

ANALYSIS OF THE ECOSYSTEM SERVICES OF MANGROVE TO AQUACULTURE AND FISHERIES IN VIETNAM

INFORMATION SHEET

must be given to respondent

Dear Sir/Madam,

We would like to invite you to participate in our survey.

Purpose: The purpose of this research is to investigate the role of mangrove forests in economic activities of households in provinces of the South Viet Nam.

Methods: We will ask you questions about your opinions on several issues related to mangrove forests and agricultural activities, and collect geographic location and some demographic information of your family. The interview will take approximately 45 minutes.

Confidentiality: Your answers to this survey will be stored in a computer anonymously. Any personal identification information, including your name, will not be entered into the computer. Your name will only appear on the consent form and/or your payment receipt.

Benefits: You will be awarded VND 70,000 if you decide to participate in our survey and complete the questionnaire.

Risks: There are no known risks.

Withdrawal from the survey: Your participation is completely voluntary. You are free to discontinue participation at any time during the interview. You are free to refuse answering any question during the interview.

Use of your information: Your information will be analyzed using statistical techniques and will be used to write academic papers and reports. Only group information will be presented or published. If you withdraw during the interview, the questionnaire will be destroyed and the information you provided cannot be used in the analysis.

In the case you have any questions about the questionnaire, please contact the investigator:

Truong Dang Thuy, University of Economics Ho Chi Minh City.
Email: thuy.truong@ueh.edu.vn
Phone: 0902 95 0908

In the case you have any concerns or complaints, please contact

Mr. Le Thanh Nhan (*Mr. Le Thanh Nhan has no direct involvement with this research project*)
Deputy Dean, Faculty of Development Economics, University of Economics, Ho Chi Minh City
1A Hoang Dieu St., Phu Nhuan District, Ho Chi Minh City, Viet Nam
Phone: (08) 3844 8249

ANALYSIS OF THE ECOSYSTEM SERVICES OF MANGROVE TO AQUACULTURE AND FISHERIES IN VIETNAM

CONSENT FORM

enumerator keep this

Do you understand that you have been asked to participate in a research survey?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Have you received and read a copy of the Information Sheet?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you understand the benefits and risks involved in participating in this survey?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you understand that you can quit taking part in this survey at any time? You don't have to say why and it will not affect any payments you receive for participating.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has confidentiality been explained to you?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you understand how your answers will be used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you know what your answers will be used for?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you give us permission to use your data for the purposes specified?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you agree to participate in the survey?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

[Enumerators are not allowed to interview if there is any answer of "No" in the above questions]

I agree to participate in the survey.

Signature

Date

ADMINISTRATIVE INFORMATION AND GEOGRAPHIC LOCATION

Questionnaire ID: _____	Interview date: ____ - ____ - 2017
Enumerator's full name: _____	
Data entry clerk's full name: _____	
Coordinates: Latitude N ____° ____' ____." Longitude E ____° ____' ____." <div style="display: flex; justify-content: space-around; font-size: small; margin-top: 5px;"> degrees minutes seconds degrees minutes seconds </div>	
District.....Commune.....Ward.....	

PART I: BACKGROUND INFORMATION

Question 1: How many members are there in your household? _____ members.

Household members are those who stay in the household from 6 months or more over the last 12 months.

Question 2: General information of the household

Member ID	Name	Relation to respondent (a)	Age	Gender (b)	Ethnic (c)	Schooling years	Occupation (d)	
							Main	Supplementary
1		Respondent						
2								
3								
4								
5								
6								
7								
8								
9								
10								

(a) 1 = Spouse; 2 = Child; 3 = Grandchild; 4 = Parents; 5 = Sibling; 6 = Other family members.

(b) 1 = Male; 0 = Female.

(c) 1=Kinh; 2=chinese;3=Khmer; 4=other.

(d) 1 = Shrimp farming, 2 = Cultivation; 3 = Fishery; 4 = Farmer other than shrimp farming, cultivation and fishery; 5 = Non-agricultural self-employed; 6 = Wage labor; 7 = Student; 8 = Unemployed; 9 = Not in labor force.

Question 3: Who is the household head? Write Member ID from Question 2 here _____.

Question 4: How long has your family been living here? _____ years. Write 99 if long time ago.

Question 5: What are the most important agricultural activities of your household?

Rank 1 for the most important, 2 for the second important...

	Current	5 years ago
Cropping		
Aquaculture		
Fishery		
Other, specify		

Question 6: [if there is any change in the importance of activities in the last 5 years] What were the reasons for the changes?

- Prices
- Environmental conditions
- Government policies
- Others, specify _____

Question 7: How much is the average salary of the labor in your family if being hired? _____ VND/day.

- Male: _____ VND/day.
- Female: _____ VND/day.

Question 8: Does your family currently have relatives who migrate to other places to work??

- a. Yes
- b. No

Question 9: Does your family currently borrow money from relatives, friends, banks or credit institutions?

- a. Yes
- b. No → go to **Câu 11**.

Question 10: How much? _____ VND.

Question 11: Excluding income from family farming, fishing and aquaculture activities, please indicate other sources of income of your family in the past 12 months.

Activity	Income in the past 12 months
a. <input type="checkbox"/> Working as a hired labor	VND
b. <input type="checkbox"/> Breeding (not including aquaculture)	VND
c. <input type="checkbox"/> Self-employed	VND
d. <input type="checkbox"/> Other	VND

Question 12: Does your family have the following assets and items?

- a. Permanent houses (reinforced concrete columns and roofs)
- b. Car
- c. Air-conditioner
- d. Induction cooker
- e. Camera (excluding phones with photography features)

PART II: PERCEPTION ABOUT MANGROVE

Question 13: In your opinion, how is your local mangrove forest changed during the last five years?

- Increase a lot → go to **Question 9**
- Increase a little bit → go to **Question 9**
- No change → go to **Question 9**
- Decrease a little bit
- Decrease a lot

Question 14: In your opinion, what are the main reasons for mangrove deforestation?

Check all applies.

- Destroying for housing and living land
- Destroying for cropping
- Destroying for aquaculture
- Destroying for wood and fuel-wood
- Seashore erosion

Question 15: In a scale of 1 to 3, please rank the level at which your local community is affected by

SCALE	1 = LOWEST	2	3 = STRONGEST
a. Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Flood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Salt water intrusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 16: How many projects did your local government build up for mangrove protection in the past three years? _____ projects. *If the answer is zero, go to Question 19.*

Question 17: What are they about? *Check all that applies.*

- Planting
- Protecting

Question 18: Did you take part in any of those projects?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 19: Do you think that it is important to protect mangrove in your area?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 20: Do you think that mangrove is good for

Storm protection	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Salt-water intrusion prevention	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Fish habitat (for fishery)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Water quality maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Wood and fuel-wood	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Wild life habitat	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Recreational value	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Question 21: Do you have any difficulties with the existence of mangrove in your farming site?

<input type="checkbox"/> Yes	<input type="checkbox"/> No → Go to Question 36
------------------------------	---

Question 22: What are the difficulties about? *Check all that applies.*

- Production
- Transportation
- Farming area
- Other, specify: _____

Question 23: Has your family harvested any products from mangrove forests over the last 12 months? (Including products in both your area and surrounding areas)

Types of product	Tradable value
a. <input type="checkbox"/> Wood (exclude wood from thinning wood/periodic exploiting)	VND
b. <input type="checkbox"/> Firewood	VND
c. <input type="checkbox"/> Aquaculture (excluding aquacultural production)	VND
d. <input type="checkbox"/> Honey	VND
e. <input type="checkbox"/> Other, specify: _____	VND

Question 24: Have your family been allocated (or contracted) forest production?

<input type="checkbox"/> Yes	<input type="checkbox"/> No → go to Question 33
------------------------------	---

Question 25: How much forest area have been allocated (or contracted) to your household?
_____ ha.

Question 26: Of which, how much was you received? _____ VND/year

Question 27: When was your last thinning? _____ years ago

Question 28: How much did you earned from that thinning? _____ VND.

Question 29: What is the average amount of money your family receives from forest protecting and thinning? _____ VND/year.

Question 30: In the past 12 months, was your family handled violations of forest protection and management?

- a. Yes
- b. No

Question 31: If **Yes**, How much? _____ VND.

Question 32: In the last 12 months, have any households in your area been penalized for violating forest protection and management? (excluding the interviewed households)

- a. Yes
- b. No

Question 33: What is the main source of energy for cooking in your household? *Check all that applies.*

- a. Firewood/Wood
- b. Coal
- c. Gas
- d. Electricity
- e. Others, specify: _____

Question 34: [if using wood/firewood] Where is the source of wood? *Check all that applies.*

- a. From the garden
- b. From other sources

Question 35: In your community, do the functional forces regularly patrol and protect the forest?

- a. Yes → How many times on average: _____ time/year
- b. No

Question 36: Do you currently manage any land to grow crops?

<input type="checkbox"/> Yes → go to Crop Activities	<input type="checkbox"/> No
---	-----------------------------

Question 37: Do you currently manage any pond to grow aquatic species?

<input type="checkbox"/> Yes → go to Aquaculture	<input type="checkbox"/> No
---	-----------------------------

Question 38: Do you or any of your family members go fishing?

<input type="checkbox"/> Yes → go to Fishery	<input type="checkbox"/> No
---	-----------------------------

PART III: CROP ACTIVITIES

Question 39: How long have you and your household been growing crops? _____ years.

Write 99 if long time ago.

Question 40: Who in your family is the one that make main decisions on crop activities? *Write the Member ID from Question 2 here* _____.

Question 41: Are your cropping lands next to the mangrove site (within the distance of less than 100m)?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 42: Are your cropping lands covered by the mangrove?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 43: Do you have to travel across/take a roundabout mangrove forests to get to your cropping land?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 44: In your opinion, the impact of mangrove forest on your cropping activities is?

<input type="checkbox"/> Positive	<input type="checkbox"/> Neutral	<input type="checkbox"/> Negative
-----------------------------------	----------------------------------	-----------------------------------

Question 45: Do you have difficulties with the cropping process?

Lack of land	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Low productivity	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Input price and suppliers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Output price and buyers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Others, specify: _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Question 46: How many plots of land do you grow crops? _____ plots.

1 plot if having several adjacent plots or growing same kind

LAND USE FOR EACH PLOT

Do not list plots that the household owns but rented to others.

Question 47	PLOT 1	PLOT 2	PLOT 3
a. Area (m ²)			
b. System of farming ^(a)			
c. Intercropping with seafood ^(b)			
d. Tenure type ^(c)			
e. # years using this plot			
f. Total rent paid last year (VND)			
g. Do you plant trees on the path at the edge of the field?			
h. Value of irrigation system: Lifetime:	_____VND _____years	_____VND _____years	_____VND _____years
i. Is the land plot converted from forest land?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

(a) 1 = Shifting cultivation (with fallow period); 2 = Continuous cropping (no fallow); 3 = Continuous cropping with multiple rotations (short fallow); 4 = Multiple cropping; 5 = Other.

(b) 1 = Yes; 0 = No. If the answer is Yes, asking questions in **Aquaculture**.

(c) 1 = Own; 2 = Rented/Borrowed; 3 = Communal land; 4 = Others.

A. LIST OF CROPS

Code	Name	Code	Name
1	Banana	28	Medicinal herbs/plants
2	Beans	29	Melon
3	Beet	30	Mungbean
4	Bitter gourd	31	Okra
5	Black gram	32	Onion
6	Cassava	33	Papaya
7	Chilli	34	Peanuts
8	Citrus fruit	35	Pepper
9	Egg plant	36	Pigeon pea
10	Coconut	37	Pineapple
11	Cowpea	38	Tomato
12	Cucumber	39	Potato
13	Custard apple	40	Pumpkin
14	Water melon	41	Radish
15	Garden-eggs	42	Rambutan
16	Garlic	43	Rice
17	Grapefruit	44	Salad
18	Green onion	45	Sesame
19	Guava	46	Shallots
20	Jackfruit	47	Soybean
21	Kangkong	48	Squash
22	Longan	49	Sugarcane
23	Longkong	50	Sweet potato
24	Luffa	51	Other 1

25	Maize	52	Other 2
26	Mango	53	Other 3
27	Mangosteens	54	Other 4

Question 48: PLOT 1	SEASON 1	SEASON 2	SEASON 3
Crop ^(A)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Months (start-end)			
Area (m ²)			
A. LAND PREPARATION			
Tools and machinery (New) Lifetime	_____ VND _____ years	Reuse: <input type="checkbox"/>	Reuse: <input type="checkbox"/>
Tools and machinery (hire)	_____ VND	_____ VND	_____ VND
Home labor (days)			
Hired labor (days)	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
Fertilizer 1 (VND/kg)	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg
Fertilizer 2 (VND/kg)	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg
Mulch film Lifetime	_____ VND _____ Year	_____ VND _____ Year	_____ VND _____ Year
Other materials (VND)			
B. SEED/SEEDLINGS			
Seeds/seedlings cost 1	VND/kg	VND/kg	VND/kg
Seeds/seedlings cost 2	VND/kg	VND/kg	VND/kg
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
C. IRRIGATION			
Home labor (days)			
Hired labor (days)	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
Water cost (VND)	VND/kg	VND/kg	VND/kg
D. FERTILIZER			
1.	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg

2.	__ kg/ __ VND/kg	__ kg/ __ VND/kg	__ kg/ __ VND/kg
3.	__ kg/ __ VND/kg	__ kg/ __ VND/kg	__ kg/ __ VND/kg
4.	__ kg/ __ VND/kg	__ kg/ __ VND/kg	__ kg/ __ VND/kg
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
E. PESTICIDE			
1.	__ kg/ __ VND/kg	__ kg/ __ VND/kg	__ kg/ __ VND/kg
2.	__ kg/ __ VND/kg	__ kg/ __ VND/kg	__ kg/ __ VND/kg
3.	__ liter/ __ VND/liter	__ liter/ __ VND/liter	__ liter/ __ VND/liter
4.	__ liter/ __ VND/liter	__ liter/ __ VND/liter	__ liter/ __ VND/liter
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
F. OTHER ROUTINE CARE AND MAINTENANCE (Care, pruning, grass control, harvesting...)			
Home family (days)			
1.	VND	VND	VND
2.	VND	VND	VND
3.	VND	VND	VND
4.	VND	VND	VND
G. OTHER TOOLS AND MACHINERY			
1. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
2. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
3. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
H. OUTPUT			
Total output (kg)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Amount sold (kg)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____

Price (VND/kg)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Transportation cost	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____

Question 49: PLOT 2	SEASON 1	SEASON 2	SEASON 3
Crop ^(A)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Months (start-end)			
Area (m ²)			
A. LAND PREPARATION			
Tools and machinery (New) Lifetime	_____ VND _____ years	Reuse: <input type="checkbox"/>	Reuse: <input type="checkbox"/>
Tools and machinery (hire)	_____ VND	_____ VND	_____ VND
Home labor (days)			
Hired labor (days)	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
Fertilizer 1 (VND/kg)	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg
Fertilizer 2 (VND/kg)	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg
Mulch film Lifetime	_____ VND _____ Year	_____ VND _____ Year	_____ VND _____ Year
Other materials (VND)			
B. SEED/SEEDLINGS			
Seeds/seedlings cost 1	VND/kg	VND/kg	VND/kg
Seeds/seedlings cost 2	VND/kg	VND/kg	VND/kg
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
C. IRRIGATION			
Home labor (days)			
Hired labor (days)	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
Water cost (VND)	VND/kg	VND/kg	VND/kg
D. FERTILIZER			
1.	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg	__ kg/ _____ VND/kg

2.	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg
3.	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg
4.	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
E. PESTICIDE			
1.	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg
2.	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg	__ kg/ ____ VND/kg
3.	__ liter/ ____ VND/liter	__ liter/ ____ VND/liter	__ liter/ ____ VND/liter
4.	__ liter/ ____ VND/liter	__ liter/ ____ VND/liter	__ liter/ ____ VND/liter
Home labor (days)			
Hired labor	__ days/ __ VND/day	__ days/ __ VND/day	__ days/ __ VND/day
F. OTHER ROUTINE CARE AND MAINTENANCE (Care, pruning, grass control, harvesting...)			
Home family (days)			
1.	VND	VND	VND
2.	VND	VND	VND
3.	VND	VND	VND
4.	VND	VND	VND
G. OTHER TOOLS AND MACHINERY			
1. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
2. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
3. _____ Lifetime	_____ VND _____ years	_____ VND _____ years	_____ VND _____ years
H. OUTPUT			
Total output (kg)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Amount sold (kg)	Crop 1: _____	Crop 1: _____	Crop 1: _____

	Crop 2: _____	Crop 2: _____	Crop 2: _____
Price (VND/kg)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____
Transportation cost (VND)	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____	Crop 1: _____ Crop 2: _____

PART IV: AQUACULTURE

Question 50: How long have you and your household been growing aquatic species? _____ years.

Question 51: Who in your family is the one that make main decisions on aquaculture? *Write the Member ID from Question 2 here* _____.

Question 52: Are your shrimp farming activities area covered by the mangrove?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 53: Do you have to travel across/take a roundabout mangrove forests to get to your shrimp farming land?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 54: Do you emit the sewage from the process into mangrove site?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Question 55: In your opinion, the impact of mangrove forest on your shrimp farming activities is

a. Mangrove inside the farm	<input type="checkbox"/> Positive	<input type="checkbox"/> Neutral	<input type="checkbox"/> Negative
b. Mangrove surrounding the farm	<input type="checkbox"/> Positive	<input type="checkbox"/> Neutral	<input type="checkbox"/> Negative

Question 56: Do you have difficulties with aquafarming activities?

a. Lack of land	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Low productivity	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Input price and suppliers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Output price and buyers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Others, specify: _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Question 57: How many ponds do you grow aquatic species? _____ ponds.

GENERAL INFORMATION OF PONDS

	POND 1	POND 2	POND 3
Area (m ²)			
Mangrove area in pond (m ²)			
Average density of trees in mangrove area(tree/100m ²)			
Mean age of mangrove tree in the pond	Year	Year	Year
Mean height of mangrove tree in the pond	m	m	m
Main tree species			
Distance from the pond to your house	m	m	m
Is the pond accessible by motorbike? ^(a)			
What percentage is allowed to convert forests to other purposes?	%	%	%
How many years have been allocated to the forest?	Year	Year	Year
Duration of forest allocation (recorded in the red book or contract)	Year	Year	Year
Forest status in the pond ^(b)			
In the past 24 months, did your family convert forests in ponds to other uses? ^(a)			
The converted area in the past 24 months	m ²	m ²	m ²
System of farming ^(c)			

Tenure type ^(b)			
# years using this pond			
Total rent paid last year (VND)			
Aeration system (Capacity of fan system)	Horse power: ____ HP Lifetime: _____ years Motor: _____ VND # propeller: _____ Propeller: _____ VND	Horse power: ____ HP Lifetime: _____ years Motor: _____ VND # propeller: _____ Propeller: _____ VND	Horse power: ____ HP Lifetime: _____ years Motor: _____ VND # propeller: _____ Propeller: _____ VND

(a) 1=Yes; 0=No;

(b) 1=Very good; 2=good; 3=unchanged; 4=bad; 5=very bad

(c) 1 =Intensive; 2 = Semi-intensive; 3 = Extensive; 5 = Others.

(d) 1 = Red book; 2 = Rented/Borrowed; 3 = Contract for forest protection; 4 = Others.

Question 58: Are your shrimp farming activities area next to the mangrove site (within the distance of less than 100m)?

Pond 1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pond 2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pond 3	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Coordinates: Pond 1 Latitude N _____. _____ Longitude E _____. _____

Pond 2 Latitude N _____. _____ Longitude E _____. _____

Pond 3 Latitude N _____. _____ Longitude E _____. _____

Pond 4 Latitude N _____. _____ Longitude E _____. _____

B. LIST OF SPECIES

Code	Name	Code	Name
1	Cá song	16	Nghêu
2	Cá mú	17	Rau câu
3	Cá giò	18	Ngọc trai
4	Tôm sú	19	Sò
5	Tôm thẻ	20	Cá kèo
6	Tôm càng xanh	21	Cá chẻm
7	Tôm hùm	22	Cá măng
8	Cua	23	Cá tra, ba sa
9	Cá trắm, chày, chép	24	Cá rô phi
10	Cá lóc	25	Cá hồi
11	Cá diêu hồng	26	Cá mè
12	Cá trắm cỏ	27	Cá trê
13	Cá phi	28	Cá lăng
14	Ba ba	29	Khác 1: _____
15	Ếch	30	Khác 2: _____

Question 59: POND 1	SEASON 1	SEASON 2
Species ^(B)	Species 1: _____ Species 2: _____ Species 3: _____ Species 4: _____	Species 1: _____ Species 2: _____ Species 3: _____ Species 4: _____
Months (start-end)	_____ - _____	_____ - _____
Area	_____ m ²	_____ m ²
A. POND PREPARATION		
Thuốc cá (kg)	___ kg/ ___ VND/kg	___ kg/ ___ VND/kg
Vôi (kg)	___ kg/ ___ VND/kg	___ kg/ ___ VND/kg
Chemicals (VND)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
B. SEEDLING		
Seedlings (ind)	___ ind/ ___ VND/ind	___ ind/ ___ VND/ind
C. CHEMICALS		
Total chemicals (VND)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
D. FEEDING		
Amount (kg)		
Price (VND/kg)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
E. WATERING		
Total (VND)		
Home labor (days)		
Hired labor (days)	___ days/ ___ VND/day	___ days/ ___ VND/day
F. OTHER COSTS		
Agri. experts (VND)		
Electricity (VND)		
Others (VND)		

1

(cont.)

1

POND 1	SEASON 1	SEASON 2
G. HARVESTING		
Times of harvesting		
Transportation and harvest cost (VND/time)		
Average yield	Species 1: ____ : ____ kg / ____ VND/kg	Species 1: ____ : ____ kg / ____ VND/kg
	Species 2: ____ : ____ kg / ____ VND/kg	Species 2: ____ : ____ kg / ____ VND/kg
	Species 3: ____ : ____ kg / ____ VND/kg	Species 3: ____ : ____ kg / ____ VND/kg
	Species 4: ____ : ____ kg / ____ VND/kg	Species 4: ____ : ____ kg / ____ VND/kg

Question 60: POND 2	SEASON 1	SEASON 2
Species ^(B)	Species 1: _____ Species 2: _____ Species 3: _____ Species 4: _____	Species 1: _____ Species 2: _____ Species 3: _____ Species 4: _____
Months (start-end)	_____ - _____	_____ - _____
Area (m ²)		
POND PREPARATION		
Thuốc cá (kg)	___ kg/ ___ VND/kg	___ kg/ ___ VND/kg
Vôi (kg)	___ kg/ ___ VND/kg	___ kg/ ___ VND/kg
Chemicals (VND)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
SEEDLING		
Seedlings (ind)	___ ind/ ___ VND/ind	___ ind/ ___ VND/ind
CHEMICALS		
Total chemicals (VND)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
FEEDING		
Amount (kg)		
Price (VND/kg)		
Home labor (days)		
Hired labor	___ days/ ___ VND/day	___ days/ ___ VND/day
WATERING		
Total (VND)		
Home labor (days)		
Hired labor (days)	___ days/ ___ VND/day	___ days/ ___ VND/day
OTHER COSTS		
Agri. experts (VND)		
Electricity (VND)		
Others (VND)		

(cont.)

2

POND 2	SEASON 1	SEASON 2
HARVESTING		
Times of harvesting		
Transportation and harvest cost (VND/time)		
Average yield	Species 1: ___ : ___ kg / ___ VND/kg Species 2: ___ : ___ kg / ___ VND/kg Species 3: ___ : ___ kg / ___ VND/kg Species 4: ___ : ___ kg / ___ VND/kg	Species 1: ___ : ___ kg / ___ VND/kg Species 2: ___ : ___ kg / ___ VND/kg Species 3: ___ : ___ kg / ___ VND/kg Species 4: ___ : ___ kg / ___ VND/kg

PART V: FISHERY

Fishing coordinates: Latitude N _____. Longitude E _____

Question 61: Do you and your family members... *Check all apply.*

- own vessels?
- go fishing on vessels of neighboring vessels' owners?

Question 62: Vessels you own, or go fishing with

Vessel ID	Width (m)	Length (m)	Weight (tons)	Engine power (HP)	Value if sold (mil. VND)	Value of accessories (*) (mil. VND)	Own? Yes/No
1.							
2.							
3.							
4.							
5.							

(*) Excluding fishing gears in **Question 63**

Question 63: Do you and your family members use the following fishing gears?

- Stow net
- Gill net
- Seine net
- Trawl
- Surrounding net
- Set net
- Trap
- Hook and line
- Scoop net
- Others (specify: _____)

Question 64: In your opinion, the impact of mangrove on your fishery activities is

<input type="checkbox"/> Positive	<input type="checkbox"/> Neutral	<input type="checkbox"/> Negative
-----------------------------------	----------------------------------	-----------------------------------

C. LIST OF SPECIES

Code	Name	Code	Name
1	Cá song	16	Nghêu
2	Cá mú	17	Rau câu
3	Cá giò	18	Ngọc trai
4	Tôm sú	19	Sò
5	Tôm thẻ	20	Cá kèo
6	Tôm càng xanh	21	Cá chẻm
7	Tôm hùm	22	Cá măng
8	Cua	23	Cá tra, ba sa
9	Cá trắm, chày, chép	24	Cá rô phi
10	Cá lóc	25	Cá hồi
11	Cá diêu hồng	26	Cá mè
12	Cá trắm cỏ	27	Cá trê
13	Cá phi	28	Cá lăng
14	Ba ba	29	Khác 1: _____
15	Ếch	30	Khác 2: _____

Stow net (lưới đáy)

Question 65: What vessels do you fish with this gear? *List all Vessel IDs from Question 62 that applies:*
 _____.

Question 66: Where are you fishing with this fishing gear? *Check all applies.*

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

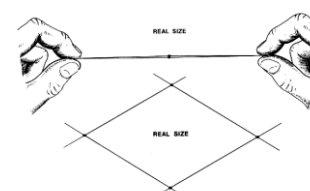
Question 67: How far do you fish from the shore? _____ nautical miles.

Question 68: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Hoop (Độ mở miệng đáy)		Mesh (mắt lưới) (mm)	Quantity		Value (VND)
	Hoop – height (m)	Hoop – width (m)		Total (# of pieces)	Of which, yours	
1.						
2.						
3.						



Stow net



Mesh size measure

Image courtesy of www.fao.org

Gill net (lưới rê)

Question 69: What vessels do you fish with this gear? List all Vessel IDs from Question 62 that applies:

____, _____, _____, _____, _____.

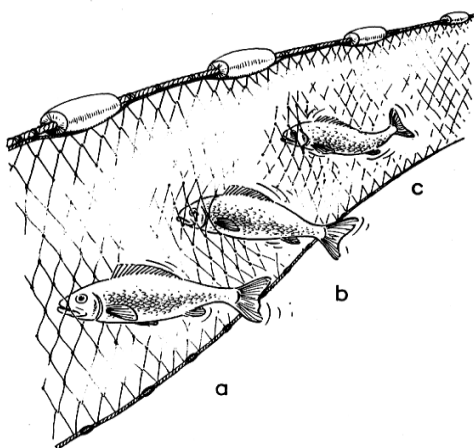
Question 70: Where are you fishing with this fishing gear? Check all applies.

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

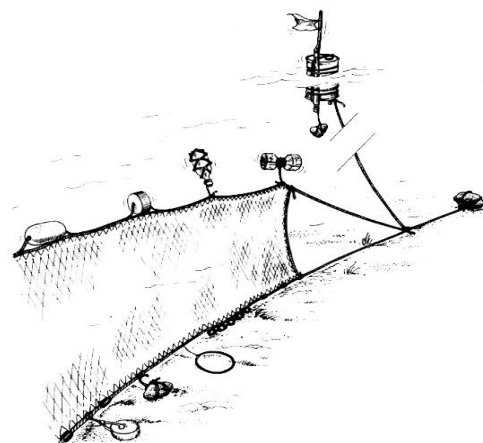
Question 71: How far do you fish from the shore? _____ nautical miles.

Question 72: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Size		Mesh (mắt lưới) (mm)	Bottom set? (Y/N)	Quantity		Value (VND)
	Height (m)	Length (m)			Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



Gill net



Bottom-set gillnet

Image courtesy of www.fao.org

Seine net (lưới rùng)

Question 73: What vessels do you fish with this gear? List all Vessel IDs from Question 62 that applies:

____, _____, _____, _____, _____.

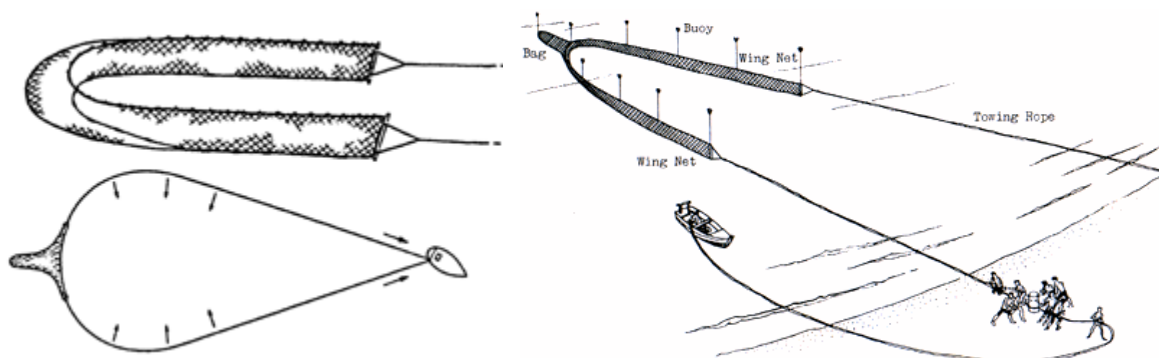
Question 74: Where are you fishing with this fishing gear? Check all applies.

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

Question 75: How far do you fish from the shore? _____ nautical miles.

Question 76: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Wing size		Mesh (mắt lưới) (mm)	Bottom set? (Yes/No)	Quantity		Value (VND)
	Height (m)	Length (m)			Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



**Beach Seine (top) and Boat seine
(bottom)**

Seine net

Image courtesy of www.fao.org

Trawl nets (lưới kéo)

Question 77: What vessels do you fish with this gear? List all Vessel IDs from Question 62 that applies:

____, _____, _____, _____, _____.

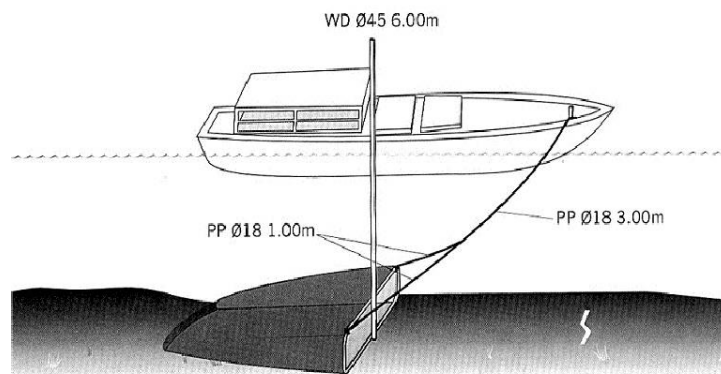
Question 78: Where are you fishing with this fishing gear? Check all applies.

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

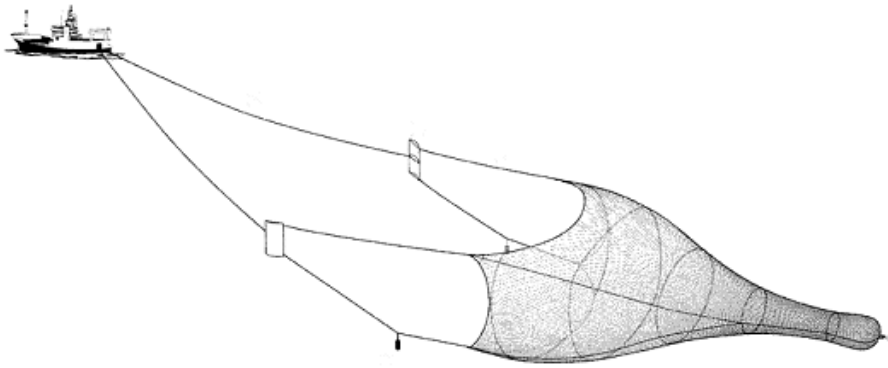
Question 79: How far do you fish from the shore? _____ nautical miles.

Question 80: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

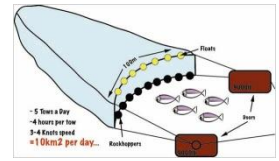
#	Size		Mesh (mắt lưới) (mm)	Midwater or Bottom? (M/B)	Quantity		Value (VND)
	Headline (m)	Wingline (m)			Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



Bottom seine (cào)



Midwater seine



Bottom seine

Image courtesy of www.noaa.gov

Surrounding nets (lưới vây)

Question 81: What vessels do you fish with this gear? List all Vessel IDs from Question 62 that applies:

____, _____, _____, _____, _____.

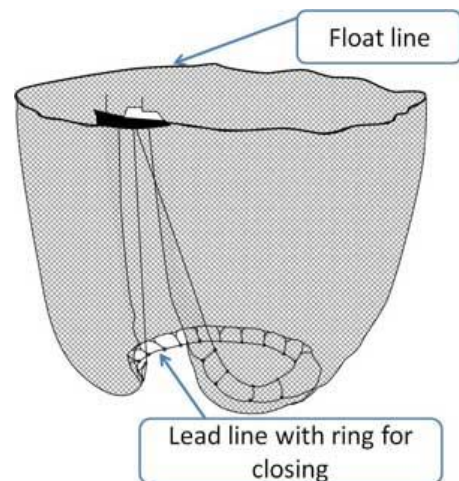
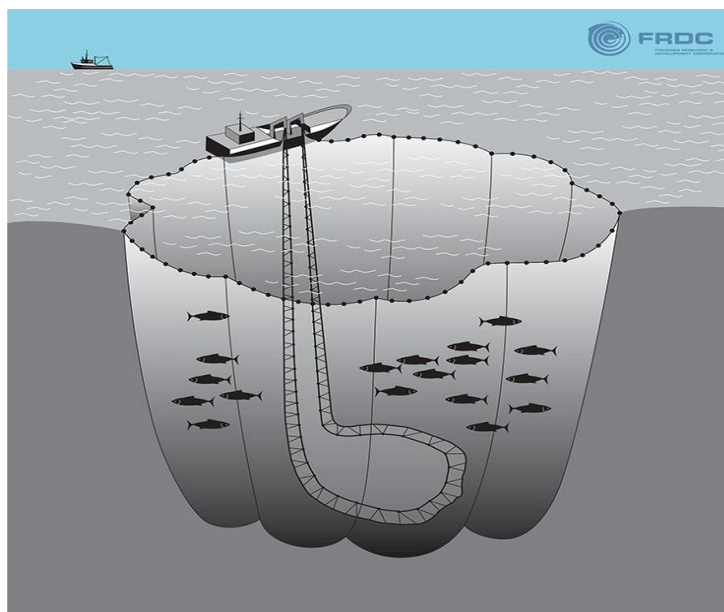
Question 82: Where are you fishing with this fishing gear? Check all applies.

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

Question 83: How far do you fish from the shore? _____ nautical miles.

Question 84: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Size			Mesh (mắt lưới) (mm)	Quantity		Value (VND)
	Floatline (m)	Leadline (m)	Height (m)		Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



Surrounding net

Image courtesy of www.fish.gov.au

Set nets (lưới đăng)

Question 85: What vessels do you fish with this gear? List all Vessel IDs from Question 62 that applies:

____, _____, _____, _____, _____.

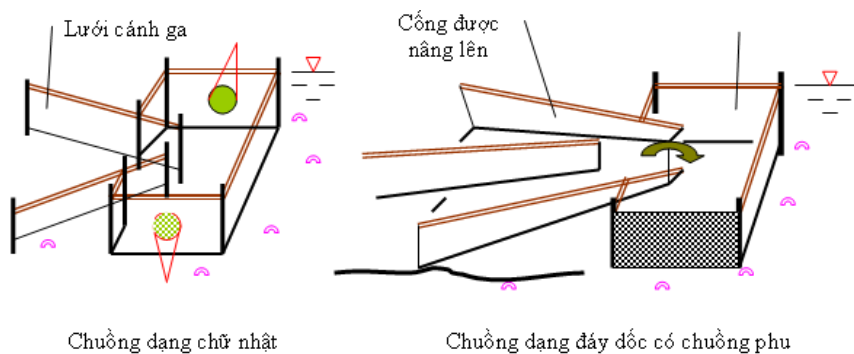
Question 86: Where are you fishing with this fishing gear? Check all applies.

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

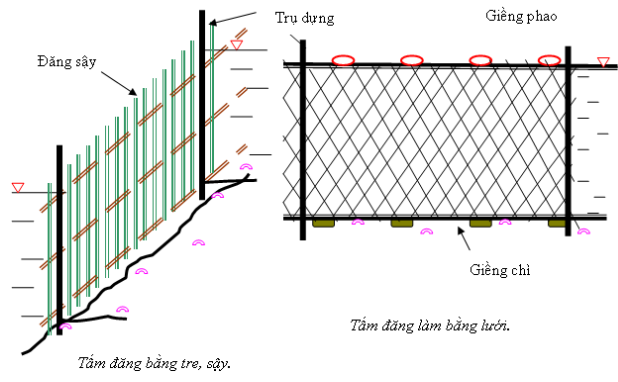
Question 87: How far do you fish from the shore? _____ nautical miles.

Question 88: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Wing size			Mesh (mắt lưới) (if wing made of net) (mm)	Quantity		Value (VND)
	Height (m)	Length (m)	Material (Net (N) or Others (O))		Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



Set net



Wing

Image courtesy of www.fish.gov.au

Hook & Trap (rập)

Question 89: What vessels do you fish with this gear? *List all Vessel IDs from Question 62 that applies:*

____, _____, _____, _____, _____.

Question 90: Where are you fishing with this fishing gear? *Check all applies.*

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

Question 91: How far do you fish from the shore? _____ nautical miles.

Question 92: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Trap size			Mesh (mắt lưới (mm)	Quantity		Value (VND1000)
	Width (cm)	Length (cm)	Height (cm)		Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



(a)





(b)

Image courtesy of baoanhdatmui.vn and baoquangngai.vn

Hook and line (Câu)

Question 93: What vessels do you fish with this gear? *List all Vessel IDs from Question 62 that applies:*

____, _____, _____, _____, _____.

Question 94: Where are you fishing with this fishing gear? *Check all applies.*

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

Question 95: How far do you fish from the shore? _____ nautical miles.

Question 96: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Size			Lure (mồi câu)	Quantity		Average value of a new hook blade (VND)
	Length (mm)	Width (m)	Hook blade (mm)		Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							

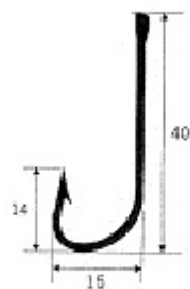


Image courtesy of www.fish.gov.au

SCOOP NET (Te)

Question 97: What vessels do you fish with this gear? *List all Vessel IDs from Question 62 that applies:*

____, _____, _____, _____, _____.

Question 98: Where are you fishing with this fishing gear? *Check all applies.*

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

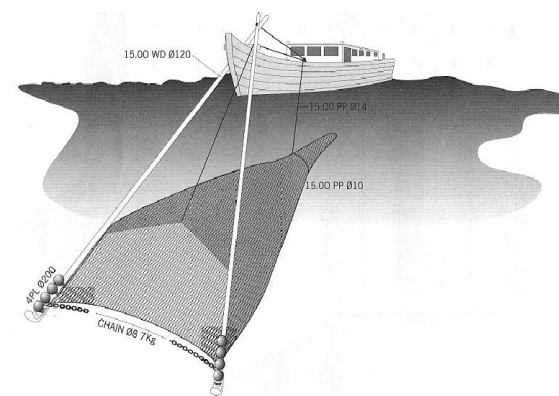
Question 99: How far do you fish from the shore? _____ nautical miles.

Question 100: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Size			Mesh (mắt lưới) (mm)	Quantity		Average value of a new piece (VND)
	Width (m)	Wing length (m)	Man-pushed? (Y/N)		Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							



Man-pushed scoop net



Motor-pushed scoop net

Image courtesy of

OTHER GEARS

Question 101: What vessels do you fish with this gear? *List all Vessel IDs from Question 62 that applies:*

____, _____, _____, _____, _____.

Question 102: Where are you fishing with this fishing gear? *Check all applies.*

<input type="checkbox"/> Within the community/village	<input type="checkbox"/> Outside the community/village
---	--

Question 103: How far do you fish from the shore? _____ nautical miles.

Question 104: How many pieces of this tool do you go fishing with, including yours and those of other crew members and vessel owners?

#	Size				Quantity		Value (VND)
					Total (# of pieces)	Of which, yours	
1							
2							
3							
4							
5							
6							

Revenue from Aquacultural catch

A. Stow net	B. Gill net	C. Seine net	D. Trawl
E. Surrounding net	F. Set net	G. Trap	H. Hook and line
I. Scoop net	J. Others, specify:		

Fishing gears (see Question 63): _____		Northeast monsoon	Rest of the year
Months (start-end)			
Target specie ^(C)			
Number of days/trip			
Number of trips/month			
Number of people going in a trip			
<i>In which: people fishing directly</i>			
Quantity of gears used per trip (including those of vessel owner and crew members)		1 : _____ 2 : _____ 3 : _____	1 : _____ 2 : _____ 3 : _____
Average catch (kg/trip)	Total (including those of vessel owner and crew members)		
	Yours		
Average price (VND/kg)			
COSTS			
Fuel (VND/trip)			
Food (VND/trip)			
Ice (VND/trip)			
Others (VND/trip)			

Question 105 __: How are the crew members paid? *Check all apply.*

- a. Paying in cash

- b. Sharing the catch by products before sale
- c. Sharing the catch by cash after sale
- d. Divided according to the amount of fishing gear (crew member can take seafood from the equipment) by the product before sale
- e. Divided according to the amount of fishing gear (crew member can take seafood from the equipment) by cash after sale

Question 106__: If cash, how much? _____ VND/day.

Question 107__: If sharing the catch, how many percent is for

1. vessel owner _____ %
2. crew members _____ %.
3. Number of crew members get this share: _____ members.

Question 108__: If allowing extra gears in vessels, how many gears are for crew members per trip? _____ gears.

If Trap, how many pieces? _____

Question 109__: How many crew member is that number of gears for? _____ members.

Question 110__: Given the average catch per trip, how much do you pay for fish segregation per trip? _____ VND/trip.

Question 111_____: Your part only in the fish segregation (if so, see **Question 105**) : _____ VND.

Question 112__: How many man-day do you spend for fixing fishing tools per month? _____ man-day. *Including tools you own only.*

Question 113__: Of which, how much do you pay for hired labor? _____ VND