

CHAPTER 12 MONITORING AND EVALUATION

12.0 INTRODUCTION

In extension, objectives are based on meeting farmers information needs. Success occurs when objectives are met, and indicators are used to help determine the level of success. Monitoring is the process of recording these indicators, while evaluation is analysing the recorded indicators and determining how to improve performance in the future. Using monitoring and evaluation tools DAE is able to ensure that the implementation of extension programmes follows their design and takes into account the interests of farmers.

Effective monitoring and evaluation should provide relevant and accurate information, to the right people, at the right time, in the right format, to enable them to take timely decisions and action. Decentralisation provides local flexibility and freedom of choice, and monitoring and evaluation helps staff make the right choices.

Monitoring and Evaluation in the Planning Process

In DAE monitoring is conducted during implementation and evaluation is usually conducted after implementation. Monitoring comes first because without collecting information a valid evaluation cannot be made. However, monitoring will only produce its full benefits if the collected information is reviewed to learn lessons. This is evaluation. Information for planning extension programmes comes from both evaluation and farmer information needs assessment - the absence of either source of information will lead to low quality planning.

In the planning process, monitoring and evaluation are tools to help managers in thanas and districts improve their performance. Extension monitoring and evaluation are self-assessment processes which should be carried out by thana and district staff.

There are two kinds of monitoring and evaluation that are important in ensuring effective extension services: **assessment of outcome** and **assessment of process**.

This chapter discusses assessment of DAE's successes in meeting the needs of farmers, and shows the appropriateness of each District and Thana's annual extension plan. This *assessment of outcome* is accomplished through the review of BS Diaries, the Seasonal Extension Monitoring System (SEMS) and the Knowledge, Attitude, Practice (KAP) survey system.

Chapter 2 discusses assessment of the successes of Districts, Thanas, and on an individual basis Block Supervisors, in achieving their work plans i.e. implementing their annual extension plan. This *assessment process* is accomplished through the conduct of Technical Audits and the Work Programming System.

12.1 THE BLOCK SUPERVISORS DIARY

The Block Supervisors diary is one of the most important tools used in operating DAE's extension approach, and can be used to support monitoring and evaluation. During the day to day work of the Block Supervisor, the diary acts as a recording tool and should show what is done, with whom, and what the response was. Farmer problems are recorded, farmers names listed, and farmers reactions to participating in events are noted - especially in the

case of individual farm visits. The diary is an important source of detailed block level information about what is working well, and why, and what is not working well and why.

12.2 THE SEASONAL EXTENSION MONITORING SYSTEM (SEMS)

The Seasonal Extension Monitoring System (SEMS) is designed to help extension staff record indicators of the performance of extension programmes, and to summarise and interpret this information in order to help make future planning decisions.

Indicators Used in SEMS

The following **primary indicators** are included in SEMS.

Contact: How many farmers (male and female, large and small) attended extension events, and what was the cost per farmer.

Understanding: How many farmers who attended understood the ideas (technologies) contained in the extension event, and what was the cost per farmer who understood.

Testing: How many of the farmers who attended think that they will try the ideas (technologies) contained in the extension event, and what is the cost per farmer who intends to test.

These are the primary indicators of the performance of extension programmes. They should occur in sequence based on the assumption that contact leads to understanding, which leads to testing.

Decisions Made Using SEMS Indicators

Monitoring and evaluation helps to make better management decisions. The management decisions which can be made with the help of SEMS are:

Technology Selection: What agricultural innovations should be included in extension programmes.

Method Selection: Which extension methods should be included in extension programmes.

Area Selection: Which areas (specific thanas, districts or regions) should be supported or supervised more closely.

SEMS should show which technologies are most or least successful, which extension methods are the most or least successful, and which areas are running the most or least successful extension programmes. On the basis of the information, many decisions can be made and actions taken to continually improve the extension service offered to farmers.

Listed below are some of the actions that can be taken to improve low performing technologies, extension methods or areas.

Poor Technologies:

- adjust the technology, with help from research staff and the farmers who have tested;
- change the extension method - for example, use group training rather than result demonstrations;

- improve the extension events - use better publicity, hold events at more suitable times, use more appropriate venues;
- reduce the budget and resources for the technology in the next extension programme.

Poor Methods:

- adjust the extension method;
- train staff to implement the method more effectively;
- reduce the number of events of this type in the next extension programme;
- use the extension method in combination with other extension methods - for example, add more field days to result demonstrations;
- delete the extension method from future extension programmes.

Poor Area:

- organise extra training for the staff in this area;
- increase the frequency of supervision visits to this area, including the use of Technical Audits;
- provide more advice on the selection of technologies and extension methods for inclusion in programmes;
- reduce the budget for this area, reducing the size of the programme until performance improves.

SEMS information about contact, understanding and testing also help improve the quality of extension programmes. Where contact, understanding or testing is low, the following actions can be taken:

Low Contact:

- offer more interesting technologies;
- improve publicity to attract more farmers to events;
- hold events at appropriate times;
- review the selection of groups used for this activity;
- hold events in appropriate places.

Low Understanding:

- improve the way in which new ideas are presented - for example, use simple language, visual aids, live specimens;
- train staff in implementing extension events;
- train staff in facilitation skills;
- use alternative extension events - for example, rather than Thana Training Days, use more village level group meetings.

Low Testing:

- improve the quality of extension events at which the particular technology is discussed;
- adjust the technology, with the help of research staff and feedback from farmers, to make it more appropriate to farmers needs and conditions.

The decisions that are taken will depend on the type of farmers involved. For example, when changing the timing or location of extension events, consideration should be given to whether the target group are male or female, as they may have different preferences for timing and venue. Decisions about corrective action can be made with the help of additional items of information which are collected in SEMS - **secondary indicators**. A selection includes:

Extension Methods:

- publicity effectiveness;
- timeliness of event;
- accessibility.

Technology:

- profitability, or cost-benefit analysis;
- risk;
- initial capital requirement;
- labour requirement.

SEMS also allows extension staff to record farmers specific stated reasons for not wishing to test a new innovation. There is a limit to the number of secondary indicators that can be gathered, as this is time-consuming and complicated. However, some basic indicators of extension event quality such as timing, venue and publicity are included in the system to give an idea of problem areas.

Completing SEMS Forms

The Seasonal Extension Monitoring System applies to all DAE activities, irrespective of project or source of funds. There are four SEMS forms, SEMS Forms 1, 2, 3, and 4. SEMS Forms 2, 3 and 4 are usually prepared by computer from the data recorded in SEMS Forms 1. The Thana Agricultural Officer can also manually prepare and send one SEMS 2, one SEMS 3 and one SEMS 4 summary to the Deputy Director, District. However, this is not mandatory.

SEMS Form 1: Primary Extension Event Monitoring Form

SEMS Form 1 is a single form which is used for any extension event. Each **Block Supervisor**, or the senior DAE officer responsible for implementing the activity, is responsible for completing one SEMS Form 1 for each activity in the block, irrespective of source of funds. Thana staff are responsible for completing a SEMS Form 1 for thana level events such as the Thana Fair, or Thana Training Days. Likewise, District staff are responsible for completing SEMS Form 1 for each activity at District level such as District Training Days.

During the season, each week and month all of the SEMS Form 1s are brought to the Thana office. In every case **SEMS 1 must be finalised on the spot**, at the time the extension event takes place so that the following indicators can be recorded:

- *contact* - the numbers of farmers who attended;
- *understanding* - the number of farmers who think they know how to use the technology; and
- *testing* - the number of farmers who think they will try the new technology.

Other parts of the form such as location, collaborating organisation, crop code, AEZ number, date plot established etc. should be completed before the extension event takes place. By completing parts of the form early, field staff actually begin making a plan of the event which gradually becomes complete as the stages of the event take place.

Detailed guidelines for completing SEMS Form 1 are shown in **Annex XI, Table 1 (a)**. SEMS Form 1 is shown in **Annex XI, Table 1 (b)**.

SEMS Form 2: Technology Summary Form

SEMS Form 2 is a single form which is used to summarise information about extension events which concern the same technology. For example, all extension events dealing with the use of balanced fertiliser in rice production would be summarised on SEMS Form 2. They can be completed manually but are usually generated by computer at District Offices. If they are completed manually then it is the **Thana Agricultural Officer** who is responsible for ensuring that one SEMS Form 2 is prepared for each of the technologies conducted and ensuring that as a minimum those sections of the form relating to contact, understanding and testing are completed.

SEMS Form 2 enable start to compare and make choices about the least and most successful technologies. At the end of the season, all SEMS Form 1s are collected and sorted into piles, one pile for each technology, and average indicators calculated. Detailed guidelines for completing SEMS Form 2 are given in **Annex XI, Table 2 (a)**. SEMS Form 2 is shown in **Annex XI, Table 2 (b)**.

When each SEMS Form 2 is completed, it is possible to assess the performance of a technology. It is also possible to compare technologies. For example, where the proportion of farmers intending to test a technology falls below 25 per cent, there may be a problem. Care should be taken where a technology has been promoted primarily through mass extension methods such as folk songs or dramas, high proportions of farmers willing to test new ideas should not be expected. This is because mass extension methods are most suited to raising farmers awareness about new ideas, but do not provide enough information to enable farmers to apply the ideas or technology.

Where it is decided that action to improve technology performance is required, refer to the options that may be taken outlined in the earlier section on using indicators to make decisions.

SEMS Form 3: Extension Event Summary Form

SEMS Form 3 is used to summarise information about particular extension methods used during the season. There should be one SEMS 3 summary form for each extension method - one for result demonstrations (which summarises all result demonstrations, of all types of technology), one for thana training days (which summarises all thana training days), and so on. If completed manually then a SEMS Form 3 for each different extension method used in a thana during an extension programme should be completed by thana staff at the end of the season. All SEMS Form 1s should be collected, and sorted into piles, one for each extension event, and average indicators calculated. Detailed guidelines for completing SEMS Form 3 are shown in **Annex XI, Table 3 (a)**. SEMS Form 3 is shown in **Annex XI, Table 3 (b)**.

SEMS Form 3 can also be generated by the computers at district offices, providing the in-charge SEMS officer has received all SEMS 1 Forms from every thana and they have been entered onto the SEMS software.

When all SEMS Form 3 have been completed, it is possible to assess the performance of extension methods, and to compare methods. For example, where the proportion of attending farmers who understand the technical content in any face to face extension event falls below 50 per cent, this may indicate a problem.

Care should be taken as different extension methods have different impacts - for example, field days will provide more detailed information than folk drama events, and levels of understanding and testing are bound to be higher. Where it is decided that action to improve technology performance is required, possible decisions that can be made are outlined in the earlier section on using indicators.

SEMS Form 4: Extension Area Summary Form

Extension activities are conducted in different blocks, thanas, districts and regions. SEMS Form 4 summarises the performance of extension programmes in these areas. SEMS Form 4 should be completed for each thana, each district and each region. SEMS Form 4 could also be completed for the whole country to summarise performance across Bangladesh. At the end of each season, thana level staff should complete one SEMS 4 form for each thana, district staff should complete one for the district, and regional staff should complete one for each region. SEMS Form 4 should be completed using information from SEMS 2 and SEMS 3. Detailed guidelines for completing SEMS Form 4 are shown in **Annex XI, Table 4 (a)**. SEMS Form 4 is shown in **Annex XI, Table 4 (b)**. SEMS Form 4 can also be generated by computer.

Once SEMS Form 4 is completed, it is possible to assess the overall performance of thanas, districts and regions, and to make comparisons between areas. For example, when comparing thanas, districts or regions, staff could look for an abnormally high cost per farmer intending to test new ideas. This would indicate a requirement for additional support, training or supervision. Actions that can be taken to improve area performance are outlined in the earlier section on making decisions using indicators.

Computerised Seasonal Extension Monitoring System

Where computer services are available the Deputy Director will designate one officer as “in charge SEMS”. The following procedure will be used in operating computerised SEMS:

- the Block Supervisor brings completed SEMS 1 Forms to the thana office each week during the season, and these are checked by thana staff;
- the Thana Agricultural Officers submits copies of these SEMS 1 Forms each month to the district office;
- the “in-charge SEMS” ensures that the District Computer Operator enters the SEMS Form 1 data onto the computer. Data entry can be planned, as the district and thana extension plans will show what events are planned for when, and it is therefore possible to see when SEMS 1 Forms should be completed and submitted for data entry;
- “in-charge SEMS” ensures that a performance report for each thana is printed, and sent to the Thana Agricultural Officer, in order to provide information for making thana level planning decisions;
- the Deputy Director will ensure that a district performance report is printed using the SEMS Computer System, and that a copy of the report and a copy of the computer disk are submitted to the Additional Director, Region;
- the Statistical Officer, Region, will ensure that reports from each district are compiled on the SEMS Computer System, and that a summary report is prepared and sent to headquarters.

The functions of the “in-charge SEMS” are to ensure that:

- thanas deliver SEMS Form 1 in time, and that plans and schedules for data entry are prepared;
- the computer operator enters SEMS 1 data efficiently and quickly, as soon as they are received;
- computer defects are identified and reported;
- data summaries are prepared and distributed in time for analysis and extension planning.

12.3 KNOWLEDGE, ATTITUDE AND PRACTICE SURVEYS

Extension work is only useful if it leads to changes in farm practices. The Knowledge, Attitude and Practice (KAP) Survey is a monitoring and evaluation technique which shows the actual reaction of farmers to exposure to new ideas. KAP results show what changes in farm practices have occurred. While the Seasonal Extension Monitoring System shows what happens at extension events, KAP shows what happens after the event.

KAP is used by District and Thana officers to improve the effectiveness of extension work. Most agricultural technology is related to a specific season.

To find out if new ideas are actually being adopted, KAP surveys are implemented when the correct season comes round again, to show if farmers:

- Have retained **KNOWLEDGE** of the technology **(K)**
- Have a positive **ATTITUDE** towards the technology **(A)**
- Actually **PRACTICE** the technology. **(P)**

The levels of Knowledge, Attitude and Practice are found by interviewing a sample of farmers who are known to have had exposure to the technology, i.e. those farmers who attended specific extension events. The names and addresses of farmers who had contact with DAE's previous extension activities can be found in demonstration, training registers or BS diaries. These records should be properly maintained.

Using KAP Results to Improve Performance

If farmers are not using new agricultural practices, that is there are negative answers relating to PRACTICE, this indicates a problem, and a requirement for action to be taken.

The reasons for non-adoption of new ideas can fall into three groups:

- farmers were not aware of the new idea - they do not have the **KNOWLEDGE**;
- farmers are aware of the new ideas, but have rejected them - they have a negative **ATTITUDE**;
- farmers are aware and favourable in attitude, but some other factor (such as non-availability of inputs) prevents them from changing practices - they do not **PRACTICE**.

The necessary corrective action is different depending on whether there is a knowledge problem, an attitude problem, or some external barrier to adoption. Some examples for overcoming them include:

Knowledge Problem: improving extension methods and / or changing choice of methods in the next extension programme.

Attitude Problem: re-examining technical and economic suitability of the technology.

Practice Problem: identifying ways to break constraints, if not possible, then suspending action on this technology.

In all these cases it is important to find the reasons why the farming practice has not changed. Corrective action will depend on the type of farmer. For example, smaller farmers are likely to require different corrective action to larger farmers. Smaller farmers may require

risk or cost reduction in technologies which are being promoted before they decide to change practices whereas this might not be as important for larger farmers.

Responsibilities

KAP can be carried out at any level of the Department of Agricultural Extension. In practice, KAP will normally be done at district or thana level, because most planning decisions are taken at this level, and KAP results are intended to provide district and thana officers with information to help make planning decisions.

At thana level, the AEO, under the management of the Thana Agricultural Officer, is responsible for conducting KAP Surveys each season. At district level, the District Specialist, under the responsibility of the Deputy Director, District, is responsible for conducting KAP Surveys each season. At national level, KAP Surveys should be organised, implemented and reported by a team from the Planning and Evaluation Wing.

Implementing a KAP Survey

There are six steps to conducting a KAP Survey:

- selecting the technology and compiling key points of the technology;
- collecting participation records and establishing a sample;
- designing and pre-testing the survey form;
- conducting interviews;
- summarising and analysing results;
- reporting findings.

The following sections describe each of these steps.

Selecting Technology and Compiling Key Points of the Technology

The first step is selection of the technology to be evaluated. Priority should be given to technologies:

- which have been given major emphasis in the extension programme, in terms of funding and staff time;
- which are aimed at the more numerous target groups;
- which have not been evaluated already or recently;
- for which new extension methods have been used.

Because KAP is a follow-up technique, it is usually used to evaluate a technology which was in the extension programme for the corresponding season one year ago. For example, the start of the Kharif-II season in the current year would be the right time to evaluate the adoption of a transplanted Aman variety demonstrated in the Kharif-II season the previous year.

The object of the knowledge part of KAP is to find out whether extension efforts were effective in giving information about a new technology to farmers. If farmers did not acquire the required knowledge, changes in farm practices are not possible. Knowledge of a technology can be broken down into key features, which are the specific components which must be understood in order to understand and use the technology. For example, the name of a variety and how and when it should be cultivated, or the application rate and timing for a specific fertiliser. So, to assess farmer knowledge, about a selected technology, these key features / components should be identified and listed. Care should be taken to include only those features / components which were covered during the specific extension event.

Collecting Participation Records and Establishing a Sample

A KAP survey is simply a case of finding some of the farmers who participated in an extension event about the selected technology, and, when they have had an opportunity to use the technology, finding and interviewing them. Not every farmer who attended extension events needs to be contacted. A **sample** is sufficient. The number of farmers that should be contacted and interviewed depends partly on how many farmers were contacted in total, and **Table 12.1** shows the required sample size for a number of circumstances.

TABLE 12.1: SAMPLE SIZE FOR KAP SURVEYS

Total number of farmers listed in DAE participation records	Approximate sample size for KAP Survey
500 or more	31
250	28
100	24
50	20
31 or less	15

This should be a **random** selection, where every farmer on the list has an equal chance of being selected for interview. In this way, sampling is not biased, selected farmers are located in different places rather than only one village, and the results of the KAP survey are statistically valid. To make the selection of farmers according to random sampling, the following procedure should be used. The procedure is explained using an example.

EXAMPLE: ESTABLISHING A SAMPLE

Note: This example, assumes that there were a total of 251 farmers participating, and that the required sample size is 30 farmers.

1. Make a serial list of farmers who participated, using the available records (training attendance register, or Block Supervisor diary, or demonstration register etc.). This is known as the **sample frame**. Do not include DAE staff that attended.
2. Calculate the **stepping interval**, which will show which farmers should be selected. The stepping interval is equal to the total number of farmers (251) divided by the sample size (30), or 8.37, rounded down to 8. This means that every 8th farmer on the serial list should be picked.
3. To decide where to begin on the list select the first farmer using a random number between 1 and the stepping interval (8). Use random number tables, or the random number function on a calculator, or simply write the numbers on pieces of paper and ask someone to draw one. The names with the serial number that matches the random number is selected as the **first farmer**. For example, the random number might be 5, so the fifth farmer on the sample frame serial list is selected.
4. The remaining sample farmers will be every 8th name on the list after the first farmer or the first farmer plus 1 stepping interval, plus 2 stepping intervals, and so on up to the sample size. In the example, this is the (5 plus 8) 13th farmer, (5 plus 16) 21st farmer, (5 plus 24) 29th farmer, and so on.

This is the **primary sample** of farmers. There should be one **reserve** for each selected farmer. During interviews, some of the primary sample may turn out not to be members of the target group for the selected technology. Even those who are members of the target group may be unavailable for interview in some cases. In these cases interview the reserve farmer instead. The easiest way to

select a reserve farmer is to take the person who is adjacent in the list of people who attended the same event as the farmer who was originally selected.

Designing and Pre-testing the Survey Form

There is no standard layout for a KAP questionnaire, because the details will depend on the number and type of key features / components. The questionnaire should be as simple as possible to make interviewing easier. **Table 12.2** shows an example questionnaire that has been designed for the KAP of a paddy variety technology.

TABLE 12.2: EXAMPLE KAPQUESTIONNAIRE

PART A. IDENTIFICATION DETAILS				
Crop/Variety	T. AUS BR-26	Technology	VARIETY	
Season extended	KHARIF-1 '94	Season evaluated	KHARIF-1 '95	
Extension methods _____				
Farmer Name	_____	Son/wife of	_____	
OPERATED farm size (include land worked by farmer on tenancy)	_____ decimals	Sex M/F	_____	
Village	_____	Block	_____	
Thana	_____	District	_____	
AEZ	_____			
PART B. CONFIRMATION OF EXTENSION CONTACT				
Farmer confirms he/she participated in event? YES / NO (ring as appropriate)				
PART C. KNOWLEDGE, ATTITUDE AND PRACTICE				
a) K, A & P relative to Key Points of Technology				
Item of Information	Key Points for Recommended Technology	Farmer's KNOWLEDGE of Key Points	Farmer's PRACTICE (this year)	Farmer's ATTITUDE of Key Points
Variety name	BR-26			
Quality	Semi-fine			
Season	Aus			
Duration	95 days			
Yield	3.5 mt/ha			
Pest/disease resistance	blight			
b) Details of discussion on farmer's ATTITUDE (Continue on Reverse)				

There are three parts to a KAP questionnaire:

Part A contains the identification details such as the technology, the season, the name and location of the farmer, the gender of the farmer and the farm size group of the farmer. This information helps to check if DAE targeting criteria are working well.

Part B contains the contact details, and verifies that the farmer actually attended the extension event.

Part C contains the actual KAP assessment, and assesses knowledge of the key points of the recommended technology, the farmers attitude towards the specific key points, and the

farmers actual practice. Part C contains space for recording in more detail the discussion regarding the farmer's attitude. This is often the most important, especially when the farmer has a negative attitude towards the technology. It is essential to find out why the technology is not acceptable, so that corrective action can be taken.

It is important to note that although the term KAP survey is used, questions are actually asked in the following order:



This is because the farmer's attitude is most important when they know the key points but do not practice them. Therefore, practice is checked before attitude. The example questionnaire in **Table 12.2** has been designed to help this.

When the questionnaire has been drafted, a **pre-test** should be conducted. This is done by taking a few copies of the draft questionnaire and interviewing a small number of farmers to check that the questions are clearly understood and that farmers are able to provide answers which can be used for evaluation. Revisions to the format are often required after the pre-test.

The people interviewed for pre-test must be target group members (otherwise they cannot provide proper answers), but they must not be in the sample to be used for the main survey - or they will be interviewed twice. To avoid this, the pre-test should be done after the sample has been selected.

Conducting Interviews

Interview techniques with the farmers are important. The four principles for effective interviews are described below.

Interviewers must remain neutral: KAP interviewers must be on their guard against prompting farmers for the reply to their questions, or in any way indicating that one type of reply is more preferred than another. Once again, all staff must be aware that information about problems is the most valuable. Above all, the interviewer must never suggest, or indicate by his/her manner, that farmers are wrong.

Interviewers must be consistent: the items included in the questionnaire must be consistently covered in all interviews, in the same way. The questionnaire may be added to in individual cases but should never be reduced.

Interviewers can use checklists: the most difficult part of maintaining consistency is in conducting open discussions to throw light on farmers' attitudes to technology (Part C of the KAP questionnaire). One way to maintain consistency is to make a checklist of points which should be covered. For example:

- which specific qualities of the technology does the farmer like/dislike? (the key points could be used as a starting point for discussion);
- does the new technology lack technical superiority compared to existing practice?
- do the benefits of the new technology justify the time and effort required?
- is the new technology too risky? If so, will the farmer possibly adopt in future when he/she has seen the technology operating longer?

- would adoption of the technology involve giving up some other activity which is more profitable or more vital for the household?

A checklist is not a questionnaire and should not be used like one. It is simply an aid to the interviewer's memory. If farmers do not give a reason for attitudes, or if the reason given does not seem convincing, the interviewer can raise the various possibilities from the checklist. However, the interviewer should not prompt the farmer if they have already stated a clear reason for holding a positive or negative attitude.

Avoiding biases: the objective of a KAP is to find out the target group's true response to extension efforts. It is essential to avoid producing results which are biased in any direction. Biases can result from many factors and can be avoided by good interviewing technique. All interviews should follow guidelines for participatory discussions. Interviewers should approach farmers as equals, at a time and place convenient to farmers, and should always try to let farmers express themselves as freely and openly as possible. Some tips for avoiding biases follow.

KAP SURVEY - AVOIDING BIASES

DO

- keep to the randomly drawn sample;
- be consistent between interviews;
- approach farmers as equals, in a relaxed and friendly manner;
- conduct the interview at a time and place convenient to farmers;
- observe all normal rules for participatory discussion.

DON'T

- give advance information of the selected farmers to Block Supervisors or other junior staff;
- let Block Supervisors go looking for selected farmers ahead of the interviewing staff member;
- adopt dominating attitudes towards farmers (or let other staff adopt such attitudes);
- prompt the farmer;
- in any way indicate that one reply is preferred.

Summarising and Analysing Results

KAP is a tool for guiding action by extension managers. A KAP should be analysed and reported immediately - within one week from the end of data collection.

Steps for analysing KAP are described as follows:

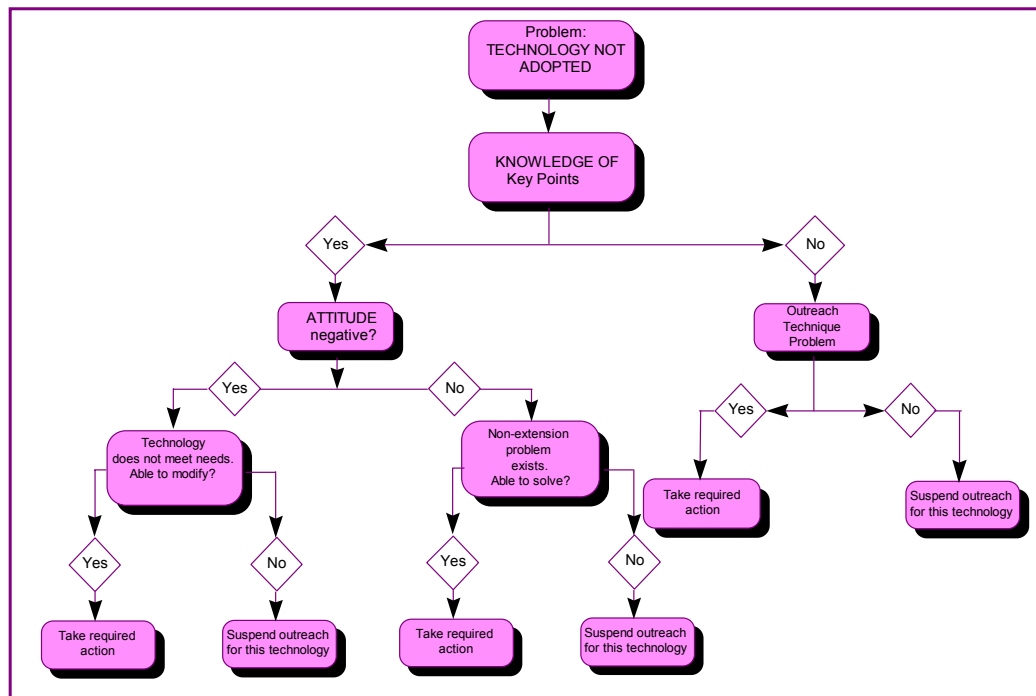
- total farmers who gave replies;
- expressing sub-totals as percentages;
- analysing KAP surveys.

Total the actual number of farmers who gave various replies: for example, the number of farmers who did/did not know the variety name, or the number of farmers who are/are not practising the technology this season. This is not possible for the results of discussions in Part C (b) of the KAP Survey, as it is qualitative rather than quantitative. These have to be sorted out into groups before analysis, based on the checklist of possible factors affecting attitudes. Items on the checklist can be used as group headings for the summary of attitudes, but the officer analysing the KAP must be alert for items which were not on the checklist.

Express sub-totals as percentages of the sample: care is required because percentages giving reasons for non-adoption should be calculated on the basis of total non-adopting farmers, not total farmers. For example, suppose there are 20 non-adopters out of 30 farmers, and that 6 of the non-adopters stated that the technology was too risky. The percentage stating 'Too risky' should be calculated as $(6 \div 20 \times 100 = 30\%)$. Quoting results to the nearest whole percentage point is sufficient.

Analyse KAP: in analysing a KAP it is not sufficient merely to state the percentage of farmers giving various answers to the interview. KAP is intended to form the basis for action. This means that the analysis must clearly identify the causes of problems and successes, and draw conclusions for the required action. In making the analysis it can be helpful to follow a tree structure, shown in **Figure 12.1**.

FIGURE 12.1: KAP DECISION TREE



Reporting Findings

The analysis and reporting of the data should wherever possible be done by the officer who did the interviewing, as they will often have made many supporting observations and notes which are additional to the basic questionnaire content. Reports should be short and simple (no more than ten pages). A one-page summary should always be given, stating very briefly the conclusions of the KAP. The full content of a KAP report should include:

- summary;
- introduction;
- results section;
- an analysis; and
- conclusions and action required.

Summary

A one-page statement of key features of introduction, analysis and conclusions sections. Any results quoted must be highly selective and for illustration only. The summary should not contain any material not already given in main text.

Introduction

The District and/or Thana(s) covered by the KAP, the technology being evaluated, the season and year in which the subject technology was originally extended, the dates between which the KAP was conducted.

Results

Tables, with BRIEF supporting text, showing the numerical results:

- percentage of farmers from intended target group;
- percentage of farmers who have tried to use the technology;
- percentage of farmers who know each of the key points;
- summary of attitudes for farmers having knowledge but practising differently.

Analysis

An assessment of whether the level of adoption is satisfactory, taking into account past performance, performance of other technologies and areas, potential benefits to farmers. If performance is not satisfactory, whether the problem is due to KNOWLEDGE, ATTITUDE or OTHER factors, or a combination, and what corrective action is desirable or possible.

Conclusions and Action Required

A clear statement on whether the technology should be continued with more resources, be retained at the same level, be modified in technical content, be modified in method of outreach, or be deleted from the programme

Applying KAP Results to Planning Decisions

The KAP report should give clear recommendations on action to improve extension performance for the evaluated technology. The main time for acting on KAP findings is when annual thana plans are being prepared. Staff should consider all the available information regarding what technology the target groups require, and how successful DAE has been in supplying it. This includes information from FINA for targeting new technologies

and outreach methods, and information from SEMS and KAP about the performance achieved with past activities.

Effective action will be more likely if all the concerned DAE personnel have a chance to discuss the KAP findings as soon as possible after the report is drafted, in advance of annual planning. This enables any differences of opinion regarding the findings to be resolved, and permits all the concerned personnel to combine their ideas about how to overcome problems. **Figure 12.1** can be used as a basis for discussing the type of problems identified, and the best way of overcoming these problems in the future.

A half-day idea sharing session for this purpose should be planned to follow every KAP. These types of session also provides an opportunity for personnel to exchange experiences about actually conducting the KAP, so that improvements can be introduced next time.

12.4 THE ROLE OF PLANNING AND EVALUATION WING IN MONITORING AND EVALUATION

The Planning and Evaluation Wing Management Information System (MIS) Section is the central clearing house for monitoring and evaluation information in the Department. The MIS Section database includes the:

Extension Planning System: which contains records of annual extension programmes for every thana in Bangladesh, including types of activity, technologies, budgets and sources of funds.

SEMS: which contains records of the farmer contact, understanding and testing as recorded on SEMS Form 1 for every extension event conducted by the Department and are also kept at District level on computers. This data can be used by managers at any level to query extension performance by farmer category, agro-ecological zone, district or thana, by event type, or by technology.

Strong links are maintained with Field Services Wing in relation to the collection and use of MIS data.

Regional staff of Planning and Evaluation Wing include the Statistical Officer and Assistant Chief. They provide specialist assistance and support to computer operators dealing with SEMS and the EPS.

The MIS Section at Headquarters comprises one Joint Director, a Deputy Chief, a Systems Analyst and a Programmer. The section maintains a Central Computer Support Unit, which will have overall responsibility for computer operation, procedures, and programme development within DAE.