

Holistic Agriculture Risk Management in Odisha

Classroom Training Manual



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Contributors: Yashodha¹, Prakash Chellattan Veettil¹, Vikram Patil¹, Joshep Devid Vecci², Victoria Baranov³, Deepti Saksena¹

1 International Rice Research Institute (IRRI), 2 University of Gothenburg, 3 University of Melbourne

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For queries and feedback please contact:

Yashodha

International Rice Research Institute
Plot No–340/C Sahid Nagar, Bhubaneswar- 751007
Odisha, India; Tel: 9337174505

Vikram Patil

International Rice Research Institute
Plot No–340/C Sahid Nagar, Bhubaneswar- 751007
Odisha, India; Tel: 8971353928

Contact us:

Project Office:

International Rice Research Institute

Plot No–340/C Sahid Nagar, Bhubaneswar- 751007
Odisha, India; Tel: 0674- 2584949

Country Office:

International Rice Research Institute

First Floor, CG-Block, NASC Complex
DPS Marg, Pusa Campus, New Delhi - 110 012, India
Tel: +91-011-6676 3000 Fax: +91-011-2584 1801

Table of contents

Content	Page
<u>About the project</u>	1
<u>Message to the trainer</u>	2
<u>Crop insurance program</u>	3
<u>A psychological component to build the self-efficacy of farmers</u>	11
<u>Farmers experience with insurance</u>	13
<u>Stress-tolerant rice varieties termed as STRVs</u>	18
<u>Farmers experience with STRVs</u>	20

Increasing Productivity of Rice-Based Cropping Systems and Farmers' Income in Odisha

Introduction: IRRI in collaboration with the Department of Agriculture in Odisha is working under the five years' project "Increasing Productivity of Rice-based Cropping Systems and Farmer's Income in Odisha", coined in 2016. The project aims to enhance food and livelihood security for poor and marginal farmers along with the inclusion of women and youth in Odisha by increasing the productivity of rice and rice-based cropping systems by catalyzing change with new and improved technologies, methods and delivery systems. The project involves five main streams namely, improvement of seed systems, utilization of fallow lands, agronomic management of rice cultivation, development of a risk assessment and prediction system and attain holistic risk management in Odisha.

Comprehensive crop insurance

Agriculture in Odisha is characterized by low productivity on account of various factors. Abiotic stresses are the most important yield-limiting factor. Almost 1.15, 1.25 and 0.15 million ha rice area in Odisha is prone to flood, drought and soil salinity. On top of these inherent risks, the climate change increases the uncertainty to a greater magnitude that most farmers unable to face by traditional option such as adjusting planting dates etc.

Among many risk management strategy, climate smart varieties which are tolerant to flood and drought is one of the viable option for farmers to cover the low intensity risks. On the other hand, crop insurance in India is an financial safety net program initiated by Govt. of India which covers most of the farm related risks. In order to manage the farm risks in a holistic manner, combination of strategies should be used.

This sub-project aim to estimate the farmers preferenced method of risk management and estimate the reduced premium on crop insurance by linking it with risk reducing technologies like flood or drought tolerant rice varieties and real time assessment of crop damage to settle claims quickly.

Intervention: Educational intervention on Holistic Agriculture Risk Management

The intervention mainly aimed to reducing the informational gap at farmers level by providing detailed information on different risk management strategies. Among many, classroom training is one of the classical ways of information dissemination. The training provides detailed information to farmers on crop insurance and stress-tolerant rice varieties (STRVs) suitable for Odisha.

Message to the trainer

The audience of the training is farmers. The training is intended to educate the farmers about crop insurance and stress-tolerant rice varieties. The manual details the concept of insurance, the crop insurance program called Fasal Bima Yojana (PMFBY), rice varieties which are stress tolerant suitable for Odisha and a few farm examples. The manual helps the trainer to understand the concepts, cross-check the details and recite them in an effective way during the training. The manual consists of three important components in the following order.

- Crop insurance program
- A psychological component to build the self-efficacy of farmers
- Stress-tolerant rice varieties termed as STRVs

All the instructions to the trainer in the manual are italicised, marked in red color and placed in the bracket. The trainers are supposed to follow the do's and don'ts mention below

Do's:

- Use the exact definition of the concept as mentioned in the manual
- Use examples where ever needed to increase the farmers understanding
- After every concept explanation, have a discussion with farmers to learn their understandings and repeat the concept, if needed
- Also, have a group discussion after each component. If the discussion diverts from the topic of the discussion, try to bring it back to the topic
- Encourage all the participants to participate in the discussion / participate actively in the training program
- Always keep the information clear and use an informative tone. Stay politically neutral

Don'ts:

- Do not suggest or direct farmers to purchase any product. Farmers should be given information about these products such that farmers have to decide by themselves given their farming and other relevant context. This is vital. If farmers ask you your opinion say that there are no right or wrong decisions and it is completely up to them
- Don't say the product is subsidized by any political party or name of the government
- Don't indulge in any political talk

Introduction

Namaste!

Welcome to the training on holistic agriculture risk management

This training mainly aims to provide detailed information on ways to mitigate agricultural risk management with a special focus on weather-related risks. Among many ways of agricultural risk mitigation, we are mainly going to detail how crop insurance and stress-tolerant rice varieties can be a potential strategy to mitigate climatic risk in Odisha state.

I will start first with –

I. Crop insurance

How many of you know about the crop insurance called Pradhan Mantri Fasal Bima Yojana (FBY) also called Fasal bima yojana?

[Trainer: Record the number of farmers who said they knew about the Fasal bima yojana. Also, interact with 2-3 farmers on what they know]

- Crop insurance is a policy purchased by farmers to protect their revenue against crop losses/damage due to natural disasters. Similarly to the vehicle insurance against accidental damage, LIC for life and health insurance
- In India including Odisha, there is only one policy available for farmers to insure their crop, called Fasal Bima Yojana. Sources say, most of the farmers in Odisha state are unaware of Fasal Bima Yojana and thus do not use it

1. What is the aim of Fasal Bima Yojana?

- Fasal Bima Yojana is a government-initiated crop insurance program. Fasal Bima Yojana is intended to protect the farmers against financial losses due to climatic risk such as flood, drought, pest and diseases and localized calamities through compensating the loss
- Like LIC one can also register for FBY by paying a small premium amount

2. What are the losses the FBY covers?

FBY, covers 4 major types of losses:

[Write the types of losses on the whiteboard numbering them]

- Losses due to planting or germination failure –
- This means when farmers are unable to undertake sowing/transplanting after field preparation due to drought/flood or in case of germination failure after sowing are covered
- Standing crop yield loss; due to flood, drought, pests and diseases outbreak, dry spells or sudden cyclones are covered
- Yield losses that happen during the post-harvest time due to unseasonal rains/ cyclones are covered
- Crop loss due to localized natural calamities like hailstorm, lightning, storm, landslide, inundation, and fire are also covered

3. What are the crops for which FBY is applicable?

FBY covers several crops:

- In Kharif season, crop like Rice, Groundnut, Maize, Pigeon Pea, Ginger, Cotton, and Turmeric are covered
- In Rabi season crops like Rice, Black gram, Green gram, Groundnut, Mustard, Onion, Potato, Sugar cane, and Sunflower are covered

4. Who are eligible to apply/register for FBY?

- All farmers, including sharecroppers and tenant farmers, are eligible for registering for FBY

5. Where should one register for FBY?

For loanee farmers:

- Farmers who have taken a loan from Banks/Cooperative Societies (PACs), the banks automatically register such farmers into FBY

For non-loanee farmers:

- Farmers who have not taken crop loans from Banks/Cooperative Societies (PACs) need to voluntarily register either at
- The Jana Seva Kendra located in the Gram Panchayat

- And one can also register themselves using an online portal of FBY at <https://pmfby.gov.in/>

6. What are the documents required to register for FBY?

- In order to register for FBY, land records like Patta, Sowing certificate from the panchayat, bank passbook, Adhar card, and mobile number are needed
- For the sharecropper or tenant farmer, declaration form from the landlord or sarpanch is needed

7. When to register for FBY?

For Rice crop,

- For Kharif season one need to register before 31st July every year
- For Rabi season one need to register before 31st December every year

{Handout the FBY leaflets which contains all the information mentioned till now about FBY and ask farmers to refer it in case if they need to remember any details later in time}

Question session 1

- Did you understand what I have explained till now?
- Did you have any questions? *{Answer them if they have any question}*

Ask two 2 cross-checking questions to check about their understanding!

Q1. Does Fasal Bima Yojana cover Brown planthopper infestation in Rice crop?

Ans: Yes / No

Q2. The last date to register for fasal bima yojana for Kharif season is

Ans: 30th June or 31st July

*[Allow them to **discuss in the group for 5 minutes**. Resume back to explanation phase]*

8. What is premium and how much premium do you need to pay for FBY?

- Premium is an amount of money that one pays regularly for an insurance policy to secure against the damages/loses. Frequency of payment could be either monthly or once in six months
- Under Fasal Bima Yojana, the premium varies across the district. The government subsidizes the premium, so farmers have to pay a nominal amount only

- For Rice, the **total premium varies from Rs. 600 to 3900 per acre**, but after subsidy farmers' share ranges between **Rs. 324 to 519 per acre**

9. How much is compensation under FBY?

- The compensation depends on the percentage of yield loss. Under the **complete crop loss**, farmers could receive a compensation amount **between Rs. 16000 and Rs. 26000 per acre**
- The compensation amount varies from district to district which mainly depends on yield potential and cost of cultivation
- Once the Government notifies the area as 'affected', the respective insurance company assigned for the district will process the claim amount within 2 weeks

10. How is the loss calculated/assessed in FBY?

- The government is responsible for loss assessment
- Weather risks, like drought, flood, etc usually affect the entire village area and not just individual plots. Therefore, the GP loss is considered for loss notification and compensation payment in FBY
- In FBY, the government calculates the yield loss at the Gram Panchayat (GP) level, not at the level of the individual plot.
- Government notifies those GP's which have faced loss. Accordingly, the compensation amount is decided for the insured farmers in that GP.
- That is, only if the GP has suffered from crop loss, and is notified as affected; only then the claims are paid to all the registered farmers in a GP.
- Weather risks, like drought, flood, pest and disease, etc usually affect the entire village area and not just individual plots. There is a high chance that many farmers will be impacted in not only one village but surrounding villages if a negative weather risk occurs. Therefore, GP loss is considered for loss notification and compensation payment.

Question session 2

- Did you understand what I have explained now?
- Did you have any questions? *{Answer them if they have any question}*

Ask two 2 cross-checking questions to check about their understanding!

Q1. Who does crop loss notification in FBY?

Ans: Govt. of Odisha or Insurance company

Q2. IF you are registered for FBY, and your GP is not notified as loss. Would you get compensation?

Ans: YES or NO

[Allow them to discuss in the group for 3 minutes. Resume back to explanation phase]

11. How different losses are evaluated by the government?

1. Loss due to planting or germination failure:

- Remember: Planting failure means farmers were unable to sow or transplant in the field after field preparation; due to drought or flood.
- If more than 75% of the farmers in the Gram panchayat were unable to sow or a transplant, then the government announces those GP as 'loss' suffered from planting failure.
- Farmers who have registered for FBY in those GP's receive compensation of 25% of the total compensation amount. That is about Rs. 4000 to Rs. 6500 per acre.
- {Write the formula $Rs. 16000 \times \frac{25}{100}$ or $Rs. 26000 \times \frac{25}{100}$ }

[Use the whiteboard to demonstrate]

- Farmers need to note that, once the claim is settled for prevented sowing loss, the insurance contract will be terminated.

2. Yield loss on standing crop

- This includes any loss suffered after crop establishment and until harvest due to flood or drought or pest and disease outbreak.
- To assess the yield loss, the government conducts Crop Cutting Experiments (CCEs). In each GP, four CCEs are conducted in four randomly selected plots.

{Show the pictures and props of CCE which indicated 5 by 5 m crop cutting. If needed, demonstrate this process using white board}

- From the CCE, Government calculates the average yield of the GP.
- To calculate the percentage yield loss, the average yield of the GP is compared with the GP's previous 5 seasons normal yield.
- If the calculated yield loss is at least 30%, then the government announces those Gram Panchayats as "Yield Loss' GPs. This is a very important criteria for declaration of crop loss, which most farmers need to be aware of.
- All the farmers registered for FBY in those gram panchayats will receive the compensation amount.
- But, the compensation amount depends on the percentage of loss suffered by the GP
- Compensation amount = Percentage loss of GP X total compensation amount

{Trainer can use an example to demonstrate using whiteboard: Assume, the normal GP yield is 15Quintal.

- ❖ *Suppose the current season CCE estimated average yield is 12Q. the crop loss percentage is calculated as*
- ❖ *Crop loss = $\frac{15-12}{15} * 100 = 20\%$ → Since the crop loss is less than 30%, GP will not be considered as a loss.*
- ❖ *Suppose current season CCE estimated average yield as 10Q, then*
- ❖ *Crop loss = $\frac{15-10}{15} * 100 = 33\%$ → Since the crop loss is more than 30%, GP will be considered a loss. In such case, compensation amount = 3% * total compensation amount}*

3. Post-harvest yield loss due to unseasonal rains

- FBY covers the yield loss after the crop harvest that affected due to unseasonal rains. In this, the loss is assessed at the individual plot level.
- In this case, the affected farmers have to directly inform the concerned authority within 3 days of damage occurrence.

- They could inform either the insurance company or concerned bank, or local agriculture department or district officials or through using toll-free number **011-23381092 or 011-23382012**.

{Trainer needs to show the prop of a toll-free number for post-harvest loss}

- A government loss assessment committee will assess the loss through physical examination and decide the compensation amount which is proportional to the percentage loss.

Question session 3

- Did you understand what I have explained now?
- Did you have any questions? *{Answer them if they have any question}*

Ask two 2 cross-checking questions to check about their understanding!

Q1. In order for the govt to announce GP as “loss due planting failure” what proportion of farmers in the GP should have suffered from planting failure?

Ans: 50% or 75% or all the farmers in the GP

Q2: For govt to announce a GP as “yield loss” due to drought, to what extent the GP should have experienced the yield loss?

Ans: At least 10% yield loss compared with GP’s previous 5 seasons normal yield (or)

At least 30% yield loss compared with GP’s previous 5 seasons normal yield

[Allow them to discuss in the group for 5-7 minutes. Resume back to explanation phase]

12. Recap of FBY

In order for farmers to remember important details about FBY, give a recap with 5 points.

- FBY covers losses due to planting failure, standing crop loss, and Post-harvest losses and losses due to localized calamities
- FBY compensate for average loss at the GP level, not at the individual plot losses.
- If more than 75% of the farmers in a GP are unable to sow or transplant rice, insured farmers in those GP gets compensation
- If yield loss due to flood or drought or pest and diseases is 30% and more in a GP, then all insured farmers in that GP will get compensation and the amount depends on the extent of the loss.

- In case of post-harvest losses due to unseasonal rains, farmers have to inform the local authorities within 3 days of damage.

Question session 4

- Did you understand now how the yield losses are assessed?
- Did you have any questions?

[Answer them if they have any question and address them. Resume back to explanation phase]

13. What is basis risk?

[Use a whiteboard to demonstrate this]

There could be some instances where you may or may not receive the compensation when you suffered or didn't suffer loss depending on the loss notification at GP level. There are two explanations for this

- A farmer who has registered for FBY, may not receive the compensation amount even if he/she has lost the crop but the GP is not notified as LOSS.
- A farmer who has registered for FBY, may receive the compensation amount even if he/she did not face any crop loss and GP is notified as LOSS.

Given this, farmers may face three possible situations.

1. First case: when "a farmer" faced "loss", and "GP" is notified as "loss".

- In this case, farmer faces loss as does the majority of those in the GP
- So the farmer gets compensated for the loss suffered.

2. Second case: when "A farmer" faced "loss", and "GP" is notified as "No loss"

- In this case, farmer loss is far higher than average Gram Panchayat loss
- So the farmer doesn't get compensation for his/her loss.

3. Third case: when "A farmer" faced "No loss", and "GP" is notified as "loss".

- In this case, farmer loss is lower than the average Gram Panchayat loss,
- So the farmer still gets compensated even when he/she didn't endure loss.

That means, the compensation payment depends on whether the GP is notified as LOSS and the probability the average loss in the GP is equivalent to individual farmers LOSS.

Question session 5

- Did you understand what is the chance of getting compensation when you faced loss and your GP notified loss?
- Did you have any questions?

Ask two 2 cross-checking questions to check about their understanding!

Suppose think that out of 500 farmers in the village, 100 farmers suffered from the yield loss up to 50% due to drought and only 20 of them registered for FBY.

Q1. How many farmers will receive compensation under what condition?

Ans: IF GP announced as loss, 20 if those insured farmers get the compensation

Q2. What determines the compensation amount?

Ans: Percentage of yield loss.

[Answer them if they have any question. Resume back to explanation phase]

II. A psychological Component

{Since we have introduced many concepts farmers may feel there is too much information. Many of these concepts are new to them. They may not understand them and may look confused. But you as a trainer know that it is not hard to learn them. It just needs some repetition and their firm attention. Therefore, you as a trainer has to build their confidence to lean and boost their mindset that they can learn. Further, many farmers may think that changing their current practices is too hard and difficult, you need to help them realize that they can improve their situation. Therefore, you have to read/dramatically explain the following component to build their learning ability and their willingness to change their behavior }

I have introduced many concepts related to FBY and explained them in detail. I see some of you look very confused. Few of you said these concepts are complex for farmers to understand.

I agree this may be a lot of information for you. Many farmers in Odisha, like you, are going away without registering for FBY, because you think you can't understand it or that actually registering is too difficult. While others think it does not matter because they can't improve their agricultural outcomes.

This belief of not being able to understanding complex things is only a belief. **Believe me, it is not true, you can understand and influence your agricultural outcomes.**

Look, to make it easier to understand and undertake any action you should break each task into steps and just think through and follow each individual step. Things become easier when you break them down into steps.

Alternatively, you can acquire this knowledge and influence your agricultural outcomes by setting goals, that is what you want to achieve, and following them until you achieve them irrespective of the obstacles and challenges.

Remember, many things looks very difficult at a glance such as registering for FBY or changing your agricultural practices, but an important step is believing that you can accomplish what you want to accomplish. It is one of the most important ingredients for success in life.

Mahatma Gandhi said: *"If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning."*

Now you recall all the steps I explained to you and connect them with what I have explained.

Life Stories of Farmers

[the Following story needs to be read out loud by trainer]

We met few farmers who are had difficulty or suspicion about taking up fasal bima yojana. Here I read out his experience.

Farmer 1 experience

His name is _____ from _____ Village of Puri district. When he heard about the FBY he was suspicious whether it will be of use to him. Because he wanted to learn and experience he has registered his Rice crop during Kharif 2016. He has faced small damage..... continues after the video clips.

Now you heard a farmer's experience in the insurance. Tell me, how many of you faced difficult times to understand the insurance and has suspicion about its usefulness? Tell your experience in regarding with what <Name of farmer> expressed.

- Can you think of and discuss a time when you have done something that has led to an improvement in agricultural output?

{Trainer need to pick a farmer who had experience with FBY or has closely seen other farmer who experienced FBY and shares their experience with insurance. Also, explain how they managed weather risk before insurance and how they felt mentally when they faced loss. How they transformed themselves to go for crop insurance and how they understood it and whether it helped them?. Give 10 minutes}

*Ask everyone to be silent and listen to the story of the fellow farmer. **Trainer need to thank those farmers for sharing their transformation and which is a great example and truly inspiring for other farmers.***

*[*NOTE: sometimes the stories would turn very emotional and someone might cry, please manage the situation accordingly and bring it back to the for the point of discussion]*

Question session 6

- Think of 2-3 goals related to farming. In other words, what do you want to achieve?
Write them down
- I hope now have motivated to learn and understand the things which looked complex to you?

Now you recap about FBY and each one of you identify what are the things you didn't understand and make a list of them and discuss in the group of 3 about it.

{PUT-OUT recap of FBY chart and let them discuss in the group}

{Resume back to explanation phase}

Examples

[Trainer should demonstrate the following example for farmers using the whiteboard]

Let me now explain to you, FBY with examples works in real life.

Let us consider that,

- You have 1 acre of land and planning to cultivate in Rice Kharif season
- In normal season you get 14 quintals of yield and get a price of Rs. 1500 per quintal.
- You have to incur the cost of
 - Rs. 2500 for land preparation,
 - Rs. 7500 for Fertilizer and other inputs, and
 - Rs. 2000 for Harvesting and threshing.
 - Rs. 400 on premium if you register for FBY, which compensates up to Rs. 20,000 per acre.

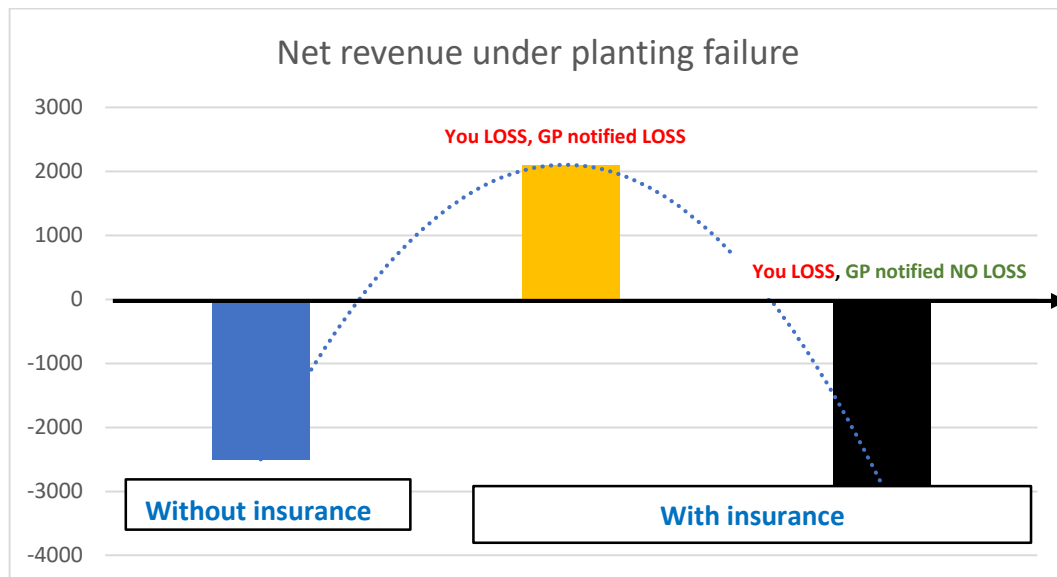
Take example 1:

Suppose you prepared your land, but **unable to take up transplanting due to drought**. In such a case, you get **NO YIELD** and incur a cost of Rs. 2500 on land preparation.

- a) If you have **not registered for FBY** you are under a **loss of Rs. 2500**
- b) IF you have **registered for the insurance program**, and **GP is notified as “LOSS”**-
 - In this case, the insurance company pay you 25% of compensation amount; that is Rs. 5000.
 - In spite of not being able to transplant, because you registered for insurance, you end up earning Rs 2100 as net revenue which is after deducting Rs. 2500 for land preparation and Rs. 400 on premium from compensation amount of Rs. 5000.
- c) IF you have **registered for the insurance program**, and **GP is notified as “NO LOSS”**-
 - In this case, even if you have insured your crop, and incurred loss by unable to transplant, you will not receive any compensation. Because on average GP has not suffered from loss

- In this case, you do not earn anything from the crop.
- Instead, you incurred a loss of Rs. 2900, of which Rs. 2500 towards land preparation and Rs. 400 towards premium.

Graph1:



Graph 1: Net revenue under planting failure

{Show graph 1 to farmers and explain it as follows}

When you face **planting failure**, and

- In case if your GP announced as “loss”, you earn more under insurance.
- However, in case if your GP announced as “No loss”, you end up losing more under insurance.

Question session 7

- Did you understand now different scenarios when you face planting failure? In case NO, repeat it
- **[Resume back to Example 2]**

Take example 2:

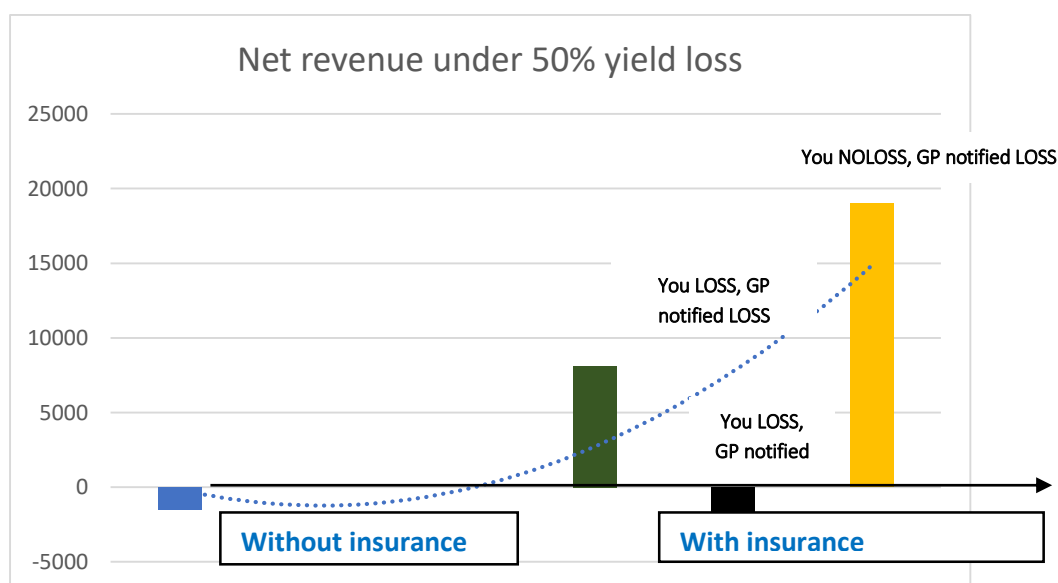
Now think that your crop is established. You lost 50% of the yield due to drought

- That means, you got only 7 Quintal instead of the normal 14 quintals.
 - You have incurred the cost of cultivation of Rs. 12000 of which Rs. 2500 on land preparation, Rs. 7500 on fertilizer and other inputs, and Rs. 2000 per harvesting and threshing cost.
 - At Rs. 1500/Q, you will earn a revenue of Rs. 10,500 for 7Q.
- a) If you have not registered for insurance**
- Your crop revenue is Rs. 10500 and cost for cultivation are Rs. 12000. Therefore, you now have a **loss of Rs. 1500**
- b) IF you have registered for insurance, and GP is notified as “LOSS”-**
- Then your total cost of cultivation now is Rs. 12400 of which Rs. 12000 towards input cost and Rs. 400 towards premium.
 - And your crop revenue from 7 Q yield is Rs 10500.
 - As you are insured, you also get 50% of the compensation amount, Rs. 10000 for 50% yield loss.
 - Therefore, you earn total gross revenue of Rs. 20,500 (That is, the sum of compensation amount of Rs. 10000 and Crop revenue of Rs. 10500).
 - After deducting the cost of cultivation of Rs. 12400 from gross revenue of Rs. 20500, your **net revenue is Rs. 8100!**
- c) IF you have registered for insurance, and GP is notified as “NO LOSS”-**
- Now in this case, even if you had insured your crop, and faced 50% yield loss, you do not get any compensation
 - So your total gross revenue would be Rs. 10500 and
 - You incurred a cost of Rs 12400 (That is Rs. 12000 on the cost of cultivation and Rs 400 for crop insurance)
 - So now your **total loss is Rs 1900** (that is your total cost of cultivation of Rs. 12400 minus your gross revenue of Rs.10500).

d) IF you have registered for insurance, and You faced NO LOSS but GP is notified as “LOSS of 50%”-

- In this case, you get the compensation amount of Rs. 10000 for 50% yield loss in spite of not incurring yield loss.
- So you also get the crop revenue of Rs. 21000 from selling 14 quintals at the price of Rs. 1500 per quintal.
- So your total gross revenue will be Rs. 31,000 (That is crop revenue of Rs. 21000 plus the insurance compensation received of Rs. 10000).
- So your total **net revenue will be Rs. 18600** (That is your revenue of RS 31,000 minus your total cost of cultivation of Rs 12,400).

Graph 2:



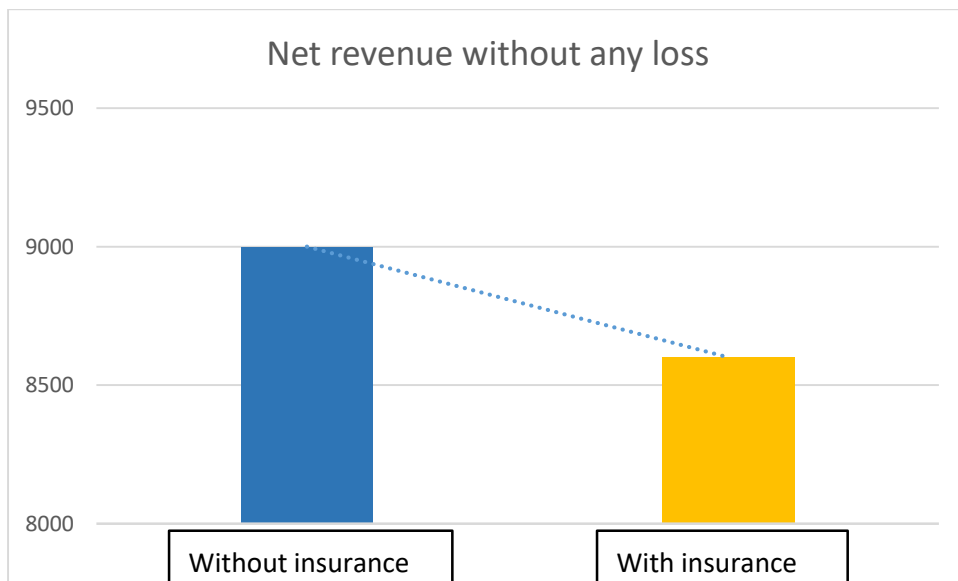
Graph 2: Net revenue under 50% yield loss

{Show graph 2 to farmers and explain it as follows}

Look at these graphs. When you face a 50% yield loss, and

- In case your GP is announced as “loss”, you earn more under insurance.
- In case if your GP announced as “No loss”, you end up losing more under insurance
- However, in case if your GP announced as “loss”, and you have not faced loss, you end up earning the most under insurance

Graph 3:



Graph 3: Net revenue under NO loss

{Show graph 3 to farmers and explain no loss case}

- Without any weather-related loss, you earn more without insurance

Question session 8

- Did you understand now different scenarios when you face yield loss and no loss?
In case NO, repeat it with graphs!
- *[Resume back to STRVs explanations]*

III. Stress Tolerant Rice Varieties (STRVs)

As I said before, there are many ways to manage production risk caused due to weather-related factors. One such way is to adopt Stress Tolerant Rice Varieties (STRVs).

The researcher has developed and tested varieties which are tolerant to drought and flood situations. Growing such drought or flood-tolerant rice varieties would save you from low damaging drought or flood situation.

Flood tolerant Rice varieties:

International Rice Research Institute (IRRI) has developed flood-tolerant rice varieties which are suitable to low lying areas in Odisha. Namely **Swarna Sub1, BINA-11, CR1009-sub-1**. A number of farmers have adopted these varieties in the coastal districts of Odisha.

These varieties can tolerate submergence up to 14 consecutive days, without affecting the yield. Their average yield is about 20 Quintals per acre even under low-intensity flood.

That means, under light/flash flood conditions these varieties yield nearly 8 Quintals more compared to other susceptible rice varieties.

{Handover the STRVs leaflets to all the farmers and read the variety names available in Odisha}

Drought tolerant Rice varieties:

You know the absence of rain continuously for 7 days during flowering and grain filling stage in Rice, reduces the yield by 4-5 quintals per acre.

Rice scientists from IRRI have also developed drought-tolerant rice varieties which are suitable for upland condition. The varieties **named Sahbhagi Dhan, and DRR44** which can tolerate about 10-12 days of drought conditions.

Average yield potentials of these varieties are 17Q/acre. Under low-intensity drought (10-12 days of a dry spell), these varieties provide yield advantage about 4-5 quintals per acre compared to other varieties. These varieties are now promoted by the Odisha government.

{Read out the drought tolerant variety names available in Odisha}

Govt. of Odisha is also promoting Stress-tolerant rice varieties for farmers to adapt to deal with drought and flood. These varieties cost Rs. 30 per kg of seed, which is similar to any other varieties you buy. You can get these varieties from govt. seed distributors such primary agricultural cooperative societies, and also available in private dealers shops where the price might vary.

Question session 9

- Do you have any question about Stress Tolerant Rice Varieties (STRVs)?
- **Ask farmers if they have understood it. In case NO, repeat it**

This varietal leaflet has details about varietal suitability, duration, yield and grain quality of flood and drought tolerant rice varieties suitable for Odisha. Please keep it for your reference.

[Handover the STRV leaflet to all the farmers in the training hall]

LIFE STORIES OF STRVs ADOPTED FARMERS

[the Following story needs to be read out loud by trainer]

We met a few farmers who have adopted the flood and drought tolerant rice varieties in Odisha. We enquired them about their experience with risk management, where they heard about these varieties, and what is their experience after they adopted these varieties. Here I read out his experience.

Farmer 2 experience

The farmer name is _____ from ____ Village of Puri district. When he heard about the FBV he was suspicious whether it will be if use to him. Because he wanted to learn and experience he has registered his Rice crop during Kharif 2016. He has faced small damage..... continues after the video clips.

Now you heard a farmer's experience with stress-tolerant rice varieties. Tell me, how many of you faced difficult times with flood or drought? And had a suspicion about the usefulness of these varieties? Tell your experience in regarding with what <Name of farmer> expressed.

{Trainer need to pick two farmers who had experience with stress-tolerant rice varieties or have closely seen other farmer who had adopted stress-tolerant rice varieties and share their experience. Give 10 minutes to that selected farmer to explain how they managed weather risk before STRVs and how they felt mentally when they faced loss. How they transformed themselves to go for stress-tolerant rice varieties and how they understood it and whether it helped them?}

*Ask everyone to be silent and listen to the story of a fellow farmer. **Trainer need to thank those farmers for sharing their transformation and which is a great example and truly inspiring for other farmers.***

*[*NOTE: sometimes the stories would turn very emotional and someone might cry, please manage the situation accordingly and bring it back to the for the point of discussion]*

Thank you:

Thank you very much for your patience and kind cooperation. I hope this training is informative and help you make better farm decisions to manage the agricultural losses for climatic risks.

All the very best for Kharif season. Thank you all again.

