**General set-up**

6 sessions (1 of them a pilot session), 5-6 farmers in each session (*maximum* 6 farmers)

Eligible farmers:

- Already exposed to Climate-Smart Agriculture (CSA) technologies (not necessarily practicing)

- Male and female (if possible organize sessions with only female farmers/heads of household)

- Practicing rice-wheat system (cultivating rice in Kharif and wheat in Rabi)

- Mix of wealthy and less wealthy

**Village Information**

*Village information* Village: \_\_\_\_\_\_\_\_\_\_\_\_ Panchayat: \_\_\_\_\_\_\_\_\_\_\_\_ State: \_\_\_\_\_\_\_\_\_\_\_\_

*GPS coordinates* Latitude: \_\_\_\_\_\_\_\_\_\_\_ Longitude: \_\_\_\_\_\_\_\_\_\_\_\_

*[Please take pictures and/or videos at different points during the focus groups]*

**Section 1. Introduction**

Good morning/afternoon,

My name is \_\_\_\_\_\_\_\_\_\_\_ and I am here in collaboration with the International Food Policy Research Institute to get your impressions on the main agricultural risks that farmers in this area face. In particular, we are trying to identify the potential for an agricultural insurance product that we will offer to all farmers in the region. Your opinions and feedback will play an important and unique role in helping us design a product that is affordable and can help you manage the *most important* weather risks that can result in losses of your crops and income.

Moreover, we are also interested in understanding your perceptions about different agricultural practices that some farmers are already adopting in your area, so a part of this session will be spent in doing this.

The session will be structured as follows: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please know that everything you say here will be treated as strictly confidential. We are not going to share your name or specific opinions with anyone, as we are only interested in the general perceptions of the farmers in this area.

Feel free to interrupt me at any moment if you have any questions or would like me to clarify or repeat the things I will talk about.

Now, I would like to ask you to please introduce yourself by telling us your first name, your age, the size of the plot you work on, what are the main crops you grow in Kharif and Rabi, how many years you have been farming in this area, and information on agricultural practices that you normally adopt.

|  |
| --- |
| **Table 1.1 - Participants' Information** |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | **First name** | **Gen-der** | **Age** | **Size of plot**  **(Acres)** | **Main crops grown (kharif/rabi)** | | **Years of experience** | **Practices adopted (list)** | **Have you ever practiced Zero Till?** |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |

Next, I would like you to help me identify important dates in a calendar for the Rabi wheat crop during a normal (average) year.

*[This section requires consensus between all participants. If more than one crop calendar for Rabi wheat exist or if participants cannot reach consensus, describe all crop calendars by adding extra lines.]*

|  |
| --- |
| **Table 1.2 - Crop Calendar** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | **October** | | | | **November** | | | | **December** | | | | **January** | | | | **February** | | | | **March** | | | | **April** | | | | **May** | | | |
| w1 | w2 | w3 | w4 | w1 | w2 | w3 | w1 | w1 | w1 | w1 | w4 | w1 | w2 | w3 | w4 | w1 | w2 | w3 | w4 | w1 | w2 | w3 | w4 | w1 | w2 | w3 | w4 | w1 | w2 | w3 | w4 |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Identify the following: Land preparation (**LP**), Sowing (**SW**), Flowering (**FW**), Harvest (**HV**), Fertilizer (**FE**), Herbicide (**HB**), Pesticide (**PE**) Rice residue burning (**RB**) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

I would also like to ask you about planting costs and production during a normal year (on average, neither the best nor the worst year) and the specific practices that you have adopted this Rabi season (related to your wheat crop).

|  |
| --- |
| **Table 1.3 - Planting Costs, Production, and Agricultural Practices** |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | ***In a normal Rabi season*** | | |  |  | ***During this Rabi season*** | | | |
| **Average cost per acre** | | | **How often do you irrigate?** | **Average yield (quintals per acre)** | **Did you practice ZT for wheat?** | **What did you do with the rice crop residue from combine harvester?** | | |
| **Machinery cost** | **Total labor cost** | **Seeds, Fertilizer, Herbicide, Pesticide cost** | **Burnt it** | **Collected it (straw reaper?)** | **Left it in the field** |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |

**Section 2. Risks**

OK, let’s talk about the different risks that can regularly affect your Rabi wheat crop and result in losses for you.

*[The following questions need to be asked for every risk in the table below. Begin with the first item (excess rain) and fill in the first line of the table below with the answer decided among the whole group. Then proceed with the second item (unseasonal rains), and so forth.]*

1. Is \_\_\_\_\_ ever a risk for your Rabi wheat crop? *[If “NO”, continue with the next risk]*
2. During which specific period (month and week) can \_\_\_\_\_ affect your wheat crops?
3. What possible coping mechanisms/preventative measures do you know that can help you avoid the risk of \_\_\_\_\_?
4. What are the costs associated to these coping mechanisms? Are they affordable? Do most farmers adopt them?
5. Are there any constraints for adopting these coping mechanisms? (e.g. money, availability, training, cost rising if demand is high, etc.)
6. Is the \_\_\_\_\_ risk still a risk if all available coping mechanisms are correctly implemented?
7. Are weather forecasts or other early information sources effective in reducing the impact of this risk?
8. Are the effects of this risk visible by simply looking at the crop?
9. How does the wheat plant look after it has been affected by \_\_\_\_\_?

**Table 2.1 - Risks for Rabi Wheat**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Risk type** | **Is it a risk?** | **Relevant period**  (*week&month*) | **Coping mecha-nisms** | **Cost of coping** | **Constraints for coping** | **Risk still relevant after C.M.?** | **Forecasts effective?** | **Effects visible?** | **Condition after risk** |
| Excess rain/Unseasonal |  |  |  |  |  |  |  |  |  |
| Hail |  |  |  |  |  |  |  |  |  |
| Pests and diseases |  |  |  |  |  |  |  |  |  |
| Winds |  |  |  |  |  |  |  |  |  |
| Not much cold |  |  |  |  |  |  |  |  |  |

I would like now to know about your own ranking of the Rabi wheat risks discussed above.

The board has 7 areas representing these risks. You have a total of 20 tokens which you can distribute freely between these options. Please allocate the tokens based on how much a particular risk (after any preventative measures that you normally take) worries you in terms of damage to your crops.

If a particular risk worries you more than others, you should assign more tokens to this risk. If two risks are equally worrisome, then they should have the same amount of tokens. There is no correct option, we are just interested in hearing about your own preferences. You can choose to put as many tokens as you wish in any of the risks in the board. However, you must use all 20 tokens.

*[Everybody needs their own board and 20 tokens. Once all farmers assign their tokens individually, the facilitator collects and writes down in the following table the number of tokens placed on each risk.*

*The facilitator then needs to identify the 2 risks considered as most important by all (or the majority) of farmers. For this, exclude “hail” and “pests and diseases”. After announcing these 2 main risks out loud, the facilitator asks farmers whether they agree with this ranking. Once a consensus is achieved, continue with Section 3 only for these 2 risks.]*

**Table 2.2 - Farmer's Risk Preferences**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | **Excess rain/Unseasonal** | **Hail** | **Pests and diseases** | **Winds** | **Not much cold** | **Total** |
| 1 |  |  |  |  |  | 20 |
| 2 |  |  |  |  |  | 20 |
| 3 |  |  |  |  |  | 20 |
| … |  |  |  |  |  |  |

**Section 3. Weather Insurance**

*[The questions below should be done only for the 2 risks identified above as most important (item (i) is common to “excess rain” and “unseasonal rains”).]*

Now, we would like to discuss possible solutions to cover against some of the risks above. In particular, we are interested in discussing how to best identify the risks when they occur using *simple* rules. Bear in mind that your answers may contribute to the design of insurance products that will potentially be offered at a later date.

1. **Excess rain/Unseasonal rains:** “Crop losses occur when it rains hard over a number of days”

*[More than one answer is possible, e.g. 1 day of very heavy rainfall, or 5 days of continuous moderate rainfall. Alternatively, risks could arise differently over different periods of time. Questions a through d should be done separately in these situations.]*

* 1. How much rain could be a problem for your crop?
  2. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. How much rain could completely destroy your crop?
  2. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. Over which exact period of time can the above situations happen?

From \_\_\_\_\_\_ [week/month] to \_\_\_\_\_\_ [week/month]

* 1. How interested would you be in purchasing a product that would pay a fixed amount of money after the conditions above? (in percentage)
  2. If millimeters are measured at a weather station in a different location from your plot. How far away can this station be for you to trust that it will identify these amounts of rainfall occurring at your plot?

\_\_\_ kilometers.

1. **Strong winds:** “Crop losses occur when strong winds happen at my plot”
   1. What is the minimum wind speed at which you can start experiencing losses?

\_\_\_ kms. per hour *[Or alternative local measure]*

* 1. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. What wind speed would you consider strong enough to produce catastrophic crop losses?

\_\_\_ kms. per hour *[Or alternative local measure]*

* 1. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. Over which exact period of time can the above situations happen?

From \_\_\_\_\_\_ [week/month] to \_\_\_\_\_\_ [week/month]

* 1. How interested would you be in purchasing a product that would pay a fixed amount of money after the conditions above? (in percentage)
  2. If wind speed is measured at a weather station at a different location from your plot.

How far away can this station be for you to trust that it will identify the wind speed occurring at your plot?

\_\_\_ kilometers.

1. **Not much cold:** “Crop losses occur when high temperature continues over a number of days”

*[More than one answer is possible, e.g. 1 day of very high temperature, or 5 days of continuous high temperature. Alternatively, risks could arise differently over different periods of time. Questions a through d should be done separately in these situations.]*

* 1. How many days of high temperature is the minimum necessary to start experiencing crop losses?

\_\_\_ days with maximum/average temperature above \_\_\_ degrees.

* 1. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. How many days of high temperature are sufficient to experience total crop loss?

\_\_\_ days with maximum/average temperature above \_\_\_ degrees

* 1. How often would you say that the above condition occurs?

1 out of \_\_\_ years

* 1. Over which exact period of time can any of the two conditions above happen?

From \_\_\_\_\_\_ [week/month] to \_\_\_\_\_\_ [week/month]

* 1. How interested would you be in purchasing a product that would pay a fixed amount of money after the conditions above? (in percentage)
  2. If temperatures are measured at a weather station in a different location from your plot. How far away can this station be for you to trust that it will identify not much cold occurring at your plot?

\_\_\_ kilometers.

*[If more than one answer is recorded for a certain risk, treat these as two separate and independent risks by adding an additional line in the table]*

**Table 3.1/3.2 – Weather Insurance Design**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Risk** | | **Crop losses start** | | | **Total crop loss** | | | **Relevant Period**  **(e)** | **Interest**  **[1-10]**  **(f)** | **Max. Distance**  **(g)** |
| **Trigger (a)** | **# Days (a)** | **Freq. (b)** | **Trigger (c)** | **# Days (c)** | **Freq. (d)** |
| 1 |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |  |

**Section 4. Climate-smart practices**

In this last section of the focus group I would like to introduce some agricultural practices that are already being adopted by some of your fellow farmers. We will start with a brief introduction of the main agricultural practices that we want to discuss today.

Introduction of climate-smart (CS) agricultural practices

1. Residue Management
2. Zero Tillage

I would like now to ask you about your experience with these different practices with respect to the Rabi wheat crop. In particular, I would like to know for each of these:

1. Have you ever implemented it? For how many Rabi seasons?
2. Are you currently implementing it?
3. Do you think this practice can improve/reduce your yields compared to regular practice? By how much (in %)?
4. Do you think the cost will be higher or lower (in Rs.)?
5. Do you think you will use more or less labor (in days of field labor)?
6. Is adopting this practice beneficial to overcome any of the risks discussed? If so, please specify.
7. Would having an insurance product that protects against losses encourage you to adopt this practice? Why?

**Table 4.1 - Residue Management**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | **Ever implemented? (# of seasons)**  **(a)** | **Currently implement-ting?**  **(b)** | **Yield gains/loss**  **(%)**  **(c)** | **Costs/ gains (Rs.)**  **(d)** | **Labor costs/gains (days)**  **(e)** | **Changes risk exposure?**  **(f)** | **Insurance would encourage?**  **(g)** |
|  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |

**Table 4.2 - Zero Tillage**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Far-mer #** | **Ever implemented? (# of seasons)**  **(a)** | **Currently implement-ting?**  **(b)** | **Yield gains/loss**  **(%)**  **(c)** | **Costs/ gains (Rs.)**  **(d)** | **Labor costs/gains (days)**  **(e)** | **Changes risk exposure?**  **(f)** | **Insurance would encourage?**  **(g)** |
|  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |

**Section 5. Satellite/Picture Insurance**

Now, we will discuss possible solutions for those risks whose effects can be seen directly from simple observation of the crop. We want to introduce two alternative approaches:

***Remote sensing/Satellite***

Through the use of images taken from satellites in regular intervals it is possible to identify the general crop conditions in a medium-size area. These measurements, however, represent an average of the growth conditions of all crops and other plants (including trees) in the area, and it is not possible to identify specific plots of land or losses occurring in only one plot or one type of crop. A product like this can capture big weather events that damage most plants in the area equally, like for example very heavy rains or not much cold. Moreover, it is easy to manage and verify and can be offered at a cost relatively lower than other similar products.

1. Do you think a product like this would be able to capture average losses in your crops?
2. What are the main advantages of this product (if any)?
3. What are the main disadvantages of this product (if any)?
4. What is the maximum area than can represent the average condition of your own crops? (for example, village, 2 km radius, etc.)

***Picture based***

A different approach is to take pictures of your field/crops by using (1) either fixed cameras mounted on a pole or (2) through taking pictures yourself with your own cell-phone at certain specified periods of time. In either alternative, if you experience a loss you can make a claim and the pictures can be used to assess remotely whether any visible loss exists and to pay you based on the decision made by experts.

1. Do you prefer alternative (1) fixed camera or (2) pictures with your own cellphone?
2. Do you think a product like this would be able to capture most of the losses in your crops?
3. What are the main advantages of this product?
4. What are the main disadvantages of this product?

***General questions***

1. Which product would you prefer (satellite or picture based)? Bear in mind, however, that the picture based product would be more expensive to maintain.
2. Would a product like this work better for you than a product measuring weather as discussed in the previous section?

**Table 5.1 – Satellite/Picture Insurance**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Consensus** | **Satellite** | | | | **Picture based** | | | | **Satellite or picture based? (every farmer)**  **(i)** | **Insurance based on images or weather? (every farmer)**  **(j)** |
| **Able to capture losses?**  **(a)** | **Advan-tages**  **(b)** | **Disadvan-tages**  **(c)** | **Area size**  **(d)** | **Fixed or self (every farmer)**  **(e)** | **Able to capture losses?**  **(f)** | **Advan-tages**  **(g)** | **Disadvan-tages**  **(h)** |
| 1 |  |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |  |