

## Working Paper Questionnaire No. 9

***Name of Paper:***

Managing the Arsenic Disaster in Water Supply: Risk Measurement, Costs of Illness and Policy Choices for Bangladesh, by M. Zakir Hossain, SANDEE Working Paper No. 27-07

***Abstract :***

Arsenic poisoning is a major public health concern in Bangladesh. This study uses primary data to examine health impacts and costs associated with arsenic contamination of groundwater. The study estimates that some 7 to 12 million person-days per year are lost as a result of arsenic exposure. In addition, individuals who are sick spend between 207 (US\$ 3.5) million to 369 (US\$ 6.25) million taka per year for medical help. The total cost of illness as a result of exposure to arsenic is Tk 557 (US\$ 9) to Tk 994 (US\$ 17) million per annum or on average nearly 0.6 percent of the annual income of affected individuals. If it is possible to provide arsenic-free (within safe limit) alternative technologies to reverse the impact of arsenic, the social gains to Bangladesh are considerable. The study also finds that the threat of *Melanosis*--the black spot disease—and *Keratosi*s—roughness in palms and soles— is high when there is cumulative exposure and that this threat is not the same for all wealth classes. Richer households take mitigation measures to reduce the threat on their health. Richer households also seem to be more successful in avoiding the incidence of *conjunctivitis* due to *Arsenicosis*. Women on the other hand are more likely to be affected by inflammation of the respiratory tracts--a sign of long-term exposure without recourse to medical help.

Key Words: Arsenic, health impact, drinking water, mitigation, avertive technology, Bangladesh.

***Date of Survey:*** 1 April to 13 May, 2005

***Place of Survey:***

- i) Thana: Matlab, Dist: Chandpur ; Division: Chittagong, Bangladesh
- ii) Thana: Laksham, District: Comilla, Division: Chittagong, Bangladesh

***Type of Survey:*** Rural Household in Village area

***Number of Respondents:*** 878

# APPENDIX

## HH Survey Questionnaire

Economic Research Group (ERG)

And

Department of Economics, North South University

SANDEE Sponsored Research Project

on

**“The Economic Cost of Arsenic Contamination in Drinking Water and  
an Analysis of Coping Strategies for Averting a Social Disaster -  
Policy Options for Bangladesh”**

### 1.1.1.1. Information on the Survey Area and Respondents

|                  |               |  |           |  |         |                            |                          |              |
|------------------|---------------|--|-----------|--|---------|----------------------------|--------------------------|--------------|
| Study Code       | Thana         |  | Union     |  | Village |                            | Name of the Head of HH : |              |
|                  |               |  |           |  |         |                            |                          |              |
| TW               |               |  | As (Mg/L) |  |         |                            | Name of the Respondent:  | Rel. with HH |
| DPHE card        | 1= Yes; 2 =No |  | Date      |  |         |                            |                          |              |
|                  |               |  |           |  |         |                            |                          |              |
| Village Name :   |               |  |           |  |         | Name of the Investigator:  |                          |              |
| Ward/ Mouza No : |               |  |           |  |         | Date of Survey:            |                          |              |
| Union:           |               |  |           |  |         | Location of the Homestead: |                          |              |
| Thana :          |               |  |           |  |         |                            |                          |              |
| District:        |               |  |           |  |         | Name of the Supervisor     |                          | Signature    |
|                  |               |  |           |  |         |                            |                          |              |
|                  |               |  |           |  |         |                            |                          |              |

1 = Respondent Self, 2 = Husband/ Wife, 3 = Brother / Sister, 4 = Son /Daughter, 5 = Uncle /Aunt,  
6 = Grand father/ Mother, 7 = Others

Q1. (i) Number of the members of the HH: Total \_\_\_\_\_ (ii) Male : \_\_\_\_\_  
 (iii) Female : \_\_\_\_\_

| Member ID | Name of the Members (1,3,5..... Male; 2,4,6,..... Female) | Age (Years) | Sex<br>1 Male<br>2 Female | Marital Status<br><br>1=Never Married<br>2 = Married<br>3 = Widow / Widower<br>4 =Divorced<br>5 =Separated | Height (Inch) | Weight (kg) | Educational Attainment<br><br>(Class passed/ completed) | Work Status * | Relationship with the head of HH | Collects or brings water for HH use<br><br>1 = Yes<br>2 = No |
|-----------|---|-------------|---------------------------|--|---------------|-------------|---|---------------|----------------------------------|--|
| 1         | Respondents own   |             |                           |  |               |             |   |               |                                  |  |
| 2         | Respondents own   |             |                           |  |               |             |   |               |                                  |  |
|           |   |             |                           |  |               |             |   |               |                                  |  |

**Relationship with the HH**

- |                    |                          |                         |
|--------------------|--------------------------|-------------------------|
| 1 = Parents        | 5 = Son/Daughter in Law  | 9 = Grand child         |
| 2 = Husband/Wife   | 6 = Cousin               | 10 = Not related/ other |
| 3 = Brother/Sister | 7 = Nephew/Niece         |                         |
| 4 = Uncle/Aunt     | 8 = Grandfather / Mother |                         |

**Education:\***

- |                        |                           |                         |
|------------------------|---------------------------|-------------------------|
| 1 – 9 Class I - IX ;   | 12 HSC / Equivalent;      | 15 Medical/Engineering; |
| 10 SSC/ Equivalent ;   | 13 Alim / Equivalent      |                         |
| 11 Dakhil /Equivalent; | 14 Graduate/ Equivalent ; |                         |

**Work Status:**

- |  |  |
|--|--|
| 1 = Disabled/Children/Unable;                              | 5 = HH +(cash) income-earning activities ; |
| 2 = Student / with casual participation;                   | 6 = HH only ;                              |
| 3 = Student with active participation in productive works; | 7 = Unemployed,                            |
| 4 = Engaged in HH productive works;                        | 8 = Others                                 |

### Q 3.1 Information on HH Assets:

#### For Personal Consumption Purpose

| Name of the Assets  | Assets Code | Do You Hold this Asset?<br>1= Yes, 2 = No |
|---|-------------|---|
| Personal living house (Excluding land)                        | 3.1.1       |   |
| Big tree  | 3.1.2       |   |
| Bucket/ <i>Lota</i> / <i>Goti</i>                             | 3.1.3       |   |
| Stove/ Heater/Gas burner                                      | 3.1.4       |   |
| All cooking materials (metallic)                              | 3.1.5       |   |
| Bed / <i>Khat</i> / Native bed ( <i>Chowki</i> )              | 3.1.6       |   |
| Chest of drawer/ Showcase/ Meat safe/Cloth rag or <i>Alna</i> | 3.1.7       |   |
| Table/ Chair/ Bench or Tool                                   | 3.1.8       |   |
| Fan / Electric Iron or Calendar                               | 3.1.9       |   |
| Radio/ Cassette Player/CD Player                              | 3.1.10      |   |
| Wall clock/ Wrist Watch                                       | 3.1.11      |   |
| TV/VCD  | 3.1.12      |   |
| Freezer   | 3.1.13      |   |
| Ornaments (Gold/ Silver)                                      | 3.1.14      |   |

#### List of the Productive Assets (For Earning Purpose)

| Name of the Assets                 | Assets Code | Do You Hold this Asset?<br>1= Yes, 2 = No |
|------------------------------------|-------------|---|
| Sewing machine                     | 3.1.15      |   |
| Bi-cycle                           | 3.1.16      |   |
| Rickshaw / Van                     | 3.1.17      |   |
| Motor cycle                        | 3.1.18      |   |
| Mobile Phone / Land Phone          | 3.1.19      |   |
| Hand Pump/ TW                      | 3.1.20      |   |
| Paddy (Current storage)            | 3.1.21      |   |
| Rice (Current storage)             | 3.1.22      |   |
| Floor/ Wheat (Current storage)     | 3.1.23      |   |
| Domestic animal (For personal use) | 3.1.24      |   |
| Duck/Hen/Bird (For personal use)   | 3.1.25      |   |
| Other (_____)                      | 3.1.26      |   |
| Other (_____)                      | 3.1.27      |   |
| Other (_____)                      | 3.1.28      |   |

| Name of the Assets            | Assets Code | Do You Hold this Asset?<br>1= Yes, 2 = No |
|-------------------------------|-------------|---|
| Sewing machine                | 3.1.29      |   |
| Rickshaw / Van                | 3.1.30      |   |
| Mobile phone / Land phone     | 3.1.31      |   |
| Fishing net                   | 3.1.32      |   |
| Electric iron                 | 3.1.33      |   |
| Hand pump / TW                | 3.1.34      |   |
| Irrigation equipments         | 3.1.35      |   |
| Boat                          | 3.1.36      |   |
| Cattle                        | 3.1.37      |   |
| Duck and hen                  | 3.1.38      |   |
| Other agricultural equipments | 3.1.39      |   |
| Other vehicle                 | 3.1.40      |   |
| Charcoal machine              | 3.1.41      |   |
| Others (-----)                | 3.1.42      |   |

### 3.3 Ownership of Different Water Sources

| Name of the end-uses           | Sources of End-Uses (Code*) | No. of Years in Use | Current Ownership Pattern   | For how long the current ownership is prevalent | Prior Source  | Ownership   |
|--------------------------------|-----------------------------|---------------------|---|---|---|---|
|                                |                             | Years               | 1 Govt.<br>2 NGO<br>3 Community<br>4 Personal<br>5 Institution and others | In Years  | 1 Govt.<br>2 NGO<br>3 Community<br>4 Personal<br>5 Institution and others | 1 Govt.<br>2 NGO<br>3 Community<br>4 Personal<br>5 Institution and others |
| Drinking                       |                             |                     |   |   |   |   |
|                                |                             |                     |   |   |   |   |
|                                |                             |                     |   |   |   |   |
| Washing                        |                             |                     |   |   |   |   |
| Bathing                        |                             |                     |   |   |   |   |
| Cooking                        |                             |                     |   |   |   |   |
|                                |                             |                     |   |   |   |   |
| Irrigation                     |                             |                     |   |   |   |   |
| Others (Gardening, and others) |                             |                     |   |   |   |   |
|                                |                             |                     |   |   |   |   |
|                                |                             |                     |   |   |   |   |

**Sources:**

1 = Shallow tube-wells / Hand pumps  
2 = Community owned filters  
3 = A.R.P's, 4 = Tube well

5 = Deep tube-well  
6 = Dug wells, 7 = Pond ;  
8 = Pipeline supply water.  
9 = River  
10 = Rain water harvesting;

11 = Household filters  
12 = Mineral water  
13 = Purifying water through filter  
14 = Other sources

### Water Related Information

**Q 4. Do you follow any purification method?**

|   |           |  |
|---|-----------|--|
| 1 | Yes       |  |
| 2 | No >> 8.1 |  |

**Q 5. Why are you purifying the water?**

| Serial No. | Reasons        | 1 = Yes 2 = No |
|------------|----------------|----------------|
| 1          | Arsenic Free   |                |
| 2          | Bacteria free  |                |
| 3          | Iron free      |                |
| 4          | Any other free |                |

**Q 6. Water Purification Methods**

| Sl. No. | Different Methods         | 1 Yes<br>2 No >><br>next<br>method     | In Tk.                |                         | Length of Drinking<br>Water from Same<br>Source |                                  |
|---------|---------------------------|--|-----------------------|-------------------------|---|----------------------------------|
|         |                           | Do you think<br>it removes<br>arsenic? | Money Spent           |                         | Before Sick<br>How many<br>Years?               | After Sick<br>How many<br>Years? |
|         |                           |  | Initial<br>Tk./ Month | Recurring<br>Tk./ Month |   |                                  |
| 1       | Boiling                   |  |                       |                         |   |                                  |
| 2       | Filter : Cartridge Candle |  |                       |                         |   |                                  |
| 3       | Filter : iron filter      |  |                       |                         |   |                                  |
| 4       | Digging deep tubewell     |  |                       |                         |   |                                  |
| 5       | Treating with chemicals   |  |                       |                         |   |                                  |
| 6       | Storage                   |  |                       |                         |   |                                  |
| 7       | Digging dug well          |  |                       |                         |   |                                  |
| 8       | Alum                      |  |                       |                         |   |                                  |
| 9       | 3 Pitcher method          |  |                       |                         |   |                                  |
| 10      | Others ( )                |  |                       |                         |   |                                  |

**Q 7. Different Uses of Water and Related Information**

| Serial No. | End Uses             | Collection Cost per HH |            | Quantity of Water Used per Day |                 |
|------------|----------------------|------------------------|------------|--------------------------------|-----------------|
|            |                      | Tk./ Month             |            | In liter/bucket                |                 |
|            |                      | Initial                | Recurring  | Before Sick                    | After Sick      |
|            |                      | Tk./ Month             | Tk./ Month | How many Years?                | How many Years? |
|            |                      |                        |            |                                |                 |
| 1          | Drinking             | Dry season             | Wet season | Dry season                     | Wet season      |
| 2          | Cooking              |                        |            |                                |                 |
| 3          | Washing utensils     |                        |            |                                |                 |
| 4          | Bathing              |                        |            |                                |                 |
| 5          | Irrigation/Gardening |                        |            |                                |                 |
| 6          | Animal washing       |                        |            |                                |                 |
| 7          | Others               |                        |            |                                |                 |

**Coping Behavior towards the Adoption of Alternative Technologies**

**Q 8. If the main sources of water is tube-well then has the dangerous level of arsenic been identified in drinking water of your tube-well?**

|   |         |  |
|---|---------|--|
| 1 | Yes     |  |
| 2 | No      |  |
| 3 | Unknown |  |

**Q 9. Information on the Presence of Arsenic in Different Sources of Water**

| Serial no. | All Sources of Water                                    | Is this source arsenic or otherwise contaminated? | Who informed you?  |
|------------|---|---|--|
|            |   | 1 = Yes<br>2= No<br>3= Do not know                | 1=DPHE(GO)<br>2=LGRD (GO)<br>3=NGO<br>4=Media<br>5=Relatives/<br>Neighbors<br>6 = Others |
| 1          | Community Owned Filters                                 |   |  |
| 2          | Oxidation / Iron Filter                                 |   |  |
| 3          | Arsenic Removal Plants (A.R.P's)                        |   |  |
| 4          | Purifying Filter of Shallow Tube-<br>Wells / Hand Pumps |   |  |
| 5          | Deep Tube-Well  |   |  |
| 6          | Dug Wells   |   |  |
| 7          | Pond  |   |  |
| 8          | Supply Water  |   |  |
| 9          | Rain Water Harvesting                                   |   |  |
| 10         | HH Filter   |   |  |
| 11         | Mineral Water   |   |  |
| 12         | Pond Sand Filter  |   |  |
| 13         | Storage   |   |  |

**Q10.1 Have you adopted any alternative technology for averting purpose?**

|   |            |  |
|---|------------|--|
| 1 | Yes>> 10.3 |  |
| 2 | No         |  |

### Q 10.2 Reasons for not Adopting Any Technology

| Serial No | If answer is No, then what type of technological alternatives you choose? | What are the reasons for not using the specific technologies (Codes in Below **) |  |  |  |  | Future choices for technology |
|-----------|---|--|--|--|--|--|-------------------------------|
| Sl. No    | 1 Yes 2 No >> Q (III)   |  |  |  |  |  |                               |
| 1         | Community Owned Filters   |  |  |  |  |  |                               |
| 2         | Oxidation / Iron Filter   |  |  |  |  |  |                               |
| 3         | Arsenic Removal Plants (A.R.P's)  |  |  |  |  |  |                               |
| 4         | Purifying Filter of Shallow Tube-Wells / Hand Pumps                       |  |  |  |  |  |                               |
| 5         | Deep Tube-Well  |  |  |  |  |  |                               |
| 6         | Dug Wells   |  |  |  |  |  |                               |
| 7         | Pond  |  |  |  |  |  |                               |
| 8         | Supply Water  |  |  |  |  |  |                               |
| 9         | Rain Water Harvesting   |  |  |  |  |  |                               |
| 10        | HH Filter   |  |  |  |  |  |                               |
| 11        | Mineral Water   |  |  |  |  |  |                               |
| 12        | Pond Sand Filter  |  |  |  |  |  |                               |
| 13        | Storage   |  |  |  |  |  |                               |
| 14        | Other ( )   |  |  |  |  |  |                               |

1 = Shortage of money

2 = Not available in the market

3 = Do not know the effectiveness

4 = Extent of sickness is not significant

5 = Not easily manageable

6 = Lack of GO activities to make aware

7 = Lack of NGO activities to make aware

8 = Others

### Q10.3 Uses of the Different Arsenic Removal Technologies

| Serial No | 10.3.1<br>Name of all sources of the drinking water | 10.3.2<br>Do you use the following tech?<br>1 = Yes;<br>2 = No | 10.3.3<br>For how many years have you been using? | 10.3.4<br>1 = Indefinite<br>2 = Year<br>Code      Year | 10.3.5<br>Do you collect water from the outside of the house? | 10.3.6<br>If answer is yes, then at present  |   |                 | 10.3.8<br>Collection costs (Taka) | 10.3.9<br>Ownership<br>1 = Personal<br>2 = Govt.<br>3 = NGO<br>4 = Community | 10.3.10<br>Costs to establish the technology<br>Tk. | 10.3.11<br>If HH has personal technology, then |  |  | 10.3.13<br>Source of the expenses | 10.3.14<br>Maintenance cost |
|-----------|---|--|---|--|---|--|---|-----------------|-----------------------------------|--|---|--|--|--|-----------------------------------|-----------------------------|
|           |   |  |   |  |   | 10.3.6<br>From how far do you collect water? | 10.3.7<br>How much time do you spend daily? | 10.3.12<br>Code |                                   |  |   |  |  |  |                                   |                             |
| 1         | Community Owned filters                             |  |   |  |   | In meter                                     | Hour/ day                                   | (Taka)          |                                   |  |   |  |  |  |                                   |                             |
| 2         | Oxidation / Iron Filter                             |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 3         | Arsenic Removal Plants (A.R.P's)                    |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 4         | Purifying Filter of Shallow Tube-Wells              |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 5         | Deep Tube-Well                                      |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 6         | Dug Wells   |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 7         | Tap Water Supply                                    |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 8         | Rain Water Harvesting                               |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 9         | HH Filter for Purifying                             |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 10        | Pond Sand Filter                                    |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 11        | Storage   |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |
| 12        | Other (            )                                |  |   |  |   |  |   |                 |                                   |  |   |  |  |  |                                   |                             |

## Sickness/*Arsenicosis* Related Information

**Q 11. Is any member suffering from arsenic contamination?**

|           |  |
|-----------|--|
| 1 Yes     |  |
| 2 No      |  |
| 3 Unaware |  |

**Q 12. Has any one died in the household due to arsenic poisoning?**

|       |  |
|-------|--|
| 1 Yes |  |
| 2 No  |  |



**14. Information on Sickness due to Arsenicosis and other Diseases (In last 3 months)**

| Member ID. | How many days he/she cannot work due to sickness |                | History of Major Diseases or Present Health Status* |                                  |  |  | Cannot Work /No. of Working Days Lost |  | Income Lost          |  |  |
|------------|--|----------------|---|----------------------------------|--|--|---------------------------------------|--|----------------------|--|--|
|            | Arsenicosis                                      | Other Sickness | Number of Chronic Diseases                          | Codes of the Chronic Diseases ** |  |  | Days/Month                            |  | Amount in Tk./ Month |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |
|            |  |                |   |                                  |  |  |                                       |  |                      |  |  |

**15. Information on Arsenic Mitigation and Transportation Expenditures (last 3 months):**

**15.1 Allopathic**

| Member ID. | Diseases      |          | Whether Consulted a Doctor | If yes, then Monthly expenditure for Medicare |                  |                           |                    |                    |                           |                    | Sources of Expenditure (In Tk.) |         |  |
|------------|---------------|----------|----------------------------|---|------------------|---------------------------|--------------------|--------------------|---------------------------|--------------------|---------------------------------|---------|--|
|            |               |          |                            | Domicile                                      |                  |                           | Hospital           |                    |                           |                    |                                 |         |  |
|            | 1 Arsenicosis | 2 Others | 1 Yes                      | 2 No  | Number of Visits | Doctor visit Fee (In Tk.) | Treatment (In Tk.) | Transport (In Tk.) | Doctor Visit Fee (In Tk.) | Treatment (In Tk.) | Transport (In Tk.)              | Code ** |  |
|            |               |          |                            |   |                  |                           |                    |                    |                           |                    |                                 |         |  |
|            |               |          |                            |   |                  |                           |                    |                    |                           |                    |                                 |         |  |
|            |               |          |                            |   |                  |                           |                    |                    |                           |                    |                                 |         |  |
|            |               |          |                            |   |                  |                           |                    |                    |                           |                    |                                 |         |  |
|            |               |          |                            |   |                  |                           |                    |                    |                           |                    |                                 |         |  |

- \*\*1 = Borrow
- 2 = Using the cash and mobilizing savings
- 3 = Suspending expenditure (Eg. Education)
- 4 = Sale of livestock / assets
- 5 = Income diversification
- 6 = Cut back on purchase of non-essential products

- 7 = Free care
- 8 = Micro-credit
- 9 = Eating less in terms of quantity
- 10 = Support from Community
- 11 = Others

## 15.2 Homeopathic/Herbal

| Member ID. | Diseases                         | Whether Consulted a Doctor | If yes, then Monthly expenditure for Medicare |                           |                    |                    |                           |                    |                                 |         |  |  |  |  |  |  |  |
|------------|----------------------------------|----------------------------|---|---------------------------|--------------------|--------------------|---------------------------|--------------------|---------------------------------|---------|--|--|--|--|--|--|--|
|            |                                  |                            | Domicile                                      |                           |                    | Hospital           |                           |                    | Sources of Expenditure (In Tk.) |         |  |  |  |  |  |  |  |
|            | 1 <i>Arsenicosis</i><br>2 Others | 1 Yes<br>2 No              | Number of Visits                              | Doctor visit Fee (In Tk.) | Treatment (In Tk.) | Transport (In Tk.) | Doctor Visit Fee (In Tk.) | Treatment (In Tk.) | Transport (In Tk.)              | Code ** |  |  |  |  |  |  |  |
|            |                                  |                            |   |                           |                    |                    |                           |                    |                                 |         |  |  |  |  |  |  |  |
|            |                                  |                            |   |                           |                    |                    |                           |                    |                                 |         |  |  |  |  |  |  |  |
|            |                                  |                            |   |                           |                    |                    |                           |                    |                                 |         |  |  |  |  |  |  |  |
|            |                                  |                            |   |                           |                    |                    |                           |                    |                                 |         |  |  |  |  |  |  |  |

- \*\*1 = Borrow;  
2 = Using the cash and mobilizing savings;  
3 = Suspending expenditure (Eg. Education);  
4 = Sale of livestock / assets;  
5 = Income diversification;
- 6 = Cut back on purchase of non-essential products;  
7 = Free care;  
8 = Micro-credit  
9 = Eating less in terms of quantity;  
10 = Support from Community;

### Q 16. Awareness related information

| Have you got the DPHE card on the information of test result of TW | What are the color codes of the tested TW? | Have you been drinking water from the 'red marked' TW? | If 'Yes' then what are the reasons (Codes) |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 1 = Yes<br>2 = No  | 1=Green<br>2= Red<br>3= Non-specified      | 1 = Yes<br>2= No>> Q.17                                |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

- \*\*  
1= Do not know the effect of the red tube-well  
2= Safe sources of green tube-wells are far away  
3= Not possible to travel far away due to sickness  
4= Refused to collect water from the neighbors
- 5= Poor relationship with the neighbor or egoistic behavior  
6= Not one available to fetch the fresh water  
7= The taste of water are good  
8= The extent of sickness of the HH are so low  
9= Other \* (Please specify-)

### Q 17. Where did you heard about arsenic poisoning?

| Serial No. | Medium                  | Code (Serial) |
|------------|-------------------------|---------------|
| 1          | DPHE survey             |               |
| 2          | DPHE card               |               |
| 3          | TV / Radio              |               |
| 4          | Newspaper               |               |
| 5          | Govt. Health worker     |               |
| 6          | NGO Worker              |               |
| 7          | School/College          |               |
| 8          | Others (Specify- .....) |               |

**Q 18. Information on NGO Activities for Awareness Purpose**

| Is there any arsenic related NGO activity? | What type of awareness programs they have?   | Have any HH member participated? |
|--|--|----------------------------------|
| 1 = Yes,<br>2= No                          | 1 = Training<br>2 = Rally<br>3 = Group meeting<br>4 = Poster and flyer<br>5 = Others | 1 = Yes<br>2= No                 |
|  |  |                                  |
|  |  |                                  |
|  |  |                                  |

**Q 19. Information on Social Stigma (only for women now residing with HH)**

**(I) Due to Arsenicosis Existence of Social Stigma Related to Marria**

| Member ID | Marital Status* |                     |                               | If Divorced or Separated then - |   |
|-----------|-----------------|---------------------|-------------------------------|---------------------------------|---|
|           | Code Below**    | When did you marry? | Amount of Dowry Paid (In Tk.) | Year                            | Reasons are -<br>1 'Arsenicosis'<br>2 'Other' |
|           |                 |                     |                               |                                 |   |
|           |                 |                     |                               |                                 |   |
|           |                 |                     |                               |                                 |   |
|           |                 |                     |                               |                                 |   |

**(II) Social Stigma due to Arsenicosis of the Affected HH**

| Member ID | What following types of stigma are you facing due to Arsenicosis? (Code below*) |  |  |  |  |  |
|-----------|---|--|--|--|--|--|
|           |   |  |  |  |  |  |
|           |   |  |  |  |  |  |
|           |   |  |  |  |  |  |
|           |   |  |  |  |  |  |

- 1 = Refused water collection from the neighbors  
2 = Eligible persons are refused jobs  
3 = The affected are avoided in social activities  
4 = With advancement of the diseases, patients become unemployable  
5 = Affected young women being compelled to stay unmarried ;  
6 = Marry another due to presence of Arsenicosis in the body of first wife;  
7 = Other