

Appendix A 2-1

CASE ID # _____ For Office Use Only

REGIONAL CAPACITY BUILDING PROGRAM FOR HEALTH RISK MANAGEMENT OF PERSISTENT ORGANIC POLLUTANTS (POPS) IN SOUTH EAST ASIA

HUMAN HEALTH RISK EXPOSURE QUESTIONNAIRE

Site Name/Address: _____

Sample ID Number: _____

- 1 Interviewer's ID Name and No.: _____
- 2 Date Interview Began: _____
- 3 Date Interview Completed: _____
- 4 Time Interview Began: _____ am/pm
- 5 Time Interview Completed: _____ am/pm
- 6 Length of Interview: _____

The following statement must be read to all respondents:

Your participation in this project is completely voluntary. Even though you signed the informed consent document, you may decide to leave the study at any time. You may skip or refuse to answer any survey question that makes you feel uncomfortable.

SECTION A. INTRODUCTION TO QUESTIONNAIRE

The purpose of this interview is to collect information that will assist in assessing potential exposure to POPs substances suspected to be present at the _____ (site name)

AA1. Please tell me your date of birth.

_____/_____/_____
(MM) (DD) (YYYY)

Section A: Health

A1. SEX OF THE RESPONDENT: MALE FEMALE

A2. How tall are you? _____m _____cm

A3. How much do you weigh? _____kg

A4. Have you lost weight in the past 12 months? Yes _____ No _____

A5. How much weight did you lose? _____kg

A6. Have you gained weight in the past 12 months? Yes _____ No _____

A7. How much weight did you gain? _____kg

A8. How many days of work do you miss per month due to illness? _____

How many days of work do you miss per year due to illness? _____

FEMALES:

A9. How many times have you been pregnant in your life? Please include babies born alive, stillborn, aborted, miscarried, or ectopic or tubal pregnancies.

Pregnancies _____ None _____ Don't Know _____

A10. How many times have you had a miscarriage in your life?

Miscarriages _____ None _____ Don't Know _____

A11. How many times have you had a stillborn child in your life?

Stillborn children _____ None _____ Don't Know _____

A12. How many children have you given birth to? (Please only count live births.)

Children _____ None _____ Don't Know _____

A13. For each child, please provide the year of birth and an estimate of the number of months that your child was breast-fed as the main source of nutrition. Let's start with your first child:
(IF MORE THAN 8 CHILDREN, PLEASE USE THE MARGINS. IF NOT BREAST-FED, RECORD 00 MONTHS)

CHILD	NAME	A10a. What is the child's year of birth? (ENTER YYYY)	A10b. How many months was this child breast-fed?
1	_____	Year: _____	# Months: _____
2	_____	Year: _____	# Months: _____
3	_____	Year: _____	# Months: _____
4	_____	Year: _____	# Months: _____
5	_____	Year: _____	# Months: _____
6	_____	Year: _____	# Months: _____
7	_____	Year: _____	# Months: _____
8	_____	Year: _____	# Months: _____

A14. Have you or any of your children had serious medical problems?

Yes _____ No _____ Don't Know _____

If Yes, describe: _____

A15. How many days of work does your husband miss per month due to illness? _____

A16. How many days of school/work do your children miss per month due to illness? _____

Comments: _____

SMOKING HABITS:

A17. Have you ever smoked cigarettes or any other kind of tobacco (e.g., pipe) in your life? (If you have smoked less than 20 packs of cigarettes in your lifetime, or less than 1 cigarette a day for 1 year, then please answer "No".)

Yes _____ No _____ Don't Know _____

A18. How old were you when you first started cigarette smoking?

Age: _____ Don't Know _____

A19. Do you smoke cigarettes now (that is, as of one month ago)?

Yes _____ No _____ Don't Know _____

A20. As of one month ago, on average, how many cigarettes do you smoke per day?

Cigarettes/Day: _____ Don't Know _____

A21. What is the total number of years you have smoked?

Cigarettes/Day: _____ Don't Know _____

A22. I have a few other questions about your health.

	YES	NO	DON'T KNOW
A22a. Do you have hemophilia or any other blood clotting or bleeding disorder?			
A22b. Have you received chemotherapy in the past 6 months?			
A22c. Do you weigh less than 40 KG (90 pounds)?			
A22d. Are you currently taking medication to thin your blood? (IF YES, PROBE: This does not include aspirin.)			
A22e. Have you been currently diagnosed or treated for anemia?			
A22f. Have you been currently diagnosed or treated for malaria?			
A22g. Have you been currently diagnosed or treated for dengue fever?			
A22h. Have you been currently diagnosed or treated for Hepatitis?			
A22i. Have you been currently diagnosed or treated for HIV?			
A22j. Have you donated blood within the last 8 weeks?			
A22k. Are you currently pregnant?			
A22l. Have you breastfed a child in the last 6 months?			
A22m. R ANSWERED "NO" TO ALL THE A23 QUESTIONS AND IS ELIGIBLE TO GIVE A BLOOD SAMPLE.			

Section B: Residential and Work History

B1. Now I need to get the addresses for where you have lived during the last 30 years. .

B2a. What is your current address, including village, commune, district, city, and province?

B2b. What year did you move into this address? _____

B3a. Please give me the address, including village, commune, district, city, and province of previous residences you lived in.

B3b. During what years did you live at this address?

Begin Year _____ End Year _____

COLLECT ADDITIONAL ADDRESSES (IF THEY ARE LOCAL TO THE SITE IN QUESTION) UNTIL THE BEGIN YEAR IS 1978 OR EARLIER.

B4a. Please give me the address, including village, commune, district, city, and province of the previous residence you lived in.

B4b. During what years did you live at this address?

Begin Year _____ End Year _____



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B5a. Please give me the address, including village, commune, district, city, and province of the previous residence you lived in.

B5b. During what years did you live at this address?

Begin Year _____ End Year _____

B6a. Please give me the address, including village, commune, district, city, and province of the previous residence you lived in.

B6b. During what years did you live at this address?

Begin Year _____ End Year _____

B7a. Please give me the address, including village, commune, district, city, and province of the previous residence you lived in.

B7b. During what years did you live at this address?

Begin Year _____ End Year _____

Comments:

Section C: Property Use**a. PERSONAL PROPERTY USE**

C1. Do you or does anyone else in your household have a rice/vegetable/fruit garden **on your property?**

Yes ____ No ____ Don't Know ____ Comments _____

C2. Do you or does anyone else in your household raise animals or livestock (e.g., chickens, fish, etc.) **on your property?**

Yes ____ No ____ Don't Know ____ Comments _____

C3. How much (% , m2 or ha) of **your property** is used for:

Growing crops ? _____ Raising Livestock or fish? _____

Comments _____

C4. Has the amount of food grown **on your property** changed in the past 5 years?

Yes ____ No ____ Don't Know ____ Comments _____

C5. If yes, please estimate the percentage increase or decrease in the past 5 years _____%

Increase in vegetable production _____% OR Decrease in vegetable production _____%

Increase in livestock/fish production _____% OR Decrease in livestock/fish production _____%

Comments _____

C6. Did you, yourself, ever use weed killers or pesticides **on your property?**

Yes ____ No ____ Don't Know ____

Comments _____

C7. Did you ever live on a property where a wood burning fireplace, wood burning stove or charcoal burning stove was used regularly?

Yes ____ No ____ Don't Know ____ Comments _____

C8. Did you ever live on a property where trash or yard waste was burned?

Yes ____ No ____ Don't Know ____ Comments _____

b. WORK SITE USE FOR FOOD PRODUCTION

C9. Do you or does anyone else in your household have a rice/vegetable/fruit garden **on the Site property?**

Yes ____ No ____ Don't Know ____ Comments _____

C10. Do you or does anyone else in your household raise animals or livestock (e.g., chickens, fish, etc.) **on the Site property?**

Yes ____ No ____ Don't Know ____

Comments _____

C11. Has the amount of food grown **on the Site property** changed in the past 5 years?

Yes ____ No ____ Don't Know ____ Comments _____

C12. If yes, please estimate the percentage increase or decrease in the past 5 years _____%

Increase in vegetable production _____% OR Decrease in vegetable production _____%

Increase in livestock/fish production _____% OR Decrease in livestock/fish production _____%

Comments _____

Section D: Work History

WORK HISTORY

D1. What is your current **work** address, including ward, commune, district, city, and province?

D2. How long you have worked at this location? _____

D3. Have you ever **worked** on, or been inside, the Site in question?

Yes _____ No _____ Don't Know _____ Comments _____

D4. If the answer to Question D3 was **Yes**:

D4a. How many years have you worked at the Site? _____

D4b. How many days per month do you work at the Site? _____

D4c. How many hours per day do you work at the Site? _____

D4d. Describe the typical work activities you perform (describe your job):

D4e. Describe the type of clothing worn to perform the typical work duties (e.g., long pants or shorts? long sleeve top or short sleeve top? Sandals or closed shoes? Gloves or no gloves? breathing mask or no mask?)

If the answer to Question D3 was **Yes**:

D5. Did you come in to contact with **soil** at the Site?

Yes ____ No ____ Don't Know ____ Comments _____

D6. Did you come in to contact with **waste material** at the Site?

Yes ____ No ____ Don't Know ____ Comments _____

D7. Did you come in to contact with **waste oil** at the Site?

Yes ____ No ____ Don't Know ____ Comments _____

D8. If the answer to Question D7 was **Yes**, how often does your skin come in contact with waste oil?

Every day ____ Once per week ____ Once per month ____ Seldom ____

D9. Do you ever bring used (waste) oil home from work to use for cooking, lighting, or other purposes?

Yes ____ No ____ Don't Know ____ Comments _____

D10. If the answer to Question D9 was Yes, how much used (waste) oil did you bring home per month? _____ Litres

D11. Name other households/families which also burn/use this used (waste) oil (include village name and address)

D12. Has your work ever involved spraying chemicals to kill plants, weeds or insects?

Yes _____ No _____ Don't Know _____ Comments _____

D13. Have you ever worked in waste disposal including incinerator, wastewater, solid waste, and scrap metal collection?

Yes _____ No _____ Don't Know _____

D14. Have you ever worked at any other factory or industry?

Yes _____ No _____ Don't Know _____

Describe _____

D15. Have you ever been exposed to a spill involving industrial chemicals anywhere (else)?

Yes _____ No _____ Don't Know _____

D16. Have you ever been exposed to a fire involving industrial chemicals anywhere (else)?

Yes _____ No _____ Don't Know _____

D17. Have you ever worked in the production, formulation, use or disposal of:

	Yes	No
D17a. Agent Orange		
D17b. Electrical transformers		
D17c. PCBs		
D17d. PCP (Pentachlorophenol)		
D17e. Di- or Trichlorophenols (including 2,4,5-T)		
D17f. DDT		
D17g. Other herbicides/pesticides/insecticides (please name if possible)		
D17h. Other chemicals (please name if possible)		

Section F: Food Consumption

FOOD CONSUMPTION

F1. Have you ever eaten fish caught from an area close to the Site?

Yes _____ No _____ Don't Know _____

F2. Which parts of the fish do you eat? How often per week?

Muscle (meat) only _____

Liver _____

Stomach _____

Fat _____

All parts _____

F3. Have you ever eaten chickens or other animals from an area close to the Site?

Yes _____ No _____ Don't Know _____

F4. What other meat do you eat? How often per week?

Duck _____

Chicken _____

Snakes _____

Pork _____

Eggs _____

Birds _____

Beef _____

Frogs _____

Wild Animals _____ specify: _____

Other (specify): _____

F5. List the kinds of fruits and vegetables that you eat. How often per week?

F6. Do you grow your own vegetables and fruits at your home?

Yes _____ No _____ Don't Know _____

F7 . What types of vegetables and fruits do you grow at home? Specify:

F8. Do you raise your own ducks, chickens, pigs, cows, or other animals at home?

Yes _____ No _____

If YES, specify:

F9. Do you use recycled oil from work for cooking, lighting, or other purposes?

Yes _____ No _____ Don't Know _____ Comments _____

F10. If yes to F9, how much used oil do you use at your home per month? _____ Litres

Section G: Educational Level

G1. Now I am going to ask you about your own education level.

What is the highest level of school you have completed or the highest degree you have received?

- | | | |
|----|--------------------------|---|
| 1 | <input type="checkbox"/> | Less than 1 st grade |
| 2 | <input type="checkbox"/> | 1 st , 2 nd , 3 rd , or 4 th grade |
| 3 | <input type="checkbox"/> | 5 th or 6 th grade |
| 4 | <input type="checkbox"/> | 7 th or 8 th grade |
| 5 | <input type="checkbox"/> | 9 th grade |
| 6 | <input type="checkbox"/> | 10 th grade |
| 7 | <input type="checkbox"/> | 11 th grade |
| 8 | <input type="checkbox"/> | 12 th grade No Diploma |
| 9 | <input type="checkbox"/> | High school graduate -- high school diploma, or the equivalent (for example: GED) |
| 10 | <input type="checkbox"/> | Some college but no degree |
| 11 | <input type="checkbox"/> | Associate degree in college -- Occupational/vocational program |
| 12 | <input type="checkbox"/> | Associate degree in college -- Academic program |
| 13 | <input type="checkbox"/> | Bachelor's degree (For example: BA, AB, BS) |
| 14 | <input type="checkbox"/> | Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA) |
| 15 | <input type="checkbox"/> | Professional School Degree (For example: MD, DDS, DVM, LLB, JD) |
| 16 | <input type="checkbox"/> | Doctorate degree (For example: PhD, EdD) |
| 17 | <input type="checkbox"/> | Don't Know |
| 18 | <input type="checkbox"/> | REFUSED |

Section H: Socio-Economic Information

H1. What is **your** monthly income from all sources? _____ Refused _____

No income _____ <\$100/month _____ \$100-\$500/month _____
\$500-\$1,000/month _____ \$1000-\$2000/month _____ >\$2,000/month _____

H2. What is your total **household** monthly income (including all family members living with you)? _____ Refused _____

No income _____ <\$100/month _____ \$100-\$500/month _____
\$500-\$1,000/month _____ \$1000-\$2000/month _____ >\$2,000/month _____

H3. How many sources of income does your family have? List them in decreasing order of importance for each contributing family member:

H4. What percentage of your family's food is purchased? _____%

H5. What percentage of your family's food is grown **on your property**? _____%

H6. What percentage of your family's food is grown & sold for money (extra income)? _____%

H7. How large in m2 (or hectares) is your plot of land/property? _____

H8. Do you own the land/property where you live? Yes ____ No ____ Don't Know ____

H9. How large in m2 (or hectares) are the buildings on your land? _____

H10. Do you own the buildings on your land? Yes ____ No ____ Don't Know ____



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H11. What is the estimated value of your land/property? (\$US/m2 or total value) \$_____

H12. List the equipment, vehicles, farm machinery and other key items that you own:

Section I: Information and Outreach

- I1. Have you heard any reports about the PCB, dioxin or pesticide issues in the newspaper?
Yes _____ No _____ Don't Know _____
- I2. Have you heard any reports about the PCB, dioxin or pesticide issue on the radio?
Yes _____ No _____ Don't Know _____
- I3. Have you heard any reports about the PCB, dioxin or pesticide issue on the TV?
Yes _____ No _____ Don't Know _____
- I4. Have you heard any reports about the PCB, dioxin or pesticide issue on the public address system (loudspeaker)?
Yes _____ No _____ Don't Know _____
- I5. Have you read any reports about the PCB, dioxin or pesticide issue on any internet websites?
Yes _____ No _____ Don't Know _____

Any other comments?

Case ID # _____

Sample Id # _____

Informed Consent Document
Regional Capacity Building Program for Health Risk Management of
Persistent Organic Pollutants (POPs) in South East Asia:
Questionnaire and Blood/Breast Milk Sampling

1. Title of the research project:

POPs Project ("POP1406")

2. Sponsor of Study

This study is sponsored by the World Bank, through the Canadian International Development Agency (CIDA) POPS Fund.

3. Names of the researchers

All researchers are affiliated with Hatfield Consultants and Golder Associates:

- Principal Investigator: Thomas Boivin, M.Sc., R.P. Bio.
- Co-Investigators: Sokhem Pech, M.A (Hons). LLM.
- Grant Bruce, M.Sc.
- John Wilcockson, M.Sc., R.P. Bio.
- Jasmin Gee, B.Sc.

4. Description of the research

The main objective of the *Regional Capacity Building Program for Health Risk Management of Persistent Organic Pollutants in South East Asia* is to improve the ability of government agencies in the South East Asia Region to manage POPs and POPs-like chemicals using a health risk-based approach.

A second objective is to improve inter-governmental cooperation on hazardous chemicals issues in the region.

Persistent Organic Pollutants are toxic chemical substances that persist in the environment and bio-accumulate through food webs. The release of these chemicals into the natural environment is increasing and poses a serious threat to human health and the global environment. The project team will use a risk

management approach to assess the POPs situation in 4 South-East Asian countries: Lao PDR, Cambodia, Malaysia and Thailand.

The study will investigate the contribution of many potential sources of exposure to POPs chemicals, including: soils, sediments, fish and other food items. Residents living near the contaminated sites, or families of workers, will be the key focus of the study. Subjects invited to participate in this study will be asked to complete a questionnaire and provide a blood and/or breast milk sample. Blood and breast milk samples will be analyzed only for selected POPs chemicals (PCBs, and/or dioxins and furans along with serum lipids, i.e., fats in the blood).

Persons who complete the questionnaire and provide a blood/milk sample will be asked to allow soil or other food samples to be collected for analyses.

5. Description of human subject involvement

You are being asked to participate in this study because you live or work in the vicinity of _____, and/or you were randomly selected. To be eligible for this study, subjects must be at least 18 years old and must have lived at their current residence continuously for the last 5 years (except for vacations or other absences that total less than 6 months).

Subjects will be asked to complete an interview with a trained interviewer from Hatfield or national POPs focal point. The interview will include questions about residential history, occupational history, recreational activities (e.g., fishing), pregnancy history (for women only), and diet.

Subjects will be asked to provide a blood sample of 80 milliliters. Blood samples will be analyzed only for selected dioxins, furans, PCBs, and serum lipids. No other analyses will be performed on blood samples; any left over blood may be stored or 'banked' for future analyses.

Subjects must meet the following blood/milk sample eligibility criteria:

- Weigh at least 40 kg (90 pounds)
- No chemotherapy in the last 6 months
- No history of bleeding or clotting disorders
- Not currently taking blood thinner medications
- Not currently pregnant

- Not currently diagnosed or treated for anemia
- Not currently diagnosed or treated for malaria or dengue fever
- Not currently diagnosed or treated for Hepatitis A, B or C
- Not currently diagnosed or treated for HIV Aids
- No blood donation within the last 8 weeks

Please confirm whether you meet the blood sample eligibility criteria by initialing one of the following statements:

- I meet the blood/milk sample eligibility criteria.
- I do NOT meet the blood/milk sample eligibility criteria.

If you meet the blood sample eligibility criteria, please confirm whether you want to provide a blood sample for analyses in this study by initialing one of the following statements:

- I want to provide a blood/milk sample.
- I do NOT want to provide blood/milk sample.

6. Length of human subject participation

The interview will last approximately 20-30 minutes. There will be only one interview. The interview will be conducted at a time and place that is convenient to the subject. Some subjects may be re-contacted (usually by phone) to verify and/or clarify answers on the questionnaire. Blood sample collection will be scheduled for a time and place that is convenient to the subject. There will be only one blood sample collected, and this should take about 15 minutes.

7. Risks & discomforts of participation

The only physical risk associated with participation in this study is related to

obtaining the blood or milk sample. The blood sample will be obtained by a trained, professional phlebotomist using sterile, disposable equipment. The risks of bleeding, bruising, or infection are small, and similar to having blood drawn at your doctor's office. Some subjects report a feeling of faintness or brief dizziness upon blood donation. However, the volume of blood (80 milliliters) is small, and will be replaced quickly by your body.

For comparison, donation of blood normally involves about 500 milliliters, and it is permissible for a healthy person to donate this much blood as often as every 8 weeks. Breast milk samples (40-50 ml) will also be obtained by trained medical professionals. Samples will be collected by squeezing milk directly from the breast into a pre-cleaned glass jar; the mother can do this herself, with assistance from the medical personnel.

The interview will include questions about residential history, occupational history and diet. The interview does not include questions that might be considered potentially embarrassing (e.g., use of illegal drugs or other criminal behavior).

You are unlikely to benefit directly from participation in this study, except that you can choose to learn the results of tests for dioxins, furans, PCBs and lipids in your blood. However, this study will increase the scientific understanding of how dioxins, furans and PCBs get into people's blood or breast milk in South East Asia.

You should be aware that almost everyone has measurable levels of dioxins, furans and/or PCBs in their blood. And, there is no medical treatment for removing these chemicals from our bodies.

Please indicate whether you want to receive the results of analyses of your Blood/milk for dioxins, furans, PCBs and lipids by initialing one of the following choices:

- I want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk.
- I do NOT want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk.

You can change your decision about receiving results by notifying the Principal Investigator in writing.

9. Management of Physical Injury

Should you get physically injured as a result of research-related procedures, the POPS Project team will provide first-aid medical treatment. Additional medical treatment will be provided, if the POPS Project team determines that it is responsible to provide such treatment. However, the POPS Project team does not provide compensation to a person injured while taking part as a subject in research.

10. Costs to subject resulting from participation in the study

There are no costs associated with participation in the questionnaire and blood sampling phase of this study.

11. Payments to subject for participation in the study

Subjects who agree to participate in this study will be paid \$10 USD for completing the questionnaire and providing a blood and/or milk sample. Subjects who provide both a blood and milk sample will be paid \$20 USD.

12. Confidentiality of records/data

Individual subjects will not be identified in any reports on this study. Research records will be kept confidential to the extent possible.

The researchers will not make any disclosure of information that would identify you as a participant in this research unless you provide written authorization to the Principal Investigator to do so.

13. Contact Information

If you have questions about this research, you may contact:

Thomas Boivin, M.Sc. R.P. Bio (tboivin@hatfieldgroup.com)

Sokhem Pech, M.A. (spech@hatfieldgroup.com)

14. Voluntary nature of participation

Your participation in this project is voluntary. Even after you sign this informed consent document, you may decide to stop further participation in the study at any time without penalty or loss of benefits to which you may otherwise be entitled. Data and specimens that have already been collected will remain in the study. You may skip or refuse to answer any survey question without affecting your study compensation.

16. Documentation of the consent

One copy of this document will be kept together with the research records of this study. Also, you will be given a copy to keep.

17. Consent of the subject:

I have read [or been informed] of the information given above. Mr. Boivin or his representative has offered to answer any questions I may have concerning the study. I hereby consent to participate in the study.

ADULT SUBJECT OF RESEARCH

Consenting signature

Printed Name

Witness signature

Printed Name

Date