

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. <input type="checkbox"/> Organic production | 2. <input type="checkbox"/> Biological control | 3. <input type="checkbox"/> Smoke |
| 4. <input type="checkbox"/> Light trap | 5. <input type="checkbox"/> Rotation of crop | 6. <input type="checkbox"/> Manual clearing |
| 7. <input type="checkbox"/> Enemy Plants | 8. <input type="checkbox"/> Other (please specify) _____ | |
| 9. <input type="checkbox"/> 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 <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
2		Nitrogen									
		Phosphorus									
		Potassium									
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 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? NGOs/ Agri. Ministry Official/ Pesticide Suppliers/ Companies and others
<input type="checkbox"/> Nothing	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	-	-	-	-	-
<input type="checkbox"/> Boots/ Shoes	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Hat/Head Cover	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Glasses	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Full-sleeve Shirt/Kurta	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Gloves	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Mask	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Full-length lungi/ trousers	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Other: _____	1. <input type="checkbox"/> Cost 2. <input type="checkbox"/> Not available 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> I don't know	1. <input type="checkbox"/> Uncomfortable 2. <input type="checkbox"/> Inappropriate 3. <input type="checkbox"/> Unnecessary 4. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 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) _____

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 <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
2		Nitrogen									
		Phosphorus									
		Potassium									
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No				
				<input type="checkbox"/> Slightly hazardous <input type="checkbox"/> Moderately hazardous <input type="checkbox"/> Highly hazardous <input type="checkbox"/> Extremely hazardous			1. <input type="checkbox"/> Yes 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? NGOs/Agri. Ministry Official/ Pesticide Suppliers/ Companies and others
<input type="checkbox"/> Nothing	-	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary	-	-	-

		5. <input type="checkbox"/> Other _____			
<input type="checkbox"/> Shoes	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Hat/Head Cover	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Glasses	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Full sleeve shirt/kurta	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Full-length lungi/ trousers	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Gloves	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Mask	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No		
<input type="checkbox"/> Other: _____	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No	1. <input type="checkbox"/> Not available 2. <input type="checkbox"/> Uncomfortable 3. <input type="checkbox"/> Inappropriate 4. <input type="checkbox"/> Unnecessary 5. <input type="checkbox"/> Other _____	1. <input type="checkbox"/> Yes 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. ☐ No **(Please go to Question 82)**
 3. ☐ No, but ex-smoker **(Please continue with Question 81.1)**

81.1 What kind?

1. ☐ Pipe 2. ☐ Cigarettes with filter
 3. ☐ Cigarettes without filter 4. ☐ Other (please specify) _____

81.2 How many cigarettes do/did you smoke per day? _____

1. ☐ 1 – 5 4. ☐ 2 – 4 boxes
 2. ☐ 6– 10 5. ☐ 4 – 6 boxes
 3. ☐ 1 – 2 boxes

81.3 How old were you when you started smoking regularly? __ (years old)

1. ☐ 11 – 15 4. ☐ 26 - 30
 2. ☐ 16– 20 5. ☐ More than 30
 3. ☐ 21 - 25

81.4 If you are an ex-cigarette smoker, for how many years have you stopped smoking regularly?

1. ☐ Less than 1 year 4. ☐ 5 – 10 years
 2. ☐ 1 – 3 years 5. ☐ More than 10 years
 3. ☐ 3 – 5 years

82. If you do not smoke, does anyone else in your household smoke?

1. ☐ Yes 2. ☐ No

83. Have you ever had any of the following symptoms after applying pesticides during the last year?

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

11. ☐ No **(Please go to Question 96)**

84. How long did that (those) symptoms last? (in days). **(Check and write down the number of days the symptom lasted)**

1. Eye irritation _____ (days) 6. Fever _____

- | | |
|--------------------|----------------------------------|
| 2. Headache _____ | 7. Convulsion _____ |
| 3. Dizziness _____ | 8. Shortness of breath _____ |
| 4. Vomiting _____ | 9. Skin irritation _____ |
| 5. Diarrhea _____ | 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. <input type="checkbox"/> Not sure | (0 – 20%) |
| 2. <input type="checkbox"/> Little | (20 – 40%) |
| 3. <input type="checkbox"/> Rather | (40 – 60%) |
| 4. <input type="checkbox"/> Very | (60 – 80%) |
| 5. <input type="checkbox"/> Extremely | (80 – 100%) |
| 6. <input type="checkbox"/> I don't know | |

86. Which symptom bothered you the most?

- | | |
|--------------------------------------------|-----------------------------------------------------------|
| 1. <input type="checkbox"/> Eye irritation | 6. <input type="checkbox"/> Fever |
| 2. <input type="checkbox"/> Headache | 7. <input type="checkbox"/> Convulsion |
| 3. <input type="checkbox"/> Dizziness | 8. <input type="checkbox"/> Shortness of breath |
| 4. <input type="checkbox"/> Vomiting | 9. <input type="checkbox"/> Skin irritation |
| 5. <input type="checkbox"/> Diarrhea | 10. <input type="checkbox"/> 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