

Agricultural Extension Manual
Chapter 10

CHAPTER 10 GROUP EXTENSION APPROACH

10.0 INTRODUCTION

Group extension events happen when extension staff work with several farmers at the same time and place. They provide an opportunity for group based learning, can stimulate group development and co-operation between farmers, and are a cost-effective means of delivering extension messages. Group extension events are at the core of the Department's extension approach. This chapter provides details of extension methods which are suitable for groups of farmers. These are:

- Result Demonstrations with Farmer's Groups
- Method Demonstrations
- Field Days
- District and Thana Fairs
- Farm Walks
- Farmers Rallies
- Folk Media
- Group Meetings
- Motivational Tours
- Participatory Technology Development
- Formal Training Days
- Farmer Field Schools

The remainder of this chapter describes the planning, implementation, monitoring, evaluation and follow up for each one of these methods in turn.

Problem Census is also a Group based extension activity which is described in detail in **Chapter 6**.

10.1 RESULT DEMONSTRATIONS WITH FARMER'S GROUPS

Result demonstrations show what happens as a result of using a particular technology in the field or homestead. Examples include growing transplanted Aman rice using balanced fertiliser, using Integrated Pest Management in rice during a season, or demonstrating a new cropping pattern. Result demonstrations can be conducted over a single season, two seasons, or a whole year. Although some result demonstrations are conducted with an individual farmer, others are conducted with groups. Those which are conducted with individuals are only really effective when combined with group extension events at the demonstration site.

DAE encourages the use of a range of different types of result demonstrations, depending on local conditions, local farmer problems, and the technologies which have been identified in response to farmer needs. The different types of result demonstrations include:

- cropping pattern demonstrations;
- block demonstrations;
- single season demonstrations;
- single intervention demonstrations; and
- package demonstrations.

These are described with guidance on planning, implementing and monitoring demonstrations in this section.

Cropping Pattern Demonstrations

Cropping pattern demonstrations are implemented throughout a whole year and cover three seasons. This makes it possible to demonstrate a rotation of crops, for example T. Aman in the Kharif-II season, followed by a pulse or an oilseed through the Rabi season, with T. Aus in the Kharif-I season. The advantage of a cropping pattern demonstration is that farmers can learn how to integrate a new crop into their farming system. Principles of integrated plant nutrition can also be demonstrated, for example by applying full fertiliser to the Rabi crop, and allowing crops in the other two seasons to take advantage of residual effects. In the latter case, cropping pattern demonstrations are based on the normal cropping patterns in the area, and only show adjusted fertiliser doses. All other operations remain the same as the farmer's usual practices.

Block Demonstrations

Block demonstrations are planned and implemented with a group of farmers who operate land next to one another. In this way, the area of the demonstration can be quite large, up to two or three, or perhaps five hectares. Block demonstrations present a strong visual impact, and involve working with a group of 10 to 15 farmers. A block demonstration is simply a large demonstration. This means that they can be cropping pattern demonstrations, single season demonstrations, single intervention demonstrations or package demonstrations.

Single Season Demonstrations

Single season demonstrations last for only one season, Kharif-II, Rabi or Kharif-I. They are usually conducted with a single crop, unless the demonstration involves intercropping. Single season demonstrations are used to demonstrate a single aspect of crop production. A single season demonstration can be any size, so it could be a block demonstration.

Single Intervention Demonstrations

Single intervention demonstrations are conducted on a crop which is already being grown in an area. They show only one adjustment to the farmer's practice. A single intervention demonstration has two plots, one control plot which is the farmer's normal practice (variety, fertiliser, water management, or pest and disease management), and one demonstration plot. There is only one difference between the control and the demonstration plot. For example, a different timing to fertiliser applications, or the use of a different water management practise. This is so that the farmer clearly understands the precise benefits of a single change. Single intervention demonstrations also usually show ideas which farmers can adopt at little cost. In theory, a single intervention demonstration could be of any size or duration, so it could be a cropping pattern demonstration, a single season demonstration, a block demonstration, or a single farmer demonstration.

Package Demonstrations

Package demonstrations are conducted mainly for crops which are new in an area. For new crops, a package demonstration shows which variety to plant and when, what fertiliser to use and when, what water management procedures to use, how to control pests and diseases and all other aspects of production. There is no control plot, as the crop is new to the area. A package demonstration could be of any size or duration, so it could form part of a cropping pattern demonstration, be a single season demonstration, or a block demonstration.

Single Farmer Demonstrations

Result demonstrations can also be conducted as an individual event. Single farmer demonstrations are conducted with one farmer, as opposed to block demonstrations which are conducted with a group of farmers over several hectares of land. Single farmer

demonstrations are smaller, and often comprise two plots, a demonstration and a control, each of which perhaps cover 200 m² or 400 m².

Planning

Result demonstrations are planned by:

- using the thana plan;
- selecting the demonstration site;
- planning the inputs required; and
- training the farmers.

Using the thana plan: during the Thana Planning Workshop decisions are made as to which demonstrations will be held, and when. The plan is used to check that the most appropriate type of demonstration single season or cropping pattern, block or single farmer, package or single intervention has been selected. A demonstration schedule is then prepared. This could show for example, when the crop will be planted, when it will be harvested, and when field days would be most appropriate.

Selecting the demonstration site: a demonstration farmer, or farmers in the case of block demonstrations, are chosen and a site is selected. Demonstration farmers should be representative of the target group which identified the need or problem, and are interested in the idea. If it is with an individual farmer then they should be a member of the original Problem Census Group. Demonstration sites should be easily visible, on a representative land type, and accessible.

Planning the inputs required: on the basis of the plot size and technology, plans are made for the inputs that are required. For example, types and quantities of fertiliser, seed, labour and signboards. These are agreed with the farmer and a decision is made on who will provide them. Wherever possible, demonstration farmers should provide some or all of the inputs. Plot sizes are variable, depending on technology and type of demonstration. Signboards should contain the demonstration purpose, the technology, and field day schedules. DAE has a standard signboard design which should be used for all demonstrations.

Training the farmers: farmers who host demonstrations need to understand clearly what the demonstration is designed to achieve, and how it will be implemented. This can be achieved in thana level briefing sessions, or one-on-one visits by Block Supervisors.

Implementation

Inputs should be organised, and farmers trained, before the demonstration is established. After the demonstration has been established a number of activities should be completed to ensure successful implementation. These include:

- visiting the demonstration plot regularly and meeting the demonstration farmer(s);
- conducting regular group extension events at the demonstration site; and
- monitoring and evaluating the demonstration.

Visiting the demonstration plot regularly and meeting the demonstration farmer(s): the Block Supervisor should visit regularly, and record progress. Any problems should be discussed with the farmers. This could include, watching for pest and diseases, making sure

management operations are implemented appropriately at the correct time. Problems which cannot be resolved should be referred to the Agricultural Extension Officer.

Conducting regular group extension events at the demonstration site: demonstrations are usually quite costly. To get the best value for money from a demonstration, other farmers should be encouraged to participate in the learning process. Field days and other group extension events organised at the site are examples of ways to do this, helping to improve cost effectiveness. Field days and other events are best implemented when there is something important to be done in the field, or where there is a clear visible benefit from the technology being shown.

Monitoring and evaluating the demonstration: SEMS and KAP are tools which should be used for this purpose.

Monitoring, Evaluation and Follow-up

The third step in implementation involves the completion of SEMS. A SEMS Form 1 should be completed for every demonstration. The main parts of SEMS 1 are:

Contact: How many farmer(s) attended the demonstration and field days and the total cost.

Understanding: How many farmer(s) understood the demonstration. This can be gauged from informal discussions with the farmers or by a show of hands during field days.

Testing: How many of the farmers think that they will try the new technology on their own farm or homestead. Again, this can be gauged from informal discussions with them or by a show of hands.

There are also some parts of SEMS Form 1 which are specifically for demonstrations. These include information about the land type, establishment date and appropriateness of siting. SEMS 1 also contains information about the cost-benefit ratio of the demonstrated technology. For this, the input cost, yield and value of the crop are required. Where there is a control plot, the same information is collected to make a comparison of the profit and loss of the demonstration technology compared to the farmers usual practice.

There are also spaces to record information about field days. At least two field days should be held for every demonstration. Details of the SEMS procedure are presented in **Chapter 12**.

10.2 FIELD DAYS

A field day is a group extension event conducted at the site of any type of result demonstration. With single farmer result demonstrations, the field day is important to improve the cost-effectiveness of the demonstration. Field days provide the opportunity for 20 or more farmers to visit a demonstration site, learn about what is being demonstrated, ask questions, and encourage them to try new ideas themselves on their own farms. A series of field days, especially those that last for a year and show a cropping pattern, provide an ideal opportunity for farmers to meet again.

Planning

Field days are arranged at key times during the demonstration, when particular management activities are implemented, or when the benefits of the demonstration are most visible. For crop production demonstrations, appropriate times could be:

- at the time of planting;
- when fertilisers or other inputs are provided;
- at mid-season when differences in crop growth are apparent;
- at harvest time when yields, costs and benefits can be compared.

A minimum of two field days for a single season demonstration is recommended. For cropping pattern demonstrations which involve three consecutive seasons, two field days in each season, or a total of six during the year, are recommended.

Field days generally last no more than an hour or so, and involve no cost. There is no allowance for either extension staff or farmers. Refreshments are not necessary as the event is short.

Dates and times should be fixed in advance, and advertised to neighbouring farmers. Where there is a demonstration signboard, field day schedules should be added. The same group of farmers should be encouraged to attend consecutive field days at specific sites. However, the number of participants should not exceed 20 to 25 farmers. Smaller groups will have a better opportunity to see what is being demonstrated, and hear the explanations of farmers and extension staff. Also, with fewer people, a greater proportion of participants will have the opportunity to ask questions and participate properly in the field day.

Wherever possible, audio-visual aids or printed material should be used to improve the quality of the field day. This could include flash cards, flip charts, or leaflets which summarise the technology. As far as possible, existing material should be used. Copies of all existing material are maintained in district and thana **Resource Centres**.

A useful **planning checklist** for a field day includes:

- fixing an appropriate date and time in consultation with the host farmer;
- checking the Resource Centre for materials which could be useful during the field day;
- advertising the field day to neighbouring farmers and people who participated in earlier field days at the site. Where possible farmers should be from similar socio-economic backgrounds;
- ensuring that the farmer hosting the demonstration can correctly explain the objective of the demonstration, what has been done, and the expected benefits, including costs and returns;
- visiting the demonstration site to ensure that access is easy, movement through the field is possible, that there is a clear visual impact for the field day.

Implementation

The Block Supervisor, or other member of staff responsible, should arrive early with all the necessary materials and ensure everything is in order. Successful implementation requires:

- an informal atmosphere where people feel free to raise questions;
- an introduction where the purpose of the field day is explained and farmers are reminded of the original problem or need which the demonstration was designed to address;
- that the farmer hosting the demonstration is encouraged to take an active role in the field day, explaining the demonstration objective, what has been done, and their impression of the costs and benefits of the technology;

- that farmers are able to walk around the demonstration, and to take a close look at the crop. Where there is a demonstration and a control plot, farmers can be encouraged to look at the differences between them;
- extension staff to talk informally with the farmers to find out whether they understood the demonstration clearly, their impressions of the technology and whether they will try the technology on their own farm;
- recording the names of participating farmers, and completing a Seasonal Extension Monitoring SEMS Form 1;
- concluding the field day by bringing participants together, reviewing the proceedings, and explaining any follow-up activities.

Monitoring, Evaluation and Follow-up

One of the final points in implementing the field day is the completion of a SEMS Form 1. Field days for result demonstrations should be recorded on the same form. This should be done before the farmers leave the venue. The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended the field day, and what was the cost of the event (this should be zero).

Understanding: How many farmers who attended understood the demonstrated technology. This can be done by a show of hands, and recording comments made during informal discussions with participants.

Testing: How many of the farmers who attended think that they will try the method on their own farm or homestead. Again, a show of hands, and comments made during informal discussions with participants should provide an indication of intention to test.

This monitoring process will show how effective the field day was at contacting farmers, enabling farmers to understand a new idea, and encouraging farmers to consider trying a new technique on their farms.

A field day can be evaluated by re-visiting the farmers who participated to see if they have tried new ideas. Knowledge, Attitude and Practice (KAP) surveys are a useful tool to conduct this type of evaluation. In a KAP survey, a sample of farmers who participated are selected, visited and interviewed. It is therefore extremely important that a list of participating farmers is made during the event. The KAP method is described in detail in **Chapter 12**.

10.3 METHOD DEMONSTRATIONS

Method demonstrations are group extension events conducted over one to two hours to demonstrate and practice a specific skill, step by step. Method demonstrations are low cost and relatively efficient as they involve one extension worker and several farmers. They are participatory and enable farmers to learn by doing.

Planning

Topics for method demonstrations should be identified on the basis of farmers needs or problems and are shown in the thana plan. They are defined in detail in consultation with farmers. When a specific topic is agreed, a **task analysis** should be conducted. A task analysis is a breakdown of the method into a series of small steps, and a summary of the

main learning points for each step. The task analysis provides the format for the demonstration. An example of a task analysis for grafting jujuba is shown in **Table 10.1**.

TABLE 10.1: TASK ANALYSIS FOR A METHOD DEMONSTRATION JUJUBA GRAFTING

Step	Method	Main Learning Points
Select scion	Choose a twig of 9-12 months of age with prominent buds, growing strongly and free of disease.	Healthy twig, 9-12 months old.
Select stock	Select a new plant growing strongly in a tub. Pick a twig that is the same age as the scion.	Health and age.
Select bud on stock	Choose a bud on the scion that is well developed and prominent.	Well developed bud.
Scion - first cut	Hold the scion in the left hand and the budding knife in the right hand. Make a horizontal cut 0.5 cm beneath the bud half way around the stem. Press the blade of the knife gently until it goes through the bark, and then press firmly until it just enters the wood beneath.	Stem structure, bark and wood.
Scion - second cut	Place the knife horizontally 0.5 cm above the bud and repeat the process for the second cut.	Stem structure, bark and wood.
Cut behind bud	Place the knife horizontally at an angle of 45 degrees to the stem with the blade pointing downwards. Insert blade into second cut. Press firmly and cut downwards behind the bud to join the first cut taking enough wood to avoid damaging the bud.	Care with knife. Hold at 45 degrees and do not damage bud.
Remove bud	Remove the bud and place carefully to one side.	Treat bud gently.
Select internode on stock	Select an internode which has enough space to take the length of the bud with at least 0.5 cm to spare at each end.	Identify an internode.
Stock - first cut	At the top end of the selected internode, make a horizontal cut about one third of the way around the stem. Press gently so as to cut through the bark layer only.	Press knife gently.
Stock - second cut	Place the tip of the knife in the centre of the horizontal cut and make a vertical cut downwards long enough to take the length of the bud. This makes a T-Shaped cut.	T-Shape, bark only.
Loosen bark	Insert the point of the knife behind the bark layer at the junction of the two cuts. With the tip of the knife, gently loosen the bark along the length of the vertical cut on both sides so that you have an open slit big enough to take the bud.	Do not damage bark - it is needed to hold the bud in place.
Insert bud	Hold the bud gently between thumb and forefinger. Insert the base of the bud into the top of the open slit. Push gently down until the length of the bud is inside the slit and held in place by the loosened bark which overlaps it.	Care of bud. Check bark goes over edges of bud.
Tie bud in place	Take a piece of string and make several turns around the stem below the base of the vertical cut. Cross the string up the stem to the top of the bud, making sure that the bud itself is left uncovered. Wind the string around the stem a few times and tie off securely.	Do not cover bud with string.
Cover bud	Wrap a polythene sheet loosely around the stem to cover the length of the inserted bud and string. Tie the polythene in place above and below the inserted bud.	Protect bud from weather. Allow space to grow.
Materials	Budding Knife, Stock, String, Polythene, Scion	

Doing a task analysis in consultation with farmers can be useful as it helps to identify what farmers already know. It may also show that one of the farmers knows enough to demonstrate the method to the other farmers in their own words, with the Block Supervisor adding further explanation where necessary.

Once a task analysis has been prepared an appropriate venue and time should be arranged. This should be done in consultation with the farmers group. A day and time which is convenient for farmers, and a location near to their homes should be chosen. Ideally not more than 20 farmers should attend otherwise it is difficult for everybody to see what is happening, or difficult for everybody to practice some of the stages.

A useful **planning checklist** for a method demonstration includes:

- identifying the need or problem, and defining a topic for the method demonstration;
- conducting a task analysis in consultation with farmers, including an assessment of farmers current knowledge;
- identifying an appropriate venue (field or homestead), day and time;
- practising the task and demonstrating the task;
- collecting any materials required (flip chart, flash cards, live samples, tools, pen and paper). Real objects and live samples are particularly important;
- briefing and training farmers who will help in the method demonstration;
- visiting the venue to make sure it is appropriate.

Implementation

The extension agent responsible for organising the demonstration should arrive early with all the necessary materials and ensure everything is in order. Successful implementation requires:

- an informal atmosphere where people feel free to raise questions;
- an introduction to the session where the purpose of the method demonstration is explained;
- an overview of the materials that will be used (live samples, tools etc.);
- that the method demonstration is followed according to the task analysis;
- that each of the important learning points in each step are explained;
- a summary at the end of the session;
- time for farmers to practice the method;
- that each participant is confident enough to use the method on their own farm or homestead after the event;
- that a Seasonal Extension Monitoring System form (SEMS Form 1) is completed;
- participants and the extension agent agree any follow-up actions that may have arisen.

Monitoring, Evaluation and Follow-up

One of the last points in implementing the method demonstration is the completion of a SEMS Form 1. This is done before the farmers leave the venue.

The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended the method demonstration, and what was the cost of the event.

Understanding: How many farmers who attended understood the method which was demonstrated. This can be measured through a show of hands or by observing how well the farmers who practised the method were able to complete it correctly.

Testing: How many of the farmers who attended think that they will try the method on their own farm or homestead. A show of hands can be used.

This monitoring process provides an indication on how effective the method demonstration was at: contacting farmers; enabling farmers to understand a new method; and encouraging farmers to consider trying a new technique on their farms.

A method demonstration can only be evaluated by re-visiting the farmers who participated in it to see if they have tried the technology. Knowledge, Attitude and Practice (KAP) surveys are a useful tool to conduct this type of evaluation. In a KAP survey, a sample of farmers who participated in the method demonstration are selected, visited and interviewed. It is therefore extremely important to make a list of the names of the farmers who participated. The KAP survey is described in detail in **Chapter 12**.

10.4 DISTRICT AND THANA FAIRS

A fair can be an effective way to create awareness about improved technologies to a large number of people within a short time and to stimulate general motivation for agricultural and rural development in the area. It can also play a valuable role in strengthening relationships between extension partners. Farmers are able to see a range of technologies and ideas displayed by non-government organisations, other government agencies and dealers and discuss them in a lively and informal way.

Every district and Thana should organise at least one fair every year which is open to all categories of farmers in the area.

Planning

Fairs take a long time to plan. Ideally they should be discussed during the TAECC and DEPC so that ideas can be shared. As an extension event, fairs are expensive. It may be necessary to generate some income locally to help cover the cost. This might include for example, sponsorship or producing a programme where advertising space has been charged. Planning includes:

- sharing ideas during the TAECC or DEPC about the content, schedule and logistical arrangements;
- deciding responsibilities for each participating extension organisation;
- inviting other interested parties to sponsor an exhibition stand. For example a fertiliser dealer or seed supplier;
- deciding the physical layout of the venue; decoration of stalls; collection of exhibits; arrangements for demonstration of exhibits and technologies; publicity; opening and closing ceremonies and prizes;
- ensuring wide publicity throughout the Thana or district, for example, by word of mouth, posters and announcements on regional radio stations;
- collecting good quality vegetables, fruits and other agricultural commodities from the different parts of the Thana or district to show as exhibits;
- considering demonstrating examples of local farmer innovations;
- in consultation with other extension providers carefully selecting improved technologies which are relevant to farmers in the area, and arranging for their proper demonstration at the fair;

- organising any award ceremonies, prizes and special guests;
- preparing adequate numbers of leaflets and instruction sheets about the demonstrated technologies for distribution to those attending the fair.

Implementation

There are no set formats for organising or implementing fairs. They should be planned and implemented locally in partnership with other extension providers. Fairs are usually held over a week long period. It is important that displays and stands are properly cared for so that they always look appealing to farmers.

Fairs tend to appeal to a wide audience and are likely to attract wide media coverage. Even if DAE do not take a lead in inviting the press it is important to be prepared for a visit from a reporter. Where possible a number of stories should be prepared in advance ready for them to include in their publications or broadcasts. A short briefing sheet could be prepared beforehand. For example, the thana or district may wish to promote a particular technology or may wish to use the media to cover stories about progressive farmers who have played an important part in the fair.

Monitoring and Evaluation and Follow Up

Fairs are not as easy to monitor as face to face extension events. They are very fluid with many people attending for an uncontrolled period of time. As a result it is difficult to use DAE's standard tool, SEMS, to monitor District and Thana fairs. However, because fairs are expensive and require a large amount of resource to organise and implement they do need to be monitored. Some ideas for monitoring fairs include:

- having a book available to register attendance. This could simply be a record of the number of people who visited the fair;
- asking the person organising each stand to record basic information about the types of people that showed interest in the technologies that were on display;
- making a "comments / suggestions" book available for people to sign as they leave the fair. This could then be used for making improvements to next year's fair. Some farmers may comment on useful technologies which could be promoted further. These types of comments could also be considered for the next year's annual plan;
- conducting a brief questionnaire survey with a random selection of people attending the fair.

Extension staff can also follow up a thana or district fair by:

- sending a report of the fair to local radio stations and newspapers;
- discussing the exhibits they saw at the fair during normal contact with farmers and stimulating their interest in new technologies that were displayed or demonstrated.

10.5 FARM WALKS

A farm walk involves a group of farmers visiting a farm and walking around it with the host farmer and the extension agent, usually the Block Supervisor. The purpose of a farm walk could be one of the following:

- to give farmers an opportunity to see how a new technology has been tried, tested or adopted by one of their neighbours;

- to give farmers an opportunity to see a technology which has been developed by one of their neighbours;
- to give farmers an opportunity to analyse a farming system and identify opportunities for improvement. Used in this way, a farm walk is a useful supplement to the Problem Census in gaining farmer participation in the process of FINA, and could be considered as one of the techniques associated with PRA (see Transect Walks described in **Annex VII**);
- to give farmers an opportunity to reach agreement on how a particular problem can be tackled, or to plan and implement new ideas as a group. This is often particularly important with approaches to farming such as Integrated Pest Management (IPM) which are not very successful when implemented by a single farmer whose neighbours use chemical pest control techniques;
- they can also be used as an activity to assist group formation.

Planning

Planning a farm walk includes:

- identifying an appropriate objective, topic and route / location for the farm walk;
- walking the route or visiting the location before the farm walk to ensure it is appropriate and accessible;
- briefing the farmers who operate the land on the route to be walked, and ensuring they are prepared and able to explain their farming system, constraints, opportunities, innovations or adopted technologies;
- deciding a date and time in consultation with participating farmers, and agreeing a place to meet to start the walk.

Implementation

The Block Supervisor should arrive early at the agreed meeting point, with any necessary materials or tools. Successful implementation includes:

- creating an informal atmosphere where people feel free to raise questions;
- explaining the objectives of the walk, and reminding farmers of the original issue which led to the idea of a farm walk;
- briefly explaining the route which will be taken, or place to be visited, and introducing the host farmers who operate the land and who will be guiding the participants;
- walking the route, ensuring that the host farmers point out constraints, opportunities, the innovations they have developed, or new technologies they are trying or adopting;
- encouraging questions;
- recording the names of participants, and completing a Seasonal Extension Monitoring System form (SEMS Form 1);
- summarising the main learning points at the end of the walk. Where appropriate, diagrams can help capture the main points. This is particularly the case where the objective of the walk was to analyse constraints and opportunities as part of the FINA process. An example diagram is shown in **Annex VII**. Farmers can prepare these diagrams, with the Block Supervisor acting as a facilitator;
- agreeing any follow-up actions that may have arisen during the walk.

Monitoring, Evaluation and Follow-up

A SEMS Form 1 should be completed before the farmers leave the venue. The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended the walk and what was the cost of the event (this should be zero).

Understanding: How many farmers who attended understood the objective of the walk and understood the ideas that were discussed. This is mainly important where the walk was based on observing a farmer's innovation, or testing / adoption of a recommended technology. A show of hands and recording any personal impressions gained from informal discussion during the walk are ways for finding out this kind of information. Where the walk was conducted to gain an understanding of constraints / opportunities, it is not appropriate to record the number of participants who "understood".

Testing: How many of the farmers who attended think that they will try new ideas which were seen their own farm or homestead. A show of hands will provide an indicator for this. Again, this is mainly important where the walk was based on observing a farmer's innovation, or testing / adoption of a recommended technology.

A farm walk can be evaluated by re-visiting the farmers who participated. Evaluation should be restricted to those events at which a specific technology was seen. Knowledge, Attitude and Practice (KAP) surveys are a useful tool to conduct this type of evaluation. In a KAP survey, a sample of farmers who participated in extension events are selected, visited and interviewed. It is therefore extremely important to make a list of the names of the farmers who participated in a farm walk. The KAP method is described in detail in **Chapter 12**. Where the objective of the walk was to give farmers an opportunity to reach agreement on how a particular problem can be tackled, or to plan and implement new ideas as a group, the KAP survey would concentrate on assessing the extent to which agreed actions were implemented by participating farmers.

Possible follow-up activities after a farm walk include:

- recording the outcome in the Block Supervisors diary, and sharing results with other staff, or at thana planning workshops;
- conducting further farm walks to see how farmers have adjusted their farming system, or used new ideas;
- implementing other extension events with the same group of farmers, such as group meetings, demonstrations or Participatory Technology Development.

10.6 FARMERS RALLIES

Farmers rallies are large extension events which usually involve a combination of activities centred around a main theme (e.g. the use of folk song, drama, banners to support a central presentation about IPM). They should only be used for introducing successful technologies. Although the cost of organising a farmers rally may appear to be significantly higher than other extension events they do have the advantage of attracting large numbers of farmers from a wide range of backgrounds. This enables them to be potentially cost effective. In addition, one rally could be organised by a number of Thanas to share costs and resources or by a district.

Planning

Farmers rallies are usually organised outside like a big field day. Because they are a single event with a number of activities they need to be carefully planned. They also provide the opportunity for partnership with other extension providers. Some ideas for planning Farmers Rallies are provided below:

- a programme of activities should be agreed e.g. opening, presentation, folk song, presentation with audience participation, folk drama, presentation of awards for innovative farmers;
- supporting materials (e.g. banners, leaflets) should be chosen and produced;
- the venue should be selected carefully making sure that there is enough space for seating a large audience, that the site can be made attractive e.g. displays can be mounted, and a stage can be erected. The venue should be accessible for all farmers;
- once a date and venue have been agreed an advertising campaign should be developed and implemented. This may involve designing and distributing posters, organising a radio campaign, or by DAE staff inviting farmers groups to attend;
- where possible, other partner agencies should be involved. This provides a good opportunity to share experiences and resources;
- the content of the Rally is planned so that people are kept interested. This means lively activities and presentations which have simple messages.

Implementation

There are no set rules for implementing a rally. However, some consideration should be given to:

- the time required to organise the venue and set up the main seating area;
- ensuring that everybody involved knows the programme of events and their responsibilities;
- checking that any hired equipment is in good working order;
- after the event talk to a random sample of farmers and complete SEMS Form 1. It may be necessary to talk to more than one group of farmers. Rallies usually involve many Thana and District staff so a number of SEMS Form 1 can be completed.

Like Thana and District fairs, farmers do not need to be given money to attend farmers rallies. Neither do refreshments need to be supplied by DAE. However, refreshments should be made available. This can easily be arranged by inviting private refreshment stands.

Monitoring, Evaluation and Follow Up

SEMS Form 1s should be completed for a sample of farmers. This will provide basic information on contact and understanding but depending on the content may not provide information on willingness to test. This is because rallies are normally used as an event for raising awareness rather than providing details of a specific technology.

Extension staff can also follow up rallies by:

- sending a report to local radio stations and newspapers;
- discussing the main messages from the rally during normal contact with farmers and stimulating their interest in new ideas that were presented.

10.7 FOLK MEDIA

Folk media is a traditional form of entertainment and communication across Bangladesh. For extension programmes, they present the opportunity to convey agricultural information in a culturally acceptable way, stimulate discussion about local issues among farmers, and make extension events enjoyable.

Folk media includes:

- song;
- drama;
- story telling;
- dance; and
- puppets.

No modern technology or audio visual aids are required, these methods can be relatively cheap and are useful where literacy levels are low. Folk media can be fun for both extension staff and farmers. They are also interesting for radio broadcast, so it maybe worthwhile inviting **Bangladesh Betar** to record events where songs, drama or story telling are used.

Planning

A short folk media event can inform a large group of people about a particular issue of local importance. As with all extension methods, the first step is to identify an issue or topic, through the process of FINA, and thana planning. Once an issue is identified, information can be sought. Issues for folk media could be the use of organic matter, homestead gardening, producing and using seed, or storing crops - just as for any other type of extension event. However, folk media is not useful for conveying complex information or numbers such as rates of fertiliser application. Once the issue is defined, the following steps should be considered:

Deciding what type of folk media to use: the type of folk media used will depend on local cultural preferences. One of the main reasons for this is to involve farmers who may be experts in drama, or song, or using puppets, in the extension event. There are many ways of using song in extension, or using drama, or using puppets.

Here are two examples of different types of drama for extension:

EXAMPLE 1: PROBLEM PRESENTATION

Actors present a problem as a short play. Once the problem is explained, the play stops. The audience are asked how they would solve the problem. Extension staff record farmers suggestions. Suggestions are discussed, the best is selected, then the play starts again to show how the problem is solved. Best suited to events with below 40 participants.

EXAMPLE 2: PROBLEM AND SOLUTION PRESENTATION

Actors present the problem and the solution, and the play stops. The solution should be one that farmers are capable of putting into practice on their own, or with some help from the Department. This type of drama is more suited to folk media events which will involve many more people. Remember that folk media is highly popular, so if events are publicised, over 100 people may attend. In these situations, folk media is best at conveying simple ideas or generating awareness, and not good for encouraging participation.

Identifying performers: once the type of folk media has been decided, performers are identified. Farmers can be dancers, story tellers, actors and singers, and so can extension staff. In some areas, there are local cultural academies that can help. For example, in Kamalganj Thana, Moulvibazar District, there is the Monipuri Cultural Academy. In other areas, there are local drama groups who can be contracted to perform a folk media event.

Developing a story: the core of planning the event is the production of a script for a play, words for a song or a story. The script shows which performer says and does what and when. The script should not be too long or elaborate and should keep to one or two simple subjects. Scripts should place agricultural innovations in a social context but care needs to be taken to prevent the social drama overshadowing the agricultural subject. There is no need for costly costumes and make up, although real objects should be used as props. Simple prop objects like agricultural implements or crops can be used. The **Resource Centre** may also have suitable props. The requirement for props should be detailed in the script. The Agriculture Information Service (AIS), Bangladesh Betar and local non-government organisations may also be able to help in the preparation of scripts. If a local group or academy is contracted to perform, they can help write the script.

Planning logistics: a suitable time, date and location should be arranged and relevant authorities notified. The location should be a fairly open area in a village or small market. The performance itself should be fairly short - less than half an hour, with plenty of time for discussion. There is no need for an elaborate stage, lighting, expensive microphones, or opening speeches. Local public representatives, Bangladesh Betar and local newspapers could be given special invitations.

Advertising: where folk media is being arranged for general awareness, and it does not matter how many people attend, the district bulletin, radio, local newspapers, posters, miking, leaflets, or informing farmers at other extension events are good ways to publicise the event. Where large numbers of participants are not desired, advertising is not required.

Implementation

Once a script has been prepared, the event publicised, people invited and the relevant local authorities informed, the event should be implemented. Useful tips for organisers include:

- arriving at the venue early, and making sure that everything is in order, props have ready and actors have arrived;
- completing a SEMS Form 1 at the end of the event, before farmers disperse.

Monitoring, Evaluation and Follow-up

The final point in implementing a folk media event is the completion of a SEMS 1 Form. This must be done before the farmers leave the venue.

The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended and what was the cost of the event. Where it is a large event, and there are more than, say, 100 farmers present, an estimate should be used.

Understanding: How many farmers who attended understood the agricultural ideas that were presented in the folk media. Where this is a large event, it will not be possible. A small survey with a selection of farmers after the event could be used to find out how many of

them understood. If only half understood, then assume that half of the total participants understood. With small events, a show of hands can be used.

Testing: How many of the farmers who attended think that they will try new ideas which were seen on their own farm or homestead. Again, where there are many farmers present, a small survey can be used to find the proportion of them that say they will try the new ideas. In small events, a show of hands can be used.

A folk media can only be evaluated by re-visiting the farmers who participated. Where the event involved a large number of participants, it is unlikely that there will be a record of names of people who attended. Where the folk media event was for a smaller number of farmers, say below about 30 or 40, there should be a list of names of participants. In this case, a Knowledge, Attitude and Practice (KAP) survey is a useful tool to conduct evaluation. KAP surveys are described in detail in **Chapter 12**.

After a folk media event, the following activities can be implemented:

- at the close of the performance, part of the audience could be invited to a discussion meeting if they are interested in discussing the issue or technology further. This can lead to the formation of special interest groups;
- at the close of the performance, information about DAE could be given to the participants. For example, the name of the local Block Supervisor and thana staff, where offices are located, and where staff can be found;
- local newspapers and radio programmes could be encouraged to cover the event and the issues it raised as a means of getting the information to a large number of people;
- the results of the event could be included in the District Bulletin;
- any issues raised by farmers can be incorporated into staff work programmes and extension programmes;
- Block Supervisors can return to the area to visit some of the farmers and see if they gained anything useful from the drama. Useful questions that they could ask include: Was the issue raised important to them? Was the suggested solution appropriate? Did they adopt the solution? Did they enjoy the event? This is particularly important for larger events where there is no list of participants, and KAP Surveys cannot be implemented.

10.8 GROUP MEETINGS

Group meetings are opportunities for extension staff and farmers to come together to discuss and analyse issues and ideas. They are generally short, not exceeding a couple of hours, and involve no or low cost. There are two basic types of group meetings, with many variations:

Small group meetings, which usually comprise one extension agent and not more than 20 farmers, who are either members of an existing group or a temporary group interested in a particular agricultural issue.

Large group or community meetings, which usually comprise several extension agents and a local community. Such events are most useful for conveying important or urgent information, and are advertised by miking or posters.

Group meetings can serve many different purposes. For example:

- **Information Meetings:** where farmers attend a meeting to hear an important piece of news or information from extension staff;

- **Planning Meetings:** where extension staff and farmers come together to discuss a particular problem, suggest potential solutions and decide upon a course of action;
- **Special Interest Meetings:** where farmers with a common interest come together to discuss it and learn about it in more detail with the help of extension staff.

The remainder of this section concentrates on small group meetings, as these are most common, and are usually more effective as extension events.

Planning

Events should only be arranged if there is a felt need. The topic and structure for a group meeting will be defined by the needs and problems that farmers are facing. It is important to remember the four principles of working with groups of farmers described in **Chapter 4**. These include:

- working with existing groups where possible;
- establishing partnerships with other agencies which have affiliated groups;
- working with temporary as well as permanent groups;
- working with group members who have similar interests and come from similar socio-economic backgrounds.

When arranging a meeting or training session with a group of farmers, there are three basic considerations: size, formality and balance:

Size

Large meetings rarely achieve much, and rarely address the needs of participants, small meetings are often more effective. Although it is important that as many people as possible have the opportunity to participate, this may best be achieved by holding several smaller meetings. As a rule of thumb, more than 20 or 30 people in a meeting will lead to difficulties, but it does depend on the situation.

Formality

Group meetings are successful when they are informal and relaxed, as long as extension staff ensure that everybody has equal opportunity to participate. Extremely formal meetings, with a chairperson, agenda, and a formal record of proceedings are usually needed when there is a specific item of business which requires a formal recorded decision. When working with existing groups, such as those affiliated with non-government organisations, it is important to remember that the group may have their own procedure for holding meetings, and these procedures should be followed.

Balance

During a meeting, there should be a balance between presentation and discussion, providing information and encouraging participation. Some issues may need to be presented by extension staff, for example with pre-prepared flip charts. Other issues should be openly discussed and debated. Group meetings need to be lively, participatory and open to achieve objectives. Lecture style meetings tend to become boring.

Useful points for planning group meetings include:

- making sure everybody agrees a group meeting is required, and why it is necessary;
- inviting a small number of people with a similar background and similar interests, or people who already belong to a group;
- agreeing a date, time and location which are appropriate to farmers. Where possible, events should take place in the village, preferably in the field or homestead area. This is particularly important with female farmers;

- locating suitable low cost training aids such as flip charts, real objects and pictures. There are useful pictures in the **Image Bank** held at the thana office, and these can be used to stimulate discussions by asking farmers questions about them. Training aids can also be borrowed from the **Resource Centre**, or from other organisations.

Implementation

For successful meetings consideration should be given to:

- creating an informal atmosphere where people feel free to raise questions;
- seating arrangements - outside in a circle on mats is probably the most relaxed seating arrangement as it enables participants to see each other;
- explaining the purpose of the meeting and reminding farmers of the original problem or need for discussion;
- explaining the materials that will be used (live samples, tools etc.);
- making the meeting interesting and relevant. For example, by sticking to the topic which has been defined and using practical sessions where appropriate. Ensuring that farmers fully participate in discussing issues and ideas, and avoiding speeches and lectures. Where possible visual aids to stimulate discussion such as flip charts and flash cards should be used;
- not taking too much time, an hour or two is usually sufficient;
- completing a SEMS Form 1 and writing a list of participants names;
- agreeing any follow-up actions that arise.

Extension staff can encourage farmers interested in a specific issue to meet regularly over a cropping season. This can be useful when, for example, matched with a group of farmers participating in a block demonstration, or a group of farmers listening regularly to radio programmes. A series of two hour meetings, held once a week or twice a month will be more effective than a whole day's training covering two or three different subjects.

Monitoring, Evaluation and Follow-up

One of the final points in implementing a group meeting is the completion of a SEMS Form 1. This must be done before the farmers leave the venue. The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended the meeting, and what was the cost (normally zero).

Understanding: How many farmers who attended understood the agricultural ideas that were presented in the meeting. This can be achieved by a show of hands. Generally, group meetings will be small enough for Block Supervisors to get a good informal impression of who understood what - body language can usually reveal a lot about levels of interest, or by observing questions asked by farmers. For example, did farmers ask relevant questions, or did they miss the point?

Testing: Recording how many farmers are interested in trying new ideas. A show of hands can be used for this.

A group meeting can only be evaluated by re-visiting the farmers who participated. It is therefore important to have a list of the names of farmers who attended a group meeting. Knowledge, Attitude and Practice (KAP) surveys could be used. Group meetings have many

different purposes. It may be unnecessary to evaluate a group meeting at which there were no clear new ideas that farmers could implement themselves.

Extension staff can follow up group meetings by:

- recording the outcome in the Block Supervisors diary;
- holding further meetings and training events as required by the farmers;
- ensuring that extension staff who agreed to take specific actions are aware of their responsibilities;
- helping group members implement specific actions that they agreed to during the meeting;
- returning to farmers to see if the advice or information discussed was of use, or has been applied;
- arranging other activities with the same group of farmers. For example, a Problem Census, or farm visit, or a method demonstration.

10.9 MOTIVATIONAL TOURS

A motivational tour involves taking a group of up to 30 farmers from their village or block to another area. Motivational tours usually last a day. Motivational tours expose farmers to developments and new technologies which are being used by farmers in another area, or are being developed at research stations, horticultural base nurseries, or activities being implemented by other extension organisations such as NGOs. Tours present a good opportunity for farmers from different areas to exchange ideas with one another.

Planning

The content of motivational tours is defined in relation to the problems that farmers are facing, and the information needs that they have. Once a need has been identified, extension staff can search for information and sources of information. A motivational tour carries quite a high cost, so they should only be used when farmers information needs cannot be met locally. If information cannot be provided locally, or if there are good sources of practical information available in a neighbouring thana, district or region, a motivational tour can be planned.

The following **planning checklist** is useful for motivational tours:

Defining the technical content and sites to be visited: trying not to plan too much for a tour. An event which covers a few subjects and sites will allow participants greater opportunity to see, learn, practice and try new ideas;

If an organisation such as a research institute is involved: *the event should be planned with them* - this can be achieved by visiting them, writing to them to confirm details, telephoning them regularly and establishing whether any costs can be shared;

If farmers in another area are involved, the event can be planned with them: for example, by visiting them, maintaining contact with them via local extension staff, and ensuring that they are capable and prepared to show visiting farmers around their land;

Visiting the area beforehand: ensuring it is appropriate and accessible, becoming familiar with local conditions and visiting other people who may be involved. For example, staff from partner organisations;

Defining the route, day, duration and timetable of the tour: making sure that the day and duration are appropriate to all involved;

Arranging transport: this will be one of the main costs involved. If DAE has an appropriate vehicle, it should be used. If the tour is to another organisation, and they have a vehicle, it may be possible to borrow it or rent it at a subsidised rate;

Arranging refreshments, and accommodation if appropriate: again, this will be a substantial cost. Budgets should not be exceeded, it may be possible to share costs. Farmers may be prepared to provide a minimal contribution themselves, even if it is only Tk 5 each as this may indicate that they are truly interested in the subjects that the tour will address;

Making arrangements to meet or collect the farmers at a convenient time and place: it may be easier to agree one or two collection points in advance.

Motivational tours can be organised within a thana, by the Thana Agricultural Officer, within a district, by the Deputy Director, or within the region by the Additional Director. Motivational Tours between regions can be organised by the Additional Directors concerned.

Implementation

If well planned, a motivational tour should be easy to implement. Consideration should be given to the following when conducting tours:

- making sure farmers are collected on time as planned, and sticking to the schedule and route;
- encouraging hosts (farmers or staff from other organisations) to do all the explaining and allowing them to answer visitor's questions;
- summarising the event, and answering any final questions on the journey home, as well as discussing possible follow-up activities;
- completing a SEMS Form 1 and recording farmer names before the end of the tour.

Monitoring, Evaluation and Follow-up

One of the final points in implementing a motivational tour is the completion of a SEMS Form 1. This must be done before the farmers leave. The main parts of SEMS Form 1 are:

Contact: How many farmers (male and female, large and small) attended the tour, and the cost of the event.

Understanding: How many farmers who participated understood the agricultural ideas that were seen on the tour. A show of hands can be used. Generally, motivational tours will be small enough for extension staff to get a good informal impression of who understood what. Informal discussions with farmers during the tour may reveal a lot of information about their understanding. During a motivational tour, farmers may be exposed to more than one new idea - they may understand some, and not others. Ideas which farmers appeared to understand, and which they did not should be recorded.

Testing: How many of the farmers who attended think that they will try new ideas which were seen on their own farm or homestead. A show of hands and informal discussion during the tour may help to provide this information. If farmers have been exposed to more than one new idea they may wish to try some, and not others. Ideas which farmers are interested in trying and which they are not should be recorded.

KAP surveys can be used to evaluate motivational tours.

Extension staff can follow up motivational tours by:

- sending a report to the local newspaper or radio station;
- reporting the event in the District Bulletin;
- returning to farmers to see if the advice or information was of use, or has been applied;
- arranging other activities with the same group of farmers, especially if they are from the same village. For example, a method or result demonstration;
- encouraging participating farmers to share their experiences with neighbours, in group discussions facilitated by extension staff;
- agreeing to host a return visit e.g. for research staff to visit farmer's fields.

10.10 PARTICIPATORY TECHNOLOGY DEVELOPMENT

Participatory Technology Development (PTD) is a process of developing technology which is led by farmers. The purpose of PTD is to:

- test farmer's technology ideas;
- test, under local conditions, a technology that has been successful in other areas;
- try out a modification to an existing or recommended technology to see if it can be more successful under local conditions;
- develop the capacity of farmers to solve their own problems through experimenting with ideas.

PTD differs from demonstrations, as it:

- does not involve showing a farmer a proven or recommended technology;
- is conducted in a participatory manner and farmers are full partners;
- cannot be predicted, nothing can be promised, and nothing is guaranteed.

Conducting PTD is a learning process for everybody, with extension staff acting as facilitators. In return, farmers understand that there is no room for complaint or compensation if the technology which they test proves to be less suitable than their existing practice. If the idea being tested turns out to be a failure, the process is often a success because of the learning that has occurred. Farmers have always been active developers of farming practices. PTD builds on, supports and encourages this capacity. The use of PTD is linked to the Department's revised extension approach which seeks to encourage farmer participation.

Planning

Participatory Technology Development is implemented with a farmer or farmers group who have a problem to which may be solved by experimenting with an existing solution or an idea for a solution. PTD can be planned using the following steps:

Define a topic with a farmer or group of farmers: topics for testing technologies are defined by farmers and extension staff together. Block Supervisors have a key role but it is the Agricultural Extension Officer who is responsible. A Scientific Officer from a research station should also be consulted. Ideas for testing begin when farmers identify a problem. The farmers can then be encouraged to think through the problem, opportunities and ideas. This process is supported by Block Supervisors and thana level staff who have a thorough knowledge of the most appropriate recommendations for the area. Standard recommendations are only a guide. Many recommendations are those required for a

maximum yield. In many areas, sub-optimal yields may produce a better economic return or reducing input levels may reduce yields, but be more cost effective. Other ideas to test can come from extension staff, research staff, or other organisations. Wherever the idea comes from, the farmer has the final decision about what is done and how.

Plan the test plots: Although the test plot will be on one person's land, it is more beneficial if the test can be a group process. The farmers or farmer's group and Block Supervisor, with support from the Agricultural Extension Officer, can discuss the principles of testing and developing technologies, and develop a proposal. The proposal is in the form of production variable which the farmer wishes to test. Proposals are likely to include fertiliser rates and timing, pesticide rates and timing, plant spacing, irrigation rates and timing and so on. The basic principle is to vary the factor and observe the outcome in terms of yield and cost benefit ratio. As PTD is new to DAE, it is wise to stick to one factor and two plots as successful tests are likely to be simple. Once the factor has been determined, the farmer decides what will be done on each of the two plots.

The area for each plot can be decided by the farmer or group of farmers, and does not need to be large. The area for each plot does not even have to be the same, as long as the farmer measures each area and records it with the help of the Block Supervisor. The design of the plots should be recorded by the farmer and extension worker, including the area of different plots, technology to be applied, and other comments about the land type for example. An example of a PTD plan is given below.

EXAMPLE TEST PLAN - PARTICIPATORY DEVELOPMENT OF OPTIMUM NITROGEN APPLICATION

Farmer	Rahmat Ali
Block Supervisor	Kalim Uddin
Agricultural Extension Officer	Fazlul Karim
Scientific Officer	Ziaul Haque, BRRl

Objective: Test the cost effectiveness of nitrogen applications in Boro rice variety BR17

Location: Clay loam soil on flat land, AEZ 12, Siramnagar village, Sadar Thana, Pabna District.

Plan:Control plot, 4 Decimals (100 sq. m.), 15 Kg Nitrogen, all other factors same.

Trial plot: 4 Decimals (100 sq.m.), 10 Kg Nitrogen, all other factors same.

Notes:

- the plots have been exactly measured by the farmer and Block Supervisor;
- the factor is Nitrogen, and all other factors will be constant across both plots (same treatment of line and row spacing, planting date, pest and disease management, other fertiliser applications etc.);
- the costs of all inputs and the value of all products will be recorded for both plots;
- soil type is the same on both plots to eliminate bias;
- the cost of all inputs is the responsibility of the farmer. The Department is only responsible for providing advice.

Implementation

There should be virtually no cost to the Department. The farmer controls the test and as a result is more likely to be interested in accepting financial responsibility. The Department should only be responsible for providing advice. If possible, a small signboard can be placed by the trial, displaying the name of the farmer and the title of the trial. Successful implementation of a PTD trial can be achieved by:

- encouraging the farmer to tell friends and neighbours about the trial;
- organising field days at PTD sites. PTD should be a group process as far as possible and can be combined with group discussions, farm walks, motivational tours to research stations and other group events;
- regularly visiting the farmer to observe progress, offer advice, learn and help solve any problems;
- inviting the Agricultural Extension Officer or Scientific Officer if there are any problems which the Block Supervisor cannot solve;
- recording progress together - the farmer and Block Supervisor can record progress together, including field operations and timing, input quantities and costs, problems as they arise and action taken. The Block Supervisor can record all information in the diary and the farmer can be encouraged to keep his or her own records;
- recording the cost at the end of field operations. Farmers, with the help of extension staff, should record the costs, and the yield (including any by-products and other benefits);
- organising a final field day and calculating a cost-benefit ratio for each plot to see which is the most suitable for the farmer on that particular piece of land;
- completing a SEMS Form 1.

During implementation, extension staff should keep close contact with **research stations**. This can be done formally through the Agricultural Technical Committee and informally, through personal contact between extension staff and local research staff. Plans for PTD will be vetted in the normal way through ATC meetings. Finally, when considering PTD, extension staff should remember that research stations, particularly BARI, have their own programmes of on-farm research, and that overlap between these and PTD should be avoided.

Monitoring, Evaluation and Follow-up

One of the final points in implementing PTD is the completion of a SEMS Form 1, for both the trial and the field days. The main parts of SEMS Form 1 are:

Contact: How many farmer(s) participated in the PTD trial, and what was the total cost.

Understanding: How many farmer(s) understood the trial. This can be gauged from informal discussions with the farmer(s) during visits and group events at the trial site.

Testing: How many of the farmer(s) think that they will try the new technology on their own farm or homestead. This can be gauged from informal discussions with the host farmer(s) during visits and group events at the trial site. The objective of PTD is not just understanding a new technology, but understanding a process of developing technologies. If the farmers do not decide to try the technology that was tested, but they decide to try testing another technology in the same way, this should be recorded as “testing” in SEMS Form 1.

SEMS Form 1 should be completed in the same way as result demonstrations. PTD can also be evaluated in the same way as a demonstration, using the Knowledge, Attitude and Practice Survey technique. If one season or one year later, participating farmers are not using the technology that was tested, but they are implementing their own tests, this is a success, and should be recorded as such in the KAP report.

Extension staff can follow-up PTD by:

- including technologies which have proven successful in the District Bulletin;
- including technologies which have proven successful in the next extension plan, for implementation with similar farmers in similar Agro-Ecological Zones;
- sending results to the research station;
- the results could be reported back via the TAECC.

10.11 FORMAL TRAINING DAYS

A formal training day is a group extension event. It is a structured, planned event with objectives and a written training plan which involves training materials and trainers. Formal training days generally last for half or a whole day, generally catering for approximately 20 farmers. Formal training days can be held at any venue, at block, union, thana or district level. Generally, the closer to farmers homes the better. There are three types of formal training day, based on the cost of the event. These are:

- formal training day with no cost;
- formal training day with materials cost; and
- formal training day with all costs.

These are described in the following sections.

Formal Training Day with No-Cost

Formal training days do not need to have an associated cost. The underlying cost is the time of the trainer, usually a member of staff of the Department, and the cost of the farmers time. Farmers will not need to be financially compensated for their time if the topic of the training is useful to them, can be applied by them on their farm, and can help increase their production, income or living standards. Similarly, formal training days often require materials such as flash cards, leaflets, flip charts, live specimens or tools. However, every office of the Department should have a **Resource Centre** where a collection of materials are kept. Similarly, other organisations, government and non-government, may also have materials. Where existing DAE materials are used, or materials are borrowed from another organisation, there is no material cost. However, a formal training day with no-cost still needs to be planned, with objectives and a training plan. Formal training days with no-cost will generally be less than a whole day to avoid the cost of lunch or refreshments.

Formal Training Day with Materials Cost

Sometimes, the topic for a formal training day is new in the area, and there are no suitable available materials in the Resource Centre, and none of the other local organisations have anything appropriate. In this case, it may be necessary to prepare new training materials such as flip charts, handouts or flash cards. For formal training days with materials cost a small budget should be provided for preparing new materials.

Formal Training Day with all Costs

Sometimes, the topic for a formal training day is such that a whole day is required, and the venue is such that farmers need to travel some distance to attend. This is particularly likely if trainers are only available at district level, and the event is held in the district office. At other times, the topic is one with which local DAE staff are not familiar, and outside expertise is required. In these cases, additional costs will be incurred. Formal training days with all costs can include budgets for participants travelling allowances, food and refreshments, materials and trainers allowances.

Basic Principles

There are three basic principles which apply to formal training events. These are: involvement of participants; relevance and practicality; and feedback:

Involvement of Participants

Farmers should be 'active' in the process of learning, and are a resource themselves. Training is not a one way flow of information from trainer to farmer. Farmers will gain more by being actively involved. This can be achieved by allowing discussion, by asking questions, by encouraging people to ask questions, and by constantly relating the subject matter to the farmers interests and circumstances. Farmers should be given as many opportunities as possible to contribute to training days by giving opinions, making suggestions, sharing experiences, asking questions and demonstrating abilities.

Relevance and Practicality

The subject matter should be problem orientated, and related to every-day farming situations. Appropriate training is based on a sound understanding of the participants skills, capacity, experience, knowledge and learning needs. Practicability means that the subject matter in a training programme should be useable. So, there should be lots of 'learning by doing' for example, pruning trees, preparing plots or operating irrigation systems. This can involve learning "what not to do" as well as "what to do".

Feedback

The training methods used should encourage a response from farmers. By asking questions, and inviting farmers to comment on the subject matter, it will be possible to judge how well they understand the subject, and how relevant the information is. In this way the event can be adjusted to make sure that people are learning something, and that what they are learning is useful to them.

Training of any kind should be designed with a specific target group in mind. So, when planning training events, are they being planned for male or female farmers? For people with interests and learning needs in homestead vegetables, or pest control? For farmers with high incomes, or for farmers with no spare capital to invest in agricultural technology? The answers to all these questions should be known before planning an event.

Planning

Topics for formal training days should be identified on the basis of farmers needs or problems, and defined in detail in consultation with farmers. For example, where a Problem Census has identified the problem of pest attack in Boro rice, the Block Supervisor and farmers could discuss the appropriateness of Integrated Pest Management. It might be decided that a formal training day is the best way of covering the topic in a fairly short space of time. This could be included in the annual extension plan, or implemented quickly to meet an urgent need. The Block Supervisor should approach thana level staff to make arrangements. This would include:

- identifying an appropriate trainer;
- locating a venue and defining a day and time;
- preparing a training plan;
- locating or preparing appropriate materials;
- defining a budget and locating funds.

Identifying an Appropriate Trainer

A person, or a group of people with a good technical understanding of the topic, and training and facilitation skills should be identified. Any member of staff in the thana, at block or thana level, could act as a trainer.

If there is no-body with technical and training skills available, thana staff can approach district level staff. If there is no-body with sufficient technical and training skills in the Department of Agricultural Extension, someone from an outside agency could be contacted. This might be a member of the livestock, fisheries or forestry departments, someone from a local NGO, or from any other organisation. Where outside staff are used, an allowance or some form of payment may be needed. There are also specialist staff in DAE in the technical support wings at headquarters (e.g. in plant protection, food crops, cash crops, water management and agricultural engineering) who may be able to conduct the training. Staff from the Training Wing may also be able to help with training and facilitation.

Locating a Venue and Defining a Day and Time

The venue is best defined on the basis of the needs of the trainer and the needs of the participating farmers. Where a local trainer is used, it is best to arrange a formal training day at block or union level. Venues could include a local school, union hall, government offices, or offices of local NGOs.

Local level training is particularly important for female farmers, who may find it difficult to travel long distances. Even where trainers are coming from outside the thana or district, it is usually easier to take one trainer to block or union level than 20 farmers to thana or district level. However, in some instances, it may be most appropriate to hold training in a thana or district office, perhaps where electrical audio visual aids are required. When a decision about the venue has been taken, a suitable day and time can be arranged. This will depend on the availability of the trainers, the participating farmers, and the availability of the venue.

Preparing a Training Plan

The essence of a formal training day is the preparation of objectives and a written training plan. The trainer and the DAE member of staff who identified the farmers initial need and understands the local situation are the most appropriate people to prepare such a plan. The steps involved are as follows:

- establishing educational objectives for the event. The objectives should define exact measurable learning results which are expected;
- selecting the subject matter which is required to achieve the objectives;
- structuring the subject matter so that it is relevant, logical and educational;
- selecting training methods which are appropriate to the achievement of the objectives or the selected subject matter, and which encourage farmer participation;
- deciding on what equipment and materials will be needed to carry out the event;
- allocating the time required to carry out the event.

EXAMPLE

The objective of an event about IPM and beneficial insects might be:

Objective: at the end of this event, participants will be able to identify beneficial insects and describe how they can be encouraged to inhabit a paddy field.

To ensure that participants gain the necessary skills to identify and encourage beneficial insects, the training plan might include:

- showing a flash card with pictures of beneficial insects and their main identifying features;
- showing an insect box with preserved samples of beneficial insects along with a discussion of their advantages and functions;
- a short visit to the field to locate and identify beneficial insects in the wild; and
- an explanation with a flip chart of activities that encourage beneficial insects.

A useful format for a lesson plan is shown in **Table 10.2**.

TABLE 10.2: PLANNING FORMAT FOR A FORMAL TRAINING DAY

PREPARED BY:		
Name	Designation	Date
PROPOSED SCHEDULE:		
Date	Time (From-To)	Location
EDUCATIONAL OBJECTIVE:		
By the end of this event, participating farmers will be able to:		
•		
REQUIREMENTS:		
Time		
Visual Aids:	Demonstration Materials:	
OUTLINE:		
Key Technical Information	Training Method	Training Aids

Formal training days need to involve participants, provide an opportunity for feedback, and be practical. This means that, in addition to lecture style presentations and talks, some of the following training methods should be used:

Discussions

Discussions involve two-way communication between the trainer and the trainees, and between the trainees themselves. This gives greater opportunities for misunderstandings to be cleared up; further information to be added; opinions to be shared; and implications to be explored. There are many ways to facilitate discussions:

Question and Answer Session: trainees are asked to write down questions on a subject. The questions are collected and read out, one by one. Individuals from the group are asked to give answers. After getting an answer, the trainer should add his or her own comments.

Brain-storming: the trainer sets a subject and asks for immediate responses from the trainees. These are quickly listed on a board. There should be no discussion at this stage, just a rapid collection of ideas; any idea should be recorded, however strange. Once the board is full, the trainer should go back through the list asking the group to make comments on each item in turn.

Reaction Groups: after a lecture, slide-show or field visit, the group is divided into sub groups of three to four trainees. Each group is then given the task of preparing a statement on a certain aspect of the preceding activity. After five minutes one person from each group is asked to act as a reporter who will read out the statement to the whole group and answer any questions.

Group Exercises

Exercises, like discussion, require exchanges of information between trainees. In addition, exercises give the trainees an opportunity to apply information, which leads to the reinforcement of the trainee's knowledge; a greater understanding of the relevance of this knowledge; and the ability to put this knowledge to practical use. There are a number of reasons why the benefits of using exercises as a training method can be realised better in small groups rather than in the class as a whole. Most important are that everybody has a greater chance to participate and a sense of competition can be developed between groups. As a result the trainees are collectively more active, maintain more interest, produce more information and complete more tasks.

Role Playing

Role-plays involve trainees acting out encounters between farmers or between farmers and extension staff. Although role-plays cannot be used for learning factual knowledge, they are a good way of involving farmers in learning events, and a good way for extension staff to learn about farmers ideas, perceptions and knowledge.

The training plan should be a summary of what the lesson will contain, it is not necessary to write down every word that will be said or every action which will be carried out. Also a flexible approach should be adopted when using training plans. It will often be necessary to modify subject matter and the teaching methods in view of the feedback you get from the trainees during the presentation.

Once a good training plan has been prepared it can be used many times. It should be carefully filed, indexed and kept in the **Resource Centre** so that they can be used again.

Locating or Preparing Appropriate Materials

The training plan will have helped to identify the type of training materials which are required. These should be located or prepared well in advance. In the IPM example, flash cards, an insect box and a flip chart are required. Maximum advantage must be taken of available materials in order to keep costs low. Materials available in the Department, at thana, district or even regional level should be used. If none are available, partner organisations (government or non-government) can be contacted to see if they have something appropriate. If no materials are available, they must be purchased or produced. Use can be made of the **Image Bank**, which has pictures of many agricultural activities. These can be copied onto flip charts, photocopied into handouts, traced onto overhead transparencies, or used in other ways to prepare attractive training materials. More complicated or costly material, such as an insect box, takes more time to prepare.

Defining a Budget and Locating Funds

By this stage, it will be clear what level of funds are required. Wherever possible however, formal training days should be locally implemented by DAE staff with existing materials and should not require additional funds. However, where absolutely necessary, funds can be used for either materials, or for all costs such as trainers allowances, participants allowances and refreshments.

A **planning checklist** for a formal training day includes:

- preparing written objectives which match farmers information needs and address farmers problems;
- preparing a training plan;
- making sure the length of time required has been assessed, and is not too long;
- making sure that training events are related to real situations, and do not contain more information than is necessary;
- identifying whether participating farmers have experiences and ideas which could be useful during the event, and planning how to incorporate these;
- planning how to motivate participants by involving them right from the start of the event;
- planning to use a range of visual aids or handouts to increase farmers interest;
- writing down questions for participants during the event to check that they are understanding the subject matter;
- checking the venue before the event, and checking that any visual aids, objects or samples are ready, available and working, and that they can be clearly seen from all parts of the room.

Implementation

Training events should be conducted in a relaxed atmosphere. There should be plenty of time allowed for discussion and clarification of any ideas which are not clearly understood. If the event is scheduled to take place over a day then make sure there are some breaks. Each part of the training programme should be timed carefully so that nothing is rushed. Language which will be understood by all the participants should be used. The training should be interesting and lively by using a wide range of visual aids. Care should be taken on the use of written material if the participants are illiterate.

Monitoring, Evaluation and Follow-up

Informal monitoring and evaluation of training events can be conducted by:

- careful observation of the trainees in the classroom and in the field;
- asking questions;
- checking note-books and practical work;
- organising activities which give farmers the opportunity to demonstrate their ability.

A more structured means of monitoring is provided in the Seasonal Extension Monitoring System (SEMS). A SEMS Form 1 should be completed before participants leave every event, and includes:

Contact: How many farmers (male and female, large and small) attended the formal training day, and the cost of the event.

Understanding: How many farmers who attended understood the objectives of the training day and understood the ideas that were discussed. A show of hands may help to gauge this as well as personal impressions gained from informal observation.

Testing: How many of the farmers who attended think that they will try new ideas on their own farm or homestead. A show of hands can be used.

Once the assessment has been carried out, the results must be used. If poor performance is detected, it may be necessary to: arrange additional training on the subjects; change the training methods; or try to motivate farmers using alternative techniques.

10.12 FARMER FIELD SCHOOLS

Unlike other farmer training that takes place at Thana level, Farmer Field Schools (FFS) are usually instigated by DAE Headquarters. This is because they are often organised as part of a national programme for introducing new technology and tend to require a large investment. DAE have used FFS for introducing IPM throughout Bangladesh and for strengthening cereal production and crop diversification.

The FFS approach is field orientated and participatory placing emphasis on learning by doing. Training takes place over an extended period such as a cropping season and is a combination of classroom and field work. Training is also holistic in that it follows the farming systems adopted by participants. This means that the training starts from an understanding of existing farmers practise e.g. inputs used, resources available for production, market prices, availability of inputs etc.

Planning

Trainers are usually selected by DAE Headquarters and may have different roles assigned to them. For example, core training may be the responsibility of an Agricultural Extension Officer supported by two or three BSs. Core trainers receive extended master training on the technology to be introduced and how to plan and conduct the FFS. Other staff may also have a key role in FFS. For example, Additional Directors or DDs may be selected to monitor the FFS. In this case they receive training on monitoring procedures.

Core trainers are taught how to plan a FFS according to the technology concerned during a master training programme. The master training programme can be conducted over an extended period of time. It will usually cover:

- farmer selection;
- organising training materials;
- organising the venue and site selection for field work;
- preparation of each session.

Farmer Selection: Guidelines are prepared by the course designers on how to select farmers that should participate. These guidelines may include:

- ensuring that the training is open to women as well as men, a target number is normally attached to this;
- selecting farmers according to their current practise. For example, IPM training may require that some of the participants are farmers who use high levels of pesticides;

- selecting framers who live near to one another (e.g. in the same village) so that group formation which takes place during the FFS can be encouraged after the training has finished.

Organising Training Materials: specialist training may require the use of equipment not normally kept in resource centres. For example, sweeping nets for IPM training. In these cases funds may be available to purchase equipment. There may also be a long list of resources required and these will need to be organised prior to each weekly training session.

Organising the Venue and Site Selection for Field Work: training sessions take place in a classroom environment and in the field. The training room does not have to be in the Thana office. It could be a school room, a union building or an NGO meeting place. It should be located as close to the farmers homes as possible. Likewise any plots selected for fieldwork should be close to farmers houses so that the training is conducted in as near to real conditions as possible.

Preparation of Each Session: the weekly training sessions are normally pre designed by senior technical staff and are examined during the master training programme. This involves core trainers being trained in the technology and the delivery of the FFS curriculum. Sessions are usually flexible so that any special local knowledge can be incorporated into the FFS.

Implementation

Although the main content of the FFS will be predetermined and guidelines for implementation will probably form part of the master training programme some useful points to consider include:

- **Preparation and Organisation:** like any other training programme, FFS should be well prepared and organised. FFS take place over an extended time period so the training facilities need to be booked for the training duration and maintained in a orderly manner.
- **Maintaining Interest:** at the close of each session discuss with the participants the content of the next training session. For example, where it will take place what kinds of things the group will be looking at; how long fieldwork is expected to last etc. FFS sessions should be as active and participative as possible;
- **Group Formation:** an important part of most FFS is to encourage the participants to work as a group. Some FFS will therefore intentionally include activities which are intended to support group formation. Where activities do not appear, discussion and sharing of ideas and knowledge between participants should be encouraged as much as possible;
- **Support Two Way Learning:** through field activities both the participants and trainers should learn together. This supports action based and problem solving learning which is an important skill for everybody that participates to develop. It also enables DAE staff to understand farmers problems and opportunities at a much more detailed level than normally encountered.

Monitoring, Evaluation and Follow-up

An important part of any training programme which takes place over a long time period is quality. There are different ways to monitor FFS but the one most commonly adopted by DAE is as follows:

Benchmark Survey: before the training the core trainer conducts a benchmark survey of participants. The survey is likely to include, gender, size of land being farmed, current farming practice (cropping pattern, inputs used and how, homestead production etc.);

Monitor the Quality of the Training: the core trainer records information about the FFS e.g. name of school, core trainers, crops or practises used in the FFS, day of the week that FFS takes place, planned start and end date, numbers of farmers selected, levels of literacy.

An assigned supervisor monitors the performance of the training as it takes place. This includes recording information on facilitators, name and designation, number of sessions conducted and whether they are following the curriculum, reasons why there are problems if any, in keeping to the schedule, how the facilitator performs (encourages good participation, learns with the participants), quality of material purchased or made, outdoor site whether it is being used for training and the quality of the site/s.

Self assessment by participants is also an important means of monitoring the quality of training.

After the Training: In the short term it is important to find out about participants intentions. This can be done by conducting a survey or feedback session with participants about their knowledge and intentions after the training has finished. SEMS Form 1 can also be used. The results can be compared with a sample of untrained neighbouring farmers.

Longer term monitoring involves visiting the participants in following seasons to verify the impact of the training. KAP surveys can be used for this.