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## ***APPENDICES***



## APPENDIX- I

### INTERVIEW SCHEDULE

Topic: Impact of Urbanization on Sustainable Environment in Kerala- A  
Study Based on Thrissur District

#### **I. Identification:**

1. Name of the Respondent:
2. Sex:
3. Age:
4. Mother tongue:
5. Religion:
6. Marital Status: Married / Unmarried/ Widowed
7. Literacy Status: Literate/ Illiterate
8. Educational Levels:

Primary	Secondary	Higher Secondary	Graduation	Higher

9. Total number of members in your family:

#### **II. Economic Background:**

10. What is your occupation?
  - i. Government job

ii. Private sector job

iii. Business

iv. Daily wage work

v. Others

11. How much is your annual income from all sources? (in rupees)

i. less than 50,000

ii. 50,000- 1,00,000

iii. 1,00,000- 1,50,000

iv. 1,50,000- 2,00,000

v. more than 2,00,000

12. How much will be the money value of the wealth you possess from all sources?(in rupees)

i. less than 5,00,000

ii. 5,00,000- 10,00,000

iii. 10,00,000- 15,00,000

iv. 15,00,000- 20,00,000

v. more than 20,00,000

13. Do you save money? Yes/ No

14. How much is your monthly saving? Rs.....

15. Do you have any economic debt? Yes/ No

### **III. Expenditure Details:**

16. How much is your total annual expenditure?

Items	Amount (in Rupees)
Food	
Non Food	

**IV. Housing and Health Conditions:**

17. Nature of Residence: Rented/ Owned/

18. Type of Residence: Concrete/ Tiled/ Tatched/ Others

19. Do you have water facilities? Yes/ No

20. What is your opinion about the availability of water in your residence?  
Adequate/ Inadequate

21. Do you have electricity availability? Yes/ No

Remarks by the enumerator	

**V. Environmental Conditions and Health Issues**

22. Do you have any environmental problems in this area? Yes/ No

23. If yes, what is the major environmental issue that you have?

Problems	Tick mark
Water pollution	
Solid waste pollution	
Air pollution	
Noise Pollution	



24. If it is Water related problems, what is your opinion about the quality of water in your area?

Very Good/ Good/ Bad/ Very Bad

25. Can you mention the colour of the water which available to your usage?

Blue/ Light Blue/ Green/ Orange

26. Do you suffer any diseases due to low quality of water? Yes/ No

27. What are the major diseases do you have due to contaminated water?

i. Diarrhoea

ii. Cholera

iii. Typhoid Fever

iv. Hepatitis A/E

v. Others

28. Do you go for medical treatment for such diseases? Yes/ No

29. How much amount you spend monthly for medical treatment of water borne diseases? Rs.....

30. If the major problem is solid waste pollution, what do you think is the reason for increasing amount of municipal solid wastes?

i. Urbanization

ii. Rapid Population Growth

iii. Changes in Consumption Pattern

iv. Improved Standard of Living

v. Others

31. What are the major sources of wastes in your city?

i. Construction Activities

- ii. Shops and Markets
- iii. Households
- iv. Hospitals, Marriage Halls and Institutions
- v. Others

32. What are the major diseases do you have due to solid waste pollution?

- i. Allergies
- ii. Breathing problems
- iii. Irregular fever
- iv. Typhoid/ Malaria
- v. Lung Infections

33. Do you have work lost days because of such diseases? Yes/ No

34. If yes, how many working days you lost yearly? .....days.

35. How much amount you spend annually as medical expenses for diseases due to solid waste pollution? Rs.....

36. If the major problem you consider is air pollution, what do you think is the main agent of such pollution?

- i. Transport sector
- ii. Construction Sector
- iii. Industrial Sector
- iv. Domestic Fuel Burning Activities
- v. Garbage Burning/ Others

37. Do you have any diseases due to polluted air? Yes/ No

38. What are the major diseases do you have due to air pollution?

- i. Asthma
- ii. Lung Problem
- iii. Skin Allergy
- iv. Cancer
- v. Others

39. Do you have work lost days because of such air borne diseases? Yes/ No

40. If yes, how many working days you lost yearly? .....days

41. How much amount you spend annually as medical expenses for diseases due to air pollution? Rs.....

42. If the major problem you consider is noise pollution, what do you think is the major cause for such pollution?

- i. Vehicular Horns
- ii. Construction Activities
- iii. Industrial Activities
- iv. Loud Speakers
- v. Social Events

43. What do you think is the level of noise pollution in your area?

Very high	High	Medium	Low

44. Do you have any health issues due to noise pollution? Yes/ No

45. What are the major health issues do you have due to noise pollution?

- i. Hearing Problems
- ii. Sleeping Disorders

iii. Cardio Vascular Issues

iv. Hyper Tension & High Stress Levels

46. Do you have work lost days due to health issues of noise pollution? Yes/ No

47. If yes, how many working days you lost yearly? .....days

48. How much amount you spend annually as medical expenses for health issues due to noise pollution? Rs.....

<b>Remarks by the enumerator</b>	
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#### **VI. Measurement of Willingness to Pay**

Let us suppose that Thrissur Municipal Corporation (TMC) is undertaking a project for bringing down pollution levels. In association with an NGO or agency, the authority is going to take up measures to improve the environmental situation.

The NGO will test the quality of water supplied weekly & will take measures to reduce water contamination and will assure improved quality of water. For this, a fee is charged from the local residents.

49. Are you willing to pay for such improved quality of water? Yes/ No

50. If yes, in consideration of your budgetary limitations, are you willing to pay less than 200 rupees per month? Yes/ No

51. If yes, are you willing to pay Rs. 200- 250 per month? Yes/ No

52. If yes, are you willing to pay Rs. 250- 300 per month? Yes/ No

53. If yes, are you willing to pay more than 300 rupees per month? Yes/ No

If yes, continue increasing by Rs. 50 till the respondent reaches No. Record the highest value of willingness to pay.

Suppose that TMC and District Pollution Control Board are going to take up a major pollution control program. Under this program all air polluting units in the city are controlled and monitored. Remedial measures are suggested in the field of transport system. This is based on some money charges which are to be collected from the residents.

54. Are you willing to pay for such improved quality of air? Yes/ No

55. If yes, in consideration of your budgetary limitations, are you willing to pay less than 200 rupees per month? Yes/ No

56. If yes, are you willing to pay Rs. 200- 250 per month? Yes/ No

57. If yes, are you willing to pay Rs. 250- 300 per month? Yes/ No

58. If yes, are you willing to pay more than 300 rupees per month? Yes/ No

If yes, continue increasing by Rs. 50 till the respondent reaches No. Record the highest value of willingness to pay.

Suppose the TMC appoint a private agency or NGO to solve the issue of solid wastes. The agency will initiate measures to clean the city by regular collection and treatment of wastes. A fee is charged for this from the local residents.

59. Are you willing to pay for better waste management system? Yes/ No

60. If yes, in consideration of your budgetary limitations, are you willing to pay less than 200 rupees per month? Yes/ No

61. If yes, are you willing to pay Rs. 200- 250 per month? Yes/ No

62. If yes, are you willing to pay Rs. 250- 300 per month? Yes/ No

63. If yes, are you willing to pay more than 300 rupees per month? Yes/ No

If yes, continue increasing by Rs. 50 till the respondent reaches No. Record the highest value of willingness to pay.

Suppose an NGO comes forward in the city to solve the problem of noise pollution by proper monitoring of noise levels and suggesting alternative measures to reduce noise levels. A fee is collected for this from the resident households.

64. Are you willing to pay for this? Yes/ No

65. If yes, in consideration of your budgetary limitations, are you willing to pay less than 200 rupees per month? Yes/ No

66. If yes, are you willing to pay Rs. 200- 250 per month? Yes/ No

67. If yes, are you willing to pay Rs. 250- 300 per month? Yes/ No

68. If yes, are you willing to pay more than 300 rupees per month? Yes/ No

If yes, continue increasing by Rs. 50 till the respondent reaches No. Record the highest value of willingness to pay.

<b>Remarks by the enumerator</b>	
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Thank You.

## APPENDIX- II

### Selected Sample Zones of Thrissur Municipal Corporation

Sl. No.	The Central Zone	No. of Samples Selected
1	Poonkunnam	4
2	Kuttankulangara	6
3	Patturaikkal	4
4	Chembukkavu	4
5	Kizhakkumpattukara	5
6	Paravattani	5
7	Nadathara	4
8	Chelakkottukara	4
9	Mission Quarters	5
10	Pallikkulam	7
11	Thekkinkadu	6
12	Kottappuram	5
13	Poothole	10
14	Kokkalai	10
15	Kanattukara	4

Sl. No.	Ayyanthole Zone	No. of Samples Selected
1	Kariattukara	6
2	Chettupuzha	10
3	Pullazhi	8
4	Olari	8
5	Elthuruth	5
6	Laloor	12
7	Aranattukara	7
8	Ayyanthole	6
9	Civil Station	5
10	Puthoorkkara	5

Sl. No.	Koorkancheri Zone	No. of Samples Selected
1	Chiyyaram South	7
2	Chiyyaram North	7
3	Kannamkulangara	10
4	Vadookara	8
5	Koorkancheri	12
6	Kanimangalam	12
7	Panamukku	6
8	Nedupuzha	8