

## Harvesting and post-harvest activities

The harvest and post-harvest activities are the final stages in the rice cropping calendar (Reference 26). These stages are essential in the overall farm management plan, because harvest and post-harvest losses—in terms of rice quantity and quality—can be very high. Very often some parts of the harvest are kept as seeds for the subsequent season, and this requires particular care. This module also provides the opportunity to make the final observations on the IRM field and to complete the recording form. Module 25 can therefore be seen as the continuation of Modules 11, 14 and 18.



### Learning objectives

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

- Exchange knowledge on harvest and post-harvest practices.
- Discover good harvest and post-harvest management practices.
- Decide on the criteria for selecting good-quality seeds.
- Know how to select parts of their field for seed-production purposes.
- Decide on the observations to be made and on the indicators specifically related to maturity phase.
- Be able to record the information and to complete the recording form for the IRM field.

- ① Discuss farmers' harvest and post-harvest practices.
- ② Launch a debate on good harvest and post-harvest management practices.
- ③ Recall the major techniques for seed production and conservation.
- ④ Make field observations.
- ⑤ Synthesize observations in plenary session.
- ⑥ Introduce the last page of the recording form for the IRM field.
- ⑦ Discuss the procedure for taking yield samples from the IRM fields.



### Procedure

1. Farmers and the PLAR-IRM team meet at the PLAR-IRM Center. The facilitator briefly reviews the Module 23 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 stimulates discussion on farmers' harvest and post-harvest practices, beginning with the last drainage of the field before harvesting.
4. The facilitator encourages debate on good harvest and post-harvest practices (Reference 26).
  - Review of the most important development phases and stages of the rice plant, and of the importance of the period before flowering: the construction of the grain store (foundations and walls–roof) and the filling of the store (Reference 8 and Module 6).

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- Importance of the date of last drainage of the field: about 2 to 3 weeks after flowering.
  - Best harvesting period: when at least 80% of the grains have turned yellow and the remaining 20% have reached the dough stage; grains are clear and hard upon dehulling.
  - Consequences of late harvesting: losses due to birds, rats, shattering, etc.
  - Importance of drying the paddy properly; threshing and winnowing as soon as possible after harvest to ensure good grain quality (few broken grains).
5. Then the facilitator recalls Module 5, which covered the production and conservation of seeds.
- The farmers discuss the method for selecting a part of their field well before harvest and the selection criteria used to obtain good-quality seeds: carefully observe the vigor of the plants, uniformity, remove off-types and weeds.
  - The part selected for seed production has to be harvested before the rest of the field, and has to be threshed, winnowed and dried separately (Reference 9).
6. The facilitator presents the field observation *procedure* of PLAR-IRM:
- Division into sub-groups of four or five farmers.
  - A farmer-facilitator and a farmer-rapporteur are chosen for each sub-group.
  - Each farmer sub-group will visit four sites<sup>1</sup> at maturity stage.
  - Sub-groups will make field observations; the farmers will decide which indicators are important to them, allowing them to judge field conditions and plant health.
  - Sub-groups will discuss and analyze what is observed: links between the indicators (what is seen, i.e. effects) and the environmental factors or farmers' management practices (i.e. causes).
  - A segment of each field will be identified for seed-production purposes.
7. The farmer sub-groups and the facilitator depart to the field. In turn, they all visit the four observation sites.
- The facilitator helps the farmer-facilitator if necessary.<sup>2</sup>
  - The farmer-rapporteur takes notes.






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

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

8. 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 of 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.
9. The facilitator then introduces the rest of page 6 of the recording form for the IRM field; this is meant to train the farmers in recording the information from field observations made at maturity stage.
    - The facilitator explains the six indicators:
      - Number of fertile tillers;
      - Panicle filling;
      - Plant density or soil cover;
      - Absence of diseases and insect damage;
      - Absence of bird damage;
      - Yield level,

☛ *the facilitator explains the importance of each indicator.*
    - The facilitator explains that the farmers can judge the degree of satisfaction on the health status of their IRM field with the help of a 'good-health indicator,' by ticking a box under the face corresponding to their judgment. If for an indicator the farmer's 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 
    - The farmers then further analyze the indicators that give no or little satisfaction. They explain the reasons for their judgments and give details of the factors causing 'poor' signs or less satisfactory state of health, and hence try to establish links between the indicators (what is seen) and the causes or (unseen) factors responsible for these signs or symptoms.

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- For these same indicators, the farmers explain the reasons for their decisions to implement changes in their management practices in order to obtain better results or to prevent the phenomenon from re-occurring.
  - The facilitator invites each farmer to fill in the last-observation part (page 6) of the recording form.
  - The facilitator also invites the farmers to record some information on the management practices in relation to the IRM field. This information should be recorded on page 6 of the recording form, in the last table; these are data on the harvesting date and on the quantity of rice harvested.
  - The facilitator also invites them to indicate on the sketch-map the location of the plot designated for seed production.
10. The facilitator and farmers discuss the yield-sampling procedure for the IRM fields and control plots (where the usual crop management practices were applied). The facilitator encourages a debate on the importance of measuring the effect of the implementation of IRM practices as compared to their usual practices. The results of the sampling are treated in Modules 26 and 27. The facilitator makes an appointment with the farmers for the following meeting.
  11. 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.
  12. The facilitator asks volunteer farmers to draw conclusions from the session, and then invites farmers to the next session.



#### Time required

- Three hours



#### Materials required

- Strong packing paper, markers.
- Recording forms.
- Four observation sites identified by the facilitators.

#### Box 25

The farmers in Amoro had a meeting in late December 2001 at their PARI Center. They discussed their harvest and postharvest practices. Generally, they thresh and winnow their rice production soon after harvesting in order to sell as soon as possible. They keep some part of the production as seed for the next season. The farmers greatly appreciated the field visits. Their practice before was to choose the seed after harvesting and threshing. They said that starting from this harvest, they had identified a part of their field which they had selected a long time before harvest for seed production; they threshed and winnowed the produce of that part first and kept it separate from the rest of the crop from that field.