

Making field observations: Reproductive phase

This module is the continuation of Modules 11, 14 and 18, and covers observations to be made about two to three months after transplanting, during the reproductive phase of the rice crop.



Learning objectives

At the end of this module, farmers will be able to:

- Review the importance of making regular field observations, enabling them to analyze crop development, its environment and production practices, as well as to take decisions for appropriate action.
- Decide on the observations to be made and on the ‘observation indicators’ specifically related to the reproductive phase.
- Record the information on the recording form.

- 1 Recall the principles of making observations and determining observation indicators.
- 2 Make field observations in sub-groups.
- 3 Summarize observations in plenary session.
- 4 Introduce page 5 of the recording form for the IRM field.



Procedure

1. Farmers and the PLAR-IRM team meet at the PLAR-IRM Center. The facilitator briefly reviews the previous module and invites farmers’ feedback. The facilitator asks if the farmers have put in place any new practice on their IRM fields.
2. One of the PLAR-IRM team members explains the learning objectives and procedures for the current module.
3. The facilitator recalls the importance of observing and the concept of ‘observation indicator’ (Modules 11, 14 and 18), and invites the farmers to present the filled-in pages of the recording form for their IRM fields. Difficulties in filling out the recording form are discussed.
4. The facilitator explains the field-observation *procedure* in PLAR-IRM.
 - The farmers are divided into four sub-groups of four or five farmers.
 - A farmer-facilitator and a farmer-rapporteur are chosen for each sub-group.
 - Each farmer sub-group visits four sites¹ with plants at reproductive phase—preferably two fields in ‘good’ (optimal) condition and two fields in ‘poor’ (less-than-optimal) condition.
 - Make field observations in sub-groups: the farmers decide which indicators are important to them, allowing them to judge field conditions and plant health.
 - Discussion and analysis in sub-groups of what has been observed: establish links (through analysis) between the indicators (what is seen, i.e. effects) and the environmental factors or farmers’ management practices (i.e. causes).

1. The observation sites should be prepared in advance by the team of facilitators.

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5. The farmer sub-groups and the facilitator depart to the field. In turn, they all visit the four observation sites.

- If necessary, the facilitator helps the farmer-facilitator.²
- The farmer-rapporteur takes notes.



6. Back at the PLAR Center, the farmers report and comment on their results:

- The farmer-rapporteur of the first sub-group presents the results for the first observation site, 'Field 1.'
- The facilitator synthesizes the results in the four-column table, in the row 'Field 1.'
- Afterwards, farmer-rapporteurs of other sub-groups 'complete' the first sub-group's report by adding comments from their sub-groups that were not mentioned by the first sub-group, and the facilitator summarizes these in the table.




Field	Observation indicators	Analysis	Decisions to be made
Field 1			
Field 2			
Field 3			
Field 4			

- Then the farmer-rapporteur of the second sub-group presents the results from the second observation site, 'Field 2.'
 - The facilitator synthesizes the results in the row 'Field 2.'
 - Then, he/she invites the farmer-rapporteurs of the other sub-groups to complete the table.
 - And so on for Fields 3 and 4.
7. The facilitator then introduces page 5 and the top of page 6 of the recording form for the IRM field—this is meant to train the farmers in recording field observations at the reproductive phase of the rice crop.
- The facilitator recalls the importance of recording the information and focuses on the fact that recording concerns the plot(s) identified by the farmer where he/she intends to implement the practices learnt during the PLAR sessions, so recording concerns the IRM field, of which a sketch is made on the first page of the recording form.
 - The facilitator explains the six indicators:
 - Plant density or soil cover;
 - Number of fertile tillers;
 - Absence of disease symptoms;
 - Absence of insect damage;

² In the beginning, it is very important that the facilitator makes sure that 'accurate' observations are made, in order to obtain relevant analyses and to make good decisions.

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- Cleanliness of field, absence of weeds;
 - Water depth,
 - *the facilitator explains the importance of each indicator.*
- The facilitator explains that the farmers can judge the degree of satisfaction for the condition of their IRM field by ticking a box under the face corresponding to their judgment. If for an indicator the ICM plot
 - gives complete satisfaction, he/she ticks the box under 
 - gives moderate satisfaction, he/she ticks the box under 
 - gives no or only little satisfaction, he/she ticks the box under 
 - Then farmers further analyze the indicators that give no or little satisfaction. They give reasons for their judgment and details of the factors causing the observed ‘poor’ state of the field. They then try to link the indicators and the causes or factors leading to these signs or symptoms.
 - For these same indicators, they elaborate on their decisions to implement changes in their management practices to obtain better results or to prevent the phenomenon from re-occurring.
 - The facilitator invites each farmer to complete page 6 of the recording form; the facilitator can help to fill in the form, if the farmer asks for help.
 - The facilitator also invites the farmers to record some information on the management practices in relation to the IRM field, on page 6 of the recording form, in the last table.
8. Evaluation: the facilitator asks what the farmers appreciated (or did not appreciate), what they learnt, and what they intend to do with their newly obtained knowledge. The facilitator specifically asks which new ideas this module has generated and how farmers intend to put these into practise on their IRM fields.
 9. The facilitator asks volunteer farmers to conclude. He/she then invites only those farmers who have volunteered to conduct experiments to the next session, while inviting all the farmers to the session for Module 25.



Time required

- Three hours



Materials required

- Strong packing paper, markers.
- Recording forms.
- Four observation sites identified by the facilitators:
 - Two fields with good management practices and two fields where management practices, as taught during the PLAR sessions, are not accurately implemented.

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Box 23

A total of 21 farmers from Bamoro, 28 from Lokakpli and the PLAR-IRM team met for this session. The objectives of the meeting were explained and the previous module on observation at the vegetative phase was reviewed. The farmers chose the following indicators to make observations at the reproductive phase: leaf condition (green, yellow, presence of spots), vegetative cover (open or closed spaces), presence of diseases, presence of areas with poor plant development (homogeneity of plant stand), presence of weeds, size of plants relative to age, presence of swollen stems (booting). Then, we left for the field with three sub-groups of farmers. Each sub-group visited three fields. The first field was at mid-tillering stage, the second at booting/heading stage and the third at flowering stage. We then invited the farmers to discuss the observations they had made on the three fields, to analyze the causes and to propose actions to be undertaken. The following table was drawn:

Visited site	Indicators / observation	Analysis	Actions
	1. Leaf status		
Field 1	√ yellow leaves	- no water	- flood rice field
Field 2	√ green/yellow leaves	- lack of water	- flood rice field
Field 3	√ green with dead heart	- good color but insects present	- remove affected plants
	2. Vegetative cover		
Field 1	√ covered	- good density but moderate tillering due to lack of water	- use fertilizer and flood the field
Field 2	√ poor cover	- moderate tillering: old nursery, lack of water, late weeding	- good leveling, weed on time
Field 3	√ good cover	- good development for age	- use fertilizer
	3. Presence of diseases		
Field 1	√ white panicles	- insects, stem borers	- pull out sick plants and destroy insect larvae
Field 2	√ perforated yellow leaves, stunted plants	- insects, drought condition	- pull out sick plants and destroy insect larvae
Field 3	√ dead heart	- insects, stem borers	- pull out sick plants and destroy insect larvae
	4. Poor plant development areas		
Field 1	√ no spots (±)	- fewer tillers	
Field 2	√ lots of spots (++)	- lack of water	
Field 3	√ fewer spots (-)	- lack of water	
	5. Presence of weeds		
Field 1	√ (-) weeds	- well weeded, flooded after weeding	- weeding is necessary, respect the cropping calendar
Field 2	√ (±) weeds	- not flooded after weeding	
Field 3	√ (+) weeds	- lots of weeds	
	6. Water level		
Field 1	√ low level	- not enough water	- flood the field
Field 2	√ bad (dry)	- poor water management	- already too late
Field 3	√ good	- wet	
	7. Stem status		
Field 1	√ good (normal)		
Field 2	√ thin	- lack of water, crop not good because of poor soil	
Field 3	√ normal		

During the evaluation, farmers said that now they really understand what 'indicator' means and also that the indicator could change along the development cycle of rice or any other crop. The farmers enjoyed finding the Baoulé word for 'indicator,' *N'Zolié*.