will share it with local school teachers in your village to be shown to your children.

**Project Funding:** This research is funded by a grant from the Australian National Health and Medical Research Council.

**Participant Involvement:**

**Voluntary Participation & Withdrawal:** Your child’s participation in this study is voluntary. You may also choose not to have your child participate in it. Should you decide not to allow your child to join in this activity, it will not affect his school standing nor her/his standing in other school activities.

**What does participation in the research entail?** Should you allow her/him to join in this activity, we will ask her/him questions about her/his health related practices, what s/he know about intestinal worms and liver fluke infections (in KAP survey and FGDs); and ask her/him to make some drawings (in the draw and write assessment).

**Location and Duration:** If you consent, we will coordinate this activity with the school officials and their classroom teachers so that they can join in this activity. This will take some 20 – 30 minutes of your child’s time at school.

**Risks:** We do not see any harm that will come to your child if s/he participate in this activity. He/she may however choose not to answer any questions during either the KAP survey, draw and write or FGD, Her/his answers to the questions and the drawings that s/he will make will not have bearing on his/her grades at school.

**Benefits:** There will be no direct benefit to your child if s/he joins in this work; we will also not provide any incentives to you or to her/him. However, the information we will obtain from her/him and from all the other children who will participate in this activity will be used in the development of a health education video about intestinal worms. This video will be shown in schools and can help the children be aware about intestinal worms and how to prevent themselves from getting sick.

**Confidentiality:**

**Confidentiality:** The researchers in this project guarantee confidentiality of the data as far as the law allows. We will not be collecting any personal information about you or your family. The information you provide will not be able to be connected with you. Only the study researchers will have access to the data you provide and any reports which will be written using this project’s data will not contain any information that identifies any child or family as participants in this study.

**Privacy Notice:**

Australian privacy rules require me to tell you how my University handles your private information, and you can ask me to give you more details of that or how you can find out what information we have about you and to fix it if it is wrong.

**Data Storage:**

**Where:** The data collected from you will be stored in an encrypted server at the Australian National University. Access will only be by the lead investigator. As described above, there will be no personal information collected.

**How long:** The data you provide will be stored for 5 years from the date of the data collection. Following that period, the de-identified data will be archived.

**Queries and Concerns:**

**Contact Details for More Information:** If there is anything you do not understand or if you want more detail of the study please contact the lead investigator, Dr. Darren Gray at [Darren.gray@anu.edu.au](mailto:Darren.gray@anu.edu.au) OR

The local study team representative:

**CAMBODIA**

**Dr Virak Khieu (**[Virak.khieu@gmail.com](mailto:Virak.khieu@gmail.com))

Ministry of Health – Cambodia

**THAILAND**

**Prof Banchob Sripa** ([banchob@kku.ac.th](mailto:banchob@kku.ac.th))

Faculty of Medicine, Khon Kaen University

**LAOS**

**Dr Somphou Sayasone,**

Ministry of Health, Laos

**Ethics Committee Clearance:**

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 20xx/xxx). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

*(Pilot testing of the video)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to allow my child to participate in the project YES ☐ NO

I agree to allow my child to be identified in the following way within research outputs:

YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

**Participant Information Sheet**

**(For Schoolchildren)**

***(Pilot testing of the video)***

My name is \_\_\_\_\_\_\_\_\_\_\_\_ and I work at (name of local partner agency in Cambodia, Thailand and Laos). My team are making a cartoon to help children in the region learn more about intestinal worms and liver fluke. These infections are some of the important public health problem in our area. We want to help stop it spreading. We want your help to make sure this video is fun and can help kids learn more about how to stop this disease.

If you agree to help us with our research we will show you the cartoon we have made. We will then ask you what you learnt from the video. We will also ask you if you liked it. If you have ideas for how it could be better, you can tell us that too.

You don’t have to do this work. If you don’t want to take part, please tell your teachers or parents. That is not a problem.

If you want to watch the cartoon, but then do not want to talk to us about it, that is okay as well. You can answer only the questions you want to. You can also change your mind at any time. Nothing bad will happen if you don’t want to be part of this work.

Our activity will take around 30 minutes to complete.

If you have any questions you can ask me or your teacher, or parent. You can ask at any time.

Thank you for reading this. I hope we can work together and make a better cartoon.

WRITTEN ASSENT for Participants

(For Schoolchildren)

**Development of an education cartoon to prevent worm and liver fluke infections in the Mekong Region**

**(*Pilot testing of the video*)**

I have read and understood the Information Sheet you have given me about the research project [*or that the research staff have read this form aloud to me*], and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to let you make a recording of what I say /or being audio-recorded YES ☐ NO

Name of Child: …………………………………………….

Date: ………………………………………………….

## Intervention Trial

## Data Collection Tools

## Household Interview questionnaire (Form 2)

**Household interview form (Form 2)**

**Eliminating the Major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **HH ID:** |  |  |  |  |  |  |  |
|  | **Mun** | **Village** | | **House Structure No.** | | | **HH No.** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A. HOUSEHOLD IDENTIFICATION** | | | | |
| **1** | Municipality |  | |  |
| **2** | Village (Name and Code) |  | | *|\_\_|\_\_|* |
| **3** | Household Structure No. | *|\_\_|\_\_|\_\_|* | | |
| **4** | Household No. | *|\_\_|* | | |
| **5** | How many families reside in this house? |  | | |
| **6** | First Name of Respondent |  | |  |
| **7** | Last Name of Respondent |  | |  |
| **8** | Sex of the respondent | ☐ 1 = Male | |  |
| ☐ 2 = Female | |  |
| **8.1** | Head of the household | ☐ 1 = No | |  |
| ☐ 2 = Yes | |  |
| **9** | If not the household head, relationship to the HH head? | ☐ 1 = Spouse | | |
| ☐ 2 = Daughter | |  |
| ☐ 3 = Son | |  |
| ☐ 4 = Others, specify | | |
| **10** | Date of Interview (mm-dd-yyyy) | *|\_\_|\_\_|-|\_\_|\_\_|- |\_\_|\_\_|\_\_|\_\_|* | | |
| **11** | Time Started |  | |  |
| **12** | Time Ended |  | |  |
| **13** | Outcome of the interview | 1 = Complete | | |
| 2 = Interview for completion | | |
| 3 = Rescheduled | | |
| 4 = Refused | | |
| **14** | Reason for refusal or incomplete interview |  | | |
| **B. HOUSEHOLD DEMOGRAPHICS** | | | | |
| **1** | What is the household income per month? |  | | |
| 2 | How long has your family lived in this village? | ☐ 1= Less than 1 year  ☐ 2= 1-5 years  ☐ 3= More than 5 years but less than 10 years  ☐ 4= More than 10 years  ☐ 5= All my life | | |
| **C. HOUSING CONDITIONS** | | | | |
| **1** | Number of people living in the household  (excluding the newborn infant) | |\_\_||\_\_| | | |
| 3 | Do you have electricity at home? | ☐ 1= Yes  ☐ 2= No | | |
| 4 | What is the main type of fuel used for cooking in your family | ☐ 1= Gas  ☐ 2= Electricity  ☐ 3= Firewood  ☐ 4= Others, specify | | |
| 5 | What is the main housing material of the inner walls?  *(Interviewer to validate answer of interviewee. When in conflict, interviewer observation will override interviewee’s answer)* | ☐ 1= 100% brick  ☐ 2= <100% brick  ☐ 3= 100% wood  ☐ 4= 100% bamboo  ☐ 5= Others, specify | | |
| 6 | Type of floor in the house  *(Interviewer to validate answer of interviewee. When in conflict, interviewer observation will override interviewee’s answer)* | ☐ 1= Partial earthen floor  ☐ 2= Total earthen floor  ☐ 3= Cement floor  ☐ 4= Wooden  ☐ 5= Marble  ☐ 6= Brick  ☐ 7= Others, specify | | |
| 7 | Does your family have the following: |  | | |
| 7.1 | Do you own this house? | ☐ 0 = No ☐ 1= Yes | | |
| 7.2 | Do you have some land here or somewhere else? | ☐ 0 = No ☐ 1= Yes | | |
| 7.3 | Rice cooker | ☐ 0 = No ☐ 1= Yes | | |
| 7.4 | Microwave | ☐ 0 = No ☐ 1= Yes | | |
| 7.5 | TV | ☐ 0 = No ☐ 1= Yes | | |
| 7.6 | Cable connection | ☐ 0 = No ☐ 1= Yes | | |
| 7.7 | Mobile phone | ☐ 0 = No ☐ 1= Yes | | |
| 7.8 | Bicycle | ☐ 0 = No ☐ 1= Yes | | |
| 7.9 | Motorbike | ☐ 0 = No ☐ 1= Yes | | |
| 7.10 | Car | ☐ 0 = No ☐ 1= Yes | | |
| 7.11 | Electric fan | ☐ 0 = No ☐ 1= Yes | | |
| 7.12 | Air conditioner | ☐ 0 = No ☐ 1= Yes | | |
| 7.13 | Fridge | ☐ 0 = No ☐ 1= Yes | | |
| 7.14 | Washing machine | ☐ 0 = No ☐ 1= Yes | | |
| 7.15 | Tractor | ☐ 0 = No ☐ 1= Yes | | |
| 7.16 | Truck | ☐ 0 = No ☐ 1= Yes | | |
| 7 | Where do you usually get your drinking water? | ☐ 1= Piped Supply (household connection)  ☐ 2= Well Water, specify:  ☐ protected (with well lining or cover)  ☐ unprotected from runoff water and bird dropping)  ☐ Don’t know  ☐ 3= Hand Pump  ☐ 4= Spring  ☐ 5= River Water  ☐ 6= Rainwater collection  ☐ 7= Bottled water  ☐ 8= No access to drinking water  ☐ 9= Others; specify: | | |
| 7.1 | Is the source of drinking water safe or clean to use? | ☐ 0= No  ☐ 1= Yes | | |
| 8 | Where do you usually get water for other purposes, such as cooking (i.e., washing fruits and vegetables) and hand washing? | ☐ 1= Piped Supply (household connection)  ☐ 2= Well Water, specify:  ☐ protected (with well lining or cover)  ☐ unprotected from runoff water and bird dropping)  ☐ Don’t know  ☐ 3= Hand Pump  ☐ 4= Spring  ☐ 5= River Water  ☐ 6= Rainwater collection  ☐ 7= Bottled water  ☐ 8= No access to drinking water  ☐ 9= Others; specify: | | |
| 8.1 | Is the source of cooking and hand washing water safe or clean to use? | ☐ 0= No  ☐ 1= Yes | | |
| 9 | How long does it take to go to the water source to get water, and come back?  *(This refers only to a single water-hauling trip and does not consider multiple trips in a single day)* | ☐ 0= Don’t know  ☐ 1= Number of minutes: \_\_\_\_\_\_\_  ☐ 2= Water on premises | | |
| 7 | Does your household have latrine | ☐ 1= Yes  ☐ 2= No  ☐ 3= Refused/no response | | |
| 7.1 | If NO, why do you not have a family latrine?  (don’t prompt, multiple response possible) | ☐ 1= No money  ☐ 2= No time to build it  ☐ 3= Do not need a toilet  ☐ 4= Others, specify  ☐ 5= Refused/no response | | |
| 8 | Where is the household latrine? | ☐ 1= Inside the house  ☐ 2= Outside the house  ☐ 3= Refused/no response | | |
| 9 | Which type of toilet do *you mainly use?*  *(Interviewer to validate answer of interviewee. When in conflict, interviewer observation will override interviewee’s answer)* | ☐ 1= Flush to:  ☐ 1= piped sewer system  ☐ 2= septic tank  ☐ 3= pit latrine  ☐ 4= elsewhere  ☐ 5= not sure/don’t know where  ☐ 2= Pour-flush or water sealed toilet to:  ☐ 1= piped sewer system  ☐ 2= septic tank  ☐ 3= pit latrine  ☐ 4= elsewhere  ☐ 5= not sure/don’t know where  ☐ 3= Closed pit toilet (Antipolo)  ☐ 4= Others; specify | | |
| 10 | Do you share this toilet with other households? | ☐ 1=Yes  ☐ 2=No | | |
| 11 | If yes, how many other households share this toilet? |  | | |
| 12 | Is there a regular water supply in your toilet? | ☐ 1- Always (all the time)  ☐ 2- Usually  ☐ 3- Rarely  ☐ 4- Never | | |
| 13 | Do you keep animals? | ☐ 1 – Yes  ☐ 2 – No  ☐ 3 – Refused/no response | | |
| 14 | What kind of animals do you keep?  (Do no prompt- multiple responses allowed) | ☐ 1 – Dogs  ☐ 2 – Duck  ☐ 3 – Goat  ☐ 4 – Goose  ☐ 5 – Cow | ☐ 6 – Cat  ☐ 7 – Chicken  ☐ 8 – Birds  ☐ 9 – Others, specify | |
| 15 | Where are the animals enclosed/caged? | ☐ 1 – In an enclosure inside your house  ☐ 2 – In an enclosure outside your house  ☐ 3 – No cage/left free | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **D. HOUSEHOLD ROSTER** | | | | | | | | | | | | | | | |
| **D1** | Can you give me the name of all the members of your **immediate family** (aged >=5 years old) who normally live and eat their meals together in this household?  Then, give me the names of **any other persons related to you or other household members** who normally live and eat their meals together here.  **Note to interviewer:** Make a complete list of all individuals who normally live and eat their meal together in this household starting with the head of the household. Confirm that the household head here is same as household head listed on the cover. | | | | | | | | To ensure that all important data of each activity at baseline are collected from each study participant in each household **this section shall be completed after the study enrollment** and shall be updated during each household visit. | | | | | |
| **No.** | **Name** | | **Relationship to the household head** | **Date of Birth** *mm/dd/yyyy* | **Age** (indicate if years) | **Will he/she stay in this household for the next 6 months?**  (1=yes; 0=no) | **Available during the initial visit?**  (1=yes; 0=no) | **Monitoring of baseline activities checklist** | | | | | |
| **Last Name** | **Given Name** | Head………………………….……..…1  Wife/husband……….………….…2  Child……….....……………………....3  Grandchild..............................4 Niece/nephew....……..………….5 Father/mother...………………….6  Sister/brother……...................7  Son/daughter-in-law………......8 Brother/sister-in-law.............9  Grandfather/mother….........10 Father/mother-in-law….......11  Other relative …………...........12  Others, specify ………………….13 | **Consented**  (1=yes; 0=no) | **Baseline KAP**  (1=yes; 0=no) | **Stool sample 1**  (1=yes; 0=no) | **Stool Sample 2**  (1=yes; 0=no) | **Nutritional Assessment**  (1=yes; 0=no) | **Remarks** |
| *1* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *3* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *4* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *5* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *6* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *7* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *8* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *9* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *10* |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Baseline KAP Questionnaire (Form 3)

## KAP Questionnaire for Adult (Form 3.1)

**KAP Questionnaire for Adult (Form 3.1)**

**Eliminating the Major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mun ID** | **Village ID** | **House Structure No** | | **HH No.** | | **Individual ID** | |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_|  ***To be filled in by research team:*** | | | | | | | | | |
| **1** | Municipality | | |\_\_|\_\_| | | | | | | |
| **2** | Village (Name and Code) | | |\_\_|\_\_| | | | | | | |
| **3** | Household Structure No. | | |\_\_|\_\_| | | | | | | |
| **4** | Household No. | | |\_\_|\_\_| | | | | | | |
| **5** | Individual ID | |  | | | | | | |
| **B. PERSONAL INFORMATION** | | | | | | | | | |
| 1 | First Name | |  | | | | | | |
| 2 | Last Name | |  | | | | | | |
| 3 | Sex | | ☐ 1 = Male  ☐ 2 = Female | | | | | | |
| 4 | Date of Birth (yyyy-mm-dd) | | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | | | | | | |
| 5 | Highest level of education | | ☐ 1 = Elementary  ☐ 2 = Junior secondary school  ☐ 3 = Senior secondary school  ☐ 4 = college of higher  ☐ 5 = No school  ☐ 6 = Don’t know/No response/Refused | | | | | | |
| 6 | Employment | | ☐ 1 = Farmer  ☐ 2 = Fishing  ☐ 3 = Company (business) employee  ☐ 4 = Self-employed, or entrepreneur  ☐ 5 = Government officer  ☐ 6 = Home duties  ☐ 7 = Student  ☐ 8 = Not employed  ☐ 9 = Others, specify  ☐ 10 = Don’t know/No response/Refused | | | | | | |
| **C. KNOWLEDGE ABOUT INTESTINAL WORMS** | | | | | | | | | |
| 1 | Have you ever heard about worms? | | ☐ 1 = Yes ***(Go 1.a- 1.c)*** | | | | | | |
| ☐ 2 = No ***(Go to C.3)*** | | | | | | |
| ☐ 3 = Don’t know ***(Go to C.3)*** | | | | | | |
| 1.a Roundworms | | ☐ 1 = Yes ☐ 2 = No ☐ 3 = Don’t know | | | | | | |
| 1.b. Whipworms | | ☐ 1 = Yes ☐ 2 = No ☐ 3 =Don’t know | | | | | | |
| 1.c. Hookworms | | ☐ 1 = Yes ☐ 2 = No ☐ 3 = Don’t know | | | | | | |
| 2 | If you have heard of it where? (You can chose more than one answer) | | ☐ 1 = Friend | | | | | | |
| ☐ 2 = Poster | | | | | | |
| ☐ 3 = TV | | | | | | |
| ☐ 4 = Radio | | | | | | |
| ☐ 5 = Book | | | | | | |
| ☐ 6 = Brochure | | | | | | |
| ☐ 7 = School | | | | | | |
| ☐ 8 = Parents/Family | | | | | | |
| ☐ 9 = Others, please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| 3 | Have you ever had worms (Roundworms, Whipworms, and Hookworms) yourself? | | ☐ 1 = Yes | | | | | | |
| ☐ 2 = No | | | | | | |
| ☐ 3 = Don’t know | | | | | | |
| 4 | Has somebody you know already had worms (Roundworms, Whipworms, and Hookworms)? | | ☐ 1 = Yes | | | | | | |
| ☐ 2 = No | | | | | | |
| ☐ 3 = Don’t know | | | | | | |
| **D. TRANSMISSION, SYMPTOMS AND TREATMENT OF INTESTINAL WORMS** | | | | | | | | | |
| 1 | How can you get infected with worms (Roundworms, Whipworms, and Hookworms)? Name all the possibilities you might know | | ☐ 0 = Don’t know | | | | | | |
| ☐ 1 = Swimming in the canal/river | | | | | | |
| ☐ 2 = Walk Barefoot | | | | | | |
| ☐ 3 = Eat dirty food | | | | | | |
| ☐ 4 = Fishing | | | | | | |
| ☐ 5 = Long and dirty fingernails | | | | | | |
| ☐ 6 = Flies landing on wounds | | | | | | |
| ☐ 7 = Playing in dirty places | | | | | | |
| ☐ 8 = Mosquito bite | | | | | | |
| ☐ 9 = Dirty hands | | | | | | |
| ☐ 10 = Playing with soil | | | | | | |
| ☐ 11 = Others, please specify | | | | | | |
| 2 | Do you think intestinal worms can cause serious disease? | | ☐ 1= Yes | | | | | | |
| ☐ 2= No | | | | | | |
| ☐ 3= Don’t know | | | | | | |
| 3 | What happens if people are infected with intestinal worms? (You can chose more than one answer) | | ☐ 1= Feeling tired | | | | | | |
| ☐ 2= Blindness | | | | | | |
| ☐ 3= High blood pressure | | | | | | |
| ☐ 4= Diarrhea | | | | | | |
| ☐ 5= Overweight | | | | | | |
| ☐ 6= Slow growth | | | | | | |
| ☐ 7= Can’t concentrate at school | | | | | | |
| ☐ 8= Fever | | | | | | |
| ☐ 9= Poor appetite | | | | | | |
| ☐ 10= Belly ache | | | | | | |
| ☐ 11= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| ☐ 12= Don’t Know | | | | | | |
| 4 | How can you prevent/ avoid a worm infection? (Choose all correct answers) | | ☐ 1= Washing fruit & vegetables if eating them raw  ☐ 2= Sleeping under a mosquito net  ☐ 3= Regular cutting of nails  ☐ 4= Eating too much  ☐ 5= Cover food  ☐ 6= Using the latrine  ☐ 7= Washing hands after toilet  ☐ 8= Always wear shoes or sandals  ☐ 10= Washing hands before eating  ☐ 11= Doing enough exercise  ☐ 13= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ☐ 14= Don’t Know | | | | | | |
| 5 | Do you think intestinal worm infection can be treated? | | ☐ 1= Yes | | | | | | |
| ☐ 2= No | | | | | | |
| ☐ 3= Don’t know | | | | | | |
| 6 | If yes, where can you go for treatment?  (You can chose more than one answer) | | ☐ 1= School | | | | | | |
| ☐ 2= Local Clinic | | | | | | |
| ☐ 3= Hospital | | | | | | |
| ☐ 4= My parents | | | | | | |
| ☐ 5= Village doctor | | | | | | |
| ☐ 6= Don’t know | | | | | | |
| 7 | If you take medicine for intestinal worms, will you be cured forever? | | ☐ 1= Yes | | | | | | |
| ☐ 2= No | | | | | | |
| ☐ 3= Don’t know | | | | | | |
| **E. ATTITUDE RELATED TO INTESTINAL WORMS** | | | | | | | | | |
| 1 | Do you think you are at risk of getting worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | | | | |
| ☐ 2= No | | | | | |
| ☐ 3= Don’t know | | | | | |
| 1.a | Why yes or why no? | | |  | | | | | |
| 1.b | What is your risk of getting worms? | | | ☐ 0= None | | | | | |
| ☐ 1= Low | | | | | |
| ☐ 2= Medium | | | | | |
| ☐ 3= High | | | | | |
| 2 | Will you be anxious if you got worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | | | | |
| ☐ 2= No | | | | | |
| ☐ 3= Don’t know | | | | | |
| **F. BEHAVIOUR RELATED TO INTESTINAL WORMS** | | | | | | | | | |
| **Interviewer’s Instruction:** Please put check mark (√) on the answer. These are prompted questions. | | | | **Always (1)**  (10/10) | **Often (2)**  (7-9/10) | **Sometimes (3)**  (4-6/10) | | **Rarely (4)**  (1-3/10) | **Never (5)**  (0/10) |
| 1 | | Do you wash hands after toilet use? | |  |  |  | |  |  |
| 2 | | Do you wash hands before eating? | |  |  |  | |  |  |
| 3 | | Do you wash hands after eating? | |  |  |  | |  |  |
| 4 | | Do you wash hands before preparing food? | |  |  |  | |  |  |
| 5 | | How often do use soap when washing hands? | |  |  |  | |  |  |
| 6 | | Do you go out in the paddy fields or other fields? | |  |  |  | |  |  |
| 7 | | If the answered (1-4), do you wear shoes or sandals when you go out into the paddy fields/other fields? | |  |  |  | |  |  |
| 8 | | Do you wash or peel fruit before you eat? | |  |  |  | |  |  |
| 9 | | Do you eat raw or un-boiled vegetables? | |  |  |  | |  |  |
| 5 | | Where does your family usually defecate? Choose one answer. | | ☐ 1= Home latrine | | | | | |
| ☐ 2= Public latrine | | | | | |
| ☐ 3= Field | | | | | |
| ☐ 4= River | | | | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| 6 | | Where do you usually defecate? Choose one answer. | | ☐ 1= Home latrine | | | | | |
| ☐ 2= Public latrine | | | | | |
| ☐ 3= Field | | | | | |
| ☐ 4= River | | | | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| **G. KNOWLEDGE ABOUT LIVER FLUKE**  *Please let us know what you have heard and what you know about liver fluke.* | | | | | | | | | |
| 1 | | Have you ever heard about the live fluke or Opisthorchiasis? | | ☐ 0= No (Go to F3) | | | | | |
| ☐ 1= Yes | | | | | |
| 2 | | If yes, where did you hear about liver fluke? | | ☐ 1= Friend | | | ☐ 6= Brochure | | |
| ☐ 2= Poster | | | ☐ 7= School | | |
|  | |  | | ☐ 3= Radio | | | ☐ 8= Nurse | | |
|  | |  | | ☐ 4= Book | | | ☐ 9= Family members | | |
|  | |  | | ☐ 5= Brochure | | | ☐ 10= Others, specify: | | |
| 3 | | Have you ever had liver fluke | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 4 | | Do you know somebody who had liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | How can you get liver fluke? | | ☐ 0= Don’t know | | | | | |
| ☐ 1= Mosquito bite | | | | | |
| ☐ 2= Swimming in the river/canal | | | | | |
| ☐ 3= Fishing | | | | | |
| ☐ 4= Playing with soil | | | | | |
| ☐ 5= Dirty hands | | | | | |
| ☐ 6= Eating raw/undercooked and fermented fish | | | | | |
| ☐ 7= Others, specify | | | | | |
| 6 | | Do you think liver fluke can make you sick? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 7 | | What happens if you have liver fluke? | | ☐ 0= Don’t know | | | | | |
| ☐ 1= Liver fluke cancer | | | | | |
| ☐ 2= Blindness | | | | | |
| ☐ 3= Fever | | | | | |
| ☐ 4= High blood pressure | | | | | |
| ☐ 5= Feeling tired | | | | | |
| ☐ 6= Slow growth | | | | | |
| ☐ 7= Others, specify: | | | | | |
| 8 | | How can you prevent/avoid liver fluke? | | ☐ 0= Don’t know | | | | | |
| ☐ 2= Using latrine | | | | | |
| ☐ 3= Sleeping under a mosquito net | | | | | |
| ☐ 4= Doing exercise | | | | | |
| ☐ 5= Better sewerage system | | | | | |
| ☐ 6= Avoid consumption of raw/undercooked fish | | | | | |
| ☐ 7= Others, specify: | | | | | |
| 9 | | Do you think liver fluke can be treated? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 10 | | If yes, where can you go for treatment | | ☐ 0= Don’t know | | | | | |
| ☐ 1= School | | | | | |
| ☐ 2= Health Center | | | | | |
| ☐ 3= Hospital | | | | | |
| ☐ 4= Traditional or Faith Healer | | | | | |
| 11 | | Can taking medicine cure liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 12 | | What do you think is the treatment for the liver fluke? | | ☐ 0= Don’t know | | | ☐ 3= Albendazole | | |
| ☐ 1= Aspirin | | | ☐ 4= Others, specify: | | |
| ☐ 2= Praziquantel | | |  | | |
| **H. ATTITUDE ABOUT LIVER FLUKE** | | | | | | |  | | |
| 1 | | Do you believe that you are likely to be infected with liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 2 | | Why yes or why no? | |  |  | |  | | |
| 3 | | What is your chance of getting liver fluke? | | ☐ 1= Low Possibility | | | | | |
| ☐ 2= Medium Possibility | | | | | |
| ☐ 3= High Possibility | | | | | |
| 4 | | Would you be worried if you get infected with liver fluke? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | Why yes or why no? | |  | | | | | |
| **I. BEHAVIOR ABOUT LIVER FLUKE** | | | | | | | | | |
| 1 | | How often do you consume raw fish? | | ☐ 1= Always | | | | | |
| ☐ 2= Most of the time | | | | | |
| ☐ 3= Some of the time | | | | | |
| ☐ 4= Never | | | | | |
| 2 | | How often does your family prepare or consume raw fish? | | ☐ 1= Always | | | | | |
| ☐ 2= Most of the time | | | | | |
| ☐ 3= Some of the time | | | | | |
| ☐ 4= Never | | | | | |
| 3 | | How does your family prepare the raw-fish dish? | | ☐ 1= Fish salad | | | | | |
| ☐ 2= Short fermented fish | | | | | |
| ☐ 3= Others, specify? | | | | | |
| 4 | | Do you have friends or anyone who have a habit of eating raw fresh fish? | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | How does your family dispose your waste food? | | ☐ 1= Disposal by giving it to dogs or cats | | | | | |
| ☐ 2= Discarding to an open pits to which animals had access | | | | | |
| ☐ 3= Compose pit at home | | | | | |
| ☐ 4= Others, specify? | | | | | |

## 8.2.1.2.2. KAP Questionnaire for Children (Form 3.2)

**KAP Questionnaire for child (Form 3.2)**

***(For children aged 5-12 years)***

**Eliminating the Major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mun ID** | **Village ID** | **House Structure No** | | **HH No.** | | **Individual ID** | |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. SURVEY IDENTIFICATION Date:** (yyyy-mm-dd) |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_|  ***To be filled in by research team:*** | | | | | | | | | | |
| **1** | Municipality | | |\_\_|\_\_| | | | | | | | |
| **2** | Village (Name and Code) | | |\_\_|\_\_| | | | | | | | |
| **3** | Household Structure No. | | |\_\_|\_\_| | | | | | | | |
| **4** | Household No. | | |\_\_|\_\_| | | | | | | | |
| **5** | Individual ID | |  | | | | | | | |
| **B. PERSONAL INFORMATION** | | | | | | | | | | |
| 1 | First Name | |  | | | | | | | |
| 2 | Last Name | |  | | | | | | | |
| 3 | Sex | | ☐ 1 – Male  ☐ 2 – Female | | | | | | | |
| 4 | Date of Birth (yyyy-mm-dd) | | |\_\_|\_\_ |\_\_|\_\_| / |\_\_|\_\_| / |\_\_|\_\_| | | | | | | | |
| 5 | Formal Education | | ☐ 1 – Attending school  ☐ 2 – Not attending school  ☐ 3 – Refused/no response | | | | | | | |
| 6 | In which school you are attending? | |  | | | | | | | |
| **C. KNOWLEDGE ABOUT INTESTINAL WORMS** | | | | | | | | | | |
| 1 | Have you ever heard about worms? | | ☐ 1 – Yes ***(Go 1.a- 1.c)*** | | | | | | | |
| ☐ 2 – No ***(Go to C.3)*** | | | | | | | |
| ☐ 3 – Don’t know ***(Go to C.3)*** | | | | | | | |
| 1.a Roundworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | | | | | |
| 1.b. Whipworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | | | | | |
| 1.c. Hookworms | | ☐ 1 – Yes ☐ 2 – No ☐ 3 - Don’t know | | | | | | | |
| 2 | If you have heard of it where? (You can chose more than one answer) | | ☐ 1 = Friend | | | | | | | |
| ☐ 2 = Poster | | | | | | | |
| ☐ 3 = TV | | | | | | | |
| ☐ 4 = Radio | | | | | | | |
| ☐ 5 = Book | | | | | | | |
| ☐ 6 = Brochure | | | | | | | |
| ☐ 7 = School | | | | | | | |
|  | ☐ 8 = Parents/Family | | | | | | | |
|  | ☐ 9 = Others, please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| 3 | Have you ever had worms (Roundworms, Whipworms, and Hookworms) yourself? | | ☐ 1 = Yes | | | | | | | |
| ☐ 2 = No | | | | | | | |
| ☐ 3 = Don’t know | | | | | | | |
| 4 | Has somebody you know already had worms (Roundworms, Whipworms, and Hookworms)? | | ☐ 1 = Yes | | | | | | | |
| ☐ 2 = No | | | | | | | |
| ☐ 3 = Don’t know | | | | | | | |
| **D. TRANSMISSION, SYMPTOMS AND TREATMENT OF INTESTINAL WORMS** | | | | | | | | | | |
| 1 | How can you get infected with worms (Roundworms, Whipworms, and Hookworms)? Name all the possibilities you might know | | ☐ 0 = Don’t know | | | | | | | |
| ☐ 1 = Swimming in the canal/river | | | | | | | |
| ☐ 2 = Walk Barefoot | | | | | | | |
| ☐ 3 = Eat dirty food | | | | | | | |
| ☐ 4 = Fishing | | | | | | | |
| ☐ 5 = Long and dirty fingernails | | | | | | | |
| ☐ 6 = Flies landing on wounds | | | | | | | |
| ☐ 7 = Playing in dirty places | | | | | | | |
| ☐ 8 = Mosquito bite | | | | | | | |
| ☐ 9 = Dirty hands | | | | | | | |
| ☐ 10 = Playing with soil | | | | | | | |
| ☐ 11 = Others, please specify | | | | | | | |
| 2 | Do you think intestinal worms can cause serious disease? | | ☐ 1= Yes | | | | | | | |
| ☐ 2= No | | | | | | | |
| ☐ 3= Don’t know | | | | | | | |
| 3 | What happens if people are infected with intestinal worms? (You can chose more than one answer) | | ☐ 1= Feeling tired | | | | | | | |
| ☐ 2= Blindness | | | | | | | |
| ☐ 3= High blood pressure | | | | | | | |
| ☐ 4= Diarrhea | | | | | | | |
| ☐ 5= Overweight | | | | | | | |
| ☐ 6= Slow growth | | | | | | | |
| ☐ 7= Can’t concentrate at school | | | | | | | |
| ☐ 8= Fever | | | | | | | |
| ☐ 9= Poor appetite | | | | | | | |
| ☐ 10= Belly ache | | | | | | | |
| ☐ 11= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| ☐ 12= Don’t Know | | | | | | | |
| 4 | How can you prevent/ avoid a worm infection? (Choose all correct answers) | | ☐ 1= Washing fruit & vegetables if eating them raw  ☐ 2= Sleeping under a mosquito net  ☐ 3= Regular cutting of nails  ☐ 4= Eating too much  ☐ 5= Cover food  ☐ 6= Using the latrine  ☐ 7= Washing hands after toilet  ☐ 8= Always wear shoes or sandals  ☐ 10= Washing hands before eating  ☐ 11= Doing enough exercise  ☐ 13= Others, please describe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ☐ 14= Don’t Know | | | | | | | |
| 5 | Do you think intestinal worm infection can be treated? | | ☐ 1= Yes | | | | | | | |
| ☐ 2= No | | | | | | | |
| ☐ 3= Don’t know | | | | | | | |
| 6 | If yes, where can you go for treatment?  (You can chose more than one answer) | | ☐ 1= School | | | | | | | |
| ☐ 2= Local Clinic | | | | | | | |
| ☐ 3= Hospital | | | | | | | |
| ☐ 4= My parents | | | | | | | |
| ☐ 5= Village doctor | | | | | | | |
| ☐ 6= Don’t know | | | | | | | |
| 7 | If you take medicine for intestinal worms, will you be cured forever? | | ☐ 1= Yes | | | | | | | |
| ☐ 2= No | | | | | | | |
| ☐ 3= Don’t know | | | | | | | |
| **E. ATTITUDE RELATED TO INTESTINAL WORMS** | | | | | | | | | | |
| 1 | Do you think you are at risk of getting worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | | | | | |
| ☐ 2= No | | | | | | |
| ☐ 3= Don’t know | | | | | | |
| 1.a | Why yes or why no? | | |  | | | | | | |
| 1.b | What is your risk of getting worms? | | | ☐ 0= None | | | | | | |
| ☐ 1= Low | | | | | | |
| ☐ 2= Medium | | | | | | |
| ☐ 3= High | | | | | | |
| 2 | Will you be anxious if you got worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes | | | | | | |
| ☐ 2= No | | | | | | |
| ☐ 3= Don’t know | | | | | | |
| **F. HEALTH EDUCATION RELATED TO INTESTINAL WORM** | | | | | | | | | | |
| 1 | Has your teacher already told you about intestinal worms | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | | |
| 2 | Have you watched a DVD on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | | |
| 3 | Have you ever done an assignment on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | | |
| 4 | Have you told your parents, sisters and brothers about worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | | |
| **G. BEHAVIOUR RELATED TO INTESTINAL WORMS** | | | | | | | | | | |
| **Interviewer’s Instruction:** Please put check mark (√) on the answer. These are prompted questions. | | | | | **Always (1)**  (10/10) | **Often (2)**  (7-9/10) | **Sometimes (3)**  (4-6/10) | | **Rarely (4)**  (1-3/10) | **Never (5)**  (0/10) |
| 1 | | Do you wash hands after toilet use? | | |  |  |  | |  |  |
| 2 | | Do you wash hands before eating? | | |  |  |  | |  |  |
| 3 | | Do you wash hands after eating? | | |  |  |  | |  |  |
| 4 | | Do you wash hands before preparing food? | | |  |  |  | |  |  |
| 5 | | How often do use soap when washing hands? | | |  |  |  | |  |  |
| 6 | | Do you go out in the paddy fields or other fields? | | |  |  |  | |  |  |
| 7 | | If the answered (1-4), do you wear shoes or sandals when you go out into the paddy fields/other fields? | | |  |  |  | |  |  |
| 8 | | Do you wash or peel fruit before you eat? | | |  |  |  | |  |  |
| 9 | | Do you eat raw or un-boiled vegetables? | | |  |  |  | |  |  |
| 5 | | Where does your family usually defecate? Choose one answer. | | | ☐ 1= Home latrine | | | | | |
| ☐ 2= Public latrine | | | | | |
| ☐ 3= Field | | | | | |
| ☐ 4= River | | | | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| 6 | | Where do you usually defecate? Choose one answer. | | | ☐ 1= Home latrine | | | | | |
| ☐ 2= Public latrine | | | | | |
| ☐ 3= Field | | | | | |
| ☐ 4= River | | | | | |
| ☐ 5= Other place, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| **H. KNOWLEDGE ABOUT LIVER FLUKE**  *Please let us know what you have heard and what you know about liver fluke.* | | | | | | | | | | |
| 1 | | Have you ever heard about the live fluke or Opisthorchiasis? | | | ☐ 0= No (Go to F3) | | | | | |
| ☐ 1= Yes | | | | | |
| 2 | | If yes, where did you hear about liver fluke? | | | ☐ 1= Friend | | | ☐ 6= Brochure | | |
| ☐ 2= Poster | | | ☐ 7= School | | |
|  | |  | | | ☐ 3= Radio | | | ☐ 8= Nurse | | |
|  | |  | | | ☐ 4= Book | | | ☐ 9= Family members | | |
|  | |  | | | ☐ 5= Brochure | | | ☐ 10= Others, specify: | | |
| 3 | | Have you ever had liver fluke | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 4 | | Do you know somebody who had liver fluke? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | How can you get liver fluke? | | | ☐ 0= Don’t know | | | | | |
| ☐ 1= Mosquito bite | | | | | |
| ☐ 2= Swimming in the river/canal | | | | | |
| ☐ 3= Fishing | | | | | |
| ☐ 4= Playing with soil | | | | | |
| ☐ 5= Dirty hands | | | | | |
| ☐ 6= Eating raw/undercooked and fermented fish | | | | | |
| ☐ 7= Others, specify | | | | | |
| 6 | | Do you think liver fluke can make you sick? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 7 | | What happens if you have liver fluke? | | | ☐ 0= Don’t know | | | | | |
| ☐ 1= Liver fluke cancer | | | | | |
| ☐ 2= Blindness | | | | | |
| ☐ 3= Fever | | | | | |
| ☐ 4= High blood pressure | | | | | |
| ☐ 5= Feeling tired | | | | | |
| ☐ 6= Slow growth | | | | | |
| ☐ 7= Others, specify: | | | | | |
| 8 | | How can you prevent/avoid liver fluke? | | | ☐ 0= Don’t know | | | | | |
| ☐ 2= Using latrine | | | | | |
| ☐ 3= Sleeping under a mosquito net | | | | | |
| ☐ 4= Doing exercise | | | | | |
| ☐ 5= Better sewerage system | | | | | |
| ☐ 6= Avoid consumption of raw/undercooked fish | | | | | |
| ☐ 7= Others, specify: | | | | | |
| 9 | | Do you think liver fluke can be treated? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 10 | | If yes, where can you go for treatment | | | ☐ 0= Don’t know | | | | | |
| ☐ 1= School | | | | | |
| ☐ 2= Health Center | | | | | |
| ☐ 3= Hospital | | | | | |
| ☐ 4= Traditional or Faith Healer | | | | | |
| 11 | | Can taking medicine cure liver fluke? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 12 | | What do you think is the treatment for the liver fluke? | | | ☐ 0= Don’t know | | | ☐ 3= Albendazole | | |
| ☐ 1= Aspirin | | | ☐ 4= Others, specify: | | |
| ☐ 2= Praziquantel | | |  | | |
| **I. HEALTH EDUCATION RELATED TO LIVER FLUKE** | | | | | | | | | | |
| 1 | | Has your teacher already told you about intestinal worms | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | |
| 2 | | Have you watched a DVD on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | |
| 3 | | Have you ever done an assignment on worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | |
| 4 | | Have you told your parents, sisters and brothers about worms (Roundworms, Whipworms, and Hookworms)? | | | ☐ 1= Yes  ☐ 2= No  ☐ 3= Don’t know | | | | | |
| **J. ATTITUDE ABOUT LIVER FLUKE** | | | | | | | |  | | |
| 1 | | Do you believe that you are likely to be infected with liver fluke? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 2 | | Why yes or why no? | | |  |  | |  | | |
| 3 | | What is your chance of getting liver fluke? | | | ☐ 1= Low Possibility | | | | | |
| ☐ 2= Medium Possibility | | | | | |
| ☐ 3= High Possibility | | | | | |
| 4 | | Would you be worried if you get infected with liver fluke? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | Why yes or why no? | | |  | | | | | |
| **K. BEHAVIOUR ABOUT LIVER FLUKE** | | | | | | | | | | |
| 1 | | How often do you consume raw fish? | | | ☐ 1= Always | | | | | |
| ☐ 2= Most of the time | | | | | |
| ☐ 3= Some of the time | | | | | |
| ☐ 4= Never | | | | | |
| 2 | | How often does your family prepare or consume raw fish? | | | ☐ 1= Always | | | | | |
| ☐ 2= Most of the time | | | | | |
| ☐ 3= Some of the time | | | | | |
| ☐ 4= Never | | | | | |
| 3 | | How does your family prepare the raw-fish dish? | | | ☐ 1= Fish salad | | | | | |
| ☐ 2= Short fermented fish | | | | | |
| ☐ 3= Others, specify? | | | | | |
| 4 | | Do you have friends or anyone who have a habit of eating raw fresh fish? | | | ☐ 0= No  ☐ 1= Yes  ☐ 2= Don’t know | | | | | |
| 5 | | How does your family dispose your waste food? | | | ☐ 1= Disposal by giving it to dogs or cats | | | | | |
| ☐ 2= Discarding to an open pits to which animals had access | | | | | |
| ☐ 3= Compose pit at home | | | | | |
| ☐ 4= Others, specify? | | | | | |

## Human Stool Submission Form (Form 4)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN**  **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | | | | | | | | | | | | | |
| FORM 4. STOOL SUBMISSION | | | | | | | | | | | | | | | | | | | | |
| Municipality **:** | | | | | | | |  | |  | |  | | | | |  | | | |
| Village: | | | | | | | |  | | Survey Schedule/Period (Baseline/Follow-up): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |
| **NO.** | **BARCODE (1)** | **NAME OF RESIDENT** | | | **SEX**  **(5)** | **DOB (mm/dd/yyyy)**  **(6)** | **Village ID**  **(7)** | **HOUSEHOLD ID**  **(8)** | **SAMPLE 1** | | | | | | **SAMPLE 2** | | | | | |
| **LAST NAME (2)** | **FIRST NAME (3)** | **MI (4)** | **STOOL SAMPLE COLLECTED (9)** | | **DATE OF STOOL RECEIPT (MM/DD/YYYY)**  **(10)** | | **TIME OF STOOL RECEIPT (HH:MM)**  **(11)** | **REASON FOR NO STOOL (12)** | **STOOL SAMPLE COLLECTED**  **(13)** | **DATE OF STOOL RECEIPT (MM/DD/YYYY) (14)** | | **TIME OF STOOL RECEIPT (HH:MM) (15)** | **REASON FOR NO STOOL (16)** |
| 1 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 2 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 3 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 4 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 5 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 6 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 7 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 8 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 9 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| 10 |  |  |  |  |  |  |  |  |  | |  | |  |  |  |  | |  |  |
| **Reason for no stool: 1 = did not submit sample even with consent; 2 = others, specify** | | | | | | | | | | | | | | | | | | | | |
| This form filled-in by (Name & signature) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date filled-in (MM/DD/YYYY): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | |
| **Instructions:** | | | | | | | | | | | | | | | | | | | | |
| 1. This form is to be accomplished by the Project staff. | | | | | | | | | | | | | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. For SURVEY SCHEDULE/PERIOD, write 0 for baseline, and 1 for follow-up.  3. For SEX (Column 5) write 1 for Male and 0 for female. | | | | | | | | | | | | | | | | | | | | |
| 4. For STOOL SAMPLE COLLECTED (Columns 9 & 13) write 1 if stool sample was obtained and 0 when not obtained. Write 99 if not applicable (i.e., no consent). | | | | | | | | | | | | | | | | | | | | |
| 5. For DATE OF STOOL RECEIPT (Columns 10 & 14) of sample 1 and 2, write the code 88/88/8888 if not done (i.e., with consent but sample not obtained).  6. For TIME OF STOOL RECEIPT (Columns 11 & 15) of sample 1 and 2 should be 24-hr format, write the code 88:88 if not done (i.e., with consent but sample not obtained)  **Page \_\_ of \_\_** | | | | | | | | | | | | | | | | | | | | |

## Human Stool Processing Worksheet (Form 5)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN**  **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | | | | | |
| FORM 5. STOOL PROCESSING WORKSHEET | | | | | | | | | | | | |
| Municipality: | | | | | | |  | | | | | |
| Village | | | | | | | Survey Schedule/Period (Baseline/Follow-up): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| **BARCODE (1)** | **NAME OF RESIDENT** | | | **SAMPLE PROCESSED (5)** | **SAMPLE NO. , DATE & TIME OF PROCESSING (6)** | **SPECIMEN QUANTITY & PROCEDURE (7)** | | | | | | **Remarks** |
| **LAST NAME (2)** | **FIRST NAME (3)** | **MI (4)** |
|  |  |  |  |  | **Sample 1** | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Date: | Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
| Time (hh:mm): | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
|  | Sample preserved for PCR | | □ Yes | □ No |  |  |  |
|  | **Sample 2** | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Date: | Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
| Time (hh:mm): | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
|  | Sample preserved for PCR | | □ Yes | □ No |  |  |
|  |  |  |  |  | **Sample 1** | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Date: | Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
| Time (hh:mm): | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
|  | Sample preserved for PCR | | □ Yes | □ No |  |  |  |
|  | **Sample 2** | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Date: | Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
| Time (hh:mm): | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
|  | Sample preserved for PCR | | □ Yes | □ No |  |  |
|  |  |  |  |  | **Sample 1**  Date: | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
|  | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
| Time (hh:mm): | Sample preserved for PCR | | □ Yes | □ No |  |  |
|  | **Sample 2** | Sample sufficient for stool exam | | □ Yes | □ No |  |  |  |
| Date: | Stool consistency: | | □ Watery | □ Formed |  |  |
|  | Procedure: | | □ DFS | □ Kato-Katz | □ FECT | □ Not done |
| Time (hh:mm): | No. of slides prepared | | □ 1 | □ 2 | □ 3 | □ Not done |
|  | Sample preserved for PCR | | □ Yes | □ No |  |  |
| This form filled-in by (MT1: Name & signature) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date filled-in (MM/DD/YYYY): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | |
| **Instructions:** | | | | | | | | | | | | |
| 1. This form is to be accomplished by the Project Staff. | | | | | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. For Survey Schedule/Period, write 0 for baseline and 1 for follow-up.  3. For STOOL SAMPLE PROCESSED (Column 5), write 1 if stool sample was obtained and 0 when not obtained.  4. Dates should be in (MM/DD/YYYY) format. Write the code 88/88/8888 if not done (i.e., with consent but sample not obtained) | | | | | | | | | | | | |
| 5. Time should be in 24 hr format (HH:MM). Write the code 88:88 if not done (i.e., with consent but sample not obtained) | | | | | | | | | | | | |
| 6. For SPECIMEN QUANTITY & PROCEDURE (Column 7), Put a check mark () on applicable choice. Page \_\_ of \_\_ | | | | | | | | | | | | |

## Human Stool Microscopy Worksheet (Form 6)

## Nutrition Questionnaire (Form 7)

## Animal Stool Collection and Examination (Form 8)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN** | | | | | | | | | |
| **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | | |
| FORM 8. MICROSCOPY WORKSHEET (ANIMAL STOOL) | | | | | | | | | |
| Municipality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Survey Schedule/Period (Baseline/Follow-up): \_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| Village:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Collection Week: \_\_\_\_\_\_\_\_\_\_ Collection Day No:\_\_\_\_\_\_\_\_\_ | | | | | | | |
| **SAMPLE ID/BARCODE (1)** | **SAMPLE TYPE (2) (1=FELINE; 2=DOG)** | **FECT (3)** | | | **Remarks (4)** | | | | |
| ***Opisthorchis viverrini*** | | |
| **S1** | **S2** | **S3** |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
| [Please attach barcode] |  |  |  |  |  | | | | |
|  | |  | | | | | | | |
| NAME OF MICROSCOPIST & SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | |
|  | | | | | | | | | |
| **Instructions:** | | | | | |  |  |  |  |
| 1. This form is to be accomplished by the Project Staff (microscopist). | | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. | | | | | | | | | |
| 3. For BARCODE (Column 1), attached corresponding barcode ID sticker of the student submitting stool sample. | | | | | | | | | |
| 4. For SURVEY SCHEDULE/PERIOD, write 0 for baseline and 1 for follow-up.  5. For the ROUND OF READING, write 1 for initial reading and 2 for 2nd round of reading (QA) | | | | | | | | | |
| 6. For the SAMPLE TYPE. (Column 2), write 1 for feline and 2 for dog. | | | | | | | | | |
| 7. For RESULT (Column 3), write 0 (zero) if NO ova seen and for positive slides, indicate the number of parasitic ova counted. Write 88888 when microscopy examination not done (i.e., <slides prepared). | | | | | | | | | |
| **Page \_\_ of \_\_** | | | | | | | | | |

## Snail Survey Form (Form 9)

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| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN** | | | | | | | | |
| **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | |
| FORM 9. SNAIL SURVEY FORM | | | | | | | | |
| Municipality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Survey Schedule/Period (Baseline/Follow-up): \_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| Village:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Collection Week: \_\_\_\_\_\_\_\_\_\_ Collection Day No:\_\_\_\_\_\_\_\_\_ | | | | | | |
| **SAMPLE ID (VILLAGE ID – SITE ID)** | **No of snail examined** | **MICROSCOPY RESULTS** | | **Remarks** | | | | |
| **Number of snail infected with**  ***Opisthorchis viverrini*** | **Number of cercariae released** |
|  |  |  |  |  | | | | |
|  |  |  |  |  | | | | |
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|  | |  | | | | | | |
| NAME OF MICROSCOPIST & SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date (mm/dd/yyyy): | | | | | | | | |
|  | | | | | | | | |
| **Instructions:** | | | | |  |  |  |  |
| 1. This form is to be accomplished by the Project Staff. | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. | | | | | | | | |
| 3. For BARCODE (Column 1), attached corresponding barcode ID sticker of the student submitting stool sample. | | | | | | | | |
| 4. For SURVEY SCHEDULE/PERIOD, write 0 for baseline and 1 for follow-up. | | | | | | | | |
| **Page \_\_ of \_\_** | | | | | | | | |

## O.v Assessment in Fish (Form 10)

|  |  |  |  |  |  |  |  |
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| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN** | | | | | | | |
| **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | |
| FORM 10. Assessment of *Ov* in fish | | | | | | | |
| Municipality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Survey Schedule/Period (Baseline/Follow-up): \_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| Village:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Collection Week: \_\_\_\_\_\_\_\_\_\_ Collection Day No:\_\_\_\_\_\_\_\_\_ | | | | | |
| **SAMPLE ID (VILLAGE ID – SITE ID)** | **Weight of fish examined** | **Identification of**  **Ov metacercariae** | **Remarks** | | | | |
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|  | |  | | | | | |
| NAME OF MICROSCOPIST & SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date examined (mm/dd/yyyy): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
|  | | | | | | | |
| **Instructions:** | | | |  |  |  |  |
| 1. This form is to be accomplished by the Project Staff (microscopist). | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. | | | | | | | |
| 3. For BARCODE (Column 1), attached corresponding barcode ID sticker of the student submitting stool sample. | | | | | | | |
| 4. For SURVEY SCHEDULE/PERIOD, write 0 for baseline and 1 for follow-up. | | | | | | | |
| **Page \_\_ of \_\_** | | | | | | | |

## Monitoring of Treatment Coverage (Form 11)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN** | | | | | | | | | | | | | | | | | | | |
| **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | | | | | | | | | | | | |
| FORM 11. MONITORING OF TREATMENT COVERAGE | | | | | | | | | | | | | | | | | | | |
| Municipality**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Village name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | Survey Schedule/Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | |
| No. | **BARCODE (1)** | **NAME OF RESIDENT** | | | | | **SEX (5)** | **VILLAGE ID** | | **HH ID** | **TREATMENT** | | | | | | | | |
| **LAST NAME (2)** | **FIRST NAME (3)** | | **MI (4)** | | **PZQ MDA**  **(1=Yes; 0=No)**  **(8)** | **Date of deworming (mm/dd/yyyy) (9)** | **Reason for NO Txt**  **(10)** | | **ALB MDA (1=Yes; 0=No)**  **(11)** | | **Date of deworming (mm/dd/yyyy) (12)** | **Reason for NO Txt**  **(13)** | **REMARKS (14)** |
| 1 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 2 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 3 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 4 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 5 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 6 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 7 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 9 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 9 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| 10 |  |  |  | |  | |  |  | |  |  |  |  | |  | |  |  |  |
| **Reason for NO TREATMENT: 1 = refusal / no consent; 2 = sick; 3 = others, specify** | | | | | | | | | | | | | | | | | | | |
| This form filled-in by (Name and signature):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | Date filled-in (MM/DD/YYYY):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | |  | |  | | | |
| **Instructions:** | | | | | |  | | |  | | | | |  | |  | | | |
| 1. This form is to be accomplished by the RITM MGP Project staff. | | | | | | | | | | | | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. | | | | | | | | | | | | | | | | | | | |
| 3. For SURVEY SCHEDULE/PERIOD, write 0 for baseline, 1 for 1st follow-up & 2 for 2nd follow-up. | | | | | | | | | | | | | | | | | | | |
| 4. For DEWORMING DRUG RECEIVED (Column 8 and 11) write 1 if YES and 0 when NO. | | | | | | | | | | | | | | | | | | | |
| 5. For Remarks (Column 14), write down adverse events if any. | | | | | | | | | | | | | | | | | | | |
| Page \_\_\_ of \_\_\_\_ | | | | | | | | | | | | | | | | | | | |

## Monitoring of intervention coverage (FORM 12)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ELIMINATING THE MAJOR HELMINTH NEGLECTED TROPICAL DISEASES FROM THE LOWER MEKONG BASIN** | | | | | | | | | | | | | | | | | | | |
| **THE MAGIC GLASSES E-JOINT RESEARCH PROGRAM** | | | | | | | | | | | | | | | | | | | |
| FORM 11. MONITORING OF INTERVENTION COVERAGE | | | | | | | | | | | | | | | | | | | |
| Municipality**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Village name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | Survey Schedule/Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | |
| No. | **BARCODE (1)** | **NAME OF RESIDENT** | | | | | **SEX (5)** | **VILLAGE ID** | | **HH ID** | **Intervention** | | | | | | | | |
| **LAST NAME (2)** | **FIRST NAME (3)** | | **MI (4)** | | **Participated in the health intervention activities in the community?**  **(1=Yes; 0=No)**  **(8)** | **Date of Intervention Delivery**  **(mm/dd/yyyy) (9)** | | **Reason for not attending**  **(10)** | **Seen Magic Glasses Video at school**  **(1=Yes; 0=No)**  **(11)** | | **Date the video seen (mm/dd/yyyy)**  **(12)** | **Reason if not seen?**  **(13)** | **REMARKS (14)** |
| 1 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 2 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 3 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 4 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 5 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 6 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 7 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 9 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 9 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
| 10 |  |  |  | |  | |  |  | |  |  |  | |  |  | |  |  |  |
|  | | | | | | | | | | | | | | | | | | | |
| This form filled-in by (Name and signature):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | Date filled-in (MM/DD/YYYY):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | |  | | |  | | | |
| **Instructions:** | | | | | |  | | |  | | | |  | | |  | | | |
| 1. This form is to be accomplished by the RITM MGP Project staff. | | | | | | | | | | | | | | | | | | | |
| 2. Accomplish the fields in BLOCK LETTERS. | | | | | | | | | | | | | | | | | | | |
| 3. For SURVEY SCHEDULE/PERIOD, write 0 for baseline, 1 for 1st follow-up & 2 for 2nd follow-up. | | | | | | | | | | | | | | | | | | | |
| 4. For columns 8 to 10, ask the adult members of the household for these information. For columns 11-13, the questions are for children who are attending school. | | | | | | | | | | | | | | | | | | | |
| 5. For Remarks (Column 14), write down adverse events if any. | | | | | | | | | | | | | | | | | | | |
| Page \_\_\_ of \_\_\_\_ | | | | | | | | | | | | | | | | | | | |

## Information Sheet /Informed Consent

## Information sheet

**Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

**The Magic Glasses E-joint Research Program**

**Participant Information Sheet**

**Researcher:**

I (name of researcher), representing the (local study partner in Cambodia, Thailand and Lao) and the Australian National University, would like to invite you to participate in our study. However, before you can make a decision, we would like you to read this information sheet, discuss it, ask question and then tell us if you want to participate in this activity.

**Project Title:** Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin – “The Magic Glasses E-joint Research Program”

**General Outline of the Project:**

**Description and Methodology:**

The (name of partner agency in Cambodia, Thailand and Laos) and the Australian National University are conducting a study to develop a health promotion/intervention package on intestinal worm infections and liver fluke. Intestinal worms are a common cause of illness among children and can lead to anaemia, malnourishment and impaired academic ability. Liver fluke (Ov) infection on the other hand, is associated with liver (hepatobiliary) disease. The most serious consequence of Ov infection however, is its role in the aetiology of cholangiocarcinoma (CCA), a highly fatal bile duct cancer.

The main strategy to control for these infections is through mass drug administration using deworming tablets. However, deworming does not prevent reinfection and needs to be repeated regularly. With this health promotional/intervention package, we hope to reduce the incidence of intestinal worm infections and liver fluke among children and residents in the country. This health promotion package will be delivered in some villages but not in others. The study will be conducted among residents (aged 5 years and above) in 12 villages in one municipality in a province. We hope to target approximately 100 households per village (500 residents) and we will follow them up for the duration of one year.

This study is approved by (place holder) which looks after the rights of the research participants and ensure their safety.

We have randomly selected your household in this survey. Thus, we are inviting you and all the members of this household aged 5 years and above to participate, and the following procedures will be done:

* + 1. We will conduct a household interview with the household head.
    2. We will be following you up including all the members of this household who will give consent for the period of one year, from this day and after 6 months.
    3. We will ask each member of the household (including the household head) to submit two stool samples per survey period. The stool submission will be done upon joining the study and after the end of the study.
    4. We will also obtain a very small amount of blood through finger prick to determine if you have anemia. Anemia is a condition that develops when your blood lacks enough healthy red blood cells or hemoglobin. This can cause paleness, tiredness or fatigue, and weakness. The small blood sample will be taken at the start of the study, and at the end of the study.
    5. We will obtain your height and weight and this will be taken at the start of the study, and at the end of the study.
    6. We will also conduct nutritional assessment and this will be taken at the start of the study, and at the end of the study.
    7. We will also ask you to participate in answering a questionnaire about what you know or feel about intestinal worms and liver fluke and the things that you do to prevent these infections. This will be done at the start of the study, and at the end of the study.
    8. You will also be provided with medicine for worms (Albendazole) and liver fluke (Praziquantel) at the start of the project. If you still have a worm/Ov infection at the end of the project we will provide medicine to help cure it.

**Use of Data and Feedback:** The information we obtain from you will help us determine how effective a health promotion/intervention package is in the control of intestinal worms and liver fluke among the residents. Feedback will be given to the officials of the Ministry of health and/or the Department of Education for possible integration of the health promotion package in the community and schools.

**Project Funding:** This research is funded by a grant from the Australian National Health and Medical Research Council.

**Participant Involvement:**

**Voluntary Participation & Withdrawal:** Your participation is voluntary. You can choose not to participate or to withdraw at any stage with no explanation required. Your children can also choose not to answer any questions. Whatever you decide, your decision will not impact the normal health services you receive.

**Location and Duration:** If you consent, all the activities will be conducted in your household. This will take some 45 mins to 1 hour of your time.

**Risks:** We do not see any harm that will come to you from participating in this project. But you may experience discomfort and a slight pain with the finger prick, but these are temporary and will disappear after a while. We would like you to provide consent for your children also to be involved (aged 5-11). If your child/children are aged 12 or over we will ask them individually if they would like to be involved.

The Ministry of Health will provide the medicine (Albendazole and Praziquantel) for you. These medications have been proven to be safe and effective; and they are being used throughout the world. These medications are known to have a very low risk reaction, but in case of any adverse reactions, the Health Authorities (who have many years of experience using these medications) will provide support and assistance.

**Benefits:** There will be no direct benefit to you and your child; we will also not provide any incentives to you or to her/him for your or his/her participation. However, the information we will obtain from you and your child and from all the other study participants will help us determine the impact of a health promotion/intervention package in the control of intestinal worms and liver fluke among the residents. This health promotion/intervention package will be delivered in communities and schools and can help the people to be aware about these infections and how to prevent themselves from getting sick.

**Confidentiality:**

**Confidentiality:** The researchers in this project guarantee confidentiality of the data as far as the law allows. We will not be collecting any personal information about you or your family. The information you provide will not be able to be connected with you. Only the study researchers will have access to the data you provide and any reports which will be written using this project’s data will not contain any information that identifies any child or family as participants in this study.

**Privacy Notice:**

Australian privacy rules require me to tell you how my University handles your private information, and you can ask me to give you more details of that or how you can find out what information we have about you and to fix it if it is wrong.

**Data Storage:**

**Where:** The data collected from you will be stored in an encrypted server at the Australian National University. Access will only be by the lead investigator. As described above, there will be no personal information collected.

**How long:** The data you provide will be stored for 5 years from the date of the data collection. Following that period, the de-identified data will be archived.

**Queries and Concerns:**

**Contact Details for More Information:** If there is anything you do not understand or if you want more detail of the study please contact the lead investigator, Dr. Darren Gray at [Darren.gray@anu.edu.au](mailto:Darren.gray@anu.edu.au) OR

The local study team representative

**CAMBODIA**

**Dr Virak Khieu (**[Virak.khieu@gmail.com](mailto:Virak.khieu@gmail.com))

Ministry of Health – Cambodia

**THAILAND**

**Prof Banchob Sripa** ([banchob@kku.ac.th](mailto:banchob@kku.ac.th))

Faculty of Medicine, Khon Kaen University

**LAOS**

**Dr Somphou Sayasone,**

Ministry of Health, Laos

**Ethics Committee Clearance:**

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 20xx/xxx). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager  
The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: +61 2 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

## Informed Consent for adult household member (Form 1a)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

**The Magic Glasses E-joint Research Program**

*(For adult household member)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to this interview being audio-recorded YES ☐ NO

I agree to be identified in the following way within research outputs: YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

## Parental Informed Consent for ages 5-17 (Form 1b)

**WRITTEN CONSENT FOR PARTICIPANTS**

**Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

**The Magic Glasses E-joint Research Program**

*(Parental Consent for aged 5-17 years)*

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to allow my child to participate in the project YES ☐ NO

I agree to allow my child to be identified in the following way within research outputs:

YES ☐ NO

Signature: …………………………………………….

Date: ………………………………………………….

## Information sheet (for 12 -17 years old)

**Participant Information Sheet**

**Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

**The Magic Glasses E-joint Research Program**

***(For children 12-17 years old)***

My name is \_\_\_\_\_\_\_\_\_\_\_\_ and I work at (place holder). My team are testing a health promotion/intervention package to help the community learn more about intestinal worms and liver fluke infections. These infections are some of the most important public health problems in our community. We want to help stop it spreading.

To assess whether the health promotion/intervention package we developed is effective in lowering the intestinal worm and liver fluke infections, we will ask your participation to do the following if you agree.

* 1. We will be following you up including all the members of this household who will give consent for the period of one year, from this day and after 6 months.
  2. We will ask you to submit two stool samples per survey period. The stool submission will be done upon joining into the study and after the end of the study.
  3. We will also obtain a very small amount of blood through finger prick to determine if you have anemia. Anemia is a condition that develops when your blood lacks enough healthy red blood cells or hemoglobin. This can cause paleness, tiredness or fatigue, and weakness. The small blood sample will be taken at the start of the study, and at the end of the study.
  4. We will obtain your height and weight and this will be taken at the start of the study, and at the end of the study.
  5. We will also conduct nutritional assessment and this will be taken at the start of the study, and at the end of the study.
  6. We will also ask you to participate in answering a questionnaire about what you know or feel about intestinal worms and liver fluke and the things that you do to prevent these infections. This will be done at the start of the study, and at the end of the study.
  7. You will also be provided with medicine for worms (Albendazole) and liver fluke (Praziquantel) at the start of the project. If you still have a worm/Ov infection at the end of the project we will provide medicine to help cure it.

The information you give us will help us know how effective the health promotion/intervention package is. This will then help prevent the spread of infection in our country.

You don’t have to do this work. If you don’t want to take part, please tell parents. That is not a problem. You can also change your mind at any time. You can answer some questions but not others. Nothing bad will happen if you don’t want to be part of this work.

If you have any questions you can ask me or parent. You can ask at any time. Thank you for reading this.

## Informed Assent (Form 1c)

WRITTEN ASSENT for Participants

(For children aged 12-17 years)

**Eliminating the major Helminth Neglected Tropical Diseases from the Lower Mekong Basin**

**The Magic Glasses E-joint Research Program**

I have read and understood the Information Sheet you have given me about the research project [*or that the research staff have read this form aloud to me*], and I have had any questions and concerns about the project (listed here

)  
addressed to my satisfaction.

I agree to participate in the project. YES ☐ NO

I agree to let you make a recording of what I say /or being audio-recorded YES ☐ NO

Name of Child: …………………………………………….

Date: ………………………………………………….