SURVEY QUESTIONNAIRES

ASSESSMENT OF THE IMPACT OF WATER RESOURCES IN BUNG XANG CANAL TO RESIDENTIAL LIFES

Hello Mr. (Mrs.), I am a master student of Can Tho University, researching the topic "**Research environmental issues and propose solutions for surface water environment in Bung Xang canal**". The purpose of this study is to learn about water quality, existing treatment works and propose solutions to manage the surface water environment at Bung Xang canal. Mr./Mrs. contribution is very important, which will contribute to this research's success.

The results of the survey will be used for the purpose of scientific research. Please take some time to help with the survey.

Please click (mark X) in an empty cell with an opinion that you (Mr./Mrs.) chooses or fill the answer in the blank (...).

Thank you so much for your enthusiastic participation and filling out this survey!

PART 1. GENERAL INFORMATION

1. Full name of household head/ interviewee: .....

2. Year of birth:.....

3. Gender: ☐ Male ☐ Female

4. Personal address: .....

5. House possession: ☐ Owner ☐ To rent

6. How many years you are stay in this area:

☐ < 1 year
☐ 1-5 years
☐ 6-10 years
☐ 11-15 years
☐ >15 years

7. Education level:

☐ Uneducted
☐ Primary
☐ Secondary
☐ High school
☐ Graduate/Post graduate

8. Occupation:

☐ Non-food services
☐ Housewife/worker
☐ Student
☐ Government officer
☐ Food services

9. Number of family members: .....(people)

10. Distance to your residence from Bung Xang canal

☐ > 100 m
☐ 51-100 m
☐ 21- 50 m
☐ 11- 20 m
☐ 0-10 m

11. If you do not live in the area, how often do you pass by the Bung Xang canal per week (Frequency of crossing this area? (times/week):

.....

12. Do you come to Bung Xang canal area for what?

☐ Accidentally passing by
☐ Eating
☐ Exercise/Fishing
☐ Home located
☐ Business

PART 2. QUALITY OF WATER ENVIRONMENT

Please circle the selected answer

1. How do you feel about the water quality of Bung Xang canal now?

1	2	3	4	5
Very poor	Poor	Acceptable	Good	Very good

If it's bad or very bad, please give me a reason: ..... ……

.....

2. Would you like to indicate the level of satisfaction with the surrounding water quality? (based on the water color, smell)

1	2	3	4	5
Very poor	Poor	Acceptable	Good	Very good

3. Trends in water quality changes before and after construction of cement embankments?

1	2	3	4	5
Very poor	Poor	Acceptable	Good	Very good

4. How do you feel about the water sources of Bung Xang canal?

On color:

1	2	3	4	5
Black	Gray/brown	Yellow	Opaque white	Blue

About the smell:

1	2	3	4	5
Very poor	Poor	Acceptable	Good	Very good

5. Assess the extent of the impact of pollution (smell, color, dirty blackwater) the water sources slits: *Mark X in the selected answer*

Influence	Not at all influential	Slightly influential	Somewhat influential	Very influential	Extremely influential
Life/Daily activity					
Health					
Business/trading					
Aesthetics					

6. Do you currently use water from Bun Xang lake?

☐ Yes ☐ No

If yes, what is the use of Bun Xang lake water for?

.....

If not, why not use:

.....

7. Is domestic wastewater in your family discharged into the Bung Xang canal?

1	2	3	4	5

Never	Rarely	Sometimes	Very often	Always

8. Is wastewater from business activities discharged into the Bung Xang canal?

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

9. At what time of the day is water most polluted?

☐ Low tide
☐ High tide
☐ Others: ……..

10. Do you suffer from diseases that are believed to be caused by water pollution?

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

If yes, what disease is it?: .....

11. Is the water pollution on Bung Xáng canal caused by domestic SOLIDS wastes?

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

12. Is the water pollution on Bung Xáng canal caused by domestic WASTEWATER?

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

13. Water pollution agents/causes (multiple choices)

☐ Household/Residential area
☐ Market
☐ Production/business enterprises
☐ Medical centers
☐ Restaurants/coffee shops

PART 3. EXISTING WASTEWATER REATMENT SYSTEM

1. After the construction of the embankment this area is still flooded?

1	2	3	4	5
Unaware	More flooding	Still as flooded as before	Less flooding than before	No more flooding

2. After each rain, the degree of inundation:

1	2	3	4	5
Very slow	Slow	Acceptable	Fast	Very fast

3. Frequency of flooding:

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

Can you tell me the reason if there is flooding: .....
.....

4. Which activities for renovating/upgrading of canal/embankment are conducted by local authorities:

☐ Dredging the bottom of the canal
☐ Garbage collecting
☐ Wastewater collecting
☐ Cleaning up the plants/aquatic plant on the canal
☐ Others: ……

5. Frequency of renovating/upgrading canal/embankments works:

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

☐ once for 2 years
☐ once a year
☐ twice a year
☐ three times per year
☐ Others: ……

6. So far, has any works treated water sources in the canal?

1	2	3	4	5
Not paying attention	Without	Yes, but very little	Many	There's a lot

If so, what is the water treatment system in the canal:.....

7. If any, the quality/effectiveness of the wastewater treatment system:

1	2	3	4	5
Very less	Less	Acceptable	Good	Very good

8. Do you know about using floating craft planting flowers for water treatment in the canal? (natural treatment systems)

1	2	3	4	5
Unfamiliar	Little is known	Known	Understand	Deep understanding

9. What are these plant rafts set for? (multiple choices)

☐ No purpose
☐ Collecting biomass
☐ Create landscapes (ornamental plants)
☐ Water treatment
☐ Attracts birds, bees, butterflies
☐ Create a habitat for fish
☐ Create labor job (sanitation workers)
☐ Others: ……

10. Do you think we should put more flower rafts in the Bung Xang canal to create a beautiful landscape?

☐ No
☐ Yes

If not, why?……..
……...
If yes, why?? ……

11. If there is a program or project that wants to establish floating rafts/flower rafts (planting ornamental flowers to create landscape and help treat water) placed in the Bung Xang canal, do you think it is necessary? Why?

……...
……...

12. Would you like to participate in any activities in the design and placement of this flower raft?

……...
……...

13. In your opinion, how can these flower rafts remain in the canal for a long time and be effective?

……...
……...

14. What kind of flowers do you think are planted on rafts to make beautiful scenery?

……...
……...

PART 4. SOLID WASTES MANAGEMENT

1. Would you like to tell us the amount of waste generated by the people? (based on sensory to evaluate)

☐ Do not have
☐ Less (<0.8 kg/day/person)
☐ Average (from 0.8-1.0 kg/day/person)
☐ High (1-3 kg/day/person)
☐ Very high (>3kg/day/person)

3. Do people separate their waste at the source?

☐ Not at all
☐ Sometimes
☐ Yes (2 type: organic, discarded)
☐ Yes (2 type: recycled, discarded)
☐ Yes (3 types: recycled, organic, discarded)

4. How is garbage collected?

☐ Only household waste
☐ Except for hazardous waste.
☐ Except for heavy waste (brick, iron, ...)
☐ All
☐ Others: …….

If you don't collect all the garbage, how will the uncollected garbage be solved?
……

5. How do you feel about the density of trash in your locality?

1	2	3	4	5
Inconsequential	Less reasonable	Normal	Reasonable	Very reasonable

6. Your recommendations on effective local solid wastes management (multiple choices)

☐ Sorting garbage at family scale
☐ No littering
☐ Place more public trash cans along the canal
☐ Increase the frequency of garbage collection (of the environmental company)
☐ Fines for littering
☐ All options
☐ Others: …….

PART 5. ECONOMIC

1. Assess the convenience in business/trade activities after the construction of embankments:

1	2	3	4	5
Unfavourable	Less advantageous	Normal	Advantageous	Very advantageous

2. The impact of the water environment on economic activities:

1	2	3	4	5
Very less	Less	Acceptable	Good	Very good

If less or very less, state the reason:
……

3. In addition to the household wastes fee (15-20 thousand VND/month), do you pay additional fees related to wastewater every month?

☐ No
☐ Yes
If yes, how much: ……..

4. According to the Law on Environmental Protection 2020, it is expected to collect an additional wastewater fees, according to you, which fee is reasonable?

☐ Do not pay fees
☐ 2,500,000 VND/year/household (base) (under 5 m^3 of wastewater/day)
☐ 3,000,000 VND/year/household (base) (5-10 m^3 of wastewater/day)
☐ 4,000,000 VND/year/household (base) (10-20 m^3 wastewater/day)
☐Others:…….…….

5. Do you know that there is an environmental protection fee in the monthly water bill?

☐ No
☐ Yes
If yes, how much: ……..

6. Are you satisfied with the current environmental fee for water supply?

1	2	3	4	5
Dissatisfaction	Unsatisfied	Normal	Satisfied	Very satisfied

If little or no satisfied, give reason:……..……
…….…….……

7. Do you know what to do with this domestic environmental fee?

☐ No
☐ Yes
If yes, for what: ……..

8. Are you willing to pay the fee for cleaning up the water in this canal where you are living?

☐ Yes
☐ No

If yes, indicate how much it would cost to be willing to assist:

☐ 10,000 VND/month/household

☐ 15,000 VND/month/household

☐ 20,000 VND/month/household

☐ 25,000 VND/year/household

☐ 30,000 VND/year/household

It not, why……

9. Why do you want to pay to clean the canal water?

 Would like to have beautiful landscape for the canal
 The water is cleaner and clearer
 Let the rain water recede faster
 Let fish migrant more into the canal
 Others: …….……..

10. According to you, who should collect and manage this environmental fee?

 Comune/Ward People's Committee
 Department of Environment and Natural Resources
 Water supply and drainage company
 Urban environmental company
 Others: ……..
Why choose them?.....

11. What do you think this fee should be used for?

 Pay salary (allowance) for Youth Union volunteers (each time cleaning garbage, renovating canal)
 Pay salary (allowance) for sanitation workers (dredging canal, garbage collection)
 Buy and place more public trash along the canal
 Treat canal water
 Place more flower floating crafts
 Others: ……..

PART 6. SOCIAL ISSUES

1. According to you, the canal water environment does NOT good due to what difficulties?

	No	Little	Average	Many	There's a lot
People in this area are not highly aware of environmental protection					
The awareness of people on the street (walking, passing by) is not high (throwing garbage into the canal)					
Local management/sanctioning are not strict					
Lack of polluted water treatment works					
Lack of public trash cans					
Garbage collection frequency is low					
Others: ……..					

2. What solutions to propose to improve water quality in canals?

	Unreasonable	Less reasonable	Average	Reasonable	Very reasonable
The education activity to raise the awareness of environmental protection of the people here					
Construction of appropriate/effective					

wastewater treatment works					
Take measures to manage/sanction discharge acts					
Do not dump waste into the canal					
Enhance cooperation between local authorities and people in environmental protection					
Put more water treatment rafts					
Others…… ……..					

3. Community participation in environmental protection

	No	**Little**	**Medium**	**Regularly**	**Very often**
Dispose of garbage in the right place (do not throw garbage into canals, canals and along the banks of canals)					
Participating in waste collection on embankm ents/canals					
Mobilize and contribute fees to the Youth Union to volunteer to carry out environmental protection works					
Remind others not to dump waste/wastewater into the environment					
Others ……..					

Thank you very much for your valuable contributions!

Interviewer **Interviewee**

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