SPIA BIHS Questionnaire 2024 (Household Questionnaire)

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Questions

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Module A: General Household Information

DEFINITION OF HOUSEHOLD

A household is a group of people who live together and take food from the "same pot." In our survey, a household member is someone who has lived in the household at least 6 months, and at least half of the week in each week in those months.

Even those persons who are not blood relations (such as servants, lodgers, or agricultural laborers) are members of the household if they have stayed in the household at least 3 months of the past 6 months and take food from the "same pot." If someone stays in the same household but does not bear any costs for food or does not take food from the same pot, they are not considered household members. For example, if two brothers stay in the same house with their families but they do not share food costs and they cook separately, then they are considered two separate households.

Generally, if one person stays more than 3 months out of the last 6 months outside the household, they are not considered household members. We do not include them even if other household members consider them as household members.

Exceptions to these rules should be made for:
Consider as household member
• A newborn child less than 3 months old.
• Someone who has joined the household through marriage less than 3 months ago.
• Servants, lodgers, and agricultural laborers currently in the household and will be staying in the household for a longer period but arrived less than 3 months ago.
• If any household member resides outside the household for the pursuit of education, then that person's information will have to be recorded in the Household Composition module. Do not consider as household member
• A person who died very recently though stayed more than 3 months in last 6 months.
• Someone who has left the household through marriage less than 3 months ago.
• Servants, lodgers, and agricultural laborers who stayed more than 3 months in last 6 months but left permanently.

This definition of the household is very important. The criteria could be different from other studies you may be familiar with, but you should keep in mind that you should not include those people who do not meet these criteria. Please discuss any questions with your supervisor.

- **A1. Household Identification Information**
1. Name of monitor and code

2. Name of supervisor and code
3. Name of interviewer and code
4. Date of data verification (dd/mm/yy)
5. Division(name and code)
6. District (name and code)
7. Thana/Upazila(name and code)
8. Union (name and code)
9. Village (name and code)
10. Household Identification No.
11. Is this household located in the same location (same village) as the previous round (2018)?
12. GPS Coordinates:

Informed consent text

My name is …. I am an employee of the Data Analysis and Technical Assistance Limited (DATA), a Bangladeshi research organization based in Dhaka. Thanks for talking to me today.

Together with the Standing Panel on Impact Assessment (SPIA), Tufts University (USA) and International Food Policy Research Institute (IFPRI), we are conducting a further round of the BIHS (Bangladesh Integrated Household Survey) that you had participated in 2018-2019. This survey will provide researchers at Tufts University, SPIA and IFPRI with necessary information to carry out research that is designed to help promote the welfare of Bangladeshis; particularly, to enhance agricultural development, improve food consumption and nutrition of the people.

The study involves:

-Participating in a survey for approximately 3.5 hours of your time to collect all the information

-This will be followed by a plot visit on the same day, to take the boundaries of one of your Boro paddy plots that will be chosen randomly.

-If you are producing rice on any of the plots for the Boro season, we will take leaf samples from your field for DNA testing of variety type. The plot visit and sample collection will take 30 minutes. The total time taken will be 4 hours.

To participate in the study, you must be at least 18 years old. Are you interested in participating in this study?

If you have questions, concerns, or have experienced a research-related injury, contact the research team at:

Kyle Emerick
+1 (617) 627-6972
Kyle.emerick@tufts.edu

Akhter Ahmed
+880 1760-744-486

a.ahmed@cgiar.org

Within Bangladesh, you may contact Md. Fuad Hassan at the Bangladesh Agricultural University. His contact details are:

Md. Fuad Hassan
+880 17 8268 2803
     f.hassan@cgiar.org

14. Are you interested in participating in this study?
    - Yes
    - No
15. Did this household split since the last round of BIHS (2018)?
16. What is the total number of split of the HH? (If 15 yes)
17. Among the split HH, what is the serial of the HH you are currently interviewing? (If 15 yes)
18. Household's religion:
    - Muslim
    - Hindu
    - Christian
    - Buddhist
    - Other (specify)
19. Primary language spoken:
    - Bangla
    - Urdu
    - Hindi
    - Tribal
    - Others (specify)
20. Household's Ethnic group
    - Bangali
    - Bihari
    - Sawtal
    - Khasia
    - Rakhain
    - Bowm
    - Chak
    - Chakma
    - Khumi
    - Kheyang
    - Lusai/pankho
    - Marma
    - Mru (murong)

- Tonchonga
- Tripura
- Bonojogi
- Others (specify)

21. Phone number of the primary respondent

A2. Household Member Roster

Instructions for enumerators: Identify the primary respondent of the survey from the roster. For households involved in agriculture, the primary respondent should be the household member who generally takes decisions regarding agricultural activities, such as: planting, irrigation, etc. Household head is the person who decides on the majority of HH decisions.

Note: This module will be responded by the primary respondent.

Name of the primary respondent

1. Member ID and name of all HH members
2. Status of the member in the current round
   - Member in both previous and current round 0
- **Not a member in the previous round but member in the current round**
   - New Member (New Born)..1
   - New Member through marriage 2
   - New Member upon return from divorce or separation......3
   - Household merged/combined..4
   - Other reasons (Permanent)..5
- **Was a member in the previous round but no longer one in the current round [Skip roster if code is 7-10 and 12**
   - Residing elsewhere for the pursuit of studies...................6
   - Death...…7
   - Married and left household 8
   - Divorced and left household...9
   - Household split 10
   - Left household for employment 11
   - Other reasons for leaving the household 12
3. Age of HH member
4. Gender of HH member
5. Relationship to primary respondent
   - Primary respondent................1
   - Primary respondent Husband/wife 2
   - Son/daughter...........................3
   - Daughter/son -in-law 4
   - Grandson/daughter..................5
   - Father/mother.........................6

- Brother/sister 7
- Niece/Nephew 8
- Primary respondent's cousin...9
- Relationship with primary respondent's husband/wife Father-in-law/mother-in-law...10 Brother/Sister-in-law 11
- Husband/wife's niece/nephew 12
- Primary respondent's husband/wife's cousin 13
- Other relative/non relative
- Other relative 14
- Household help 15
- Other Non relative/friends......16

6. Literacy of respondent
    - Cannot read and write
    - Can sign only
    - Can read only
    - Can read and write

7. Highest class passed
    - Never attended school
    - Reads in pre-primary
    - Reads in class I
    - Completed class I
    - Completed class II
    - Completed class III
    - Completed class IV
    - Completed class V
    - Completed class VI
    - Completed class VII
    - Completed class VIII
    - Completed class IX
    - Completed Secondary School/Dakhil
    - HSC/Alim First Year
    - Completed HSC/Alim
    - BA/BSC/Fazil First Year
    - BA/BSC/Fazil Second Year
    - BA/BSC/Fazil Third Year
    - BA/BSC/Fazil Fourth Year
    - MA/MSC and above/Kamil
    - SSC Candidate
    - HSC Candidate
    - Medical/MBBS
    - Nursing
    - Engineer

- Diploma Engineer
- Vocational/Technical Education
- Other (specify)

8. In the past one year, did the HH member work for a daily wage?
   - Yes (Move to Q9)
   - No (Move to Q11)

9. If 8 is Yes, do you/the member perform any of the following activities as your/their primary activity? If so, how many days did they work in it in the last year? What is their daily wage?
   [Should be a table with rows as hh member number for all those who are working as daily wagers]

Wage Labor
- Earth work (govt program)
- Earth work (other)
- Sweeper
- Scavenger
- Farm Laborer
- Tea garden worker
- Construction labor
- Factory worker
- Transport worker (bus/truck helper)
- Apprentice

Self-employment
- Rickshaw/van pulling
- Driver of motor vehicle
- Tailor/seamstress
- Blacksmith
- Potter
- Cobbler
- Hair cutter
- Clothes washer
- Porter
- Goldsmith/silversmith
- Repairman (appliances)
- Mechanic (vehicles)
- Plumber
- Electrician
- Carpenter
- Mason/Construction Rod Welder

Livestock Poultry related work/occupation
- Milk collector
- Livestock Vet medicine seller
- Livestock Feed supplier
- Commercially feed producer
- Animal Breeder

- o Veterinary/paravet doctor
- o Other wage labor (specify)

10. Do you/the member have other activities where you work for daily wage?
    - Yes (Repeat Q9 for all other such daily wage activities)
    - No
11. In the past twelve months, did you/the member work for a monthly salary?
    - Yes (Move to Q12)
    - No (Move to Q14)
12. If 11 is yes, do you/the member perform any of the following activities as your primary activity? If so, how many months did you/the member work in it in the last year? What is your **monthly** earning? **[Should be a table with rows as hh member number for all those who are working as salaried employees]**

Salaried worker
- o Government/ parastatal
- o Service (private sector)
- o NGO worker
- o House maid
- o Teacher (GoB-Primary school)
- o Teacher (Non GoB Primary school)
- o Teacher (GoB High school)
- o Teacher (Non-GoB High school)
- o Teacher (college, university)
- o Doctor
- o Rural physician
- o Midwife
- o Herbal doctor/Kabiraj
- o Engineer .
- o Lawyer/deed writer/Moktar ..
- o Religious leader (Imam/Muazzem/Khadem/Purohit)
- o Lodging master
- o Private tutor/house tutor

Trader
- o Small trader (roadside stand or stall)
- o Medium trader (shop or small store)
- o Large trader (large shop or whole sale)
- o Fish Trader
- o Contractor

Production
- o Food Processing
- o Small industry
- o Handicrafts

Other salaried worker (specify)

13. Do you/HH member have any other monthly salary activity?
    - Yes (Repeat Q12 for all other monthly activities)

- No
14. Since the survey was conducted (BIHS 2018), did the HH member move away from the household for at least 6 months? [note: This is for both HH members (for both new members in this round and old members from the previous round) that are currently migrants and those who are currently in the house but migrated in the past 5 years.]
15. How many times did the HH member migrate? (for at least six months)

If 14 is yes, ask Q16-23 are for each migration

16. For what purpose did the HH member migrate initially?
    - Employment
    - Education
    - Marriage
    - Health care
    - Medical Treatment
    - Escape war/ violence
    - Drought/Famine/Disease/Etc.
    - Business/self-appointed work
    - Other (specify)
17. For each migration, what was the average duration of your migration (months) ? {Question repeated for the number of migrations in Q15} [Constraint: Number of months cannot be below 6 and above 84]
18. For each migration, where did did the migrant move to?
    - Within Bangladesh (Move to Q19)
    - Abroad (Move to Q20)
19. If in-country, write zila and district code

https://www.dropbox.com/scl/fi/0gijruwesizms0huhpa24/2018_list_of_districts.xlsx?dl=0

20. If abroad, write country code
    - Australia 1
    - Bahrain 2
    - Brunei 3
    - Canada 4
    - Cyprus..5
    - Federation of Russia 6
    - France 7
    - Germany 8
    - Greece..9
    - India 10
    - Iran 11
    - Iraq 12
    - Italy 13
    - Japan 14
    - Jordan..................15
    - Kuwait 16

- Laos 17
- Liberia..................18
- Libya 19
- Malaysia..............20
- Maldives 21
- Mauritius.............22
- New Zealand.......23
- Oman 24
- Pakistan 25
- Poland 26
- Qatar 27
- South Korea 28
- Saudi Arabia....... 29
- Singapore 30
- South Africa 31
- Spain 32
- Sweden 33
- Switzerland 34
- Taiwan 35
- Turkey 36
- U.S.A................... 37
- UAE 38
- U.K..................... 39
- Yemen 40
- Other(specify) 41

21. During the past 12 months, has your household received any money/in kind transfer from this person when/if he was a migrant during this period/has this member brought back any money when he returned to the country?
    - Yes
    - No
    - NA (Not a migrant during this period)]

22. If yes, how much (in cash)? [Constraint: It cannot be less than 0 and higher than 30 lakh Tk.]

23. If 21 is yes, how much (in kind)? [Constraint: It cannot be less than 0 and higher than 30 lakh Tk.]

24. [After finishing taking information regarding the existing roster], are there any more new members in the HH?
    - Yes [Repeat the whole roster module A2 again]
    - No

25. Who takes most of the agricultural decisions of the HH? (Show list of members)

26. Who is the household head? (Show list of members)

27. Contact number of the primary respondent

- **A3. Education [Only for the primary respondent]**
1. [HH head below the age of 35] Are you attending any educational institute?
   - Yes
   - No
2. [If 1 is yes] What type of educational institute?
   - School
   - College
   - Madrasa
   - Diploma college
   - University
   - Open university
   - Other (specify)
3. Have you received advice to take part in an agriculture related training program (by an NGO or voluntary organization)?
   - Yes
   - No
4. If so, what topic?
- Land preparation
- Seed sowing/application
- Seed storage
- Transplanting seedlings
- Fertilizer application
- Irrigation
- Insect/pest management of crop
- Mixed farming
- Crop harvesting
- Food grain storage
- Pond preparation/management
- Hatchery/Nursery management
- Livestock feed storage
- Use of agricultural machinery (crop)
- Use of agricultural machinery (aquaculture)
- Health and nutrition-related
- Others
5. Have you been a part of an agricultural related training program?
   - Yes
   - No
6. If so, what topic?
   - Land preparation
   - Seed sowing/application
   - Seed storage
   - Transplanting seedlings

- o Fertilizer application
- o Irrigation
- o Insect/pest management of crop
- o Mixed farming
- o Crop harvesting
- o Food grain storage
- o Pond preparation/management
- o Hatchery/Nursery management
- o Livestock feed storage
- o Use of agricultural machinery (crop)
- o Use of agricultural machinery (aquaculture)
- o Health and nutrition-related
- o Others
.
- **A4. Employment [Only for the primary respondent]**
1. Employment status in past 7 days
   - Worked for pay (salary, wage, self-employed) [>>Move to Q5-Q7]
   - Worked without pay (apprentice, family business) [>>Move to Q5-Q7]
   - Did not work but have a job [>>Move to Q4-Q7]
   - Did not work but looked for a job [>>Move to Q3]
   - Did not work and did not look for a job [>>Move to Q2]
2. Why are you not in the job market?
   - Too old/retired
   - Home/household work
   - Disabled/invalid
   - Don't need to
   - Other (specify)
3. If unemployed, how long have you been looking for work? [If it is below thirty days, report in days. If it is above thirty days, report in months]
   - _____ days
   - _____ months
4. Why did you not work in the last 7 days?
   - Sick
   - Vacation
   - Hartal/strike
   - Taking care of household matters
   - Taking care of family members
   - Other (specify)
5. Is the head working in a rural or urban area?
   - Rural
   - Urban
6. Location of employment

Ask the following question for the overall household:

7. Two main sources of earnings for the household

Wage Labor
- Earth work (govt program)
- Earth work (other)
- Sweeper
- Scavenger
- Farm Laborer
- Tea garden worker
- Construction labor
- Factory worker
- Transport worker (bus/truck helper)
- Apprentice

Self-employment
- Rickshaw/van pulling
- Driver of motor vehicle
- Tailor/seamstress
- Blacksmith
- Potter
- Cobbler
- Hair cutter
- Clothes washer
- Porter
- Goldsmith/silversmith
- Repairman (appliances)
- Mechanic (vehicles)
- Plumber
- Electrician
- Carpenter
- Mason/Construction Rod Welder

Livestock Poultry related work/occupation
- Milk collector
- Livestock Vet medicine seller
- Livestock Feed supplier
- Commercially feed producer
- Animal Breeder
- Veterinary/paravet doctor
- Other wage labor (specify)

. **Salaried worker**
- Government/ parastatal
- Service (private sector)
- NGO worker
- House maid
- Teacher (GoB-Primary school)
- Teacher (Non GoB Primary school)

- o Teacher (GoB High school)
- o Teacher (Non-GoB High school)
- o Teacher (college, university)
- o Doctor
- o Rural physician
- o Midwife
- o Herbal doctor/Kabiraj
- o Engineer .
- o Lawyer/deed writer/Moktar ..
- o Religious leader (Imam/Muazzem/Khadem/Purohit)
- o Lodging master
- o Private tutor/house tutor
- . **Trader**
  - o Small trader (roadside stand or stall)
  - o Medium trader (shop or small store)
  - o Large trader (large shop or whole sale)
  - o Fish Trader
  - o Contractor
- . **Production**
  - o Food Processing
  - o Small industry
  - o Handicrafts
- **Others**
  - o Income/profit from agriculture
  - o Land rent(cash/share)
  - o rent(cash/share)
  - o House Rent
  - o Other rent(shop/productive asset)
  - o Business(purchase-sell)
  - o Business(production)
  - o Loan business(use of interest)
  - o Remittance (Country)
  - o Remittance (Abroad)
  - o Social safety net/pension
  - o Others

- **A5. Assets**

1. Which of the following items does your household own?

Household Items
- o Stove/Gas burner
- o Bed/Khat
- o Table /chair
- o Electric fan

- Electric iron
- Radio
- Television

Vehicles
- Bicycle
- Rickshaw
- Van/Car
- Boat
- Engine boat
- Motorcycle

Digital/Communication
- Land phone
- Mobile phone
- Computer/ Laptop
- Solar energy panel
- Electricity Generator
- IPS

Animal husbandry
- Mule/Donkey
- Cow
- Goat/Sheep/Pig
- Duck/Hen/Dove

Asset in terms of agricultural machinery:
- Tractor
- Power Tiller
- Trolley/Trailers
- Power Thresher
- Paddle Thresher
- Fodder cutting machine
- Treadle pump
- Rower pump
- Jumbo Pump (Axial Flow pump)
- Low lift pump (LLP) for irrigation
- Shallow tube well (STW)
- Deep tube well (DTW)
- Electric motor pump
- Diesel motor pump
- Spraying machines (chem./ fertilizer)
- Reaper
- Seeder Drills: till, plant, fertilize simultaneously
- Bed planters (forms fields into beds and furrows)
- Combined harvester
- Briquette Urea Applicator (Injector)

- Briquette Urea Applicator (Push)
- Fishing net
- Other Heavy Machinery (Specify)
2. For all options selected in 1, what is the quantity owned?
3. For all options selected in 1, What is the percentage of ownership?
4. For all options selected in 1, year of purchase [take the year for the latest purchase for normal assets and the costliest asset for agricultural asset]
5. For all options selected in 1, purchase value [bring the total purchase value of all purchased quantities for the latest purchase for normal assets and the costliest asset for agricultural asset]]
6. For all options selected in 1,current market value (if we sell the asset now)
7. **House Flooring** (Interviewer Observe: Main material for the dwelling floor)
    - Natural floor Earth/sand
    - Rudimentary floor wood planks
    - Palm/bamboo
    - Finished floor or polished wood
    - Cement/Ceramic tiles
    - Other (specify)
8. **House Roofing** (Interviewer Observe: Main material for the dwelling roof)
    - No roof
    - Thatch/palm/leaf/sod
    - Palm/bamboo/wooden planks
    - Metal/Wood/Tin
    - Ceramic tiles/Cement/Roofing shingles
    - Other (specify)
9. **What kind of toilet facility do members of your household usually use?**
    - Flush to piped sewer system/septic tank
    - Pit latrine with slab
    - Pit latrine without slab/open pit
    - No facilities or field
    - Other (specify)
10. **What is the main source of drinking water for the household members?**
    - Piped water to house
    - Public tap/standpipe
    - Tanker-truck
    - Tubewell/borehole
    - Well
    - Rainwater
    - Surface water (river, stream, dam, lake, pond, canal, irrigation channel)
    - Other (specify)

- **A6. Savings**

1. What is the total household savings as of the date of the interview, if any, in places such as: NGO, Shamity, Bank, savings collector, etc. **[SurveyCTO constraint message: Savings should not be below 0 and above 50 lakh Tk.]**
2. Where do you save?
   - At home
   - NGO
   - Shamity (other than NGO)
   - Bank
   - Shop
   - Post office/government institution
   - Employer's provident fund
   - Insurance company
   - Relative/friend/neighbor
   - Savings collector
   - Land leased in from other household
   - Mobile financial service
   - Other (specify)

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Module B: Agriculture Module

- **B1. Roster of plot owned or under operation [ASK FOR ALL PLOTS]**

Note [Enumerator, do not read out loud]: List all plot owned or under operation - inclusive of Rabi 2024, Aman 2023, Aush 2023, and Boro 2022-2023 seasons.]

Enumerator to speak out loud: Now, I will first describe the characteristics of the individual plots owned in 2018 to help us identify the plot and then ask in depth questions about those plots.
Plot type:
Soil type:
Plot size in 2015:
Plot size in 2018:
Plot status in 2018:
Agricultural plot operational status in 2018:

- What is the location/name of the land? [for new lands]
1. Plot ID
2. Current Size/Area of the plot **[Decimal/Shotok]** [Constraint: It cannot be less than 0 and greater than 2000] [on survey day]
3. Status of the plot in the current round
   - Plot is the same in both rounds
   - Sold

- Bestowed to heir or Household Split
- Mortgaged in/ Rented plot has been released
- Rented
- Erosion
- New Purchase
- New Inheritance
- New Mortgage
- Household combined
- Char surfaced
- Was not with me in 2018 round and this round both [Skip to next land in the roster if this option is selected]
- Others (specify)

4. What is the current market value of the plot per decimal (amount expected to spend/pay if you want to buy) [Constraint: It cannot be less than 1 thousand and greater than 50 lakhs]
5. Who owns the plot?
   - Self
   - Spouse
   - Parent
   - Sibling
   -

   - Other family member
   - Spouse's family
   - Non-family member (Specify)
   - Other (Specify)
6. Is this plot co-owned? (Yes/No)
7. If 6 is yes, who is the co-owner of the sharecropped plot?
   - Self
   - Spouse
   - Parent
   - Sibling
   - Other family member
   - Spouse's family
   - Non-family member (Specify)
   - Other (Specify)
8. How was the plot acquired?
   - Purchased/bought
   - Inherited (wife's family)
   - Inherited (husband's family)
   - User right (wife's family)
   - User right (husband's family)
   - Rented/shared/leased/ Mortgaged–in

- Government Khas land/Other institution
9. What is the plot type?
    - Homestead
    - Cultivable/arable land
    - Pasture
    - Bush/forest
    - Waste/non-arable land
    - Land in riverbed
    - Other residential/commercial plot
    - Cultivable Pond
    - Derelict pond
    - Garden (wood/Fruit)
    - Floating plot
    - Only for seed bed
10. Was any agricultural activities (crop cultivation, aquaculture, fisheries, etc.) done on this plot in any of the four following seasons: Rabi 2024, Aman 2023, Aush 2023, and Boro 2022-2023 seasons? [yes/no/don't know] [Hint:Select don't know if the plot was sold over a year ago or the respondent does not know what happened to the plot in all of the four seasons mentioned] [If Q10 is no and don't know, end the module here]
11. If Q10 is yes, did any household member actively take agricultural/fisheries decisions for this land (i.e.: the seed variety to use, fertilizer, irrigation, fisheries, etc.) in any of the four following seasons: Rabi 2024, Aman 2023, Aush 2023, and Boro 2022-2023 seasons? [yes/no]
12. If Q11 is yes, specifically, is any fisheries done on this plot in any of the four following seasons: Rabi 2024, Aman 2023, Aush 2023, and Boro 2022-2023 seasons? [yes/no]
13. What is the soil type?
- Clay
- Loam
- Sandy
- Clay-loam
- Sandy-loam
14. Distance it takes from home to reach the plot **[meters]** [Constraint:It cannot be less than 0]
15. Time it takes from home to reach the plot **[minutes]** [Constraint: It cannot be less than 0]
16. Usual flood depth (during monsoon/ flood season) **[ft]** [Constraint: It cannot be less than 0 and greater than 50]
17. Operational status
    - Own operated
    - Rented/leased in for cash
    - Rented/leased out for cash
    - Rented/leased in/crop share
    - Rented/leased out/crop share
    - Mortgaged in
    - Mortgage out
    - Group leased in with other farmer

- Leased out to NGO
- Taken from joint owner
- Jointly with other owners
- Rented in for certain amount of crops
- Rented out for certain amount of crops
- Free of cost

18. If the plot is rented/leased out for cash, report amount received per month
19. If plot is rented/leased in for cash, report amount paid per month

Ask question 20-21 for each of the seasons separately (inclusive of Rabi 2024, Aman 2023, Aush 2023, and Rabi 2022-2023 seasons:

Enumerator: Now, I will ask you questions about utilization status of plot in [season name]

20. If 10 is yes, how was the plot utilized?
- Agriculture
- Fisheries
- Dairy/poultry farming
- Grazing for livestock
- Fallow
- Was not with me
- Other (specify)

21. Plot area used [decimal]: [If **20** is agriculture/ fisheries/ dairy/poultry farming/grazing for livestock]

22. Do you have any new plot except the ones that have been already mentioned?
- Yes [If yes, repeat Q1-22 again]
- No

.

- **B2. Agriculture Plot Utilization: Self-reported crops and varieties [ASK FOR ALL PLOTS FOR WHICH HH MAKES CROPPING DECISIONS(Module B1, Q10=>Yes)]**

Note [Enumerator, do not read out loud]: Ask about the duration inclusive of Rabi/Boro 2024, Aman 2023, Aush 2023, and Rabi/Boro 2022-2023 seasons. You will now be shown the list of agricultural plots where the farmer cultivates crops. [Each plot ID will be selected based on the number of crops grown on the field and the number of sub plots the field has. If a field is cultivated in boro and aman, it will be selected two times. If a plot is sub-divided in boro in two portions, then it will be selected two times. If a plot is cultivated in boro and aman, and the plot is divided into two portions in boro season, the plot will be selected three times]

1. Select Plot ID [will have plot name, size, type, soil type]
2. Among the following seasons, select the seasons where you grew crops [select one]
- Boro (rabi) (2024)
- Aman (kharif2) (2023)
- Aus (kharif1) (2023)
- Boro (rabi) (2022-23)

- Yearly crop
3. Have you split this land for the purpose of farming? [Yes/No]
4. <mark>Serial of the sub-divided plot: [If 3 **is yes]**</mark>

Ask the following questions for each season selected in question 2:

Enumerator: "Now, I will ask you questions about agricultural plot utilization in [season name]."

5. Which of the following crops do you grow on this field?

1	B Aus (local)
2	TAus (local)
3	TAus (HYV)
4	T Aus (hybrid)
5	BAman (local)
6	T Aman(local)
7	T.Aman (HYV)
8	T.Aman (hybrid)
9	Boro(local)
10	Boro (HYV)
11	Boro (hybrid)
12	Wheat (local)
13	Wheat (HYV)
14	Maize
15	Barley
16	Job
17	Cheena

18	Kaun(Italian millet)
19	Joar(Great millet)
20	Bojra(Pearl millet)
-96	Other (Major Cereal)
22	Dhonche
23	Jute
24	Cotton
25	Bamboo
-95	Other (Fibre)
27	Lentil(Moshur)
28	Mung
29	Black gram (Mashkalai)
30	Chickling Vetch(Khesari)
31	Chick pea (Chhola)
32	Pigeon pea (Aarohor)
33	Field pea (Motor)
34	Soybean (Gori kalai or Kali motor)
-94	Other Pulses
36	Sesame
37	Linseed(tishi)

38	Mustard
39	Ground nut/peanut
40	Soybean
41	Castor (rerri)
-93	Others Oilseeds
43	Chili
44	Onion
45	Garlic
46	Turmeric
47	Ginger
48	Dhania/Coriander
-92	Other spices
50	Pumpkin
51	Bringal eggplant
52	BT Brinjal one or Bari brinjal one
53	BT Brinjal two or Bari brinjal two
54	BT Brinjal three or Bari brinjal three
55	BT Brinjal four or Bari brinjal four
56	Patal

57	Okra
58	Ridge gourd
59	Bitter gourd
60	Arum
61	Ash gourd
62	Cucumber
63	Carrot
64	Cow pea
65	Snake gourd
66	Danta
67	Green banana/plantain
68	Cauliflower
69	Water gourd
70	Sweet gourd
71	Tomato
72	Radish
73	Turnip
74	Green Papaya
75	Kakrol
76	Yam Stem

-91	Other green Vegetables
78	DrumStick
79	Bean
80	Coriander leaf
81	Pui Shak
82	Palang Shak (Spinach)
83	Lal Shak
84	Kalmi Shak
85	Danta Shak
86	Kachu Shak
87	Lau Shak
88	Mula Shak
89	Khesari Shak
91	Potato Leaves
92	Cabbage
93	Chinese cabbage
94	Banana
95	Mango
96	Pineapple
97	Jack fruit

98	Papaya
99	Water melon
100	Bangi/Phuti/Musk melon
101	Litchis
102	Guava
103	Ataa
104	Orange
105	Lemon
106	Shaddock (pomelo)
107	Black berry
-90	Other fruits
109	Boroi(Bitter Plum)
110	Rose Apple
111	Wood Apple
112	Ambada/Hoq Plum
113	Pomegranate
114	Bilimbi
115	Chalta
116	Tamarind(pulp)
117	Olive(wild)

118	Coconut/Green Coconut
119	Potato
120	Sweet potato
121	Mulberry(Tunt)
122	Orange flesh sweet potato
123	Sugurcan
124	Date
125	Palm
126	Date Juice
127	Tea
128	Tobacco
129	Bettlenut
130	Bettleleaf
131	Other Tobacco like crop
132	Cut flower
133	Paddy seedbed
134	Tomato seedbed
135	Bringal seedbed
136	Cauliflower seedbed
137	Cabbage seedbed

138	Kohlrabi seedbed
139	Tobacco seedbed
140	Onion seedbed
141	Chili seedbed
-89	Other seedbed
142	Grass
143	Jute leaf/Paat shak
144	Others

6. In the case of intercropping, which is the second crop that you grow?

Enumerator to speak out loud: "Now, I will ask you questions about the main crop on this field, [answer to Q5]"

7. [If Q5= Paddy] Report Variety Name and Code [Instructions for DATA: Please see the paddy_code excel sheet for the options for this question]
8. [If Q5=Paddy], Variety type
   - Local
     - Bangladeshi
     - Indian
   - Improved - normal high-yielding variety
   - Hybrid
   - Do not know
9. [If Q5 = Paddy], what did the respondent plant? [purchased seed/Used own seed/Purchased sapling and directly planted it on the field/Planted seed and sapling both]
10. If 10 is purchased seed or used own seed or planted seed and sapling both, Report the price of seed of the mentioned variety per Kg [20-1000 Taka/Kg] [Report market price of the seed per kg if respondent used own seed]
11. If Q5=paddy, what was the age of the boro paddy sapling when it was transplanted on the plot? [It cannot be less than 0 and greater than 60]
12. If Q5=paddy, how long has it been since planting the boro paddy on the plot? [It cannot be less than 0 and greater than 160]
13. If [Q5 = potato], mention the name of the variety
14. If [Q5 = sweet potato], mention the name of the variety

15. What is the flesh color of the sweet potato?
    - Orange
    - Yellow
    - Others
16. If [Q5 = maize], mention the name of the variety
17. If [Q5 = wheat], mention the name of the variety
18. If [Q5 = lentil], mention the name of the variety
19. If [Q5 = chick pea], mention the name of the variety
20. If [Q5 = peanut], mention the name of the variety
21. If the answer to Q4 is none of the above, mention the name of the variety
22. [If Q5 = Not paddy], variety type:
    - Local
    - Improved
    - Hybrid
    - Do not know

Enumerator to speak out loud: "Now, I will ask you questions about the intercropped crop on this field, [answer to Q6]"
23. [If Q6 = Paddy] Report intercropped variety Name and Code
24. [If Q6 = Paddy], intercropped variety type
    - Local
        - Bangladeshi
        - Indian
    - Improved/HYV
    - Hybrid
    - Do not know
25. [If Q6 = Paddy] Report the price of seed of the mentioned intercropped variety per Kg
26. If [Q6 = potato], mention the name of the intercropped variety
27. If [Q6 = sweet potato], mention the name of the intercropped variety
28. What is the flesh color of the sweet potato?
    - Orange
    - Yellow
    - Others
29. If [Q6 = maize], mention the name of the intercropped variety
30. If [Q6 = wheat], mention the name of the intercropped variety
31. If [Q6 = lentil], mention the name of the intercropped variety
32. If [Q6 = chick pea], mention the name of the intercropped variety
33. If [Q6 = peanut], mention the name of the intercropped variety
34. If the answer to Q6 is none of the above, mention the name of the intercropped variety
35. [If Q6 = not paddy], intercropped variety type:
    - Local
    - Improved
    - Hybrid
    - Do not know

36. Area planted [Decimal] [For Boro/Rabi 2023-24, note down the current area, for Aman/Aus/Boro 2022-23 - recall] [Constraint: It cannot be less than 0 and greater than 2000]
37. Date planted [Month and week] [for Boro/Rabi 2023-24, note down the current date, for Aman/Aus/Boro 2023 - recall]
38. If intercropping => Date planted if it is intercropped [Month and week]
39. Date harvested [Month and week] [for Boro 2023-24, note down the probable date if not harvested, for Aman/Aus/Boro 2023 - recall] [If a crop is harvested for weeks, collect the first week of harvesting]
40. If intercropping => Date harvested if it is intercropped [Month and week]

- **B3. Summary of Agriculture Production [All crops in B2_Question5 - At the level of the crop - Each plot and each crop] [ASK FOR ALL PLOTS FOR WHICH HH MAKES CROPPING DECISIONS (Module B1, Q10=>Yes)]**

Note [Enumerator, do not read out loud]: This module will ask about the same plot, crop, and season as in module B2. For Rabi 2024, ask the expected quantities if harvest has not happened yet. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values.

Enumerator to respondent: "In this module, I will ask about agricultural production in [season name] for [main crop]."
1. Quantity harvested [in kg] [Constraint: it cannot be less than 0 and greater than 200000]
2. Quantity paid to land owner of leased in plot [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]
3. Quantity paid for irrigation [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]
4. Quantity paid to labors/rent for machinery/equipment [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]

Enumerator to respondent: "Now, I will ask about agricultural production in [season name] for [intercropped crop]." (If any)
5. Quantity harvested if it is an intercropped crop
6. Quantity received from the leased out plot if it is intercropped crop
7. Quantity paid to land owner of the leased in plot if it is intercropped crop
8. Quantity paid for irrigation if it is an intercropped crop
9. Quantity paid to labors/rent for machinery/equipment if it is an intercropped crop

- **Module B4. Rental Cost of Tools, Machinery, and Draft Animal [ASK FOR ALL PLOTS FOR WHICH HH MAKES CROPPING DECISIONS(Module B1, Q10=>Yes)]**

Note [Enumerator, do not read out loud]: This module will ask about the same plot and season as in module B2. For Rabi 2024, ask the expected figures (costs/days) if preparation is not complete. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values.

Enumerator to respondent: "In this module, I will ask about rental cost of tools, machinery, and draft Animal in [season name]"
1. Have animals been used to prepare the land?

. Q2a If yes, Total Bullock days [Constraint: The number cannot be less than 0 and greater than 180] [Recall]
. Q2b If yes, Total cost [Constraint: The number cannot be less than 0 and greater than 50,000]
. 3 Has machinery been used to prepare the land?
. Q3a If yes, What type? [multiple select]
   o Power tiller
   o Tractor
   o Plough
   o Manual

Repeat Q3b for all types of machines that are selected in Q3a

Enumerator to respondent: "Now, I will ask you questions about the usage of {selected_machine} in land preparation"

Q3b Rental cost
   . [Constraint: The number cannot be less than 0 and greater than 100,000]
4. Has machinery been used for planting?
   • If Yes, cost/projected cost [Constraint:
   . The number cannot be less than 0 and greater than 50,000]
5. Has any machinery been used/will it be used for fertilizer application?
   • If Yes, cost/projected cost [Constraint: The number cannot be less than 0 and greater than 50,000]
6. Has any machinery been used/will it be used for pesticide application?
   • If Yes, cost/projected cost [Constraint: The number cannot be less than 0 and greater than 50,000]
7. Has machinery been used/will any machinery be used for weeding?
   • If Yes, cost/projected cost [Constraint:
   . The number cannot be less than 0 and greater than 50,000]
8. Has machinery been used/will any machinery be used for harvesting?
   • If Yes, cost/projected cost [Constraint: The number cannot be less than 0 and greater than 100,000]

• **Module B5. Irrigation [ASK FOR ALL PLOTS SEASON WISE] [ASK FOR ALL PLOTS FOR WHICH HH MAKES CROPPING DECISIONS(Module B1, Q10=>Yes)]**

Note [Enumerator, do not read out loud]: This module will ask about the same plot and season as in module B2. For Boro/Rabi 2024, ask the expected figures (costs/days) if preparation is not complete. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values.

Enumerator to the respondent: "Now, I will ask you about irrigation in {landname} for season {season_name} for {crop_name} where size of the cultivated land is {b5area}"

1. Plot ID
2. What is you main water source?
   • Rainfed

- River
- Pond/Lake
- Canal Irrigation
- Groundwater
- Others

3. What other water sources do you use?
   - Rainfed
   - River
   - Pond/Lake
   - Canal Irrigation
   - Groundwater
   - Others
   - NA

4. If groundwater, where did you source your water from when you irrigated? [Ask only for Rajshahi and Rangpur]
   - BMDA deep tube well (government)
   - Only own submersible/motor
   - Only relative's submersible/motor
   - Only another person's submersible / motor
   - Farmer's group
   - Both from BMDA deep tube well and (either own or relative's) submersible/motor
   - Farmer's group and (either own or relative's) submersible/motor

5. If the response above is not BMDA, why did you source your water from a motor?
   - No BMDA tube well
   - Serial was late
   - I missed my place in the serial
   - BMDA pump stopped working
   - Electricity problems in pumping the BMDA pump
   - Other_____

6. What is the irrigation method/equipment used? [If this is rainfed, skip to Q17]
   - Rainfed
   - Swing basket
   - Don
   - Treddle pump
   - Rower pump
   - Low lift pump
   - Canal irrigation
   - Axial Flow Pump
   - Shallow tubewel
   - Deep tubewell
   - Others

. Is the pump rented or owned?

7. What is the power source of the pump?
   - Electricity (grid)
   - Electricity (solar panel)
   - Petrol/Diesel/Gasoline
   - Natural Gas
   - LP Gas
8. What is the number of times this field has been irrigated/will be irrigated? [Constraint: 0 to 75]
9. How long did each irrigation last in minutes?[on average] [Constraint: 0 to 4320]
10. What approximate depth of irrigation water do you have during each of the irrigation? [cm] {Constraint: The number cannot be less than 0 and greater than 100}
11. Was any additional mainline or lateral pipe used to carry water from the source to the system in this field? (Water is delivered through an earthen canal, PVC pipe..)
12. How far are you located from the pump/canal (in meters)? [Constraint: greater 0]
13. How do you pay for irrigation water for this field? [Unit]
   - Per season (set price)
   - Per irrigation
   - Per hour
   - By crop
   - Own motor
   - Irrigates with rain water only
   - Others
14. What is the price of water [per unit specified in Q13]? [Constraint: Greater than 0]
15. How much did you spend on water for the season for the whole plot? [Constraint: Greater than 0] [take the market price cost for own motor and market value for crop]
16. Relative to other plots that are irrigated from the same source, is this plot in the upper, middle, or lower area?
17. During the last three Boro seasons, have you experienced any water shortages? [Yes/No]
18. [Conditional on Yes to Q17] What was the cause of inadequacy and insufficiency of water?
   - Lack of rainfall/water in the river
   - Lack of water in the dam
   - Fall in groundwater level
   - Water too saline
   - Electricity failure
   - Dispute with irrigation organization
   - Other - specify

19a. Have you ever used this pipe to monitor the water level below the soil surface in your plot? [Show them the pipe's picture]
   - Yes
   - No

19b. [Conditional on YES to Q19a] Are you using it in the current Boro season?
   - Yes
   - No

19c. [Conditional on YES to Q19a] How did you get to know of AWD/using the pipe to monitor water level?

- o Village practice
- o Passed on by parent/family
- o Passed on by neighbor
- o Agriculture Extension Officer
- o Participated in research trial
- o Radio
- o Television
- o Newspaper

19d. How long have you been using this method? [months] [Constraint: Greater than 0]

20. [Conditional on NO to Q19b] Why not?
.   Text response
21. which water management approach was used?

- • Permanent flooding/Continuous flooding [That the plot always has water on it.]
- • Alternate wetting and drying (AWD) irrigation
- • NA [Not flood irrigated]

If Q21 is 1 or 3, skip Q22-Q28

22. When was the first drying period? [days after planting] [Constraint: It cannot be less than 0]
23. How long was it dry? [Constraint: It cannot be less than 0]
24. What did it look like at the end of the drying period? [Show the different pictures of soil dryness]
25. How many times did you dry your fields in this season?
26. How did the plot dry? [Repeat question 25 for every period]

- • Plot dried naturally
- • I manually/actively removed the water from the plot
- • Do not let it dry willingly, it depends on the serial number of the pump

27. How do you assess your field has completely dried?

- • Use the AWD pipe - re-irrigate when the mark reaches ___ cm below ground
- • I know the time it usually takes the field to dry
- • Observe the land/field
- • Do not know with precision
- • Other [specify]

28. Who decides when to re-irrigate this field? [select all involved]

- • I decide
- • Me and farmer with the adjacent plot [Joint irrigation]
- • The adjacent/neighboring farmer
- • Tube well owner
- • Deep driver/Tubewell operator (Government Owned)
- • Deep driver/Tubewell operator/Water seller (Private)

29. Do you, or a member of your household, **sell water to other villagers** in this village?
30. Are you, or a member of your household, a member of the water-users committee in the village?

- Yes
- No
- N/A if it doesn't exist

31. Some farmers plant seedling in rows and some randomly broadcast their seedings. How do you plant seedlings?
    - In rows
    - Randomly Broadcast
    - Some in rows and some randomly
. Skip Q32-33 if Q31 is option 2
32. What was the distance between each seedling? [cm] [Seedling: Row column - 5-100 cm]
33. What was the distance between each row or column? [cm] [Constraint: Seedling 5 to 100 cm]
34. Did you apply any insecticide?
35. What method do you follow for weed control? [select multiple]
    - hand weeding by hoe or hand pulling by farmer
    - preparatory land tillage
    - chemical weedicide/herbicides
    - machines
    - hand weeding by contract labor
    - others
.

Module B6. Seed bed preparation [ASK FOR ALL PLOTS FOR ALL CROPS] [ASK FOR ALL PLOTS FOR WHICH HH MAKES CROPPING DECISIONS(Module B1, Q10=>Yes)]
Note [Enumerator, do not read out loud]: For Rabi 2024, ask the expected figures (costs/amount) if preparation is not complete. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values. For family labour, input the cost it would take to hire the family labour at the market wage rate. Enumerator to respondent:

1. Did you prepare seedbed for any crop in any one of the following four seasons Boro (rabi) (2024, Aman (kharif2) (2023), Aus (kharif1) (2023), and Boro (rabi) (2022-23)? [If 1 is no, skip the module]
2. In which of the seasons, did you prepare seed beds by yourself?
    - Boro (rabi) (2024)
    - Aman (kharif2) (2023)
    - Aus (kharif1) (2023)
    - Boro (rabi) (2022-23)

For all seasons selected in 2, ask the following questions:

	Boro 2024	Aus season [2023]	Aman season [2023]	Boro 2022-23
For which crops, did you prepare seed beds?				

For paddy, for which varieties did you prepare seed bed?				
For the crop in the previous line, which plots did you use to prepare the seed bed?				
If Yes, area planted [Decimal] [Constraint: The number cannot be less than 0 and greater than 2,000]				
Amount of seed (Kg) [Constraint: The number cannot be less than 0 and greater than 100]				
Cost of seed [Taka] [Constraint: The number cannot be less than 0 and greater than 50,000]				
Hired labor cost [Constraint: The number cannot be less than 0 and greater than 100,000]				
Family labor cost [Taka] [Constraint: The number cannot be less than 0 and greater than 100,000]				
Fertilizer cost [Taka] [Constraint: The number cannot be less than 0 and greater than 100,000]				

Irrigation cost [Taka][Constraint: The number cannot be less than 0 and greater than 100,000]				
Other cost [Taka]				

Module B7. Agricultural product consumption and marketing [ASK FOR SEASON WISE CROP WISE]

Note [Enumerator, do not read out loud]: This module will ask season wise information for each crop cultivated. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values.

1. Among the following seasons, select the seasons where you grew crops [multiple select]

   .

   - Boro (Rabi) (2023-24)
   - Aman (kharif2) (2023)
   - Aus (kharif1) (2023)
   - Boro (rabi) (2022-23)
   - Yearly crop
   - N/A

Enumerator to respondent: "Now, I will ask you questions about agricultural product consumption and marketing in {season_name} "

2. Which crops did you grow in this season [across all plots]? [all crops]

Enumerator to respondent: "Now, I will ask you questions about {crop_name} "

3. Quantity received from leased out plot [in kg]
4. Quantity consumed or stored for consumption [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]
5. Quantity given away [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]
6. Animal feed [in kg] [Constraint: it cannot be less than 0 and greater than the quantity harvested]
7. Amount kept for Seed for next year (kg) [Constraint: The number cannot be less than 0 and greater than 100]
8. How long after the harvest was it sold? [Select multiple]
   - within one month
   - after one month

- after two months
- after three months
- did not sell

9. Place of sale [Select multiple]
   - Farm gate
   - Village market (within own village)
   - Village market (outside of own village)
   - Town market
   - Others

. Q10-Q14 are for all options selected in Q8 and Q9. Example: If Q8 is selected for within one month and Q9 is selected for Farm gate and Town market, then Q10-14 will be asked twice for within one month of sale for both farm gate and town market

10. How much quantity was sold (kg)? [Constraint: it cannot be less than 0 and greater than 200000]

11. Market rate per kg in the place of sale [Constraint: it cannot be less than 0 and greater than **1000]**

12. Total Sale Price [BDT]

13. How far is the place of sale (meters)?[Constraint: it cannot be less than 0]

14. Time taken to travel to place of sale (minute) [Constraint: it cannot be less than 0]

- **B8. Food grain stock and Storage capacity [Aggregate of all plots+purchased quantities] [For agricultural households]**

1. Recall period: Last 12 months (February 2023 to January 2024)

. Among the following, which ones did you have in stock at any time during the past twelve months {Select multiple}?
   a. Paddy
   b. Rice
   c. Wheat
   d. Maize
   e. Lentil
   f. Mustard
   g. None of the above

. For all crops selected in 1, In the past year, what was your end of the month food grain stock for each month of the year? [It should be a table wherein the columns will list out each month of the year]

2. Did you use the facility by the *Warehouse Receipt System* in your village or upazila (subdistrict)? (Prompt for Enumerator: this is a government program where you can store your produced-grains in a storage for some time and get a loan)

3. If yes, in which year did you first enroll in this program?

(Enumerator: select from below)
   - Before 2011
   - Between: from 2011 to 2013
   - Between: from 2014 to 2018
   - Between: from 2019 to 2020
   - Between: from 2021 to 2022

- Between: from 2023 to present

****

Module C: DNA Fingerprinting module

Enumerator to speak out loud: Now, I will ask questions about a specific paddy plot/plot (for non paddy farmers) that you are cultivating. I will first describe the characteristics of the plot to help us identify the plot and then ask in depth questions about the same plot.

Plot name:

Plot type in 2024:

Soil type in 2024:

Plot size in 2024:

- **Module C1: Land Preparation, Fertilizer and Pesticide Use [FOR ONE PLOT] [plot to be chosen randomly based on share of plot size in total plot holdings] [For paddy farmers the plot should be a subset of the paddy plots]**

Note: Take total used quantity inclusive of Rabi 2024, Aman 2023, Aush 2023, and Rabi 2022-2023 seasons. For Rabi 2024, ask the expected total if fertilizer and pesticide usage is still ongoing. For Aman 2023, Aush 2023, and Rabi 2022-2023 seasons, take recall values.

In which of the following seasons, did you grow crops on this plot?
- Boro (Rabi) (2023-24)
- Aman (kharif2) (2023)
- Aus (kharif1) (2023)
- Boro (rabi) (2022-23)

The questions for this module will be repeated for each season selected

- **Land preparation**
1. What kind of land preparation did you use for the crop this season?
   - None
   - Zero Tillage [If chosen, move to question 2]
   - Ploughing [If chosen, move to question 3]
   - Hand weeding
   - Others(specify)
2. What kind of zero tillage system did you use on the land?
   - Slash And Plant
   - Burn And Plant
   - Herbicide And Plant
   - Others(specify)
3. What do you use for ploughing the land?
   - Hand tillage

- Animal Traction
- Motorized Tillage
- Tractor
- Other (specify)

- **Fertilizer use**

1. Did you apply fertilizer in the past year?
   - Yes
   - No [end subsection]
2. List all the types of fertilizers you applied [Question 3-7 is for each type]
3. What type of fertilizer is it?
   - Soil-based Organic
   - Soil-based Inorganic
   - Foliar feeds Organic
   - Foliar feeds Inorganic
   - Others(specify)
4. How many times did you apply it before planting? **Constraint: It cannot be less than 0 and greater than 100**
5. How much amount did you use (kg) before planting? **Constraint: It cannot be less than 0**
6. Typically how many days before planting did you use the fertilizer? **Constraint: It cannot be less than 0 and greater than 100**
7. How many times did you apply it after planting? **Constraint: It cannot be less than 0 and greater than 100**
8. How much amount did you use (kg) after planting? **Constraint: It cannot be less than 0**
9. Typically how many days after planting did you use the fertilizer? **Constraint: It cannot be less than 0 and greater than 100**
10. Have you been trained in how to use inorganic fertilizer for paddy rice?
    - Yes
    - No

- **Pesticide use**

1. Did you have any insect, rodent, or disease attacks on your paddy rice in this season?
   - Yes
   - No
2. Did you apply pesticide, insecticide, and herbicide in this season?
   - Yes
   - No [end subsection]
3. List all the pesticides, insecticide, and herbicide you applied [Question 4-6 is for each type]
4. What was the dosage you used?[ml/gram] **Constraint: It cannot be less than 0**
5. How many times did you apply it? **Constraint: It cannot be less than 0 and greater than 100**
6. Was the use of chemical pesticides, insecticide, and herbicide preventive, or was it in response to an insect, rodent, or disease attack?
   - Preventive
   - Protective

- Both preventive and protective
7. Have you been trained in when to use and how to apply pesticides for paddy rice?
    - Yes
    - No
8. Have you ever been trained in when to use and how to apply herbicides for paddy rice crops?
    - Yes
    - No

- **C2. Rice Crop DNA Sampling [One plot to be chosen randomly based on share of plot size in total plot holdings during Boro season] [This is only for paddy growers. Plot should be same as C1]**

Note: The information for this module will be taken for Rabi/Boro 2024
1. What is the ID code of the plot selected for crop sampling?
2. What is the cultivated area of the plot, in Decimal? (farmer's response)
3. How many varieties of rice were planted on this plot? **Constraint: It cannot be less than 1 and greater than 4**
4. If more than one variety is in this plot, what is the reason for mixing varieties [Conditional on Q3 if >1] [select multiple]
    - I wanted to, because different varieties have different traits
    - I had to, because I didn't have enough seed of my preferred variety to cover the whole plot
    - Seed was accidentally mixed
    - I bought seedlings from a nursery to transplant and they seem mixed
    - Other - specify
5. What is the name of the main variety planted on this plot?
6. What type of rice is the main variety planted on this plot?
    - Traditional
    - Improved/HYV
    - Hybrid
    - Don't know
7. What is the primary trait of this main variety? (Select One)
    - Early variety
    - Salt-tolerant
    - Drought-tolerant
    - High Yield
    - Bio-fortified
    - Insect/Disease resistant
    - Submergence-tolerant

    - High-temperature tolerant
    - Zinc enriched
    - Cold-tolerant

- Grain Size
- Low labor required
- Others (specify)

8. Apart from the above, are there any other traits you know about these varieties? [multiple select]
    - Early variety
    - Salt-tolerant
    - Drought-tolerant
    - High Yield
    - Bio-fortified
    - Insect/Disease resistant
    - Submergence-tolerant

    - High-temperature tolerant
    - Zinc enriched
    - Cold-tolerant
    - Grain Size
    - Low labor required
    - Others (specify)
    - NA

9. Name of the intercropped rice variety
10. Do you have any bags of seeds of the varieties planted on this land available for us to see? [If yes, enumerator to take picture for each variety]
    - Yes
    - No

- **C3. Rice Seed technology [One plot to be chosen randomly based on share of plot size in total plot holdings in the Boro season] [This is only for paddy growers. Plot should be same as C1]**

Note: The information for this module will be taken for Boro 2024

1. When decisions are made regarding what kind of rice seed to plant, who normally takes the decision?
    - Self
    - Spouse
    - Other household member
    - Other non-household member
2. How did you sow your rice seed?
    - Sown seed directly into the paddy [If chosen, go to Q4]
    - Plant seedlings in rice paddy [If chosen, go to Question 3]
    - Both sow seed directly and plant some seedlings [If chosen, go to Question 3]
3. Did you plant your own grown seedlings or did you purchase them?
    - Own seedlings
    - Purchased seedlings
    - Both

4. Some farmers plant paddy rice seeds in rows and some randomly broadcast their paddy rice seeds. How do you plant paddy rice seeds?
   - In rows
   - Randomly Broadcast
   - Some in rows and some randomly
5. Have you planted your rice alongside other crops growing in the same plot?
   - Yes
   - No
6. For how many seasons have you re-used the seed for the main variety planted on this plot? [Here, we want to know for how many boro seasons the seed has been reused. If it has been used in 2023 and 2024 boro season, then it has been reused 1 time]

- C4. **Beliefs [One plot to be chosen randomly based on share of plot size in total plot holdings during Boro season] [This is only for paddy growers. Plot should be same as C1]**

Note: Directions the enumerators will give to the farmers, "The rice leaf samples collected from your plot will be tested in a lab, which identifies rice variety with close to 100% accuracy. We shall do this with 20 farmers in your village."

The information for this module will be taken for Boro 2024

1. [Ask for each rice variety of rice planted on this plot] How certain are you that this variety is actually [name of the variety mentioned by the respondent]?
   - Absolutely certain
   - Somewhat certain
   - Neither certain nor uncertain
   - Somewhat uncertain
   - Absolutely uncertain
2. [Ask for each rice variety] How is the quality of [name of the variety mentioned in question 1]?
   - Very high quality
   - Somewhat high quality
   - Neither high neither poor quality
   - Somewhat poor quality
   - Very poor quality
3. [Ask for each rice variety] What is the seed source for this variety planted on this plot?
   - Saved from last year
   - Seedlings from a nursery
   - Farmer Group/Seed Club
   - Seed company

- Research Institutes/Universities
- Extension services
- Cooperative
- Private stores/dealer
- Friends / family / neighbors
- Other

4. [Ask for each rice variety] How reliable is the source mentioned in question 3?
   - Extremely reliable
   - Somewhat reliable
   - Neither reliable nor unreliable
   - Somewhat unreliable
   - Extremely unreliable

5. From the total varieties grown, how many rice seed varieties do you think you got right? [A number from zero to total varieties grown from C2 Q3]

6. Imagine we ask the above questions to 20 other farmers in your village. Assuming rank 1 is for a villager who will certainly get their variety/varieties right, and 20 is for someone who will certainly get the variety/varieties wrong, where do you think you place yourself?

C5. Input cost and return [ONLY FOR ONE SELECTED PLOT] [Ask to farmers who take decisions regarding farming on their own land]

Note for enumerators: For family labour, take the hours worked and input the cost it would take to hire the family labour at the market wage rate.

Sl. No.	Particulars	Boro/Rabi 2024	Aus season 2023	Aman 2023	Boro 2022-23
1	2	3	4	5	6
Land preparation					
2	How many times have you tilled the land?				
3	If plough was hired, its cost (Tk.)				
4	If machineries were used for ploughing, its cost (Tk.)				
5	Family labour in ploughing (hours)				

6	Hired labour (hours)				
7	Total wage (Tk.) [Skip if Q5 and Q6 is 0]				
Application of seed					
8	Amount of seed (Kg.)				
9	Cost of seed (Tk.) (টাকা) [Ask if Q8 > 0]				
10	Cost of seed bed (Tk.) [Ask if Q8 > 0]				
11	Family labour for preparing seed bed (hours) [Ask if Q8 > 0]				
12	Hired labour for preparing seed bed (hours)[Ask if Q8 > 0]				
13	Total wage (Tk.) Skip if Q11 and Q12 is 0]				
14	Purchasing cost of seedlings (Tk.)				
15	Family labor for transplanting (hours) [Skip if Q14 is 0]				
16	Hired labor for transplanting (hours) [Skip if Q14 is 0]				
17	Total wage (Tk.) [Skip if Q15 and Q16 is 0]				
18	Cost of contract labor for transplanting (Tk.) [Skip if Q14 is 0]				
19	Cost of transplanting by machine (Tk) [Skip if Q14 is 0]				

Fertilizer					
20	Amount of Urea (Kg). [if "0" go to sl no 22]				
21	Cost of Urea (Tk).				
22	Amount of TSP (Kg.) [if "0" go to sl no 24]				
23	Cost of TSP (Tk.)				
24	Amount of Muriate of Potas (Kg.) [if "0" go to sl no 26]				
25	Cost of Potash (Tk.)				
26	Cost of other chemical fertilizers (Tk.)				
27	Cost of cow-dung/green manure purchased (Tk.)				
28	Value of own cow-dung/green manure (Tk.)				
Irrigation					
29					
30	Irrigation cost (If own pump, cost at market rate including fuel and electricity cost)				
Weeding					
32	Number of times weeded [if "0" go to sl no 37]				
33	Family labour for weeding (hours)				

34	Hired labor (hours)				
35	Total wage (Tk.) Skip if Q33 and Q34 is 0]				
36	Weeding cost by Contract labor (Taka)				
Use of herbicide					
37	No. of times herbicide was applied [if "0" go to sl no 40]				
38	Cost of herbicide (Tk.)				
39	Labor cost of application (Tk.)				
Use of insecticide/pesticide					
40	No. of times insecticide was applied [if "0" go to sl no 43]				
41	Cost of insecticide (Tk.)				
42	Labor cost of application				
Harvesting					
43	Family labour for harvesting (hours)				
44	Hired labour (hours)				
45	Total wage (Tk.) Skip if Q43 and Q44 is 0				
46	Contract labor cost of harvesting (Tk.)				

47	If share of (crop) production was given to labourers as wage, % of production [if "0" go to sl no 49]				
48	Cost of the share of production given to labourers (Tk.)				
49	Cost of hiring harvester (TK) for Reaper				
	Cost of hiring harvester (TK) for Combine harvester				
Threshing					
50	Threshing system Code select one: 1=Manual by hand, 2= Manual by leg, 3=Power driven, 4= Automatic -98= NA, threshing is done with combine harvester/crop got spoiled before harvest due to flood/other reason				
51	Family labour for threshing (hours)				
52	Hired labour for threshing (hours)				
53	Total wage (Tk.)[If 52 and 53 are both 0, skip this question]				
54	Cost of Contract labor for threshing (Tk.)				
55	If share of (crop) production was given to labourers as wage, % of				

	production [if "0" go to sl no 57]				
56	Cost of the share of production given to labourers (Tk.)				
Other cost if any					
57	If any other cost in connection to production not mentioned before (Tk.)				
Income from crop production and by-product					
58	Crop production (kg) [if "0" go to sl no 60]				
59	Crop price (Tk/Kg)				
60	By-product Kg) [if "0", end module]				
61	Market price of by-product (unit price Tk/kg)				
62	If sold, amount of money from sale of by product (Tk)				

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- . **Module D: Agricultural Technologies and Extension Services**
- • **D1. Access to technologies [Ask to farmers who take decisions regarding farming on their own land]**

Ask the following questions for each of these CGIAR technologies
- o Axial Flow Pump
- o Alternate Wetting and Drying
- o Power Tiller Operated Seeder - 2 wheeler
- o Power Tiller Operated Seeder - 4 wheeler **(Also called tractor)**
- o Combine Harvester/Thresher
- o Two wheeled mechanical Reaper for Rice/Wheat/Jute

1. Are you aware of this technology? [If no, then skip to the questions about the next technology]
2. Do you use this technology now?
3. If yes, is it rented or owned?
4. Have you used this technology in the past? [Yes/No]
5. When did you start using this technology ? [Ask this question if either question two or four is yes] [Constraint: The number cannot be below 1970 and above 2024]
6. If you have used this technology in the past, and no longer use it, when did you stop using it? [Ask if question four is yes and question two is no] [Constraint: The number cannot be below the year they started using it and above 2024]
7. Reason for not using it now? [Ask if question four is yes and question two is no]
   - Not available (not readily available) in the market
   - Don't know about this technology/item
   - Use new technologies/items instead of old technologies/items
   - This technology/item is currently obsolete
   - This technology/item is expensive
   - Lack of skills to manage this technology
   - This technology device is currently not suitable for use
   - Parts for this machine are not readily available
   - Lack of skilled manpower for repair of this machine
   - This machine cannot be rented as there is no rental market

8. When was this technology first available in your village?

Ask the following questions for each of these seed variety traits
   - Salt-tolerant
   - Drought-tolerant
   - Bio-fortified [Protein and iron enriched]
   - Insect resistant (conditional question) - Ug99- tolerant/Blast-resistant/Resistance to Stemphylium blight/Rust, foot and root rot resistant/Moderately resistance to blast, leaf blight, hispa
   - Disease resistant (conditional question) - LB resistance/ Virus Resistance
   - Submergence-tolerant
   - High-temperature tolerant
   - Zinc enriched
   - Cold-tolerant
   - Grain Size
   - Low labor required
   - Short-duration
   - Fertilizer and water-saving

9. Are you aware of this trait? [If Q9 is no, the questions about the mentioned seed variety trait ends here]
10. Do you use a variety with this trait now?
11. Have you used a variety with this trait in the past?
12. When did you start using a variety with this trait ? [Ask this question if either question 10 or 11 is yes]
13. If you have used this trait in seed in the past, and no longer use it, when did you stop using it? [Ask if question 10 is no and question 11 is yes]
14. Reason for not using it now? [Ask if question 11 is yes and question 10 is no]
    - Not available in the market
    - Do not know about the technology
    - Replaced with new tech
    - It became obsolete
    - Technology is inappropriate
    - Expensive
15. When was seed with this trait first available in your village?

D2. Access to harvest technology for paddy [ALL PLOTS COMBINED] [Ask to farmers who take decisions regarding farming on their own land]
Note [Enumerator, do not read out loud]: This module will ask for information inclusive of the following seasons: Boro (rabi) (2024, Aman (kharif2) (2023), Aus (kharif1) (2023), and Boro (rabi) (2022-23)
1. Did you plant paddy in any one of these four seasons(Boro (rabi) (2024, Aman (kharif2) (2023), Aus (kharif1) (2023), and Boro (rabi) (2022-23))? [If no, skip to module D3]
2. How **did/will** you harvest the paddy rice?
    - With a sickle/scythe
    - With a motorized harvester
    - Not yet harvested
3. How **did/will** you thresh the rice?
    - Trampled by cattle/oxen
    - Beat with sticks
    - Beat with a flail
    - Used a treadle thresher
    - Used a motorized thresher
    - Did not thresh
    - Other (specify)
4. **Did/Will** you put the paddy rice in bags or other containers after harvest for storage or transport?
    - Yes, in rice warehouse
    - Yes, in the drum
    - Yes, in the sack
    - No

5. **Did/Will** you use any of the following storage locations to store the paddy rice?
   - Residential house
   - Cribs
   - Granaries
   - Warehouses
   - Storage silos
   - Do not store, directly sell from the field
   - Other(specify)
6. Has your paddy rice ever been attacked by insects, rodents, or disease while in storage?
   - Yes
   - No

- **D3. Extension and Advisory Services**
1. Have you ever received a visit from an AG extension officer? (Yes/No)
2. Can you recall what topics they spoke/advised you about? [If they do not remember or respond ask them if they were given information about any of the following options]
   - Seed
   - sapling
   - Fertilizer
   - Irrigation use
   - pesticide
   - insecticide
   - Use of farm machinery
   - Fisheries
   - Livestock
   - Others
   - Cannot recall
3. If recalled, was the advice given useful? [Yes, No]
4. Did you go to the AG extension office/call them? [Yes, No]
5. Can you recall what topics they spoke/advised you about? [If they do not remember or respond ask them if they were given information about any of the following options]
   - Seed
   - sapling
   - Fertilizer
   - Irrigation use
   - pesticide
   - insecticide
   - Use of farm machinery
   - Fisheries
   - Livestock
   - Others

- Cannot recall
6. If recalled, was the advice given useful? [Yes, No]
7. Have you ever received a visit from a NGO or private company or did you go to the office of the NGO/private company? (Yes/No)
8. Can you recall what topics they spoke/adviced about? [If they do not remember or respond ask them if they were given information about any of the following options]
   - Seed
   - sapling
   - Fertilizer
   - Irrigation use
   - pesticide
   - insecticide
   - Use of farm machinery
   - Fisheries
   - Livestock
   - Others
   - Cannot recall
9. If recalled, was the advice given useful? [Yes, No]
10. What information source do you rely on the most to help you grow your rice crop well?
    - own family
    - friend/neighbor
    - Agricultural inputs dealer
    - Agricultural extension worker
    - NGO/private company representative
    - Farmer's School
    - Radio program
    - Television
    - Mobile phone messages
    - Internet
    - Other (please specify)

****

. **Module E: Aquaculture and Capture Fisheries**
. **E1. Tilapia**
1. You will now be shown the list of ponds and plots where the farmers do aquaculture. Take data for all the ponds one by one.

Repeat Question 2-23 for every pond

2. Have you farmed Tilapia in this pond in the past 12 months?
   - Yes >> Q1
   - No >> end subsection
3. In what year did you start producing tilapia for the first time?
   Constraint: . =<2023
4. Are you practicing monoculture?
   - Yes

- No

5. Has your household been involved in fish farming every year since?
   - Yes >> Q7
   - No

6. How many years has your household not been involved in fish farming since then?
   Constraint: 0 =< and .<=20

7. **Did you purchase tilapia fingerlings in the last 12 months for this plot/pond?**

   - **Yes >> Q8**
   - **No (>> Next module)**

8. Pond facility Type
   - Pond
   - Channel
   - Flooded rice plots
   - Other

9. What is the size of the facility in decimal? [Numeric]

10. What is the average water depth for this facility (in ft)?

11. What is the source of pond water?
    - Rain water
    - Surface (river, lake, creek, stream, etc)
    - Groundwater (tube well, well, etc.)
    - Irrigation canal
    - Dam
    - Other (specify)

12. (a) Have you ever practiced integrated agriculture/aquaculture such as tilapia-rice on this pond?
    - Yes
    - No

12(b). Do you currently practice the above method?
    - Yes
    - No

[**Tilapia production activities in the past 12 months**]

13. What month and year did you purchase fingerlings?

14. What was the source of the fingerlings? [Multi-select]
    - Own farm
    - Neighbor or relative
    - Farmers group
    - Government hatchery
    - Private hatchery
    - Local dealer (commission agent)

- NGO
- Hawker hawking fingerlings
- Nursery
- Other (specify)

15. Do you know the name of the hatchery that sold these fingerlings? [Conditional: If Q14 is anything but the first three options]
16. Do you know the village/town in which this hatchery is located? [Conditional: If Q14 is anything but the first three options]
17. Approximately how far is the distance between your household and the hatchery (in meters) [Conditional: If Q14 is anything but the first three options]
18. Address of the hatchery [Conditional: If Q14 is anything but the first three options]
19. Mobile number of the hatchery [Conditional: If Q14 is anything but the first three options] [Select don't know if the respondent does not know the number]
20. For how many years have you purchased the fish fingerlings from this provider?[Conditional: If Q14 is anything but the first three options] [Constraint: .>=0 and .<=25]
21. What is the name of the tilapia/rohu strain that you purchased?

Options for rohu:
  - G0
  - G1
  - G2
  - G3
  - G4
  - Others

options for tilapia:
  - Chitralada
  - GIFT
  - GenoMar Supreme Tilapia (GST)
  - GIFT-WF
  - GIFU
  - FaST
  - Others

22. Is this tilapia GIFT tilapia? [for tilapia]
23. Is this G3 rohu? [for rohu]
24. How many fingerlings (fish) were stocked [kg]?
25. How many fingerlings were monosex male tilapia?[kg] [Report the number or select don't know if the respondent says don't know] [Constraint: .<= {Q24}]
26. What was the total price paid for these fingerlings?
27. When did you completely harvest the fish [year and month]?
28. To whom did you mainly sell to?
  - Traders
  - Rural consumers
  - Urban consumers
  - Processing factory
  - Only consumed and have not sold any fish yet

- Other

Repeat the same submodules as above for the following fish species:
- **E2. Rohu**
- **E5. Fish/Shrimp [Information collected at the Pond-Level or at the Land-Level if it is a paddy field in which fish is also being grown]**

1. When did you start farming?
2. Name of Fish (Up to 6 fish species cultivated in a same water body/plot)
   - Silver carp
   - Grass carp
   - Mirror carp
   - Common carp
   - Karfu
   - Rui
   - Katla.
   - Mrigel
   - Kalibaus
   - Telapia/Nailotica
   - Pona
   - Koi
   - Magur
   - Shingi
   - Khalse
   - Shol/Gajar/Taki
   - Puti/Swarputi
   - Prawn (Golda Chingri)
   - Shrimp (Bagda Chingri)
   - Tengra/Baim
   - Mola/Dhela/Kachki/Chapila
   - Ilish/hilsha
   - Sea fish
   - Pangash
   - Other Large fish
   - Other Small fish
3. If you are farming fish on a field, what did you use this land for before fish ponds?
   - Paddy
   - Wheat
   - Maize
   - Lentil
   - Vegetables
   - Always farmed fish

- Farm fish and crops together on this field
4. If you shifted, what was the top reason to shift from crop farming to aquaculture? [ask if Q3 is 1-5]
    - Crop farming became less profitable because of soil salinity
    - Crop farming became less profitable because labor costs have increased
    - Shrimp / fish farming became more attractive with high prices of fish
    - Crop farming became less profitable - other reasons
5. Are carps and small fishes cultivated together in this plot/pond? (Y/N)
6. Do you use tilapia to clean the pond?
7. Labor use in person days (Labor hour)
    - Family (hours)
    - Hired (hours)
    - Total wage [wage for hired labor and wage at market rate for family labor]
8. Input cost
    - Cost with Fingerlings (in Taka)
    - Cost with Fish Feed (in Taka)
    - Other input costs (in Taka)
9. How many times harvested in last 1 year (Note: # of times)
10. Total quantity of collection/ harvest (Note: in Kg)
11. Loss of output
    - Quantity lost (Note: in Kg)
12. Reason for loss
    - Flood
    - Water Toxicity
    - Theft
    - Due to cold
    - Other (Specify)
.

- **E6. Fish/Shrimp Pond Production and Inputs [Information collected at the species level, for all the species that a household farms]**
1. Which fish did you produce in the past one year?
    - Silver carp
    - Grass carp
    - Mirror carp
    - Common carp
    - Karfu
    - Rui
    - Katla.
    - Mrigel
    - Kalibaus
    - Telapia/Nailotica
    - Pona

- Koi
- Magur
- Shingi
- Khalse
- Shol/Gajar/Taki
- Puti/Swarputi
- Prawn (Golda Chingri)
- Shrimp (Bagda Chingri)
- Tengra/Baim
- Mola/Dhela/Kachki/Chapila
- Ilish/hilsha
- Sea fish
- Pangash
- Other Large fish
- Other Small fish

Q2-Q10 will be repeated for all species selected
2. Total Production under own/share of plot/pond/any other water bodies in operation [Numeric]
3. Harvest received from the shared out (leased/contract) pond
4. Share of harvest given to owner (if shared pond)
5. Quantity consumed
6. Quantity paid to the laborers
7. Quantity for dry fish
8. Quantity gifted to others
9. Quantity spoiled
10. If sold:
    - Q sold (kg)
    - Where sold?
    . Farm gate
    . Village market (within own village)
    . Village market (outside of own village)
    . Town market
    . Others
        o Total value of selling (Note: in Taka)

E7. Fish Farming Technologies [Questions are repeated for all species in different columns of the same household row]
Recall period: 1 February 2023-31 January 2024
1. What is the marketing/consumption size of the fish on average (inch)?
2. How much do you produce(kg) per cycle (3-4 months)? [Per cycle means the number of times they are completing the a cycle of harvesting/catching.]

3. How much fish do you produce (kg) per decimal
4. What is the size of the fingerlings in your pond (inch)?

E8. Improved Hatchery Management Technology [Questions are repeated for all species selected in Q3 in different columns of the same household row]
Recall period: 1 February 2023-31 January 2024
1. Do you own a hatchery?
2. Where is this hatchery located?
- In the respondent's house
- It is a separate hatchery out of the respondent's house
3. Which fish do you produce in the hatchery?
    - Silver carp
    - Grass carp
    - Mirror carp
    - Common carp
    - Karfu
    - Rui
    - Katla.
    - Mrigel
    - Kalibaus
    - Telapia/Nailotica
    - Pona
    - Koi
    - Magur
    - Shingi
    - Khalse
    - Shol/Gajar/Taki
    - Puti/Swarputi
    - Prawn (Golda Chingri)
    - Shrimp (Bagda Chingri)
    - Tengra/Baim
    - Mola/Dhela/Kachki/Chapila
    - Ilish/hilsha
    - Sea fish
    - Pangash
    - Other Large fish
    - Other Small fish
4. What is the stocking density [in kg]? [per square meter if it is in the house and per decimal if it is in a proper hatchery]
5. What ratio do you maintain for Male: Female brood?

E9. Nursery Technologies (for all fish) [Questions are repeated for all species in different columns of the same household row]

1. Do you have a nursery?
2. Where is this nursery located?
- In the respondent's house
- It is a separate out of the respondent's house
3. Do you remove predators and non-culture fish from the farming area?
4. Is white spot syndrome virus (WSSV) negative screened PLs/spawn stocking? [Yes/No/NA] [This is for shrimp post larvea screening test for wssv.]
5. Which fish do you produce in the nursery?
- Silver carp
- Grass carp
- Mirror carp
- Common carp
- Karfu
- Rui
- Katla.
- Mrigel
- Kalibaus
- Telapia/Nailotica
- Pona
- Koi
- Magur
- Shingi
- Khalse
- Shol/Gajar/Taki
- Puti/Swarputi
- Prawn (Golda Chingri)
- Shrimp (Bagda Chingri)
- Tengra/Baim
- Mola/Dhela/Kachki/Chapila
- Ilish/hilsha
- Sea fish
- Pangash
- Other Large fish
- Other Small fish

Q6-7 is all fish produced in the nursery

6. What is the stocking density [in kg]? [per square meter if it is in the house and per decimal if it is in a proper nursery]
7. What is the culture period?

E10. Technologies - Fishpond Aquaculture

Recall period: 1 February 2023-31 January 2024

1. Were you or any of your family member involved in fish farming in the period? [If no, finish module]
2. How many fish fries/ fingerlings in total have you stocked in the recall period? (Weight in grams)
3. What was the main source of fish fingerlings you stocked in the recall period? [Skip if Q2 = 0]
   - Own farm
   - Neighbor or relative
   - Farmers group
   - Government hatchery
   - Private hatchery
   - Local dealer (commission agent)
   - NGO
   - Hawker hawking fingerlings
   - Nursery
   - Other (specify)
4. Was the hatchery where you purchased your fish fry and fingerling a registered or certified hatchery? [Y/N/Don't know/NA] [Skip if Q3 is option 1-3]
5. In the last one year, did you give your fish supplemental feed?
6. Where did you get most of the supplemental feed you gave to your fish - did you make it yourself or did you buy it?
7. In the last one year, did you use hormones to raise your fish?
8. At what stage of growth did you apply the hormone to the fish?
   - Initial growth phase (First 28 days)
   - Development phase
   - Others(Specify)
9. Have you been formally trained in the use of hormones for fish farming?
10. Did you observe any disease among your fish in the last one year?
11. Did you do anything to control disease among your fish in the last one year?
12. What did you do to control disease among your fish?
- Nothing
- Apply salt
- Apply formalin
- Apply malachite green
- Apply methayl blue
- Antibiotics/Antibioic treated feed
- Applying lime
- Applying Potash
- Others(specify)
13. In the last one year, have you used any techniques to improve your production of fish
14. If yes, do you use the following machines/technologies/techniques:
    - Aerator
    - Automatic fish feeder

- Digital water quality monitoring system
- Sex separation
- Age separation
- Variation of feed
- An improved stocking method
- Other (specify)

15. Do you usually harvest all of your fish at one time, or do you usually do partial harvests?
16. What was the total weight (in kg) of the fish you harvested in the last one month of the recall period (January 2024)?
17. What was the total weight of the fish you harvested in the last one year?
18. Why did you produce fish?
- Raised for food only
- Raised for market only
- Raised for both food and market

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Module F: Shocks, Insurance, Safety Nets, Food Security

F1. Shocks

1. In the past 12 months, did this event occur?
   o Major loss of crops due to flood
   o Major loss of crops due to other reasons (drought, storms, pests, disease, etc.)
   o Loss of livestock due to flood
   o Loss of livestock due to death
   o Loss of livestock due to theft
   o Loss of aquaculture due to flood or storm
   o Loss of productive assets due to floods
   o Loss or destruction of other consumption assets (personal) due to floods
   o Medical expenses due to illness or injury
   o Lost home due to river overflow
   o Increase in food prices
   o Increase in prices of inputs
   o Loss of consumption assets (personal) due to factors other than floods

2. For every event that occurred, how severe was it?
   o Not severe................ 1
   o Somewhat severe...... 2
   o Severe....................... 3
   o Extremely Severe 4
   o Refused ....…-99

F2. Insurance

1. Do you have a life insurance policy? (Yes, No)
2. Do you have a health insurance policy?(Yes, No)
3. Have you ever heard about crop insurance?(Yes, No)
   a. If yes, mention the source of the information-

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4. Have you ever heard about livestock insurance? (Yes, No)
5. If yes, mention the source of the information-
    - DAE (SAAO)
    - In a campaign or training
    - own family
    - friend/neighbor
    - Agricultural inputs dealer
    - NGO/private company representative
    - Farmer's School
    - Radio program
    - Television
    - Mobile phone messages
    - Internet
    - Other (please specify)
6. Are you in an index-based flood insurance scheme?(Yes, No)
7. If yes, mention the premium if any (monthly)?
8. Have you get any early warning of weather forecast related to your crop cultivation?
9. If yes, mention the source of the information:
    - DAE (SAAO)
    - In a campaign or training
    - own family
    - friend/neighbor
    - Agricultural inputs dealer
    - NGO/private company representative
    - Farmer's School
    - Radio program
    - Television
    - Mobile phone messages
    - Internet
    - Other (please specify)

F3. Safety Net
Recall period: 1 February 2023-31 January 2024

1. Have you or any household member gotten any assistance from any of the following safety net programs?

1	Anand School
2	Primary Education Scholarship

3	School Food Distribution Program
4	Stipend for dropout students
5	Education Scholarship for Secondary/Higher Secondary Girls
6	Secondary education scholarship for poor students
7	Scholarship for disabled students
8	Old Age Allowance
9	Distressed Cultural Personality/Worker Allowance
10	Allowance for the poor in hilly areas
11	Widow/Deprived/Abandoned Women Allowance
12	Allowance for Indigent and Disabled
13	Maternity allowance for poor mothers
14	Maternal Health Voucher Scheme
15	Maternal and Child Nutrition Development (IMCN)
16	Destitute Freedom Fighters Allowance
17	Wounded Freedom Fighters Allowance
18	Ration program for families of martyrs and injured freedom fighters
19	Gratuitous Relief-GR (Cash)
20	Free Relief - GR (Food)
21	General relief
22	money for work (kabita)

23	Agricultural rehabilitation
24	Open Market Food Sales Scheme (OMS)
25	Vulnerable Group Development (VGD)
26	VGD-UP (in 8 districts of Manga Pirit area)
27	Vulnerable Group Feeding (VGF)
28	Test Relief (TR) food
29	Test Relief (TR) Cash
30	Food assistance program in hilly areas
31	Food/Costume for Work (FFW)
32	Special allowance to create employment opportunities for the poorest of the poor in Sidor-affected areas
33	Aid Allowance for acid-sick and disabled persons
34	Employment Program for the Very Poor/Former 100 Days Employment Program/EGPP/Employment Generation Program for the Poor
35	REOPA
36	And. E. And. M. P (RERMP)
37	Community Nutrition Programme
38	Char Livelihood Program (CLP)
39	Friendly Program (CARE)
40	Save the Children Program
41	Extension Program (ACDI VOCA)

42	Housing (Poverty Alleviation and Rehabilitation)
43	Housing assistance
44	TUP (BRAC)
45	A house is a farm
46	TMRI
47	Pension scheme for retired government employees and their families
48	Program to improve living standards of tea plantation workers
49	Guchchagram (Rehabilitation of Climate Victims) Programme
50	Social Security Policy Support (SSPS) Programme
51	Other (please specify)

F4. Food Security

Questions	Responses (0=No ,1=Yes, -97= Don't Know, -99= Refused)
1. During the last 12 months, was there a time when you were worried you would not have enough food to eat because of a lack of money or other resources?	
2. Still thinking about the last 12 months, was there a time when you were unable to eat healthy and nutritious food because of a lack of money or other resources?	
3. During the last 12 months, was there a time when you ate only a few kinds of foods because of a lack of money or other resources?	

4. During the last 12 months, was there a time when you had to skip a meal because there was not enough money or other resources to get food?	
5. Still thinking about the last 12 months, was there a time when you ate less than you thought you should because of a lack of money or other resources?	
6. In the past 12 months, was there a time when your household ran out of food because of a lack of money or other resources?	
7. In the past 12 months, was there a time when you were hungry but did not eat because of a lack of money or other resources for food?	
8. During the last 12 months, was there a time when you went without eating for a whole day because of a lack of money or other resources?	

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Module G: Digital Tools, Apps [CGIAR interventions/innovations]
1. Do you or your family member use internet?[Yes/No]
2. If yes, what is the primary source of your internet for your HH: [Mobile net (Grameen), Mobile net (Teletalk), Mobile net (Banglalink), Mobile net (Robi), Mobile net (others), broad band
3. If yes, what are the main purposes of using internet in your HH (mutiple answers) [Entertainment, Education, Gig-working, Agriculture-related, others]
4. If 1 is yes, how many times (days) in a week and hours in a day does the primary respondent use the internet?
5. Do you [primary respondent] have a smartphone - [Yes/No]
6. Have you ever heard of the following apps? [Yes/No]

Name of the APPS
Macher Gari
Right Haat
Digital Feed Supply
Bkash
Rocket
Nagad

Upay
Program for Advanced Numerical Irrigation (**PANI**)
Rice Crop Manager
Crop selling and buying apps (other than above)
Other mobile banking apps (please specify)
Others (please specify)

7. Do you have the app on your phone?
8. Can we check your phone to see the app? [Excluding Bkash, Rocket, Nagad, Upay]
9. Enumerator observe and report: Is the app on the phone? [Excluding Bkash, Rocket, Nagad, Upay]
10. Do you think it has a positive impact on your desired purposes or business? (Y/N)

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[Go to the plot selected in module B for DNA fingerprinting. Take GPS measurement of entire plot boundary using the tablet device. Then, take the leaf sample based on the protocol and scan the barcode in surveyCTO

Leaf sample collection protocol:
1. Identify the plot from which sample is to be collected.
2. Identify a healthy plant (with no obvious signs of disease on leaves). Should be away from the plot edge, preferably from close to the center of the plots.
3. Excise a young growing leaf, fold it three times (to create four layers of leaf material), place the leaf punch and the leaf within the bottle corresponding to the sample and punch through all four layers creating 4 leaf discs to ensure that all the leaf discs fall inside the tube.
4. Seal the pot tightly.
5. Scan the barcode when prompted by the CAPI application.
6. Clean the punching tool with an alcohol-based wipe
7. [Only in the case of the 20% of plots which will be mentioned to you by surveyCTO]
8. Repeat steps 1 to 6 for a second plant, resulting in two distinct individual samples for each plot. The plants collected from each plot can be adjacent to each other.

Outcome of the interview
- Completed
- Refused
- No household member present at home
- Household has shifted to a new place
- Others

2. We may have further research where we may want to interview you. Would you be willing to speak to us based on your availability? [Yes/No]