

# INTEGRATED PEST MANAGEMENT IN BANGLADESH

Time started: \_\_\_\_\_

Interviewer: \_\_\_\_\_

Survey ID: \_\_\_\_\_

The purpose of this questionnaire is to investigate the use of Integrated Pest Management (IPM) techniques by farmers. It is for research purposes only. Please answer the questions to be best of your knowledge. Answers will be kept completely confidential and will only be presented in a summary format.

**Part 1: Area or Property Information:**  
**(To be answered by everyone or anyone who may have the information)**

1. Name of the Respondent \_\_\_\_\_
2. Village: \_\_\_\_\_
3. Thana: \_\_\_\_\_
4. District: \_\_\_\_\_
5. Division: \_\_\_\_\_
  
6. How would you define the farm ownership?
  1.  Own the farm
  2.  Rental arrangement
  3.  Sharecropper
  4.  Lease from Govt.
  5.  Agricultural Labor (if yes, please go to **Q 14**)
  6.  I don't know
  7.  Other (specify) \_\_\_\_\_
  
7. What is the approximate farm size?
  1.  less than 0.5 acre
  2.  0.5 to less than 1 acre
  3.  1 to less than 1.5 acres
  4.  1.5 to less than 2.5 acres
  5.  2.5 to less than 5 acres
  6.  5 to less than 7.5 acres
  7.  7.5 to more than 7.5 acres
  
8. Please provide information about the crop(s) produced on this farm in the following table:

| Crop name | Production (kg/year) | Area (acre) | Price (Tk/kg) | Code of the Principal Market* | Irrigation Cost | Equipment Rental Cost | Seed Cost |
|-----------|----------------------|-------------|---------------|-------------------------------|-----------------|-----------------------|-----------|
| 1.        |                      |             |               |                               |                 |                       |           |
| 2.        |                      |             |               |                               |                 |                       |           |
| 3.        |                      |             |               |                               |                 |                       |           |
| 4.        |                      |             |               |                               |                 |                       |           |
| 5.        |                      |             |               |                               |                 |                       |           |

\*1. Self consumption; 2. Directly to the Local Market; 3. Intermediaries; 4. Other towns within the District; 5. Other Districts; 6. Dhaka; 7. Exports (Please specify)

9. What is the wage rate/day: 1. with meal \_\_\_\_\_ 2. without meal \_\_\_\_\_
10. Please indicate the amount of labor provided by hired laborers, family members including unpaid workers:

| Crop name | Wage bill of hired laborer (In Taka) | Family1 (days) | Family2 (days) | Family3 (days) | Family4 (days) | Family5 (days) |
|-----------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| 1.        |                                      |                |                |                |                |                |
| 2.        |                                      |                |                |                |                |                |
| 3.        |                                      |                |                |                |                |                |
| 4.        |                                      |                |                |                |                |                |
| 5.        |                                      |                |                |                |                |                |

11. If this farmland were to be sold in the market today, approximately how much do you think the land would be worth? \_\_\_\_\_
12. What is the estimated worth of all farm animals (traction) and equipment (in its present condition)? \_\_\_\_\_

**Part 2: Personal General Information:  
(To be answered by the respondent)**

14. How many people, including yourself, live in your immediate household? (a household is defined to comprise all usual residents, i.e., all with continuous residency for 6 months or longer during which they sleep here and share common facilities).

# of persons \_\_\_\_\_

15. How many of these household members, including yourself, are female?

# of persons \_\_\_\_\_

16. What is the total monthly (cash) expenditure of the household?

Amount (Taka) \_\_\_\_\_

17. What is the approximate average monthly value of all household or homegrown products (including those received in barter or as payments) used ONLY for household consumption?

Amount (Taka) \_\_\_\_\_

18. What is the total yearly (cash) income of the household from all sources (including remittances)

Amount (Taka) \_\_\_\_\_

19. Gender      1.  Male      2.  Female
20. Age              Years \_\_\_\_\_
21. What is the highest education level you have completed?
1.  Can't read or write
  2.  Can read but not write
  3.  Primary (<=5 years of schooling)
  4.  Junior high school (6-10 years of schooling)
  5.  Secondary and Higher Secondary (11-12 years of schooling)
  6.  Above HSC (More than 12 years of schooling)
22. What is your job?
1.  Owner/Manager/Lessee only              **(Complete Part 3 only, page 3)**
  2.  Owner/Manager/Lessee & Worker              **(Complete Part 4 only, page 12)**

**Part 3:              Owner/Manager/Lessee Section: To be completed by  
Owner/Manager/Lessee only  
(NON-APPLICATOR)**

**IPM/Pesticide Application:**

23. How long have you been working in this farm? \_\_\_\_ months      \_\_\_\_ years
24. Are there any family members working on this farm with you?
1.  Yes —→24.1    If **YES**, how many? \_\_\_\_
  2.  No
25. Which Integrated Pest Management (IPM) system do you use to control pest attacks:
1.  Organic production      2.  Biological control      3.  Smoke
  4.  Light trap                      5.  Rotation of crop              6.  Manual clearing
  7.  Enemy Plants                      8.  Other (please specify) \_\_\_\_\_
  9.  Do not know

26. Are you responsible for the decision of using the above system(s) on the farm (when to use and how)?

1.  Yes                      2.  No

26.1 If **NO**, who was responsible for these decisions? \_\_\_\_\_

26.2 If **YES**, what is the main reason you use the stated system instead of pesticides?

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Cheaper than pesticides                  | 5. <input type="checkbox"/> Suggested by NGOs        |
| 2. <input type="checkbox"/> Imitating others                         | 6. <input type="checkbox"/> Good for health          |
| 3. <input type="checkbox"/> Suggested by neighbors/friends           | 7. <input type="checkbox"/> Good for the environment |
| 4. <input type="checkbox"/> Suggested by Ministry of Agri. officials | 8. <input type="checkbox"/> Other (please specify)   |
- \_\_\_\_\_

27. Have you received any formal training on IPM?

1.  Yes                      2.  No

27.1 If **YES**, who was your main source of information:

|                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 |
| NGO                        | Ag. Ministry officials     | Farmers                    | Other (please specify)     |

28. Would you like to have regular training updates on IPM (e.g. every 5 years)?

1.  Yes                      2.  No

29. What is the proportion of land that you use non-pesticide techniques on? \_\_ (%)

30. Do you currently use, or have you used in the past, pesticides on this farm's crops?

1.  Yes                      **(Please continue with Question 31)**
2.  No                      **(Go to Q 31 fill in only fertilizer part and then skip to Question 50)**

**31. Log record of pesticides and fertilizers used per season: Owner/Manager/Lessee**

| Crop | Area of application (acres) | Chemical name | Commercial name | Perceived toxicity  | Price/unit (Taka/kg) | Dose (mg/l) | Prescribed dose?  | Quantity of application (kg) | # of applications | Mode/ Method of application | Time of application |  |
|------|-----------------------------|---------------|-----------------|---|----------------------|-------------|---|------------------------------|-------------------|-----------------------------|---------------------|--|
| 1    |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
| 2    |                             | Nitrogen      |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Phosphorus    |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Potassium     |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             |               |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Nitrogen      |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Phosphorus    |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Potassium     |                 |   |                      |             |   |                              |                   |                             |                     |  |

[Note: Require interviewers to carry extra copies of the above table for more crops to be attached to the survey].

32. Were/are you responsible for the decision of applying pesticides on the farm (when to apply, how to apply, and which pesticides to use)?

1.  Yes                      2.  No

32.1 If **NO**, who was/is responsible for these decisions? \_\_\_\_\_

32.2 If **YES**, have you/did you change the dosage of pesticides per unit of land compared to the dosage you used for the same unit of land 5 years ago?

1.  Increased              2.  Decreased              3.  Same

32.2.1 If **YES**, by how much? \_\_\_\_\_ (%)

32.2.2 If **YES**, why did you change the dosage?

1.  Everybody else increased
2.  Insects did not die anymore at low dosage
3.  Suppliers said so
4.  Just to make sure that it worked
5.  I do not know
6.  other \_\_\_\_\_ (please specify)

33. By switching from pesticides to IPM, how much did you decrease your pesticide use:

| Crop | Pesticide | Cost/unit (Taka) | Amount (kg/ml) Before | Amount (kg/ml) After |
|------|-----------|------------------|-----------------------|----------------------|
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |

34. Do you feel that you are getting more/less/same amount of crop compared to what you would have yielded with pesticide use?

- 34.1 Quantity-wise:              More              Less              Same  
 34.2 Market Value-wise:      More              Less              Same

35. After switching from pesticides to IPM, how would you characterize the change in soil quality?

|                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |

36. After switching from pesticides to IPM, how would you characterize the change in local water and air quality?

|        |                            |                            |                            |                            |                            |
|--------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Air:   | A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |
|        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Water: | A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |

**Knowledge:**

37. On a scale of 1-5, how much risk do you think applicators are/were exposed to while using pesticides on this farm?

1.  No risk at all
2.  Some small risks
3.  A medium amount of risk
4.  A large and significant amount of risk
5.  Dangerous and very toxic risks
6.  I don't know

38. On a scale of 1-5, how would you gauge, on average, the health of the applicators/workers that you manage?

1.  Excellent health
2.  Good health
3.  Fair health
4.  Small health problems
5.  Serious health problems
6.  I don't know

39. How many hours in a day do you spend in the field? \_\_\_\_\_ (hours)

40. Of the workers you manage, where are most of them from?

1.  Full time workers from local areas
2.  Migrant workers from far distances
3.  Seasonal workers from local areas

- 4.  Temporary workers from local areas
- 5.  I don't know

**Protection:**

41. Have you ever received basic training on safe handling and applying pesticides?

- 1.  Yes
- 2.  No

41.1 If **YES**, did that training also include training on how to use protective equipment and clothing?

- 1.  Yes
- 2.  No

41.2 Who were your main sources of information for each:

|                                 | NGO | Ag. Ministry officials | Farmers | Pesticide suppliers or companies | Others |
|---------------------------------|-----|------------------------|---------|----------------------------------|--------|
| Safe handling                   |     |                        |         |                                  |        |
| Use (crop, dose, etc.)          |     |                        |         |                                  |        |
| Protective equipment & clothing |     |                        |         |                                  |        |

41.3 If no basic training, do you have access to someone who provides such training?

- 1.  Yes
- 2.  No

41.3.1 If **YES**, who? \_\_\_\_\_

42. When purchasing pesticides, are/were you usually supplied with information on the pesticide, such as pamphlets or instructions, describing safety issues or procedures?

- 1.  Yes
- 2.  No

42.1 If **YES**, do/did you read and understand the instructions in the pamphlets?

- 1.  Yes
- 2.  No

43. Approximately how much do/did you spend annually on protective clothing for workers using pesticides? \_\_\_\_\_

- 43.1 In the previous five years before that? \_\_\_\_\_
44. How many applicators do/did you use during the season? \_\_\_\_\_
45. What equipment do/did you provide for the worker to wear while applying pesticides? (**Please go through all items**)

| Item   | If NO, why not?   | Do/did they use it or not?  | NO, why not?   | Is/was it in good condition?                                      | How often are/were these accessories replaced? | Who recommended using it?<br>NGOs/<br>Agri. Ministry Official/<br>Pesticide Suppliers/<br>Companies and others |
|--|---|---|--|---|--|--|
| <input type="checkbox"/> Nothing                     | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | -   | -  | -   | -  | -  |
| <input type="checkbox"/> Boots/ Shoes                | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Hat/Head Cover              | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Glasses                     | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Full-sleeve Shirt/Kurta     | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Gloves                      | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Mask                        | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Full-length lungi/ trousers | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Other:<br>_____             | 1. <input type="checkbox"/> Cost<br>2. <input type="checkbox"/> Not available<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No<br>3. <input type="checkbox"/> I don't know | 1. <input type="checkbox"/> Uncomfortable<br>2. <input type="checkbox"/> Inappropriate<br>3. <input type="checkbox"/> Unnecessary<br>4. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |

46. Do/did you provide basic training for applying pesticides?

1.  Yes → 46.1 If **YES**, does/did that training also include training on how to use protective equipment and clothing?

1.  Yes 2.  No

2.  No → 46.2 If **NO**, do/did applicators have access to someone who could provide training?

1.  Yes → 46.3 If **YES**, who? \_\_\_\_\_

2.  No

**Health:**

47. If you could account for every worker, do you recall approximately how many days, in any given year, that were lost due to workers being sick as a result of using pesticides? \_\_\_\_\_ days

48. After implementing IPM, how would you characterize worker health?

|                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |

49. Have/did any workers die while working on this farm?

1.  Yes 2.  No

49.1 If **YES**, how many as a consequence of pesticide use? Please clarify.

\_\_\_\_\_

50. Do you think that pesticide use and/or exposure, overall, has any negative short-term impacts on your health?

|                            |                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| No effect                  | Little effect              | Some effects               | Large effects              | Fatal effects              | I don't know               |
| Why?                       |                            |                            |                            |                            |                            |

51. Do you think that pesticide use and/or exposure, overall, has any negative long-term impacts on your health (i.e. cancer)?

|                            |                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| No effect                  | Little effect              | Some effects               | Large effects              | Fatal effects              | I don't know               |
| Why?                       |                            |                            |                            |                            |                            |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

**Social feedback:**

52. Have there been any social actions against pesticide use in the past 5 years in your area? 1.  Yes 2.  No

52.1 If **YES**, please check all that apply:

|                 | Procession | Campaign | Protest Meeting |
|-----------------|------------|----------|-----------------|
| 1. Never        |            |          |                 |
| 2. A few        |            |          |                 |
| 3. Many         |            |          |                 |
| 4. I don't know |            |          |                 |

53. On a scale of 1-5, what would you say is the local unemployment rate among workers?

- 1.  Very low
- 2.  Low
- 3.  Average
- 4.  High
- 5.  Very high

**Environment:**

54. Have you ever heard of any of the pesticide-related accidents below in your local area?

54.1 Water contamination: 1.  Yes 2.  No

54.2 If **YES**, please describe \_\_\_\_\_

54.3 Air contamination: 1.  Yes 2.  No

54.4 If **YES**, please describe \_\_\_\_\_

54.5 Death of fish, frogs, birds, etc: 1.  Yes 2.  No

54.6 If **YES**, please describe \_\_\_\_\_

**Part 4: Owner/Manager/Lessee & Worker Section:  
To be completed by Owner/Manager/Lessee & Worker only**

**IPM/Pesticide Application:**

55. How long have you been working in this farm? \_\_\_\_ months \_\_\_\_ years

56. Are there any family members working on this farm with you?

1.  Yes → 56.1 If **YES**, how many? \_\_\_\_  
2.  No

57. Which Integrated Pest Management (IPM) system do you use to control pest attacks:

1.  Organic production      2.  Biological control      3.  Smoke  
4.  Light trap                      5.  Rotation of crop              6.  Manual clearing  
7.  Enemy Plants                      8.  Other (please specify) \_\_\_\_\_  
9.  Do not know

58. Are you responsible for the decision of using the above system(s) on the farm (when to use and how)?

1.  Yes                                      2.  No

58.1 If **NO**, who was responsible for these decisions? \_\_\_\_\_

58.2 If **YES**, what is the main reason you use the stated system instead of pesticides?

1.  Cheaper than pesticides                                      5.  Suggested by NGOs  
2.  Imitating others    6.  Good for health  
3.  Suggested by neighbors/friends                                      7.  Good for the environment  
4.  Suggested by Ministry of Agri. officials                                      8.  Other (please specify)  
\_\_\_\_\_

59. Have you received any formal training on IPM?

1.  Yes    2.  No

59.1 If **YES**, who was your main source of information:

|                            |                            |                            |                                 |
|----------------------------|----------------------------|----------------------------|---------------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4      |
| NGO                        | Ag. Ministry officials     | Farmers                    | Other (please specify)<br>_____ |

60. Would you like to have regular training updates on IPM (e.g. every 5 years)?

1.  Yes    2.  No



61. What is the proportion of land that you use non-pesticide techniques on? \_\_ (%)

62. Do you currently use, or have you used in the past, pesticides on this farm's crops?

1.  Yes

**(Please continue with Question 63).**

2.  No

**(Go to Q 63 fill in only fertilizer part and then skip to Question 99 on page 31).**

**63. Log record of pesticides and fertilizers used per season: Owner/Manager/Lessee & Worker**

| Crop | Area of application (acres) | Chemical name | Commercial name | Perceived toxicity  | Price/unit (Taka/kg) | Dose (mg/l) | Prescribed dose?  | Quantity of application (kg) | # of applications | Mode/ Method of application | Time of application |  |
|------|-----------------------------|---------------|-----------------|---|----------------------|-------------|---|------------------------------|-------------------|-----------------------------|---------------------|--|
| 1    |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
| 2    |                             | Nitrogen      |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Phosphorus    |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Potassium     |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 | <input type="checkbox"/> Slightly hazardous<br><input type="checkbox"/> Moderately hazardous<br><input type="checkbox"/> Highly hazardous<br><input type="checkbox"/> Extremely hazardous |                      |             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |                              |                   |                             |                     |  |
|      |                             |               |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             |               |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Nitrogen      |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Phosphorus    |                 |   |                      |             |   |                              |                   |                             |                     |  |
|      |                             | Potassium     |                 |   |                      |             |   |                              |                   |                             |                     |  |

[Note: Require interviewers to carry extra copies of the above table for more crops to be attached to the survey].

64. Were/are you responsible for the decision of applying pesticides on the farm (when to apply, how to apply, and which pesticides to use)?

1.  Yes                      2.  No

64.1 If **NO**, who is/was responsible for these decisions? \_\_\_\_\_

64.2 If **YES**, have you/did you change the dosage of pesticides per unit of land compared to the dosage you used for the same unit of land 5 years ago?

1.  Increased              2.  Decreased              3.  Same

64.2.1 If **YES**, by how much? \_\_\_\_\_ (%)

64.2.2 If **YES**, why did you change the dosage?

1.  Everybody else increased
2.  Insects did not die anymore at low dosage
3.  Suppliers said so
4.  Just to make sure that it worked
5.  I do not know
6.  other \_\_\_\_\_ (please specify)

65. By switching from pesticides to IPM, how much did you decrease your pesticide use:

| Crop | Pesticide | Cost/unit (Taka) | Amount (kg/ml) Before | Amount (kg/ml) After |
|------|-----------|------------------|-----------------------|----------------------|
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |
|      |           |                  |                       |                      |

66. Do you feel that you are getting more/less/same amount of crop compared to what you would have yielded with pesticide use?

- 66.1 Quantity-wise:              More              Less              Same  
 66.2 Market Value-wise:      More              Less              Same

67. After switching from pesticides to IPM, how would you characterize the change in soil quality?

|                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |

68. After switching from pesticides to IPM, how would you characterize the change in local water and air quality?

|        |                            |                            |                            |                            |                            |
|--------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Air:   | A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |
|        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Water: | A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |

**Knowledge:**

69. On a scale of 1-5, how much risk do you think you are/were exposed to while using pesticides on this farm?

1.  No risk at all
2.  Some small risks
3.  A medium amount of risk
4.  A large and significant amount of risk
5.  Dangerous and very toxic risks
6.  I don't know

70. On a scale of 1-5, how would you gauge, on average, the health of the applicators/workers that you manage?

1.  Excellent health
2.  Good health
3.  Fair health
4.  Small health problems
5.  Serious health problems
6.  I don't know

71. How many hours in a day do you spend in the field? \_\_\_\_\_ (hours)

72. Of the workers you manage, where are most of them from?

1.  Full time workers from local areas
2.  Migrant workers from far distances
3.  Seasonal workers from local areas
4.  Temporary workers from local areas
5.  I don't know

**Protection:**

73. Have you ever received basic training on safe handling and applying pesticides?

1.  Yes      2.  No

73.1 If **YES**, did that training also include training on how to use protective equipment and clothing? 1.  Yes      2.  No

73.2 Who were your main sources of information for each:

|                                 | NGO | Ag. Ministry officials | Farmers | Pesticide suppliers or companies | Others |
|---------------------------------|-----|------------------------|---------|----------------------------------|--------|
| Safe handling                   |     |                        |         |                                  |        |
| Use (crop, dose, etc.)          |     |                        |         |                                  |        |
| Protective equipment & clothing |     |                        |         |                                  |        |

73.3 If **NO basic training**, did you have access to someone who could provide such training?

1.  Yes      2.  No

73.3.1 If **YES**, who? \_\_\_\_\_

74. When purchasing pesticides, are/were you usually supplied with information on the pesticide, such as pamphlets or instructions, describing safety issues or procedures?

1.  Yes      2.  No

116.1 If **YES**, do/did you read and understand the instructions in the pamphlets?

1.  Yes      2.  No

75. Approximately how much do/did you spend annually on protective clothing for workers using pesticides? \_\_\_\_\_

117.1 In the previous five years before that? \_\_\_\_\_

76. How many applicators do/did you use during the season? \_\_\_\_\_

77. What do/did you typically wear while applying pesticides? (**Please go through all items**)

| Item                             | Do/did you use it? | If you do/did not wear it, why not?  | Is/was it in good condition? | How often is/was it replaced? | Who recommended to use it?<br>NGOs/Agri. Ministry Official/<br>Pesticide Suppliers/<br>Companies and others |
|----------------------------------|--------------------|--|------------------------------|-------------------------------|---|
| <input type="checkbox"/> Nothing | -                  | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary | -                            | -                             | -   |

|  |   |   |   |  |  |
|--|---|---|---|--|--|
|  |   | 5. <input type="checkbox"/> Other _____   |   |  |  |
| <input type="checkbox"/> Shoes                       | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Hat/Head Cover              | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Glasses                     | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Full sleeve shirt/kurta     | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Full-length lungi/ trousers | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Gloves                      | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Mask                        | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |
| <input type="checkbox"/> Other:<br>_____             | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No | 1. <input type="checkbox"/> Not available<br>2. <input type="checkbox"/> Uncomfortable<br>3. <input type="checkbox"/> Inappropriate<br>4. <input type="checkbox"/> Unnecessary<br>5. <input type="checkbox"/> Other _____ | 1. <input type="checkbox"/> Yes<br>2. <input type="checkbox"/> No |  |  |

### Interval:

78. Approximately how long did you wait, after application, before re-entering the field?  
\_\_\_\_\_ days

### Health

The next section is related to health. Please recall the best you can about any problems that you may have experienced.

79. Height cm \_\_\_\_\_

80. Weight kg \_\_\_\_\_

81. Do you smoke? 1.  Yes

*(Please continue with Question 81.1)*



- 2. Headache \_\_\_\_\_
- 3. Dizziness \_\_\_\_\_
- 4. Vomiting \_\_\_\_\_
- 5. Diarrhea \_\_\_\_\_
- 7. Convulsion \_\_\_\_\_
- 8. Shortness of breath \_\_\_\_\_
- 9. Skin irritation \_\_\_\_\_
- 10. Other (please specify) \_\_\_\_\_

85. How sure or confident are you that the symptoms you experienced were caused by exposure to pesticides?

- % confidence of the respondent
- 1.  Not sure (0 – 20%)
  - 2.  Little (20 – 40%)
  - 3.  Rather (40 – 60%)
  - 4.  Very (60 – 80%)
  - 5.  Extremely (80 – 100%)
  - 6.  I don't know

86. Which symptom bothered you the most?

- 1.  Eye irritation
- 2.  Headache
- 3.  Dizziness
- 4.  Vomiting
- 5.  Diarrhea
- 6.  Fever
- 7.  Convulsion
- 8.  Shortness of breath
- 9.  Skin irritation
- 10.  Other (Please specify) \_\_\_\_\_

87. Did the symptom (illness) cause you to spend the day in bed?

- 1.  Yes → 87.1 How many days? \_\_\_\_\_
- 2.  No

88. Did the symptom (illness) prevent you from going out to work?

- 1.  Yes → 89.1 How many days did this illness prevent you from going to work?
- 2.  No → 89.2 Did you feel tired or less productive as usual?
  - 1.  Yes
  - 2.  No

89. Did you lose any income because of not working?

- 1.  Yes
- 2.  No

90.1 If **YES**, how much income did you lose?

Income for \_\_\_\_\_ days  
\_\_\_\_\_ weeks  
\_\_\_\_\_ months

90. Did this symptom (illness) prevent you from daily activities except working?  
 1.  Yes → 90.1 How many days? \_\_\_\_\_ (days)  
 2.  No
91. Did you eat differently (more vegetables, take vitamins, etc.), or take anything else to relieve the symptoms?  
 1.  Yes → 91.1 How much money did you spend in total? \_\_\_\_\_ (Taka)  
 2.  No
92. Did you take any medicine to relieve the symptoms or cure the disease?  
 1.  Yes → 92.1 How much did it cost you \_\_\_\_\_ (Taka)  
 2.  No → 92.2 Please explain why? \_\_\_\_\_
93. Did you go to the doctor (or health care persons)  
 1.  Yes → 93.1 What was doctor's diagnosis? \_\_\_\_\_  
 93.2 How much did this visit cost you in total (doctor, prescriptions, etc?) \_\_\_\_\_ (Taka)  
 2.  No → 93.3 Please explain why? \_\_\_\_\_
94. Did you go to a hospital or a health care station?  
 1.  Yes → 94.1 How many nights did you stay in? \_\_\_\_\_  
 94.2 How much did you pay in total? \_\_\_\_\_ (Taka)  
 2.  No → 94.3 Please explain why? \_\_\_\_\_
95. If you could account for every worker, do you recall approximately how many days, in any given year, that were lost due to workers being sick as a result of using pesticides?  
 \_\_\_\_\_ days
96. After implementing IPM, how would you characterize worker health?
- |                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| A lot worse                | A bit worse                | Unchanged                  | A bit better               | A lot better               |
97. Have/did any workers die while working on this farm?  
 1.  Yes                      2.  No  
 97.1 If **YES**, how many as a consequence of pesticide use? Please clarify.

98. Do you think that pesticide use and/or exposure, overall, has any negative short-term impacts on health?

|                            |                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| No effect                  | Little effect              | Some effects               | Large effects              | Fatal effects              | I don't know               |
| Why?                       |                            |                            |                            |                            |                            |

99. Do you think that pesticide use and/or exposure, overall, has any negative long-term impacts on health (i.e. cancer)?

|                            |                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| No effect                  | Little effect              | Some effects               | Large effects              | Fatal effects              | I don't know               |
| Why?                       |                            |                            |                            |                            |                            |

**Social feedback:**

100. Have there been any social actions against pesticide use in the past 5 years in your area? 1.  Yes 2.  No

100.1 If **YES**, please check all that apply:

|                 | Procession | Campaign | Protest Meeting |
|-----------------|------------|----------|-----------------|
| 1. Never        |            |          |                 |
| 2. A few        |            |          |                 |
| 3. Many         |            |          |                 |
| 4. I don't know |            |          |                 |

101. On a scale of 1-5, what would you say is the local unemployment rate among workers?

1.  Very low  
 2.  Low  
 3.  Average  
 4.  High  
 5.  Very high

**Environment:**

102. Have you ever heard of any of the pesticide-related accidents below in your local area?

102.1 Water contamination: 1.  Yes 2.  No

102.2 If **YES**, please describe \_\_\_\_\_

102.3 Air contamination: 1.  Yes 2.  No

102.4 If **YES**, please describe \_\_\_\_\_

102.5 Death of fish, frogs, birds, etc: 1.  Yes 2.  No

102.6 If **YES**, please describe \_\_\_\_\_

**PART 5: INTERVIEWER DEBRIEFING QUESTIONS:  
(TO BE FILLED OUT BY THE INTERVIEWER ONLY)**

103. Do you think that it was easy for the respondent to answer the questions concerning his/her pesticide use?

1.  Yes 2.  No

104. Do you think that it was easy for the respondent to answer the questions concerning their health?

1.  Yes 2.  No

105. Are you certain that the interviewee was answering to the questions honestly and truly?

|                            |                            |                            |                            |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| Very Uncertain             | Moderately Uncertain       | Neutral                    | Moderately Certain         | Very Certain               |

106. Time finished: \_\_\_\_\_

107. Data entry operator \_\_\_\_\_

**END**