

**AEX.402**

# **COMMUNICATION AND INFORMATION TECHNIQUES**



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## **CHAPTER - I**

### **EXTENSION TEACHING METHODS**

#### **1. MEANING NATURE AND CLASSIFICATION**

##### **1.1 DEFINITION AND MEANING**

An extension teaching method may, be defined as a sequence of progressive steps, undertaken to create situations that are conducive to effective learning. The purpose of using an extension teaching method is to create opportunities to establish rapport over a subject matter between the communicator and learner (s), awaken interest, achieve comprehension and / or skills, provide persuasion, and even repetition, to motivate action on the part of the learner(s), in line with the objectives of the communicator.

According to Leagans (1961), extension teaching, methods are the devices used to create situations in which communication can take place between an instructor and the learner.

The basic objective of extension teaching is to create opportunities for effective learning in order to secure changes in the minds and actions of the learners. For this, extension teaching has evolved, through experience, certain basic and proven methods to encourage farm people to accept and adopt improved practices.

However, variations in extension audience, of age, educational level, experience, interests, intensity of need, level of living, values, and socioeconomic status, make the job of extension teaching more challenging.

As Ensminger (1975) said, before an extension worker can become efficient in the use of methods, he must know what methods are available, when to use a given method, and become effective in using each.

However, normally no extension worker has the ability to use all methods with equal skill. Further, there is no one method that is best for all situations and objectives. In fact, no two situations are alike and hence call for different method (s). It is also obvious that no one method can reach all the audience.

Behavioural changes required on the part of learners may also require several exposures with the same, different or a combination of methods, Research bears ample evidence to suggest that a combination of methods or media - mix is required for effective technology transfer.

## **1.2 FUNCTIONS**

Stated in general terms, the functions of extension methods are:

1. to provide communication so that the learner may see, hear and do the things to be learnt;
2. to provide stimulation that causes the desired mental and / or physical action on the part of the learner;
3. in brief, to take the learner through one or more steps of the teaching-learning process, viz., attention, interest, desire, conviction, action and satisfaction.

## **1.3 CLASSIFICATION**

### **1.3.1 According to use**

Wilson and Gallup (1955) classified extension teaching methods according to their use ( individual, group and mass contact methods,) and form ( spoken ,written, visual, spoken and visual).

***Table 1. Classification of extension methods according to use***

Individual contact	Group contact	Mass contact
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Farm and home visits Personal letters Office call Flag method Agrl. clinics Result demonstration	Group meetings Method demonstrations Study tour Peripatetic team meeting Medium forum Agrl. Games Result demonstration Meetings	<b>a. Broadcast media</b> Radio, recordings, Televisions <b>b. Printed media</b> Farm journals, Extension pamphlets, bulletin, leaflet, circular letter, folder <b>c. Screen media</b> Slides, film strips, movies, video <b>d. Others:</b> Exhibition, Campaigns, Farmers fairs
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### 1.3.2 According to form

Another classification of extension teaching methods which is very common in extension publications is according to their form.

*Table 2. Classification according to form*

Written	Spoken	Visual	Spoken and Visual
Bulletins Leaflets Personal letters Circular letters Farm journals	Meetings Farm and home Visits Office calls Radio and Recordings Flag methods Agrl. clinics	Result Demonstration Exhibits Posters Charts Slides, film strips Flash cards Flannel graphs Bulletin boards	Method Demonstrations Result Demonstration Television Movies Puppets Campaigns

### 1.3.3 Classification According to Function

#### A. Telling

- a. Lecture
- b. Conference
- c. Panel and forum

- d. Recordings
- e. Farm and home visits

**B. Showing**

- a. Written words
- b. Picture and motion pictures
- c. Posters, charts and exhibits etc.
- d. Demonstration
- e. Tours

**C. Doing**

- a. Practical
- b. On the Job training
- c. Demonstrations
- d. Guided experiences
- e. Performances

**1.3.4 . Classification according to the stages of innovation decision process**

**A. Knowledge**

- a. Radio and Television
- b. Printed matter
- c. Posters and wall newspaper
- d. Circular letters

**B. Persuasion**

- a. All types of meetings
- b. Training courses
- c. Method demonstration
- d. Printed matters

**C. Decision**

- a. Result demonstration
- b. Farm and home visit
- c. Office calls
- d. Friends and relatives

**D. Action**

- a. Result demonstration
- b. Personal visits
- c. Local leaders

**1.3.5 Classification According of the Stage Learning Process**

**A. Attention**

All mass contact methods

**B. Interest**

- a. Meetings
- b. Tours
- c. Demonstrations
- d. Appeal to values
- e. Personal visits

**C. Desire**

- a. Demonstration
- b. Circular letters
- c. Meetings
- d. Local leaders

**D. Concision**

- a. Result demonstrations
- b. Personal visits
- c. Friends and relatives

**E. Action**

- a. News-stores and other printed matters
- b. Farm and home visits
- c. Local leaders

**F. Satisfaction**

- a. Personal contacts
- b. News-stories
- c. Field days

#### **1.4. Planning and use of Teaching methods**

A proper understanding of the capabilities and limitations of extension methods is essential for their selection and efficient use. Lack of proper selection and inefficient use leads to the following consequences.

- a. The benefit of extension programme will not reach as many people as it should have.
- b. There will be considerable delay in changing the behaviour of the people.
- c. Many innovations might not be accepted by the people, since they will not be properly presented.
- d. The extension worker might develop frustration by indifferent responses.
- e. People might lose confidence in the extension programme.
- f. Wastage of resources.
- g. Execution of further development work become difficult.

#### **1.5. Selection of Methods**

The selection of appropriate methods is not an easy one. There is no single thumb-rule for selection. In order to get most effective results, the extension worker should (i) select the appropriate methods (ii) have a suitable combination of selected methods and (iii) use them in proper sequence so as to have repetition in a variety of ways. The following considerations should be taken into account in the selection of extension teaching methods.

##### **1.5.1. Factors influencing the selection**

- a. The Audience:** People vary greatly in their knowledge, attitudes, skills their positions in the diffusion process and in the adopter categories, their educational level, age, income level, social status, religious belief etc.,. These differences influence the teaching approaches. For eg., to non-educated we select personal visits and to highly educated the written materials.
- b. Size of audience** The number of persons to be contacted will decide the method. For example, the group methods can not be effectively used for the participant size exceeding thirty.

**c. The teaching objective** The educational changes expected as stated in the teaching objective of the extension programme. For example, if we want the attitudinal change we go in for the group discussion and for skill change the method demonstration. Select the methods to meet the specific objectives.

**d. The subject matter** The nature of the subject will decide the methods. If simple technology which is new it will be told through the news article, whereas for complex one face - to - face contact or audio-visual aids will be used.

**e. The state of development of extension organisation** If the organisation is new and yet to gain the confidence of people the result demonstration will be selected. The well established organisation can even use the circular letter.

**f. Size of extension staff** The size of staff in relation to the client will also decide the extension method. Large number of staff more of direct contacts.

**g. Availability of media** The availability of media such as television, film, radio, newspaper etc., will also have the influence in selecting the method.

**h. Relative cost** The cost involved to the method is also an important consideration in selection and use.

**i. Extension workers familiarity** The training of the extension worker for proper handling of the selected method. The teacher should know his own capabilities while making selection.

**j. Needs, problems and technological level of the people.**

**k. The length of time** The length of time the programme has been going on in the area and the length of time the extension worker has at his disposal.

**l. The significance of the programme.**

**m. General local conditions** Such as seasonal work, weather conditions, availability of meeting places, organisations and leadership.

### **1.5.2 FACTORS INFLUENCING THE COMBINATION OF METHODS (OR) MEDIA COMBINATION**

It is clear that each extension method has its own advantages and disadvantages. Hence there is no sense in asking which is the best method, although it is sensible to ask what part each method can play in an extension programme. Generally it is recommended



to combine different methods purposely. In other words, there is a best method for each purpose or function to be fulfilled. Sometimes different media will be used at the same time; for example, a lecture is supported with audio-visual aids, some times they will be used in succession, written materials are used to prepare farmers for a group discussion.

This multimedia is important not only to perform each vital function in the communication process, but also to perform it through the most suitable medium. Further it is possible to reach as wider audience. Thus the less educated can be reached through television and radio and more educated through the print.

Advertising research has shown that the person who receives the same message through different media will pay more attention because he recognises something familiar from another context. The value of combining media has been clearly demonstrated in studies of radio forum. Discussion in these forums is held in small groups without an extension agent present after an informative radio broadcast. The conclusions of the discussions plus any question group members would like answered, are sent back to the producer of the radio programme. The questions are answered partly by letters and partly by the next radio programme.

By combining mass media with group discussion the organisers can unite the quick and accurate transmission of the mass media with the influence of group discussions. Combination of mass media and group discussion can be organised in other way as well. A panel of experts on radio can answer questions directly from a discussion group similarly the group discussion meet can be informed through newspaper before the meet and their report can be published subsequently. It is believed that combinations of modern communication technology such as video, satellite communication, micro-computers etc., with the rapid developments of group discussion methods have not been explored adequately by many extension services.

We should not think only the group and mass media combinations. The using of audio-visual aids to support talks and group discussions would also be thought of. The aids such as black board, flip charts, overhead projector, photographs, drawings, graphs, maps, slides, film, strips, film, radio, television, video tapes etc., are referred. Video cassettes are currently attracting considerable attention. It can be concluded that combination on mass media and group discussions can bring about substantial changes in

behaviour, if well organised. Many audio-visual aids can be used on a smaller scale to increase extension effectiveness. Messages presented through different aids must be synchronised carefully so that the target audience is not overloaded with information.

### **1.6 COMBINATION OF METHODS**

Extension field studies conducted in U.S.A over a long period of years show that people are influenced by extension education to make changes in behaviour in proportion to the number of different teaching methods with which they come in contact. As the number of methods of exposure to extension information increases from 1 to 9, the number of farm families changing behaviour increases from 35 % to 98% . Therefore, if widespread response is desired, people must be exposed to teaching effort in several different ways. ( Refer 7.4 ).

### **1.7 USING THE METHODS IN PROPER SEQUENCE**

The answer our teaching needs, our extension plans of work must include methods that, (a) enable our farmers to see, hear and do the thing to be learned; (b) enables us to reach large numbers of people and (c) create confidence - building situations.

Our completed plans should provide not only for doing each of these three things but must be so organised that the completed plan, as a unit does all three of these things. For instance, a personal contact is made through an office call or farm visit, A leader is visited. A demonstration is established. A meeting is held to discuss the demonstration. The meeting is advertised by circular letters. A news story is written on the results of the demonstration as seen at the meeting. These happenings and results are broadcast over the radio. Pictures are taken and a “slide story” is shown at a meeting. One method helps another, and many of them are used in combination and sequence to repeat the story. Organised, followed - up teaching activity means more improvement in farm and home conditions.

## **2. INDIVIDUAL, GROUP AND MASS APPROACHES**

### **2.1. Individual contact**

Individual contact can be defined as the direct contact by the extension worker with an individual farmer or the members of his family for a specific purpose.

#### **2.1.1. Objectives**

- a. To develop good relation with farmers and gain their confidence
- b. To discuss individual or village problems
- c. To find out problems which he is not aware of and to prepare a suitable action
- d. To obtain or give information
- e. To teach skills

### **2.2 Group Contact**

Many of the important problems of villages can be solved through group action. Meetings, result demonstration meetings, method demonstration meeting etc., are some group contact methods.

#### **2.2.2 Advantages**

- a) Fairly large number of persons can be reached.
- b) Debatable issues can be decided.
- c) Leaders, group interest and problems are discovered.
- d) Group methods are effective in teaching skills.
- e) Extension worker can increase their acquaintance with the local people.
- f) It is possible to find solutions for common problems through discussions,
- g) Promote action.
- h) Reactions of the people to a programme can be assessed.
- i) Participants become active co-operators.
- j) Almost all kinds of subjects can be discussed through group-contact methods.
- k) It has better feed back than mass method.
- l) There is greater interaction between farmers themselves.

### **2.2.3 Limitations**

- a) Whole programme will get a set-back if it is not properly planned and coordinated.
- b) Possibility of creating rivalries.
- c) Circumstances beyond control, like factions and weather, might affect the success of the programme.
- d) Participation of persons not directly connected can not be easily avoided.
- e) Difficulty in fixing up the date and place suitable to all.
- f) Per capita costs of using group methods tend to be much higher than that of mass media.

### **2.3 MASS CONTACT**

In this fast-moving world of to-day, it has become very important for the agencies engaged in improving the standard of contact, either directly or indirectly, a large number of people. Mass contact methods are all those means of conveying information to a large number of people by a single source. These methods are relatively more important at the knowledge level. Early adopters give importance to these methods. People have expressed different opinions about the extent to which mass media are used and it influence our thoughts and actions.

Some of the important methods of mass contact suitable for extension work are printed matters ( newspaper, magazines, bulletins, leaflets, circular letters, posters etc.) broadcasting media ( radio, television), screen projections ( films, video-system, slide show etc.) exhibition and campaigns.

#### **2.3.1 Characteristics of mass contact methods**

- a) Encourage individual and group thinking on problems of common interest.
- b) Effective in getting the work from the people.
- c) Help the people to feel satisfaction from success.
- d) Promote understanding and create goodwill towards extension work.
- e) Influence the people to adopt new methods.
- f) Add authority to the information.
- g) Meet the immediate needs of people like control of pests, diseases etc.
- h) Mass media is used to help individual and group contacts.

- i) Audience in the mass contact is the mixture of every kind of persons.
- j) Communicate information to a large number of persons in the shortest possible time.

### **2.3.2 Functions of mass media**

Recent studies suggest that the mass media can play a greater roll in the process of change. We must know the functions of the media in our societies and the changes in these societies. There are four main functions as detailed below:

#### **a) Setting the agenda of important discussion topics**

The media can have an important influence on what we think and talk about, even though they can not decide what we must think. For example the media draw attention to problems faced by the population during a famine and to measure taken by government to over come these problems. Unfortunately, the media tend to discuss and highlight problems only at the time of crisis. Farm magazine and rural radio programme can play an important role by stimulating farmers to discuss points with extension agents or opinion leaders.

#### **b) Transferring knowledge**

People get information for decision-making from the media either by chance or by looking for it systematically. It is very difficult to obtain specific information from media. On the other hand, many ideas related to fashion and purchase of consumer goods may come by chance from watching entertainment programmes.

#### **c) Forming and changing opinions**

Mass media may play an important role in developing opinions when members of the public do not have strong views about particular issues. It requires less effort to follow some one else opinions that it does to form one's own, especially when the topic ahs no special personal significance. Media also have important effects in changing opinions when the position they advocate differs only slightly from one's own opinions.

Opinions expressed in the media are not always unanimous, which makes it very difficult for members of the public to make up their own minds. This is a limitation.

#### **d) Changing behaviour**

Mass media may be used to change patterns of behaviour, especially where these changes are small and relatively unimportant or where they help us to fulfil and exiting

wish. Important behavioural changes can follow when the media show people how to fulfil their wishes.

### **2.3.3 Advantages**

- a) Best media to communicate information a large number of persons in a short time.
- b) Very useful for publicity where extension work is beginning.
- c) These serve the needs of mixed group.
- d) Mass media have the imaginative appeal, thus, can touch the emotion of the participants.
- e) These are comparatively cheap.
- f) Wide range of experiences can be pooled and made available.
- g) Recreational needs can also be met.
- h) Very useful in getting attention.
- i) Helpful in developing interest.
- j) Useful in creating desire.

### **2.3.4 Limitation**

- a) These can not be used alone.
- b) Mass methods will lose their significance if the message is not carefully prepared and used.
- c) Can not be used to solve individual problems.
- d) Handling of the topic becomes difficult because of mixed composition of the audience, and it is difficult to give specific recommendations.
- e) Difficult to evaluate the results.

## **3. INDIVIDUAL CONTACTS**

### **3.1 FARM AND HOME VISITS**

What is it ? It is a face - to - face type of individual contact by the extension worker with the farmer and /or the members of his family on the latter's farm or at his home for one or more specific purpose connected with extension.

**What are the objectives or Purposes?**

1. Obtain and / or give first hand information on matters relating to farm and home conditions.
2. Give advice or otherwise assist to solve a specific problem; or to teach skills etc.
3. Arouse the interest of those not reached by other methods.
4. Select local leaders, demonstrators or co-operators.
5. Promote good public relations.
6. Otherwise contribute to strengthening the extension organisation or facilitate extension programme.

**3.1.2 Principles or procedure to be followed**

- A. Decide upon the place of the farm and home visit in the teaching plan outlined to advance a particular phase of the extension programme.
  - a. Consider alternative methods which might be employed.
  - b. Decide whether the visits are primarily for direct teaching or are needed to increase the effectiveness of group methods and mass media.
- B. Clarify the purpose of the visit - Which of the purposes mentioned above are expected to be achieved by the visit ?
- C. Plan the visit :
  - a. Review previous contacts with members of family.
  - b. Check subject matter information likely to be needed leaflets or bulletins etc.
  - c. Work out schedule of visits in the community to save time.
  - d. Remote and unfrequented farms and homes should always be kept in view.
  - e. Consider best approach in view of individual family situation.
- D. Make the visit :

- a. Punctuality and consideration for the time of the farmer should always be borne in mind. Contact the man preferably when he is on the job; e.g.; discuss about improved plough when he is ploughing.
- b. Be friendly, sympathetic and complimentary.
- c. Gain and deserve interviewee's confidence.
- d. Let the farmer do most of the talking.
- e. Speak only when he is willing to hear.
- f. Talk in terms of his interest.
- g. Use natural and easy language, speak slowly and cheerfully.
- h. Be accurate in your statements.
- i. Don't prolong arguments.
- j. Compliment the farmer for good ideas.
- k. Be sincere in learning as well as teaching.
- l. Arouse interest and create a desire to take action.
- m. Render the farmer a real service.
- n. Leave clear impression as to object of visit.
- o. If possible, hand over a folder or bulletin etc., pertaining to the topic discussed, or a packet of seeds if necessary. This will help in developing friendship.
- p. Leave the farm or home as a find.

#### E. Record the visit

- a. Date, purpose of visit, what was accomplished, and follow up commitments made.
- b. Make sure through appropriate office device that follow up at appropriate time is not overlooked.

#### F. Follow up the visit :

- a. Send applicable literature or other things by post or other- wise,
- b. Extend invitation to attend a meeting; if any; on the concerned topic.
- c. Make subsequent visits if and when required.

### **3.1.3. Advantages :**



1. Provides extension worker with first-hand knowledge of farm and home conditions, and the view points of farm people.
2. If made on request, the farmer or home-marker is likely to be ready to learn.
3. The ratio to “takes” ( acceptance) to “exposures” ( efforts ) is high.
4. Builds confidence between the extension worker and the farmer.
5. May increase greatly the effectiveness of group methods and mass media.
6. Contributes to selection of better local leaders, demonstrators and co-operators.
7. Develops good public relations.
8. Useful in contacting those who do not participate in extension activities and who are not reached by mass media.

#### **3.1.4 Limitations :**

1. Requires relatively large amount of extension worker’s time.
2. Number of contacts possible is limited.
3. Comparatively costly.
4. Time of Visit may not be always opportune from the standpoint of farmer.
5. Danger of concentrating visits on the progressive farmers, and neglecting those who are most in need of such personal contacts.

### **3.2 OFFICE CALLS**

#### **3.2.1 What is it ?**

It is a call made by a farmer or a group on the extension worker, at his office for obtaining information or other help needed or for making acquaintance with him.

#### **3.2.2 What are the objectives ?**

1. To facilitate quick solution to farmer’s problems, by saving the time of extension worker.
2. To enable the farmers to bring specimens of diseased plants or insect pests etc., so that the extension worker can identify them and give necessary advice to the farmers.
3. To arrange for or ensure timely supplies and services.
4. To promote close contact between farmers and extension organization.

#### **3.2.3 Principles to be followed :**

1. Office should be located conveniently so as to facilitate large volume of calls.
2. Space and furniture should be arranged to permit orderly routing of callers.
3. It should be possible for caller to confer privately with the extension worker.
4. Office room should be kept attractive with bulletin boards, leaflets etc.
5. Office should be open during usual working hours.
6. Extension worker should regularly attend office, while at head quarters.
7. Arrangements should be made to provide information to the callers in the absence of the extension worker.
8. Cordial, sincere interest shown in visitor's problem.
9. Applicable reference material, including record of previous contacts readily accessible.
10. Unhurried consideration of entire problem without undue waste of time.
11. Caller made to feel welcome to call again. ( General arrangements )

**3.2.4 Follow up :** See that unfinished business connected with the call is completed as promised.

**3.2.5 Advantages :**

1. Visitor likely to be highly receptive to learning.
2. Economical use of extension worker's time.
3. Good indication of farmer's confidence in extension.

**3.2.6 Limitations :**

1. Extension worker cannot be at headquarters always.
2. Callers in his absence may not be satisfied with the information or guidance obtained.
3. Office contacts removed from actuality of farm or home situation may not reflect the real problem or accurately reveal pertinent conditions.
4. Visitors likely to be limited to those participating in other extension activities.

**3.3 PERSONAL LETTERS**

Under the existing conditions of high percentage of illiteracy etc., this extension method is relatively unimportant in India. Nevertheless, instances are not wanting when a

few farmers write to the extension worker for advice. Moreover with the obvious increase in the number of literates in rural India, and the involvement of educated youth in extension activities, this method (Personal letters) may assume more importance in future than at present.

### **3.3.1 What is it ?**

It is a personal and individual letter written by the extension worker to a farmer in connection with extension work.

### **3.3.2 Objective :**

1. To answer enquiries from the agriculturists regarding specific problems, or supplies and services etc.
2. To seek the farmer's co-operation in extension activities.

### **3.3.3 Principles to be followed :**

1. Promptness - A letter asking for information should be answered promptly, because the person writing the letter has more than passing interest in the matter and will be likely to use information which provides a satisfactory solution to his problem. Remember that information delayed is information denied.
2. Put yourself in the other fellow's shoes-Have a genuine concern for the other fellow's interest, view point, limitations and desires.
3. The letter should be :
  - a. **Complete** - give all necessary information to accomplish its purpose.
  - b. **Concise** - Say what you have to say in the fewest words consistent with clearness, completeness and courtesy.
  - c. **Clear** - so that it not only can be understood but cannot be misunderstood.
  - d. **Correct** - containing no mis-statement of facts, or grammatical mistakes etc.
  - e. **Courteous** - tone appropriate for the desired response. How something is said as important as what is said.
  - f. **Neat** - free from over - writings, strikings etc.
  - g. **Readable**-short sentences, short words, and human interest make for easy reading.

### **3.4. OBSERVATION PLOTS (District Trials / Minikit Trials)**

Although this does not appear to have been mentioned in the published literature on Extension, this is the first stage which any new improved variety of seed, fertiliser, pesticide or any new practice, for that matter, must pass through, before it is taken to the stage of result demonstration or method demonstration and before advocating its large scale adoption. This is not an Extension Method in the strict sense of the term. However, the need for this sort of adaptive research as a pre-requisite for successful extension work has been widely recognised. So, it is essential for extension workers to understand the important features of this method. It must be remembered that unlike regular trial plots, which are laid out systematically to satisfy the requirements for statistical analysis, the observation plots are designed to give rough and ready, nevertheless, reliable indications about the performance of a new variety or practice. In the case of Minikit trials, the small sized observation plots are laid out simultaneously in a wide geographical area comprised of sevenes. agroclimatic zones.

#### **3.4.1 What is it?**

It is a method by which the suitability or otherwise of a new practice to a given locality under farmer's conditions, determined.

A new practice may mean (i) the introduction of a practice not existing hitherto; e.g., planting sesbania along paddy field bunds or (ii) the introduction of an improvement over local practice; e.g., placing cultivation of open pollinated maize with hybrid maize, or (iii) replacing an already established improved practice with a more proved new practice; e.g., Adoniscum cotton replacing Laxmi on which had replaced H1 cotton earlier.

#### **3.4.2. Objectives or purposes**

1. To test the performance under ryots' conditions, of a new practice which has been found to be promising on a research station.
2. To avoid possible losses to farmers and consequent loss of their confidence in extension due to large scale introduction of new practices without prior observations on a small scale.

3. To build the confidence of both the extension worker and farmer in the utility as well as feasibility of a new practice.

### **3.4.3 Principles of Procedure to be followed**

1. Determine the need for arranging the observation plot
2. prima facie case for undertaking the trial, taking all condition into consideration.
3. Be clear about the specific purpose of the trial.
4. Select about six representative centres in your jurisdiction conducting the trial.
5. In these centres, select the co-operators in consultation with the local farmers.
6. It is desirable to select as co-operators for this purpose; such farmer who have confidence in extension and who also can afford take the risk of possible failures ( in are instances).
7. Select in the co-operator's holding an average field, representative of the tract ( i.e. neither too rich nor to poor ) and so easily accessible.
8. Make it clear to the co-operator and to the other farmers that it is a trial or a rough and ready experiment only, and not a demonstration plot.
9. It is important that all operations right from preparatory cultivation to harvesting, threshing and weighing are done under the personal supervision of the extension worker.
10. Restrict the size of the “ control” and “ treated “ strips to the minimum possible, so as to have a large number of replications.
11. Visit the plot as frequently as possible and record on the spot, your observations regarding the relative performance of “control” and “treatment” in the three phases, viz, vegetative phase ( growth, tillering etc., ) flowering stage ( late, early, uniform, uneven etc.,) and harvesting stage ( uniform or uneven ripening, late or early, lodging or non-lodging, shedding or non-shedding etc.)
12. Accurate records should be maintained, showing the dates of important operations, the yields per acre, the cost of production, the net income per acre, and other relevant observations.

13. The average performance of the new practice should be observed for at least three seasons consecutively, before you think of recommending it for large scale adoption. (This time lag is minimised in the case of minikit Trials.)

#### **3.4.4. Advantages :**

1. Avoids the pitfalls of hasty recommendation and / or adoption of new practices.
2. Constitutes the first step towards the spread of a new practice after through testing.
3. Obviates the technicalities, difficulties, and delays involved in laying out regular trial plots, and analysing the results statistically.
4. Builds confidence of the extension and research workers on the one hand and of the farmers on the other, in the utility and feasibility of a new practice.

#### **3.4.5. Limitations:**

1. Makes heavy demand on the time and energy of extension worker.
2. Seasonal failures delay the assessment of the worth of a new practice, leading to consequent delay in its adoption.
3. Difficult to secure suitable co - operators sometimes.
4. Risk of failure of a new practice resulting in financial loss to the co-operating farmer.
5. Conclusions may not always be unassailable because of the lack of statistical analysis of the data.

### **3.5 RESULT DEMONSTRATION**

#### **3.5.1 What it is ?**

A result demonstration is a method of teaching designed to show by example the practical application of an established fact, or group of related facts. In other words, it is a way of showing people the value or worth of an improved practice whose success has already been established on the research station. followed by district trails or observation plots.

In this method the new practice is compared with the old one on ryot's holdings so that the villagers may see and judge the results for themselves. Such demonstration

requires a substantial period of time and records need to be maintained. It is in no sense an experiment or a trial except perhaps in the mind of the co-operator (demonstrator).

The result demonstration may be (i) varietal (ii) manurial (iii) cultural (iv) combination of two or more of the afore - said three types, or (v) composite demonstration in which all the essential improved practices in respect of any crop are included as a package of improved practices.

There are two common sense principles underlying this method.

- (a) What a farmer himself does or sees, he will believe.
- (b) What is good for one person will have general application of others (under similar conditions).

### **3.5.2 Objectives or Purposes :**

1. To show the utility and feasibility of a recommended practice under village conditions.
2. Chiefly to establish confidence on the part of the farmer as well as the extension teacher.

### **3.5.3 Procedure or Technique :**

#### **1. Analyse situation and determine need :**

(Determine the place of the result demonstration in your teaching plan )

- (a) Is it necessary to establish further confidence in local application of research findings and results of observation plots?
- (b) What has been the experience of the extension worker in guiding the carrying out of the practice under similar conditions?
- (c) Is it possible to locate good illustration of the practice locally, obviating the necessity of expensive result demonstrations ?
- (d) Is the need for result demonstration felt by the farmers ?

#### **2. Decide upon specific purpose :**

- (a) Which particular audience should have the learning experience?
- (b) What specifically do you want them to learn ?
- (c) Is it to give confidence to the extension worker and provide him with teaching material ?
- (d) Is it to establish confidence of farmer in the new practice ?

- (e) Is it to develop confidence in extension on the part of a community or of a minority group with whom extension worker is not known well and favourably ?

### **3. Plan the result demonstration :**

- (a) Consult subject matter specialist.
- (b) Make as simple and clear - cut as possible. ( The more complex the demonstration, the greater the difficulty in evaluating the results attributable to each of the practices involved.)
- (c) Decide upon evidence needed and how local proof will be established.
- (d) Determine number of demonstrations needed to accomplish purpose.
- (e) Locate sources of material.
- (f) Reduce plans to writing ( calendar of operations etc. )

### **4. Select demonstrators :**

- (a) Consult with local leaders and select a demonstrator who commands the confidence and respect of his neighbours, and who is interested in improving his practices.
- (b) Visit the prospective demonstrator to make sure that all conditions for success of demonstration are favourable.
- (c) The demonstrator should be conscious of his responsibility the successful completion of the demonstration and its effect upon community.
- (d) The demonstrator should be willing for the demonstration be used for teaching purposes such as publicity; pictures, meetings, ours and personal enquiries.
- (e) The demonstrator should have to secure the necessary physical equipment, supplies and materials to carry the demonstration a successful conclusion.
- (f) Explain and agree upon procedure with demonstrator and have written instructions preferably.

### **5. Select the plot:**

- (a) The plot should be located preferably in a roadside field easy accessibility and publicity.



- (b) The field should be representative or typical of the soils in the village (neither too rich nor too poor).

#### **6. Start the demonstration:**

- (a) Give wide publicity before starting the demonstration.
- (b) Get all the materials ready.
- (c) Start the demonstration in the presence of the villagers.
- (d) Assist in getting the demonstration under way to make certain that the omission of some key point will not make later work aimless.
- (e) Arrange for a method demonstration meeting where a skill any be involved in the begining stage of demonstration, or later.
- (f) Mark the demonstration plots with large signs, so that all on see.

#### **7. Supervise the demonstration:**

- (a) Visit the demonstration plot with sufficient frequency to maintain demonstrator's interest. check on progress, and see that proceeding steps are performed as outlined.
- (b) Maintain records and assist the demonstrator also in keeping proper records.
- (c) Give publicity to the demonstration and the farmer at suitable stages.
- (d) Conduct tours to successful demonstrations at proper times.
- (e) Let the demonstrator himself explain to visitors as far as possible.
- (f) Mention in news stores, circular letters, radio talks etc., at critical stages.

#### **8. Complete the demonstration:**

- (a) See that final steps to complete the demonstration are taken.
- (b) Take photographs.
- (c) Hold meetings at demonstration where visual evidence will contribute to confidence.
- (d) Summarise records. Analyse and interpret data.

#### **9. Follow - up**

- (a) Give wide publicity to results of demonstration.
- (b) Encourage demonstrator to report at meetings.
- (c) Prepare visual aids based on the results of demonstration.
- (d) Get other farmers to agree to demonstrate during the next season.

#### **3.5.4 Advantage :**

- 1. Gives the extension worker extra assurance that recommendation is practical and furnishes local proof of its advantages.
- 2. Increases confidence of farmers in extension worker and his recommendations.
- 3. Useful in introducing a new practice.
- 4. Contributes to discovery of local leaders.
- 5. Provides teaching material for further use by extension worker.

#### **3.5.5 Limitations :**

- 1. Requires lot of time and preparation on the part of extension worker.
- 2. A costly teaching method.
- 3. Difficult to find good demonstrators who will keep records.
- 4. Teaching value frequently destroyed by unfavourable weather and other factors.
- 5. Few people see the demonstration at the stage when it is most convincing.
- 6. Unsuccessful demonstrations may undermine the prestige of Extension, and entail loss of confidence.

### **3.6 NATIONAL DEMONSTRATIONS**

These are special result demonstrations sponsored by the Indian Council of Agricultural Research (I.C.A.R ) For Popularising The High Yielding Varieties Programme and the Multiple Cropping Programme. In each district there will be normally 25 National Demonstrations which will be conducted by a group of scientists or specialists of the Universities or colleges of Agriculture. Farmers within a radius of 10

miles will attend these demonstrations at the time of important crop operations. The date, time and venue of Spartans to be carried out, the specialists available for consultation and discussion of field problems, will be announced in advance through the radio.

The farmers showing keen interest and initiative will be identified at the time of these demonstrations and they will be persuaded to repeat the same on their lands on return to their villages. These farmers will also act as convenors of the discussion groups ( Charch Nabdals) formed in the villages.

The inputs for the National Demonstrations, Specialists to carry out these demonstrations and the vehicles for the quick movement of the specialists etc., are provided by the I.C.A.R.

These National Demonstrations and Charcha Mandals, together with short duration institutional training, constitute the main lands of the Farmers Training and Education Programme which is now in operation throughout the country.

### **3.7 TELEPHONE CALL**

It is a contact between the extension worker and farmer over the telephone for one or more specific purposes connected with extension.

## **4. GROUP CONTACTS**

### **4.1 METHOD DEMONSTRATION**

#### **4.1.1. What is it ?**

It is a relatively short-time demonstration given before a group to show how to carry out an entirely new practice or an old practice in a better way. It is not concerned with proving the worth of a practice but how to do something. e.g., pruning grape vine. It is definitely not an experiment of trial but a teaching effort. In contrast to the result demonstration conducted by the farmer ( demonstrator) under the supervision of the extension worker to prove that the recommended practice will work locally, the method demonstration is given by the extension worker himself or a trained leader for the purpose of teaching a skill to a group.

In the role of a skilled technician the extension worker or leader shows the step-by-step procedure in the operation, explaining each step, listen to the oral explanation, and ask questions during or at the close of demonstration to clear up points about which there is uncertainty. Where practicable as many members of the group as possible repeat the demonstration in the presence of the others. This helps to fix the process in the minds of the audience and increases confidence in their ability to master the technique.

(The method demonstration is the oldest form of teaching. Long before language was developed. men taught their children how to hunt, how to cultivate etc., through method demonstration. In the jungle, the tiger cub learns to hunt by following and playfully mimicking the tigress.)

#### **4.1.2 Objectives or Purposes :**

1. To enable the people to acquire new skills.
2. To enable people to improve upon their old skills.
3. To make the learners do things more efficiently, by getting rid of defective practices.
4. To save time, labour and annoyances and to increase satisfaction of learners.

5. To give confidence to the people that a particular recommended practice is a practicable proposition in their own situation.

#### **4.1.3 Procedure or steps to be followed :**

##### **1. Analyse the situation and determine the need :**

- a) Determine that the subject-matter practice involves skills which need to be demonstrated to many people.
- b) Is the demonstration for new skills developed through research, or for old skills not being performed successfully ?
- c) Is it suitable for visual presentation to a group ?
- d) Can the demonstration be repeated satisfactorily by local leaders?
- e) Is the practice really important from the farmer view point ?
- f) Can people afford to follow the practice ?
- g) Are supplies and equipment available in sufficient quantities to permit wide-spread use of the practice ?

##### **2. Plan the demonstration in detail :**

- a) Gather all the information about the practice . Familiarise yourself with the subject matter. Check on research findings.
- b) Talk over the problem with a few village leaders. Let the villagers help you plan the demonstration. Let them provide land and other requisites.
- c) Have a time table, depending on how much skill is required and how soon it is to be acquired.
- d) Have a job break-down or a demonstration outline giving the operations in logical steps.
- e) Identify the key points to be emphasised under each step.
- f) List out and select demonstration materials and equipment most likely to be available or readily obtainable.
- g) Arrange for diagrams, directions, and other teaching materials to be distributed.
- h) Prepare kits of special material needed by local leaders if they are to repeat the demonstration.

- i) Make sure that the work place is properly arranged :(lighting . to odours, no distracting noises ).
3. Rehearse the demonstration :
- a) Practice demonstration until you are thorough with all the steps and know exactly what you should say or do at each step, so that the operation can be performed in manner to inspire confidence.
  - b) Make sure steps and points will be clear from audience's point of view.
  - c) Check time required, to make sure there is opportunity for audience's questions and other expected participation.
4. Give the demonstration :
- a) Prior publicity should have been given about the place and one.
  - b) Be at the spot early to check up equipment and material.
  - c) Make physical arrangements so that all participants can have good look at the demonstration and take part in the discussion.
  - d) Explain purpose, and how it is applicable to local problem.
  - e) Find out what they already know about the practice.
  - f) Show each operation slowly step by step, repeat where necessary.
  - g) Use simple words to explain each step of the operation.
  - h) Make sure the audience can see and hear clearly.
  - i) Emphasise key points and tell why they are important.
  - j) Solicit questions at each step before going on to next step.
  - k) Give opportunity to learners to practice the skill.
  - l) Distribute supplemental teaching material ( bulletins, leaflets etc.) pertaining to the remonstration.
  - m) Summarise steps covered in demonstration.
  - n) Get the names of participants who propose to adopt the practice. This helps follow-up.
  - o) If demonstration is given before local leaders who will repeat it; emphasise teaching points to be made. Explain contents of demonstration kit.
5. Follow - up:
- a) Give publicity on the demonstration through press, radio, meetings etc.

- b) Arrange for reports on number of; and attendance at demonstrations given by local leaders.
- c) Make a sample check to assess the extent of use of the skill; and satisfaction derived by those attending the method demonstration.

#### **4.1.4 Advantages :**

1. Peculiarly suited in teaching skills to many people.
2. Seeing, hearing, discussing and participating in a group stimulates interest and action.
3. The costly 'trial an error' procedure is eliminated.
4. Acquirement of skills is speeded.
5. Builds confidence of extension worker in himself, and also confidence of the people in the extension teacher if the demonstration is performed skillfully.
6. Simple demonstrations readily lend themselves to repeated use by local leaders.
7. Introduces changes of practice at a low cost.
8. Provides publicity material.

#### **4.1.5 Limitations :**

1. Suitable only for practices involving skills.
2. Needs good deal of preparation. equipment and skill on the part of extension worker.
3. May require considerable equipment to transported to the work place.
4. Requires a certain amount of showmanship not possessed by some extension workers.

#### 4.1.6 Comparison of observation plot , Result demonstration and method demonstration

**Table 3.** Observation, Result Demonstration, Method Demonstration  
(Comparison and Contrast )

<b>Particular</b>	<b>Observation plot</b>	<b>Result Demonstration</b>	<b>Method Demonstration</b>
Purpose	To try a new practice recommended by research workers with a view to observe its valium suitability or otherwise, in a given area under farmer's conditions	To show locally the worth or value of a recommended practice.	To teach how to do a job involving skill; ( to teach doing skills)
Conducted by	Farmer (Co-operator under close supervision of extension worker.	Farmer (demonstrator ) under the guidance of extension worker	Extension worker himself or local leader specially trained for the purpose.
For the benefit of	Extension worker to decide the suitability or otherwise of a new practice to a given locality.	The demonstrator as well as other farmers.	Persons present at the demonstration.
Comparison.	Essential. Replications also necessary	Essential (Not necessary to have replications in the same field.	Not essential
Maintenance of records	Absolutely necessary	Necessary	Not Necessary
Time required	Substantial Period.	Substantial Period.	Relatively very little.
Cost	Costly	Costly	Relatively cheap
Inter-relationship.	Usually precedes results demonstration	Usually follows observation plots; may involve one or more method demonstrations.	Often paves the way for result demonstration.



#### **4.1.7 Basis for Demonstration**

1. Most people retain 10-15% of what they read, if the subject is explained in clear and simple language or in particular technical terms.

2. The majority remember about 20-25% of what they HEAR, their concentration is not limited through listening with one ear a speaker who perhaps fatigues them with tedious lecture.

3. About 30-35% of what they have SEEN is kept in mind of the majority even more if what is offered is well arranged and selected.

4. The majority remember 50% and more of what they have SEEN and HEARD at the same time, provided both presentations implement on another.

5. Up to 90% of what is taught is kept in mind by the majority people, if they participator actively, and if ALL THE SENSES are involved.

“ Only the demonstration can make teaching perfect”.

#### **4.2 GENERAL MEETINGS**

The term “General meetings” includes all kinds of meetings and by extension workers (See list under “Group contacts “ in the satisfaction according to use - Table 1.) There is a large variety such meetings. In size they run from the small committee meetings to those held on special occasions; Meals or festivals attended by thousand. Geographically, the meetings may be held a neighbourhood, a community or village, a block, a district or ate. The meetings may be held in a hall home, field, sandy and on. They may be held periodically or sporadically. The method presentation may be the lecture or formal talk, informal or formal discussion, or the showing of slides, or a motion picture film. special ands of meetings often take the name of the meeting objective; e.g., programme planning meeting , Evaluation meeting, Annual meeting, anamohotsava meeting, Farmers Day meeting, meeting at result method demonstration etc . etc.

##### **4.2.1 Essential elements :**

It is obvious that elements which make for successful meeting will vary greatly with the kind of meeting being actually all meetings. They are detailed below;

1. Determine the place of the meeting in the teaching plan:

- a) Is it felt desirable to reach many people quickly ?
- b) Is group action required will the group approach contribute to learning?
- c) Will it serve to focus attention on the problem, and provide material for news articles; radio talks, circular letters etc., as additional means of teaching.

2. Define the specific purpose of the meeting and the segment of the extension clientele to be reached ? Is it:

- a) To disseminate subject -matter information?
- b) To develop interest in a new subject ?
- c) To change attitudes toward a problem?
- d) To deepen understanding of public problems?
- e) To determine programme or plan of action ?
- f) To develop leadership and local responsibilities ?
- g) To provide an opportunity for social contacts?
- h) To evaluate the progress made under a project or scheme ?

3. Plan in advance for meeting :

- a) Decide number of meetings, places, and tentative dates.
- b) If the time and place are to be selected; it is important to select the time season of the year, day of week , and time of day in terms of the work cycles of those persons expected to attend and select the place in terms of its accessibility to the majority of the persons who are to attend.
- c) After selecting the tentative date, check to see that there are no important competing events that will affect attendance;
- d) Select meeting place which will provide suitable lighting. seating arrangement, ventilation and other necessary facilities.
- e) Encourage participation of local leaders in arranging and conducting the programme. Agree upon the part each will play and approximate time each will take.
- f) Outline a tentative programme or agenda.
- g) As far as practicable, hold day-time meetings; to reduce number of night meetings.
- h) Secure speakers or resource persons as needed.
- i) Inform speaker regarding local conditions and suggest subject matter be adapted to needs of local audience.

- j) Select the audio-visual aids best suited to the occasion.
- k) Provide for social and recreational features.
- l) Utilise the methods of publicising the meeting that are necessary to ensure satisfactory attendance of those people the meeting is intended to reach.

4. Conduct the meeting :

- a) Start the meeting on time. Chairman, ( usually a local leader) should open meeting promptly.
- b) State the purpose, and programme of the meeting. (Programme is developed in an orderly manner, the procedure, of course, depending on the kind of meeting.)
- c) Make introduction brief.
- d) Focus attention on central theme.
- e) Keep meeting moving on Schedule.
- f) Use appropriate audio-visual material.
- g) Watch reaction of audience. Encourage audience participation when desirable.
- h) At appropriate time, take action on matters calling for decision.
- i) Take advantage of group psychology and employ appeals that arouse interest; create desire and stimulate action.
- j) Close meeting on time with brief summary by chairman.
- k) Give recognition to individuals and groups that have actively participated.
- l) Hand out relevant folders or pamphlets at the time of break off.
- m) Take names of those interested in further information or follow up.

5. Follow up the meeting :

- a) Evaluate the meeting, to see if you can make any improvement sin meetings to be arranged in future.
- b) Utilise what happened at meeting in news articles, radio broadcasts etc.
- c) Make farm or home visits, or send additional information to persons requesting for it.
- d) Make sample check to determine satisfaction with meeting, and the extent to which the information is being used.

#### **4.2.2 Advantages :**

1. Reaches a large number of people.
2. Adopted to practically all lines of subject matter.
3. Recognises basic urge of individuals for social contacts.
4. Group psychology stimulates conviction to act,
5. Promotes personal acquaintance between extension worker and village people.
6. Supplements many other extension methods.
7. Has great news possibilities and publicity value.
8. Influence change in practice at low cost.

#### **4.2.3 Limitations**

1. Suitable meeting place and facilities may not always be available.
2. Wide diversity in character and interests of audience may create a difficult teaching situation.
3. May require undue amount of night work on the part of extension worker.
4. Circumstances beyond the control of the workers, such as conflicting attractions, unfavourable weather etc., may result in poor attendance .
5. Meetings which are poorly arranged or conducted may have far - reaching unfavourable effects.
6. The holding of meeting may become the “ real” objective, rather than the purpose the meeting was intended to advance.

### **4.3 KINDS OF MEETINGS**

Although the above elements relate to all kinds of meetings in general, it will be useful to understand the special features of some of the important kinds given below.

#### **4.3.1. Lecture**

The lecture method is extensively used to present authoritative or technical information to develop back-ground and appreciation and to integrate ideas. The range of subjects that can be covered by this method is unlimited. But the speaker at a given meeting presents a specific subject to a particular audience. The lecture is an excellent

method for presenting information to a large number of persons in a short period of time. Its weakness is that people are not likely to master as much of the information as the speaker is likely to assume; because for the most part it is a one-way communication. Members of audience listen in terms of their interests and remember in terms of motivation and memory. This is generally called a forum. However, lectures designed to entertain or commemorate (e.g., humorous talks; patriotic addresses etc.,) are more effective without a forum.

The chief characteristics of the “Lecture Method”. are

- (1) usually it is an organised presentation.
- (2) It can be used to cover thoroughly the subject matter.
- (3) It is adaptable to large groups.
- (4) It appeals to the “ear-minded”.
- (5) It conserves time.
- (6) Results are easy to check.
- (7) Listeners sometimes absorb information without thinking.
- (8) Material gained through lecture is not really learned.
- (9) The lecture may “lose” his group or go over the heads of his group.

The lecture method can be used advantageously: (1) with large groups where the individuals have some common back-ground of information and experience; (2) when it is necessary to cover a large quantity of material in a given time; (3) when it is necessary to arouse enthusiasm in initiating a new programme or in further development of a programme; (4) when giving factual information; (5) when providing a common back-ground of information as a basis for further study; (6) where there is need to supplement other methods.

The lecture method is not effective:

- (1) when skills are to be developed;
- (2) when no testing is done;
- (3) when group participation is desired;
- (4) when problems are to be solved;
- (5) when “doing” ability is to be acquired.

#### **4.3.2 Debate**

The common pattern is to have two teams, one representing the affirmative, and the other the negative side of the question. Usually there are two speakers for each side. Each speaker is allowed a definite amount of time to make his main speech and rebuttal after the main speeches have been completed.

In this case, there is two-way communication between the debaters, but one-way communication for the audience. The range of subjects for debates is limited to controversial topics. The big advantage in a debate is that more than one side of a question is presented. There is, however, one danger. If it is a decision debate; there is the temptation for the debate to become highly antagonistic. In such a case, the motive to win the debate by any means may lead to distortion of information, ignoring the primary need to inform the audience. This objection to the debate is overcome by holding non-decision debates or by having a forum after the debate.

#### **4.3.3 Symposium**

This is a short series of lectures; usually by 2 to 5 speakers. Each one speaks for a definite amount of time, and presents a different phase or subdivision of a general topic. The topic should be large enough or general enough to permit two or more sub division that are sufficiently significant to justify separate discussion by speakers. The subject may or may not be controversial. It is important that the speakers are of approximately equal ability, to avoid one speaker dominating the meeting or giving the audience a distorted view of the subject. The speeches may be followed by a forum to facilitate mastery of information. The advantage of symposium over lecture is that two or more experts present different phases of the topics. It also has an advantage over the debate as it is possible to escape the antagonism that may accompany the latter.

#### **4.3.4 Panel:**

It is an informal conversation put on for the benefit of the audience, by a small group of speakers, usually from 2 to 8 in number. They are selected on the basis of the information and experience they have. Member are seated so that they can see one

another and also face the audience. The panel is generally rehearsed before it is presented to the public. The leader introduces the members of the panel to the audience and announces the topic. He has the responsibility to see that the conversation keeps going, by asking questions or making brief comments, and encouraging the less talkative members. There are usually 3 types of panel : (a) series of questions by the leader ( or Chairman) and answers by the members; (b) Set-speech panel, each one making prepared speech; (c) the conversational panel in which members hold a conversation among themselves on the topic, with questions and comments going from one member to another. This third type is more nearly in line with the definition of a panel than the other two, and is the pattern to be achieved.

The panel may be used to present almost any topic that may be used for a lecture, debate or symposium. The special advantage of a panel is that a spontaneous conversation about some subject may have more interest for the audience than a lecture. For better mastery of information the panel should be followed by a forum.

#### **4.3.5 Forum**

It is a discussion period that may follow any one of the above methods of presentation. It consists of question period in which members of the audience may ask questions or make brief statements. The forum provides an opportunity for the audience to clear up obscure points and to raise questions for additional information. It also gives individuals an opportunity to state briefly their understanding of a point and see whether they have interpreted correctly the material presented. It is primarily a means of understanding information.

#### **4.3.6. Buzz sessions: (Phillips 66 format ):**

With large groups when there is limited time for discussion, the audience may be divided into smaller units for a short period. This is called buzz session or 'huddle system' or Phillips 66. Groups of 6 to 8 persons get together after receiving instructions to discuss about a specific issue assigned. The secretary of each small group will report the findings or questions to the entire audience when they are reassembled.

This is actually a device to get more people to participate in a forum than would be the case otherwise.

#### **4.3.7. Brain Storming**

Is a type of small group interaction designed to encourage the free introduction of ideas on an unrestricted basis and without any limitations to feasibility. It is a form of thinking in which judicious reasoning gives way to creative initiative. Participants are encouraged to list for a period of time all the ideas that come to their minds regarding some problem and are asked not to judge the outcome. At a later period all the contributions will be sorted out, evaluated and perhaps later adopted.

#### **4.3.8. Workshop**

It is essentially a long meeting from one day to several weeks, involving all the delegates in which the problems being discussed are considered by delegates in small private groups. There must be a planning session where all are involved in the beginning. There must be considerable time for work sessions. There must be a summarising and evaluation sessions at the close. The workshop as the name implies must produce something in the end a report, a publication, a visual or any other material objects.

#### **4.3.9. Seminar**

It is one of the most important forms of group discussion. The discussion leader introduces the topic to be discussed. Members of the audience discuss the subject to which ready answers are not available. A seminar may have two or more plenary sessions. This method has the advantage of pooling together the opinions of a large number of persons.

#### **4.3.10. Conference**

Pooling of experiences and opinions among a group of people who have special qualifications in an area.



#### **4.3.11. Institute**

Consist of a series of meetings and lectures. They are a source of new information and new ideas.

#### **4.3.12. Syndicate Studies**

These essentially follow the seminar method and the focus is on any particular subject or problem. The syndicate studies are conducted with the help of group discussions, supplemented by the available literature on the subject and the end product is a erudite report. Resource men are utilized for the syndicate studies. The studies on any subject can continue for a month or more, with 10 to 12 sittings.

### **4.4. GROUP DISCUSSION, (Group thinking conference )**

#### **4.4.1. Definition :**

It is that form of discourse which occurs when two or more persons, recognising a common problem exchange and evaluate information and ideas. In an effort to solve that problem. Their effort may be directed towards a better understanding of the problem, or towards the development of a programme of action relative to the problem. Discussion usually occurs in a face-to-face or co-acting situation, with the exchange being spoken. And when more than two people are involved, it usually occurs under the direction of a leader.

#### **4.4.2 Purpose :**

1. To solve a problem ( decision-making )
2. To exchange information ( improve understanding)
3. To motivate.
4. To plan a programme of action.
5. To elect or select a person for a position etc.
6. To entertain.
7. To hear and discuss a report.
8. To Orem attitudes.
9. To release tensions.
10. Train individuals.

#### **4.4.3 Procedure :**

1. Understand and adopt the proper technique. The technique of a problem solving group discussion consists for the following six steps based on the “reflective thinking” pattern.

- i. Recognition of the problem as such by the group
- ii. Definition of the problem, its situation and diagnosis.
- iii. Listing of as many solutions as possible.
- iv. Critical thinking and testing of these hypotheses to find the most appropriate and feasible solution or solution.
- v. Acceptance or rejection of the solution or solutions by the group.
- vi. Lastly, considering how to put the accepted solution into practice.

2. See that one of the group members takes role of the discussion leader ( or chairman). Extension worker should avoid this role as far as possible, because in such a case, a situation is likely to develop where the group listens and the chairman does all the talking.

3. The size of group should never exceed 30 persons.

#### **4.4.4 The role of the chairman :**

- a) Make physical arrangement for the meeting, so that all members feel comfortable. Seating arrangement should be such that every one can see the faces of all other members. Circular seating is preferable. (Square, rectangle, U OR V shape also used sometimes.)
- b) Introduce members, if they are new to one another.
- c) Announce the topic and purpose of discussion.
- d) Follow a plan.
- e) Hear all the contributions made, and from time to time give short summarise of the discussion up to that particular moment, especially when the group moves from one step to another ( of the reflective thinking pattern ).
- f) Build a permissive climate.

- g) Keep the group moving at the rate at which their thinking progresses.
- h) Give or get clarification of vague statement.
- i) Promote evaluation of all generalizations.
- j) Protect minority opinion.
- k) Try to get balanced participation.
- l) Promote group cohesion.
- m) Remain personally neutral.
- n) Give a final summary of discussion.

#### **4.4.5 Some Don'ts for chairman:**

- a) Never ask questions that suggest answers or can be answered with a yes or No. ( Put only thought - provoking questions)
- b) Don't favour one view against another when there is a conflict or different of opinion among members.
- c) Never become emotional about the discussion.
- d) Don't become impatient with the group.
- e) Don't dominate the discussion or answer all the questions used by the members.

#### **The roles of members:**

- a) Talk one at a time. No private conversation with neighbours. Speech making.
- b) Supply as much pertinent information as possible.
- c) Contribute one point at a time.
- d) Answer questions directly, specifically and briefly.
- e) Test all thinking by critical analysis.
- f) Listen attentively.
- g) Stay on the subject.
- h) Exhibit willingness to change his opinion when change is field (i.e. open minded). A person may hold opinions, but opinions should not hold a person.
- i) Support the needed leadership.
- j) Promote group harmony even while criticizing or disagreeing.

#### **4.4.6. The role of the expert (Extension worker or specialist )**

There may be occasions when a group confronted with a balm does not have sufficient information to enable them to less intelligently. In such cases, the role of the expert is not dominate the meeting, nor to suggest his own solution. He old only supply information, the group does not have; furnish technical information, present ways other groups have met similar situations, and present the immediate problems in its larger setting with implications for integrating the solution of the problem with other group policies and action programmes.

#### **4.4.7. Advantages**

1. It is a democratic method, giving equal opportunity for every participant to have his say.
2. It appeals to the practical type of individuals
3. It creates a high degree of interest.
4. The strength of group discussion lies in the fact that the discussants approach the problem with an open mind and suspended judgement in a spirit of enquiry.
5. It is a co-operative effort and not combative or persuasive in nature.
6. Combined and co-operative thinking ( Pooling of wisdom) of several persons is likely to be superior to that of isolated individuals.
7. A small group can think together on a problem in an informal fashion and work out solutions better and faster by using this method than by following rigid parliamentary procedure. (Even parliament and legislatures recognise this when they appoint *ad hoc* committees.
8. Develops group morale. When a group discusses a question and then comes to a decision, that is “our” decision for the group and they will see that “our” decision is carried out. ( Group action is encouraged).
9. It is a scientific method ( employing the reflective thinking pattern).
10. Participants need not be good speakers or debaters.
11. Continued experience with such group discussions improves one’s capacity for critical and analytical thinking.

#### **4.4.8. Limitations**

1. Factions in villages may hinder the successful use of this method.
2. The ideal discussants with self-discipline ( open mind and suspended judgement) are difficult to find. So also, it is difficult to find an ideal chairman or leader for group discussion.
3. It is not suitable for dealing with topics to which discussants are new.
4. In large groups especially, and even in small groups to some extent, it is difficult to achieve group homogeneity or cohesion.
5. The size of the group has to be limited, because the success of the method is perhaps inversely proportional to the size of group other factors being constant.
6. It is not a good method for problems of fact.
7. It is not suitable for taking decisions in times of crisis or emergency, as it is a slow process.
8. Due to its informal conversationally style, the scope for orderly or coherent arrangement of ideas is limited.

### **4.5 FIELD TRIPS**

#### **4.5.1 What is it ?**

It is a method in which a group of interested farmers accompanied and guided by an extension worker, goes on tour to see and gain first-hand knowledge of improved practices in their natural setting (Whether on research farms, demonstraion farms, institutions or farmer's fields.) It is a series of field and demonstration meetings arranged in a sequence.

#### **4.5.2 Purposes :**

1. To stimulate interest, conviction an action in respect of specific practice; e.g. preparing rural compost. The cumulative influence of several ideal compost pits is more likely to provide such stimulation than a single illustration.

2. To impress the group about the feasibility and utility of a series of related practices e.g., proper preservation of farm yard manure, rural composting, urban composting, green manuring-which are all included under the item “ development of local manurial resources”.

3. To induce a spirit of healthy competition by showing the accomplishments in other villages.

4. In short, to help people to recognise problems, to develop interest, generate discussion and to promote action.

#### **4.5.3 Procedure:**

1. Provide for field trips at opportune time in the over-all teaching plan.

2. Prepare an outline of specific aims of the trip.

##### *3. Plan the trip*

a) Decide upon the places to be visited and the things to be seen and learnt. Do not crowd the programme.

b) Then arrange for necessary permission from the concerned authorities to make the trip.

c) Fix up date, time, means of transport, number of participants to be taken number of stops, arrangements for rest and refreshments in consultation with the village leaders.

d) Accompanying staff should pay an advance visit to the actual sites before conducting the party.

e) Give definite instructions to participants where and when to meet, insist on punctuality in arrival and departure timings at each stop.

##### *4. Conduct the trip*

a) Give guide sheets in simple language ( if the majority are literate.)

b) Focus attention on the purpose of the trip.

c) Let every one see, hear, discuss and if possible participate in the activities at the places of visit.

d) Allow time for questions and answers.

e) Help them to make notes of interesting information.

f) Follow the general instructions regarding conversation applicable to all direct contact methods.

- g) Avoid accidents.
- h) adhere to schedule all through.

#### *5. Record the trip*

Accompanying staff should note the details of the trip, the names of participants etc., to facilitate follow-up.

#### *6. Follow-up*

- a) Contact the participants individually and in groups.
- b) Arrange for necessary supplies and services.
- c) See that the desired action results.
- d) Give due recognition to the successful learners.
- e) Build up publicity material

#### **4.5.4 Advantage :**

1. Participants gain first-hand knowledge of improved practices, and are stimulated to action.
2. Eminently suited to the “ show me “ type of people.
3. Percentage of “ takes” to exposures is high.
4. Widens the vision of farmers.
5. Caters to group psychology and leadership.
6. Has incidental values of entertainment and sight-seeing.

#### **4.5.5 Limitations :**

1. It is costly.
2. Difficult to fix up season and time suitable for all.
3. Bottlenecks of transport and accommodation at halting places.
4. Possibility of subordinating educational aspect to the sight-seeing aspect.
5. Risk of accidents.

## **5. MASS CONTACTS**

In addition to the personal contact methods and the face-to-face group teaching methods, mass media enable extension workers to greatly increase their teaching efficiency. Publications, news paper articles, circular letters, radio, television, exhibits, posters etc., provide helpful repetition of those contacted personally or through groups. They also facilitate dissemination of information to a much larger and different clientele. Even though the intensity of the teaching contact, through mass media is less, the large number of people reached and the low cost per unit of coverage more than off-set the lack of intensity. The extension teaching plan which neglects the communication possible through mass media fails to fully capitalise on what has already been invested in the more intensive contact methods.

### **5.1 FARM JOURNALISM**

#### **5.1.1 Definition :**

Journalism is information. It is communication. It is the events of the day distilled into a few words, sounds or pictures, processed by the mechanics of communication to satisfy the human curiosity of a world that is always eager to know what's new.

Journalism is basically news, the word derived from journal its best contents are the record of the day itself. But journalism may also be entertainment and reassurance, to satisfy the human frailty of a world that is always eager to be comforted with the knowledge.

#### **5.1.2 Scope :**

The scope of journalism can be discussed in terms of the perspective of mass media of communication as follows :

- a) Men run to and fro for knowledge.
- b) Men are hungry for the knowledge of past.
- c) Men seek knowledge for the present.
- d) Modern men are voracious newspaper readers.
- e) Modern men read periodicals.
- f) The spoken word is a factor in mass communication.



### 5.1.3 Purpose

Explorers of journalism have discovered that the media of mass communication have from one to three purposes.

- a) They may inform, disseminate news and miscellaneous non-news items.
- b) They may influence, giving the public either a social or commercial message.
- c) They may be entertaining, presenting features, fiction, humour, comics and similar matters.

### 5.1.4 Functions

The basic functions are :

**a) The news function :** The primary function of the press today is to inform. A Newspaper should be just. Arthur Robb has said “Factual information of the days news is the elementary function.”

**b) The opinion function :** Modern man frequently finds himself in the mist of conflict and confusion. He wants and needs a medium of communication that will help him to act on the basis of logical arguments, not emotional appeals.

Thus the modern press has to be both a daily teacher and a daily tribune ( popular leader ). To influence a public, the newspaper, may educate, counsel, advise as well as exhort, expose and excoriate ( urge, exhibit, remind). For that reason, the editorial is the only means of building public opinion.

Entertainment is where you find it. It pops up in human interest stories and news features. It sparkles in bright columns and gay interviews. It smiles through homespun verse and light essays. It bursts out boisterously in the comics some of which are most uncomic. It bursts out boisterously in the comics some of which are most uncomic. Entertaining the public is a business too. Since it is too big a job for the local staff, newspaper rely upon syndicated material

## 5.2 EXTENSION PUBLICATIONS

**Why Written communication ?** Spoken word is forgotten rapidly. After a lapse of time spoken word is seldom remembered. Even while remembering, there are many chances for mis-interpretation, resulting in distortion. It is necessary to recall and remind from time to time. Therefore one has to refresh his memory often. For that, the written

materials are immensely help to go over it once again to get its full meaning. Thus written communication gives time to think organise the ideas in a systematic manner.

The purpose of written materials to farm people is to communicate the facts in such a manner that their attention is attracted to make them understand an remember and finally help them in taking decision to act.

### **Purpose**

- \* To contact communicate in shorter time
- \* To communicate valid and reliable information.
- \* To communicate ideas with clarity without any distortion.
- \* To reduce the transit loss.
- \* To create confidence among communicate about the information received.
- \* To increase the credibility of source of information.

### **Characteristic of written material**

- Punctuation / Clarity / Conciseness.
- Style.
- Consistency.
- Interest.

### **Need for a written material**

- To get a clear information on the subject under question.
- To provide authentication on the information passed .
- To utilise/to read frequently whenever it is needed.
- Against memory loss.
- To keep the informations under documentation across times .
- To benefit future generations.
- Easy for retention and recall.

### **Requisites of good literature**

A good and effective extension literature should be :

- a. In simple language
- b. In local dialect
- c. Cheap, timely, and easily available

- d. Concise, simple, clear and in short sentences and paragraphs
- e. Well illustrated with pictures, diagrams, etc.
- f. Able to provide an idea of the improved practices as compared to their own;
- g. Give full details of when and how-to-do.
- h. Of convenient size for use
- i. Not simply dry statement of facts, but presented in such a way that it appeals to the readers and encourages them to read and study the material and
- j. Able to give the months, dates, weights, measures, areas, names of operations, etc., in local units and terms.

The written material may be printed, duplicated , or mimeographed for use. Printing facilities are not available everywhere. Hence duplicating or mimeographing through duplicating machines is a very good alternative and cheap device to get duplicate prints in large numbers for distribution.

### **Principles to be followed**

How clearly you communicate information to average readers depends on how well you select, sift, and sort your facts.

#### **a.Select facts**

- a) Suitable subject matter : Does it meet a need? Is it timely ? Is it of current interest? Does it apply to your area? Is information practical ?
- b) Readers : Who are the people you want to reach ? What are their problems, interests, and educational levels ? Do they have the environment and capacity to make use of the information ?
- c) Purpose of publication : What do you want it to teach and accomplish ? Do you want to stimulate interest in a programme or do you want to influence the people to do some thing ?

#### **b.Sift facts**

- a) Sift essential facts necessary to give information clearly.
- b) Screen out difficult concepts which are beyond reader's experience or understanding e.g. pH. value; calorific value.

- c) Give laymen an appreciation of subject rather than a detailed explanation.
- d) Express highlights.
- e) Don't try to impress the lay reader with all you know.
- f) Don't document everything.

**c.Sort facts :**

- a) Arrange facts in logical order.
- b) Set out important points in 1.2.3 order ( step by step). (C) Guide reader with attractive subhead s and suitable illustrations and pictures.

**d. Remember the A B C's of Journalism**

Accuracy, Brevity, and clarity which are the fundamentals of all good writing.

**e. Adopt the following tips for readability**

- a) Short sentences, clear in meaning, simple in construction, with few prepositions phrases and dependent clauses. (Average 12 to 17 words). Give an idea in each sentence.
- b) Simple words - familiar, concrete words.
- c) Personal, or human -interest words

**Advantages :**

1. Can reach a large number of people quickly and simultaneously.
2. Can be read at leisure, and kept for future reference.
3. Generally people have confidence in the printed page.
4. Necessary supplement to other teaching methods.
5. Information usually definite, well-organised, and readily understood.
6. Influences adoption of practices at relatively low cost.
7. Provides scope for recognising achievements of individuals and groups.
8. May promote literacy

**Limitations :**

1. Not suited for illiterate audience.
2. Frequent revision may be necessary to keep abreast of current research
3. Information prepared for general distribution may not fit local conditions.
4. Impersonal lacks social value of personal contacts and meetings.

### **5.2.1 Leaflet ( Flyer)**

Single sheet of paper used to present information on only one topic in a concise manner and simple language.

#### **Preparation**

- a) The leaflet is prepared for the farmer. There fore select a suitable topic based on farmer's felt need.
- b) There should be only one idea, technique or practice.
- c) Collect all desirable, relevant points and select only the most essential.
- d) Use short, simple and familiar words.
- e) Remember the ABC of the Journalism and write accurately, briefly and concisely.
- f) Include relevant pictures, illustrations etc., in order to help the farmer's understanding .
- g) Refer to local situations where ever possible.
- h) Give the sources for obtaining further information.
- i) Edit the leaflet meticulously to eliminate extra words, poor phrases, difficult words etc.
- j) Personal sentences, short paragraphs, less technical terms, illustrations etc are the desired characteristics of the leaflet.

#### **Printing**

- a) Attractiveness can be increased by using different colour papers or inks and by illustrations or photographs.
- b) The size of the leaflet preferred by the farmers is 4 “ X 8”.
- c) Farmers of lower literacy preferred 16 point letters and those studied above fifth standard liked 14 point letters.
- d) Printing on pink or yellow paper was liked by the farmers.

### **5.2.2. Folder**

Folder is a single piece of paper folded once or twice, when it is opened the material presented are in sequence.

#### **Preparation**

All the factors to be considered for the leaflet are to be considered for the folder also. In addition to that the following factors may also be considered.

- a) After deciding topic, based on the farmer's felt need, collect the relevant points. Arrange the facts collected in the logical order. Select the important points in 1-2-3 order (step-by step).
- b) While writing the folder there need not be complete sentences or paragraphs. The ideas and sub-ideas can be listed one below the other without enlarging them into complete sentences or paragraphs.
- c) Folder will most suit or give a 'how to do' a job, package of practices to be followed in growing a crop, the steps to be followed in solving a farm or home problem, etc. The accurate and specific instructions are given.
- d) While listing out the facts there should be logical and time sequence.
- e) Folder need not compete, as it complements the other methods. However the title, printing etc., should be attractive otherwise, even if the leaflet is the only reading material available it may not be read at all.
- f) The writing should be in the villages language, with simple and one syllable words.

#### **Printing**

- a) Make the folder attractive by using photograph, line drawings and various colour papers and inks.
- b) 1:1.5 ratio is more suitable width to length ratio.
- c) 4"x 8" folder is found to be very attractive at the farmer's view point or make them it to any convenient and attractive size.
- d) Print the folder on heavier paper than the leaflet.
- e) The front page of the folder is exclusively allotted for printing the design with title. Prepare a cover page design with 2 or 3 colours.

### **5.2.3 Pamphlet**

Pamphlet size varies from 12 to 24 pages or little more. The first cover page should be printed in two or three colours with some action pictures. Full information about the selected topic is presented in the pamphlet.

### **5.2.4. Extension Bulletins**

A bulletin contains large amount of information. Its primary objective is to give information which the reader can apply to his own local situations. It is a booklet running into more than 20 pages.

Types

- a. Technical bulletin – designed primarily to present specific material to those working in specified fields.
- b. Popular bulletins – to present material to people in the field of extension.

### **5.2.5. New Stories**

#### **5.2.5.1 What is it?**

News is any timely information that interests a number of persons, and the best news is that which has the greatest interest for the greatest number. It is an accurate, unbiased account of the main facts of a current event that is of interest to the readers of a news paper.

#### **5.2.5.2. Purposes**

- (a) To develop interest
- (b) To inform general public
- (c) To disseminate subject matter information
- (d) To create favourable attitude
- (e) To reinforce other extension methods like meetings and demonstrations.

### **5.2.5.3 Kinds of New stories**

No rigid classification of stories is possible, but for convenience sake, let us divide them into before and after stories, experience and success stories, new development and subject matter.

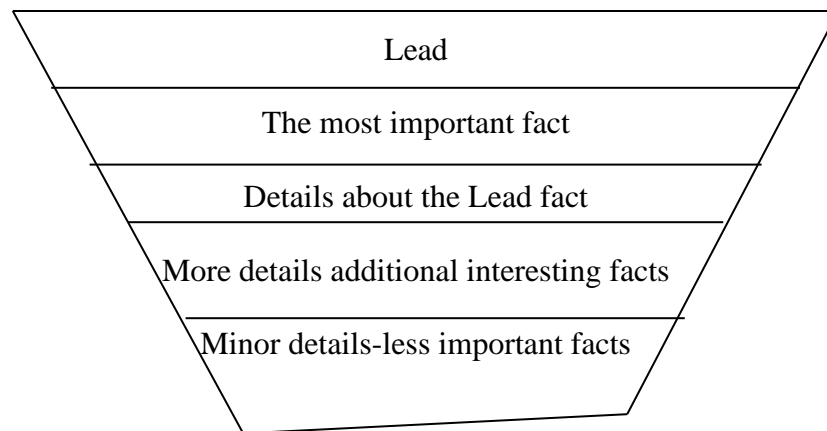
### **5.2.5.4. Content**

- a. The event in a news story has to be recent or has to give the feeling of recency.
- b. Tells what is happening.
- c. Straight news story contains who, when, what, where, why Minor details-less important facts
- d. Ends when all the facts are used.
- e. Inverted pyramid model of presentation is the model of writing.
- f. News story begin with specifics and end with generalities.
- g. News story is written in third person.

### **5.2.5.5 Technique**

1. Reminder that news should have one or more of the following characteristics.
  - a. Something that actually happens (e.g., harvest of paddy crop competition plot in A's field).
  - b. Unusual, extra ordinary ( e.g., 3600 kgs of paddy per acre)
  - c. Important ( not trivial)
  - d. Near to the point of publication or audience
  - e. New, recent or timely
  - f. Something that interests farmers,
    - i. Catastrophe eg., Locust invasion
    - ii. Fight, conflict, struggle e.g., competing for a prize in fruit show.
    - iii. New knowledge ( e.g., about new type of machinery)
2. Use accepted principles of good reporting
  - a. Write the lead sentence, which tells the crux of the situation, i.e., something of importance to the reader.
  - b. Use of the pyramid form of writing i.e., put the important paragraphs first, so that it won't matter even if editor cuts off the last paragraph or two,





- a. Use the five W's and the H as guide i.e., see if you have answered the Who. What, Why, When, Where, and How, Get as many of these as possible in the first paragraph, as a safeguard against editor's cutting.
- b. Write in simple language.
- c. Avoid using your personal opinion.
- d. Be accurate, fair and brief
- e. include motivating appeals.

3. Evaluate effectiveness of news articles.

4. Leads

Leads should be confined to the facts vital for telling the reader the story's contents. It should contain all the five Ws and in some cases the H as well.

5. Types of ending.

If a good introduction and ending is written, half the work is done. While starting, what is the purpose of writing and for whom it is written must be kept in mind.

At the end - Have I achieved my purposes

Have I fulfilled the promise

Have the people accepted the opinion

Have I made efforts to change the opinion

Have I booked all relevant points

**a. Pleasant ending :** The writer wants to have some kind of smiles in the readers.

**b. Summary ending :** Writer tells the audience what he has already told.

**c. Call for action ending :** Very effective in the sense after giving facts and figures, the writer calls for action among readers.

**d. Illustration ending :** This clinches the minds of people.

**e. Flash-back ending :** Past is recollected again in the end.

#### **5.2.5.6. Advantages**

- (a) Low cost.
- (b) Large coverage in short time.
- (c) Efficient source of timely information
- (d) Carries the prestige and confidence of the printed word.
- (e) Reinforcing effect on other extension methods.

#### **5.2.6 Circular letter**

##### **5.2.6.1. What is it?**

It is a letter reproduced and sent to many people by the extension worker, to publicise an extension activity or to give timely information on farm and home problems.

##### **5.2.6.2. Purposes**

- a. To attend a meeting
- b. To stimulate interest in a subject
- c. To adopt a new practice.
- d. To perform a service to community or block.
- e. To answer a questionnaire
- f. To maintain interest and cooperation of youth club members, local leaders, cooperators etc.
- g. To prevent spread of pests and diseases.

##### **5.2.6.3. Procedure and Principles**

1. Determine the place of the circular letter in the teaching plan.

2. Determine specific purpose of the circular letter and the segment of extension clientele to be reached.

3. Plan the use of the circular letter

- a) Plan letter to serve definite purpose.
- b) Should be important, timely and related to specific needs and interests.
- c) Have a single purpose.
- d) State the facts concerning the nature or seriousness of the problem
- e) Suggest what the person can do to alleviate or solve the problem.
- f) Letter must be neat and appealing to the eye, and free from errors.
- g) Above all, personalise your letter by using.
- h) Expressions you use in every-day contact. ii. Direct statements. iii. Simple sentences. iv. Action words with few affixes. v. personal references (the "you" approach). vi. Appropriate anecdotes. vii. Courteous conclusion.

#### **5.2.6.4. Advantages**

In addition to the advantages given in the case of "Publications" the following are the special advantages.

- a. Convey timely information effectively to special interest groups.
- b. Eminently suited to make announcements to get attendance.
- c. Unlike news articles, circular letters have the advantage of making more direct appeal
- d. Especially helpful in maintaining interest and co-operation of local leaders, demonstrators or co-operators etc.
- e. The author's enthusiasm and personality can put life in to the information carried in such letters.

#### **5.2.6.5. Limitations**

- a. Special equipment and clerical help necessary.
- b. Too frequent use may minimise effectiveness.
- c. Not suited to illiterate clientele.
- d. Does not have the advantage of personal letters in catering to the needs of a particular individual.

### 5.2.7 Feature Stories

The feature stories are published in the periodicals like weekly's, monthly, quarterly's etc.

#### Points to be remembered

- a) It aims at particular segment of the public. The audience are highly educated and most of whom can be expected to welcome ideas and sentences of some complexity. It is designed to limited interest groups such as poultry farmers, dentists etc.
- b) Feature story does not stop after presenting the facts as in news story. It goes beyond and explores the background. The birth and growth of ideas or events and provides a glance at the future too.
- c) This article appears less frequently at least once in a week. Thus there is more time to dig into the issue or situation than the dailies or new stories. Consequently it brings the events into focus and interpret their meanings.
- d) This is half way between the newspaper and book. Magazines exam a situation from middle distance and the book from the higher ground of historical perspectives.
- e) The information given in feature article need not be new. It can talk about some thing that happened last year or year before that, provided, it is of interest to the readers.
- f) Seasonable information is given.
- g) The writing can be either in first, second or third person because it bears the name of the author. Therefore there is a personal chat with the reader. In this the writer has more freedom than other written methods.
- h) Only unvanishd truths are published.
- i) There should be enough material to write the feature article,
- j) Photographs fitting with the story may be published. It helps to draw attention of the readers.
- k) Caption is given in the present tense .If the reference is about some past action, then give the caption in past tense.

### **5.2.8 Wall news papers**

Wall newspapers are those which have more detailed current information and an illustration. The normal size of the wall newspaper is 12 “ x 18”. The letters are bold. Important points discussed for posters should be taken into consideration for wall newspapers. They are prepared in simple languages, contain a title. Informations are printed in bold type along with illustrations. It is intended to paste in conspicuous places where people gather (or) pass through. The place should have the protection from wind, rain etc.,

### **5.2.9 Cartoons**

A cartoon is probably the most widely read item in the newspaper. It is similar to the poster in that it makes an instant appeal and conveys a single main idea, but it is not so larger and important because it treats a topic less seriously. Cartoon present humour in a dramatic way using personal sketches. Cartoons can be effectively used in introducing and explaining the importance of new ideas for their uniqueness and simplicity.

## **5.3. RADIO**

### **5.3.1. What is it?**

It is a medium for mass communication; a tool for giving information and entertainment.

### **5.3.2. Purposes**

- a. To reach large number of people quickly and inexpensively.
- b. To reach people not reached by other means.
- c. To stimulate participation in extension through all other media.
- d. To build enthusiasm and maintain interest.

### **5.3.3. Procedure or Technique**

- a. Determine its place in the teaching plan.
- b. Be clear about the purpose of your broadcast.
- c. Keep the interests and needs of the audience in view.
- d. Select topics of current interest.

- e. Time the broadcast to synchronise with the farmers leisure hours.
- f. Decide what treatment to give--straight talk, interview, panel, drama etc.
- g. For writing the script, follow the principles given for writing news articles.
- h. Encourage people to listen to rural programmes.
- i. Encourage them to write to the broadcasting stations about their like, needs and opinions.
- j. Encourage talented local people to participate in broadcasting.

#### **5.3.4. Advantages**

- a. Can reach more people more quickly than any other means of communication.
- b. Specially suited to give emergency and timely information.
- c. Relatively cheap.
- d. Reaches many who read little or none at all.
- e. Reaches people who are unable to attend extension meetings.
- f. Builds interest in other extension media.
- g. Possible to do other things while listening.

#### **5.3.5. Limitations**

- a. Limited number of broadcasting stations.
- b. Not within reach of all farmers.
- c. Recommendations may not apply to individual needs.
- d. No tuning back if not understood
- e. Frequently loses out in competition with entertainment.
- f. Difficult to check on results.

#### **5.3.6. Script for radio**

Radio is considered to be the best and the most effective means of communication for rural audience in our country. Radio, broadcasting has become almost a part of daily life. Radio as a media has great potential for creating awareness among farming population about new agricultural technology changing attitudes, stimulating the listeners and motivating them to adopt.

#### **5.3.6.1. Principles**

Vohra (1986) who has been producing farm radio programmes for over 25 years has given the following general principles and for writing the script for farm radio programmes.

- a. Writing for radio is an art to be learned it is writing in spoken form. It should be easily absorbed by the listener. The listener must understand the conversation.
- b. Simplicity is essential. In normal speech we use simple rather than complicated words and sentences.
- c. Repetition of the key ideas is essential.
- d. Avoid use of statistics.
- e. Careful planning is essential.
- f. Maintain continuity of narration in writing a script.

#### **5.3.6.2. Modes of presentation**

- a. Straight talk
- b. Interview
- c. Discussion
- d. Conversation
- e. Feature
- f. quiz
- g. Question and Answers
- h. Farm News
- i. Farm school on AIR
- j. Music
- k. Drama
- l. Folk Arts
- m. Announcements
- n. Magazine Programme.

#### **5.3.6.3. Script is it necessary ?**

Script writing is an essential part of the broad casting. The script helps in putting your ideas in a logical sequence and will keep you informed what the listening audience is to be communicated or in other words what the message is.

#### **5.3.6.4. Parts of an effective script**

- a. The first part should be designed to attract the attention of the listeners towards the subject proper.
- b. The second part may analyse the present situation, laying special emphasis on the problem encounter based on local needs.
- c. The third part may give out facts about the recommended practice and its merits over the previous practices and try to win the confidence of the listener.
- d. The fourth section may deal with an appeal to action.
- e. Finally the script may end with a summarisation of all the different practices.

#### **5.3.6.5. Writing the Script**

##### **5.3.6.5.1. Before Writing**

- a. Determine the purpose first, the objective should be clear.
- b. Know the type of listeners to be formed also keep in mind the probable activity which they might be performing while listening.
- c. While selecting your subject ensure that it is relevant, has been suitable to agro-climatic condition, suitable to season and reliable.
- d. Decide the mode of presentation.
- e. Collect all the possible related authentic material for writing.
- f. Be sure to include supporting facts and illustration.
- g. Process the information by identifying the main points.

##### **5.3.6.5.2. While writing**

- a. Remember that it is writing for the ear only.
- b. Avoid academic style. Avoid jaw breaking words.
- c. Prefer to use local information and experience of farmers.



- d. Keep listener view point in mind of all times.
- e. Make listener realise importance of the Programme.
- f. Be direct and personal.
- g. Use statistics sparingly.
- h. Be humorous.
- i. Time your script. Ideal speed of presentation is 125-160 words per minute.
- j. Repeat important details underline the words to be emphasized.
- k. Quote authoritative source, wherever necessary.
- l. Don't cover many topics.
- m. Cut down the use of hissing or the z words.
- n. Mark the points where you are to catch breath.
- o. Arrest attention: First 30 seconds are Crucial. You are dealing with a free and hot creative audience.
- p. Hold attention : Hold the attention continuously through writing words, local example appeal to emotions, keep material for this read.
- q. Run down information point by point.
- r. Fire imagination by presenting a picture of the situation likely emerge, after the listener talks the suggestion action.

#### **5.3.6.5.3. Before delivery**

Before delivering the talk rehearse it properly. If possible, record it on a tape recorder and listen it by putting yourself in the position of a listener.

#### **5.3.6.5.4. While delivering**

- a. Let your copy typed in double or triple space and use only one side of the page.
- b. Punctuate your copy for easy delivery.
- c. End the page with complete sentence.
- d. Be informal.
- e. Be sincere in your expression.
- f. Do not talk down to listeners.

## 5.4. TELEVISION

Television is one of the important mass media for dissemination of information in the rural areas.

Television has unique advantages over other mass media. While it provides words with pictures and sound effects like the movies, it scores over the latter by its high intimacy and reaches the largest number of people at the shortest possible time. The visual in it has the advantage over the radio. Television can deal with topical problems, and depict known persons who can provide the solutions. People learn through the eye, and will remember things better if they see them. Television -viewing does not demand the strain and discipline needed to read the printed medium. The messages on the TV screen are pre selected, sorted out and then presented in the simplest ,manner possible.

Demonstrations, “the need” in farm extension, are brought to the farmer by television. This has great value in making converts to better farm practices. Apart from the evidence by their own eyes, farmers also respond readily to what is said, especially by other farmers, and if the same point as extension people make in their inter-personal communications are highlighted, the combination is doubly effective. It is within the power of television to provide the dynamic presentation to bring ideas in a compelling way into the receptive environment of the farmers’ home or community.

However, the sights should not be set too high. Experience both in India and in other countries shows that it has limitations. Does television change behaviour or induce action ?Many countries have come to the conclusion that the answer is a ‘no’. As a mass medium. TV programmes lead to awareness, contribute information and perhaps help form opinion. Before the farmer thinks of taking action, he will require the television information and impression to be reinforced by local demonstration and individual personal confirmation.

Awareness creates curiosity about a new idea in the minds of farmers, leading them to seek more information on it. Before the idea is adopted in practice, the farmer undergoes two more important stages of evaluation and trial. Television every where is concerned very strongly with the first stage of awareness. Apart from that it speeds up

the entire process of adoption. Television is strong in providing the stimulus, and exposing the audience to a whole range of ideas and experiences.

Programme in agriculture have an immediate effect, if the ideas put forward come along at a time when the farmer needs them most, deal with subjects of which he has no fixed idea but was groping in the dark, and will speed up changes already taken on hand by the farmer.

#### **5.4.1. Entertainment First**

The main motive behind viewing television is to get entertainment in its widest sense, and not with a purpose of learning something. The farmer sits before a television set to spend his leisure time in an agreeable manner. Hence, we have to provide the farmer with a clean, good entertainment interlocking it with the messages we need to impart on the farm and the home. Entertainment includes very thing which is pleasant, contains good humour and which indirectly provides a lot of interest in the idea presented. This calls for a good showmanship.

Agricultural television will pose a number of questions that need to be answered before programmes are formulated There are no ready made solutions available. We can draw but very little upon the experience of other countries, as the answers have to suit our conditions. Continuous experimentation is the only way of arriving. It is usual to identify the factors involved in television programmes for farmers. Among these factors, timing, frequency and length, format or design, content and the treatment used for putting the content across are the most important ones.

#### **5.4.2. Timing**

So far as timing is concerned, we know what time of day is the most suited for viewing by farmers surveys in radio listening have given us a good indication of the most suitable time for television viewing also. However, an important consideration is not to have television farm programmes on the days when farmers can profitably spend their time with radio forums or radio charcha mandals. If both these programmes are scheduled for the same date and the same hour, they will have to miss one or the other. This is not desirable as the radio is an established and popular medium with farmers and they should

not be deprived of listening to their favourite broadcast. Again what has been seen on television has to be reinforced through the radio, if we desire a fuller impact, and the radio is certainly one of the media which will have to be constantly used in support of television programmes.

However, radio listening surveys have shown that the evening time is the most unsuitable time for farm women to listen to, and the most suitable time for them, when they are free of the house hold chores, is the afternoon. This has to be taken into consideration while planning special programmes for farm women.

#### **5.4.3. Frequency and length:**

Producing a TV Programme in agriculture would be time-consuming if worth while programmes are to be produced. Depending upon the programme and its content, it may take any where between eight hours and several months to produce a half-an-hour programme. Unlike for the radio, it would be impossible to produce a quality programme at short notice in television. The frequency of the programme will, therefore, depend entirely on the manpower, equipment and funds available. Keeping in view the limitations that Indian TV will have in these respects, too frequent programmes will not be possible, without detriment to the quality of the programme. A programme twice a week, at least in the initial years of TV should be more than ample.

#### **5.4.4. Format**

There are two alternatives available to TV for the format of the programme, depending upon content and purpose. First, where the programme is on one single message or subject, considerable research and planning will be needed, and hence such a programme cannot be at very frequent intervals. It can only be at the most once a week. The second type contains two or more short items, each item by itself complete, which then will take the form of a magazine. However, it has to be remembered that the rural viewer's mind has to be conditioned to the movement on the TV's screen and as such very short items which are flicked fast one after another do not usually register themselves. Hence, such items, should also be carefully produced, giving time sufficient enough for understanding and absorption in the rural mind.

#### **5.4.5. Content**

The content of a programme meant for farmers has to serve and has to satisfy the dual purpose of information and entertainment. Information itself has to be presented in an entertaining manner. For this the broadcaster himself needs to use his talent in showmanship to combine all the ingredients of the programmes and present it in a pleasant manner to the audience.

The content of the programme can help the audience, if the subject presented is exactly what the audience is interested in and also is presented in an interesting manner. Again, agricultural programmes presented with an eye to reinforcing extension effort have to keep the requirements of the extension and advisory specialists in mind, so that they could take over from the time the TV programme ends. To be able to do so, the producer should work with topicality and importance of the subject matter content kept in the forefront.

#### **Treatment :**

Treatment is related to content. But whatever the content, what is expected is a good quality not only in the visuals but also in sound. In producing agricultural programmes, both studio and outdoor shooting have place. initial years of TV should be more than ample.

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#### **5.4.7. Need for Rehearsals :**

Like research preceding a programme, rehearsal is a very important aspect of telecasting. It will give a good idea of what to avoid, what to introduce in the programme. Rehearsals, therefore, should invariably precede actual telecasting. When talks are scheduled, it is necessary that they are accompanied by the use of films or stills, and if possible also by studio demonstrations.

#### **5.4.8 Writing Videos Script**

Writing for video or for that matter any other medium is a quality which differs from person to person. Since it is an art, no set principles can be given. Nevertheless, there are certain universal principles in preparing video scripts and formats. The National Broadcasting corporation (NBC) of the USA uses type written lines running to full width of the page, whereas Central Broadcasting Service (CBS) has video direction (Cues) on the left of the page, and audio - direction and narration on the right. Video and audio

cues in both are written in capital letters, narration in caps and lower case. The CBS style, however, is widely used and is also easier to follow.

#### **5.4.8.1 Guidelines for script writing**

Script writing for a video programme is an art which can be learnt. As such no principles can be enunciated for that but, some guidelines which are given below may help:

a. The Script should synchronize with the kinds of audience and due care should take of age-group, socio-cultural background, psychological profile, interests, attitudes, needs, homogeneity or heterogeneity etc.

b. The title of script should be short, attractive and direct.

c. The script should be clear, precise, objective and brief.

d. For holding attention local examples, visuals and sound effect should be used.

e. The sentence composition should be simple, clear, short and direct, but colourful.

f. There should be proper sequence of script contents.

g. There should be one idea showing immediacy in a script.

h. The ideas should be feasible and practicable.

i. The information contained should be genuine and factual.

j. The script should involve and address the audience directly through a personalized message and ensure impact, through the use of words like 'you' and 'we'.

k. Recapitulating and underlining stress points should be used.

l. Repeat the ideas to improve retentivity.

m. The speed of presentation should be between 125-160 words per minute.

n. Avoid pausing by completing paragraph at the end of each page.

o. Do not forget to give page numbers.

p. The information in the script should have humor and light-hearted tone to maintain interest of the audience.

q. There should be balancing of vision and sound.

- r. The script should be flexible to suit the audience and yet put across ideas clearly and meaningfully, keep in mind of time, space and resources.
- s. Summarize the script with appropriate visual presentations.

These guidelines of video script writing are not complete, but important in their application in letter and spirit to produce a quality script which is the backbone of a quality video production.

#### **5.4.8.2. Procedure for script writing**

Procedure for writing a video script on a theme already selected and the resource material identified will include the following :

1. Selection of stimulus :
  - (a) Cognitive Domain (for apprehending, knowing or perceiving)
  - (b) Affective Domain (related to interest, attitude and values pertaining to emotional aspects rather than thinking).
  - (c) Psychomotor Domain (practical aspect)
2. Decision about mode of presentation
  - (a) Straight talk            (b) Demonstration
  - (b) Dialogue                (d) Interview
  - (e) Panel discussion    (f) Puppets
  - (g) Animation              (h) Combination of the above
3. Decision about the format of contents
  - (a) Introduction
  - (b) Body
  - (c) Conclusion
4. Decision about the type and timing of visual shots
  - (a) Close-up (CU)
  - (b) Medium shot (MS)
  - (c) Medium close-shot (MCS)
  - (d) Mid long shot (MLS)
  - (e) Extra close-up (XCU)



- (f) Extreme close-up
- (g) Point of view (POV)
- (h) Zoom in/out
- (i) Dolly in/out
- (j) Panning left/right
- (k) Fade in/out
- (l) Dissolve/lap dissolve
- (m) Crane shot
- (n) High/low angle shot
- (o) Master shot
  - (p) Aerial shot
  - (q) Establishing shot (Wide)
  - (r) Reverse/false reverse shot
  - (s) Front/rear projection
  - (t) Jump out
  - (u) Moving/Walking shot
  - (v) Reaction shot
  - (w) Trucking
  - (x) Still shot
  - (y) Super imposition
  - (z) Wide shot

5. Decision about the type of sound and narration

- (a) Blend or Mix
- (b) Composite
- (c) Tubby/Hard (Echo)
- (d) Natural
- (e) Sound dissolve
- (f) Under
- (g) Over
- (h) Fade

6. Decision about the graphics
7. Decision about the shooting scripts
  - (a) Studio based interview, discussion etc.
  - (b) Outdoor shooting/film based shooting (field based documentaries)
  - (c) Combination of a studio and outdoor shooting based / studio-cum-film based.
8. Decision about lighting
  - (a) Back light (spot light to separate subject from set)
  - (b) Cameo/limbo, (pool of light to eliminate set)
  - (c) Fill-a soft light to lighten shadows
  - (d) Ellipsoidal spot (lieko light for giving shadow)
  - (e) Set light-to reveal only the set
  - (f) Silouette background lit to show subjects form
  - (g) Scoop-broads with no beam
  - (h) Hair light/back light

#### 5.4.8.3 Specimen of scripts

Normally, it is prepared on 8.5" x 11" sheet of paper divided in half with the vertical line. On right hand side the audio side (speakers text) and on left or video side is a small miscellaneous column for pencilling special notes. In the larger video column the camera shots are pencilled which are subject to change. For fast sequence shots set up column is added.

#### Shooting script

Topic.....

Duration.....

Scripted by.....

Producer.....

Sl.No sequence	Shot No. and duration	Shot description	Description of script Narration	Sound effect

## **5.5. CAMPAIGN**

### **5.5.1 What is it ?**

It is an intensive teaching activity undertaken at an opportune time for a brief period; focussing attention in a concerted manner on a particular problem, with a view to stimulate the widest possible interest in a community, block or other geographical area. Campaigns are launched only after a recommended practice has been found acceptable to the people as a result of other extension methods like method or result demonstrations etc.

### **5.5.2 Purpose:**

To encourage emotional participation of a large number of people, and to foster a favourable psychological climate for quick and large scale adoption of an improved practice.

### **5.5.3 Procedure :**

1. Determine the need for a campaign.
2. Be clear about the purpose. Make sure that it fulfills the need of local people.
3. Plan the Campaign :
  - a) Consult local leaders and organisations.
  - b) Consult specialists.
  - c) Ensure timely supply of men and materials
  - d) Select a suitable time for launching the campaign.
  - e) Give wide publicity in advance.
  - f) Build up enthusiasm of the people.
  - g) Allot specific areas and items to each service personnel and local leaders.
4. Conduct the Campaign :
  - a) Ensure that campaign is carried out as per plan.
  - b) Work with and through local leaders.
  - c) Watch the campaign closely throughout.

d) Avoid failures.

5. Follow-up :

a) Make individual and group contacts to find out reactions.

b) Assess extent of adoption

c ) Find out and analyse failures.

d ) Publicise successful items.

e) Give due recognition to local leaders responsible for success.

#### **5.5.4 Advantages :**

1. Specially suited to stimulate mass scale adoption of an improved practice in the shortest time possible.

2. Facilities exploitation of group psychology for introducing new practices.

3. Successful campaigns create conducive atmosphere for popularising other methods.

4. Builds up community confidence.

5. This method is of special advantage in the case of certain practices which are effective only when the entire community adopts them.

#### **5.5.5 Limitations:**

1. Applicable to only a few topics of common interest; but not suited to solve individual problems.

2. Successful only when all participants co-operate in the campaign.

3. Not useful when advocated practice involves complicated technicalities.

4. Requires adequate preparation and close association of officials and non-officials, concerted efforts and propaganda techniques.

### **5.6 EXHIBITS**

#### **5.6.1 Definition**

Already given under “Types of audio-visual aids”). Fairs and festivals are usually taken advantage of, for arranging exhibits. Some times a distinction is made between

exhibits and displays - exhibits tend to use more of 3-dimensional material, while displays use mostly 2-dimensional (or flat ) materials.

#### **5.6.2. Purposes :**

1. To influence people to adopt better practices by :
  - (a) arousing interest
  - (b) stimulating thought and
  - (c) getting action.
2. To acquaint the public with better standards by teaching facts or showing a process.
3. To promote participation in, or to raise money for some public cause or activity.
4. To give recognition to people or institutions by enabling them to display their products etc.
5. To promote understanding and create good will towards extension.
6. To create market for certain commodities.

#### **5.6.3. Points to be Remembered :**

1. Exhibits must be well prepared such that your message is understood by the visitors in the short time taken by people to walk by the exhibits.
2. Decide upon the types of exhibits, considering the needs of audience and the specific purpose.
3. Consult local leaders and enlist their co-operation.
4. Make it simple.
5. Make to one idea per both or section.
6. Make it timely.
7. Make it durable, if possible.
8. Make it attractive.
9. Label legibly and briefly.
10. Try to see that your exhibits are so arranged as to tell the story without need for interrupters. Have a one-way plan which follows the development of the subject matter.

11. If interrupters are engaged, let them be thoroughly informed and precise in their explanation.

12. Than 7 feet from the floor.

13. Action exhibits attract attention.

14. Distribute relevant literature.

15. Give adequate publicity, both in advance, and after the exhibition is over.

16. Evaluate effectiveness of exhibition by analysing attendance enquiries and requests.

#### **5.6.4. Advantages ;**

1. Eminently suited to each illiterates.

2. Promotes public relations and good will towards Extension.

3. It can fit into festival occasions and serve recreational purpose.

4. Can be used to stimulate competitive spirit.

5. Can create market for certain products.

#### **5.6.5. Limitations :**

1. Requires much preparation and investment.

2. Cannot be used frequently or widely.

3. Cannot lend itself to all topics.

4. Most visitors seek amusement in competing events, rather than education.

5. Many extension exhibits are arranged as a matter of routine, without specific teaching aim.

#### **5.6.6. Score Card for Judging and Exhibit**

	Points
1. Suitable subject ( timely, personal )	.... 10
2. Effective title (short, personal, active verb)	... 10
3. Attracts attention ( stopping power )	.....20
4. Holds interest ( encourages study )	.....10
5. Conveys message ( accomplishes purpose )	.....30

6. General appearance(simple, balanced, orderly) .....	10
7. Workmanship ( neat, well constructed ) .....	10

## 5.7 FARMERS FAIRS

Fairs, or meals, are a part of our culture. Rural fairs attract a large number of persons dressed in their best, with joy and gaiety, bringing together rustic culture and traditions.

With the establishment of agricultural universities, the connector rural fairs has been used to organise farmers fairs as an effective method of communicating improved practices to a large number of farmers. These fairs generally include an interesting agro-industrial exhibition. Effective demonstration of improved practices and sale of extension publications and improved seeds in small packets. These fairs are generally held at a place where some institution or research farm is located as their organisation needs the participation and co-ordination of a large number of departments and persons.

With experience it has been found that farmers fairs should be held for one to two days twice a year corresponds to the period when summer and winter crops are ready for harvest within a month.

Activities : The success of a farmers fair will depend on the activities and demonstrations arranged and efforts made to attract and involve each and every farmer they may visit the fair. Each farmer must return from a fair with the satisfaction of having gained some knowledge and skill and after having enjoyed the conducive psychological atmosphere. For this, the following are some of the activities that must be arranged :

(i) Effective field demonstrations of improved practices related to crop production ; subsidiary occupations such as bee-keeping, mushroom growing, dairy, poultry, piggery, rabbit-rearing, home practices, farm machinery etc. along a well-laid-out and convenient route.

(ii) Arranged for providing guided visits to all demonstration sites, standing crops, orchids, etc.

(iii) Arrangements for collection and testing of soil and water samples brought by the farmers.

(iv) Setting up an agricultural clinic where diseased crop samples and sick animals can be examined on the spot and advice given in writing.

(v) Setting up an agro-home-industrial exhibition where commercial firms are also invited to set up their stalls and demonstrations, to provide information to the visiting farmers.

(vi) Organising a question-answer session in which farmers are encouraged to ask questions, raise problems and a panel of experts is present to answer them.

(vii) Sale of improved seeds in small pockets.

(viii) Sale of extension publications.

(ix) Provision of farm machinery use competition and home craft competitions.

(x) Organising a produce competition in which farmers bring their produce samples and are awarded prizes or certificates.

(xi) Arrangements for a select number of rural sports, that are popular among rural people of the area and are easy to organise.

(xii) Also providing some basic amenities such as clock room, drinking water, arrangements for food and night stay etc.

#### **5.7.1. Organising fairs**

Organising farmers fairs requires a good deal of time and planning and involvement and the co-ordinated efforts of a number of departments. Organisations and persons. For this purpose it may be necessary to develop a theme for each fair, set up an organisational committee to prepare and issue policy guidelines, and to set up a number of committees for each major function or activity, such as an agro-industrial exhibition committee, etc. Each committee should be encouraged to hold frequent meetings to plan and review progress. Co-ordination of all such committees should be done by the organisation committee. Once to plan the Kisan Mela as such and again a few days before the mela, in order to review progress and remove difficulties if any.

Adequate publicity through radio, television, newspapers and posters is a prerequisite to ensure a large attendance at the mela. All related organisations must also be informed well ahead and asked to participate actively.



On the day of the mela, punctuality must be observed. A control room may be set up for the various organisers. Similarly, an information counter may also be set up for farmers to seek information about the fair arrangements etc.

Efforts should also be made to organise all planned activities effectively and on time. During the mela, efforts should also be made to know the extent and kind of farmers participation, their reactions and the knowledge and skills they obtained from the fair. Not much energy should be spent on welcoming political leaders and departmental heads. Rather, farmers should be treated as the most distinguished visitors at such fairs.

## **5.8 AGRICULTURAL FILM SHOWS**

A motion picture is a series of still pictures, photographed at a predetermined number of frames per second. When film is projected through the 16 mm sound motion picture projector at 24 frames per second, the persistence of vision in the human eye give the illusion of motion.

Motion pictures can show motion ( including slow, fast or step motion ), time - laps action ( to show the growth of plants or events that are too fast or too slow to be perceived by the human eye), dramatisation, animation, sound amplification, visual magnification etc.

At present, many institutions and organisations prepare and supply or sell films on different aspects of rural development, including agriculture and home science. And most agricultural and rural development departments have developed special mobile film-show vans. Rural people show a keen interest in movie shows whenever they are organised in a village. Most of the time they are interested in such shows for entertainment. However, with careful selection and use of films, messages about improved farm and home practices can also be effectively conveyed. Attendance at films shows can be increased by telling children they will be allowed only in the company of the parents.

### **5.8.1 Effective selection and use of educational films**

**1. Selecting the right film :** Effective teaching with motion pictures begins with proper film selection. The factors governing the selection of the right film are:

- (i) Availability of films.
- (ii) Type of audience ( age, educational level etc.)
- (iii) Objective of the learning situation.
- (iv) Subject accuracy.
- (v) Compatibility of the film with local people, their clothes, habits, needs, aspirations etc.

**2. Previewing the film :** Be sure to preview each film before using it. Titles of films are often misleading. Key points to be discussed with learners before and after the screening of the film should be noted.

**3. Screening the film :** There should be proper seating. Light, and darkroom facilities. The learners should be prepared before the film is screened by arousing their curiosity and asking them to note some of the key ideas. After the film is screened, the key ideas should be discussed with the viewers. Supplementary learning material should also be supplied. Creative follow-up activities should be arranged.

### **5.8.2. Evaluating the film**

There are three essential criteria for judging the effectiveness of educational motion pictures.

- (i) Effectiveness based on the communicator's observations about their overall contribution to the teaching situation.
- (ii) Viewers evaluation of the film based on likes and dislikes, apparent motivation etc.
- (iii) Production qualities of the film, including photography, sound, vocabulary, authenticity and content.

## **6. Strong and Weak Points of the Three Categories of Extension Methods**

The more important advantages and limitations of the categories of extension methods may be summarised as follows.

## **5.9 EXTENSION TALK ( Public speaking )**

A good speaker can influence people. Confidence and courage are necessary for making a good speech. Fear and discourage create obstacles. However the better preparation would help do develop the confidence.

### **5.9.1 Preparation**

1. The topic should be need based.
2. Don't try to cover a large ground.
3. Converse on the topic.
4. Collect your experiences for illustration.
5. Empathise in the place of audience, what is needed to them and what would interest them.
6. After collecting the thoughts select the useful ones and discard those which would not benefit the audience.
7. Read extensively and have additional informations at reserve for answering to the audience doubts.
8. Plan the speech, write it and rewrite after polishing.
9. Remember the main points, if necessary write them on a slip of paper.

### **5.9.2 Giving the talk**

The speech has three parts viz., introduction, body and conclusion.

The introduction should be direct and quick. Arouse curiosity by giving some factual statements. Begin with an illustration. Shocking facts have great power to make the audience attentive. Never begin with an apology.

Body is the main speech. In the main speech as per planning talk over the identified points. At the end of the meeting these points should be remembered by the audience. Eradicate all ill-feelings. Don't challenge. Give local and suitable examples. Support the points with adequate evidences. Use simple and local language. Be time conscious. Acknowledge the organizers and audience. If possible, use appropriate visual aids. Visual aids help the audience to remember longer. Quote relevant proverbs and quotable quotes. Restate your ideas indifferent words. Wherever possible repeat the

points. Try to avoid contradictory ideas. Ideas should be presented with enthusiasm and conviction. Quote authority to support your state ends or points.

The last part of the talk is conclusion. In any speech the introduction and conclusions are very important. Closing is very important because the final words are remembered longer. The closing should be smooth. It should be done by summarising the main points, with an appeal for action. If possible close with humour and also with some practical questions based on the nature of the subject.

### **5.9.3. Points to be considered for effective talk**

#### **5.9.3.1 Dress**

The dress should be neat and appropriate to the occasion. The dress should be acceptable to the audience.

#### **5.9.3.2. Stage mannerism**

- i. Sit calmly in the stage.
- ii. Be relaxed and cool.
- iii. Don't talk among your friends in the stage. That will distract the attention of the audience from the speaker.

#### **5.9.3.3. Mike mannerism**

- i. Don't hold the mike with your hand.
- ii. Don't talk too loudly to the mike.
- iii. Don't yawn in front of the mike.
- iv. Tilt your head gently while you want to see the audience seated in the side rows.

#### **5.9.3.4. Gestures**

The movement of head, a wave of the arm, raising the eyebrows, turning the head etc., are all gestures. The gestures are spontaneous and give life to the talk. Don't over do gestures. Gestures which go beyond certain limit are called gesticulation.

#### **5.9.3.5. Eye contact**

It is looking squarely at the people in the audience. The eyes sweep round from person to person, section to section forward and back, and side to side. Look at the audience and make them feel you are interested in them. It establishes rapport with

them. It devotes confidence in the speaker. It prevents any deviation on the part of audience. It keeps the audience attentive all the way.

#### **5.9.3.6. Voice**

A good voice with proper modulation is an asset for good public speaker. By regular practice this can be attained.

#### **5.9.3.7. Pause**

The interval between words, phrases, sentences, paragraphs, ideas, section etc., is called a pause. It is not possible to speak without a pause.

#### **5.9.4. Evaluation methods**

Score card for judging the talk is the as below :

##### **I. Personal (25)**

a) Appearance	.....5
b) Friendly conversational approach	.....5
c) Poise, confidence and enthusiasm	.....5
d) Gestures, mannerisms, eye contact and humour	.....5
e) Voice, delivery, style, fluency and pronunciation	.....5

##### **II. Presentation (35)**

a) Introduction and objectives	.....5
b) Treatment, highlights, key points and examples	.....10
c) Teaching aids carefully selected, arranged and used	.....5
d) Summary and conclusion	.....5
e) Questions and answers	.....5
f) Maintaining interest	.....5

##### **III. Subject matter (40)**

a) Related to field situation	.....5
b) Adequacy	.....10
c) Systematic break-up	.....7
d) Balanced coverage	.....6
e) Problems well brought out and covered	.....7

f) Latest information	.....5	
		<hr/>
		100
		<hr/>
Excellent	..... 85 - 100	
Good	.....70 - 84	
Fair	.....50 - 69	
Needs improvement	.....49 and less	

## 6. STRONG AND WEEK POINTS OF EXTENSION METHODS

### 6.1. INDIVIDUAL CONTACTS :

#### Strong points

1. Useful in contacting the “stay-at-home” type of people.
2. For teaching complex practices.
3. For selecting local leaders, cooperators, demonstrators.
4. To increase confidence of farmers in Extension.
5. To gain first-hand knowledge of farm and home conditions.
6. The farmer feels a sense of personal importance which is conducive to bring about the desired changes.
7. Enhance effectiveness of group methods and mass media. Effectiveness of group responsibility depends on willingness of individuals to share in it.
8. It is individuals, not groups, who learn, who make choices and accept responsibilities.

#### Weak points

1. Relatively expensive, because time-consuming.
2. Low coverage of farmers.
3. Possibility of extension worker being charged with favouritism.

## **6.2 GROUP METHODS :**

### **Strong points**

1. Enable face-to-face contacts with large numbers at a time.
2. Facilitate sharing of knowledge and experience, and thereby strengthen learning.
3. Meetings are adaptable to almost all lines of subject matter.
4. Satisfy basic urge of people for social contacts.
5. Less expensive than individual contacts, due to saving of time.
6. More effective in stimulating action than mass contacts
7. Group influence facilitates individuals to accept changes.

### **Weak points**

1. Wide diversity in interest of audience creates a difficult learning situation.
2. Holding meetings may become “real objective “.
3. Pitfall of working with caste groups or groups with vested interests should be avoided.

## **6.3 MASS CONTACT METHODS :**

### **Strong points**

1. They reinforce individual and group contacts by complementing or supplementing them.
2. They reach much large and different audiences.
3. They save time and expense in reaching large numbers.

### **Weak points**

1. Less intensive and less effective than individual and group contacts in bringing about changes in practices.
2. Lack the advantages of “ social contacts” or “personal touch”.
3. Recommendations being general may not apply to special situations or individual needs.
4. Difficult to evaluate the results.

## **7. RESEARCH STUDIES**

Research studies direct us about the application of individual, group and mass to specific situation. Further many advances in extension methods, especially in mass methods, have occurred in the last few decades. Cassettes, satellites, radio are some of the part development. Many more sophisticated methods would be developed and added.

There fore it becomes essential for an extension worker to know the effectiveness of various methods so that he can select the most appropriate methods for the field conditions. Though a lot of studies are available a few are presented here.

### **7.1 INDIVIDUAL CONTACT METHODS**

Krishnamoorthy (1971) found the subsidised result demonstration as more effective. Ramesh Babu and Sinha found the personal contact method as the most effective for passing information. Reveendrakumar (1979) and Balakrishnan (1979) reported the result demonstration as effective method to educate the farmers.

### **7.2 GROUP CONTACT METHODS**

To provide information to farmers and also extension workers William (1950) found the field days as effective method. Stone (1962) found that meetings were considered as more effective is educating farmers. Kulkarni (1965) found the group discussion as the most effective method in bringing considerable high adoption at low cost. Village seminars were found to play a major role by Nagaraj and Rathnam (1965). Moorthy and Reddy (1978) based on their studies recommended the inservice training through seminar, discussion and field trips for teaching individuals. Demonstration and meeting were found favourable in imparting knowledge by Joshi (1979).

Ragavendran (1979) found the lecture method having high gain in knowledge, symbolic adoption and changes in attitude. Narayanan (1980) stated that periodical monthly zonal work competency of the farmers. Nagaraj and Reddy (1985) found that tape recorded lecture was superior to lecture method in gaining knowledge. Didhani et al. (1986) reported that group contact methods were found more suitable to convince rural mass. Exposure to lecture leads to knowledge improvement of farmers.



### **7.3 MASS CONTACT METHODS**

Siddharamiah et al. Found the farm broadcasting was playing a major role in increasing the knowledge level of farmers. Jalihal and Srinivasmoorthy (1974) stated that dramatic type of presentations was preferred by majority of the farmers. They also found that farmers preferred having the hints of the programme before actual implementation. Nanjappa (1982) studied the Karnataka dailies and found 4.1 per cent of the pages were allotted for agriculture news. Adinarayana Reddy (1986) stated that mass media has a higher effect in adult education. They create an awareness in the new information. Raj and Khanna (1986) stated that radio can be used effectively for presenting the information. Among the various modes of presentation they observed the least effectiveness in straight talks.

### **7.4 COMBINATIONS OF EXTENSION METHODS**

Chauhan and Sinha found out the best way to communicate as T.V. group discussion and leaflet. Surinder Kaur and Verma conducted a study on effectiveness of combinations and found the following combinations as effective.

- a. Demonstration + flip chart
- b. Demonstration + flash cards
- c. Demonstration \_ chart
- d. Demonstration + leaflet

Demonstration + flip chart was found as the effective combination for knowledge.

Gupta (1980) reported that field trip followed by radio information as most preferred, while pamphlets and circular letters as least preferred. Flash cards and exhibits recorded the fourth and fifth positions. Jagadesh (1984) stated that Agricultural Assistants were the most credible source to jowar farmers. Krishna (1986) stated that village seminar followed by method demonstration and result demonstration acted as problem solver.

**Table - 4. INFLUENCE OF EXTENSION TEACHING METHODS**

S.NO	Approaches	Extension methods	Influence in %
1	Seeing and doing	Demonstrations	6.67
2	Seeing and doing + Hearing	Demonstrations + meeting	$6.67 + 30.82 = 37.49$
3	Seeing and doing + Hearing + reinforced reading	Demonstrations + meeting + Publications	$37.49 + 11.80 = 49.29$
4	Seeing and doing + Hearing + reinforced reading + personal contact	Demonstrations + meeting + Publications + personal contact	$49.29 + 11.70 = 69.99$
5	Seeing and doing + Hearing + reinforced reading + personal contact + more hearing and seeing	Demonstrations + meeting + Publications + personal contact + supplementary methods	$69.99 + 8.70 = 78.69$
6	Seeing and doing + Hearing + reinforced reading + personal contact + more hearing and seeing + indirect influence	Demonstrations + meetings + Publications + personal contact + supplementary methods + indirect influence	$78.69 + 21.31 = 100$

The above table based on Wilsun's studies brings out the effectiveness of proper combination of methods. The numerical figures in the table indicate the contribution of each combination to every 100 adopted practices.

Similar results have been reported by researchers in India. For instance, Nagoke concluded that combined use of several different methods is of the utmost importance. In extension teaching, the adoption of practices was high when more than five methods were used as compared to single and two to five methods.

Each extension method has the advantages as well as the limitations. The face-to-face type of interpersonal communication is easy and effective for technology transfer. But this method cannot be used for communicating the technologies to large number of people, especially under T & V system. The mass media can help the extension worker to

reach large number of people quickly. But only essential information can be conveyed by this method and the details of communication is not possible.

The mass method of radio has the limitation of appealing to ears only. The print media cannot reach the illiterates. Thus one method alone can not be used and one has to use many methods as one could use. If this combination of methods are used the communications will be effective. One medium will reinforce another and fill the gap, if any. The combination would also create the necessary impact. It is desirable to use multi-media approach in the information communication programme.

The data on the overall effectiveness and cost benefit ratios of three media combinations are given below :

**Table - 5. Overall effectiveness of media combinations**

<b>S.NO</b>	<b>Media</b>	<b>Rank</b>
1.	Radio + slide show + field trip	1
2.	Wall painting + slide show + field trip	2
3.	Poster + slide show + demonstration	3
4.	Exhibition + group discussion + demonstration	4
5.	Film + group discussion + demonstration	5
6.	Wall painting + demonstration	6
7.	Radio + folder + demonstration	7
8.	Film + folder + demonstration	8
9.	Field trip + slide show + group discussion	9
10.	Demonstration + group discussion + slide show	10
11	Field trip + group discussion + folder	11

**Cost Benefit Ratio :**

<b>S.No</b>	<b>Media</b>	<b>Rank</b>
1.	Exhibition + group discussion + demonstration	1
2.	Poster + slide show + demonstration	2
3.	Wall painting + group discussion + demonstration	3
4.	Radio + folder + demonstration	4
5.	Folder + film + demonstration	5

6.	Film + group discussion + demonstration	6
7.	Demonstration + group discussion + slide show	7
8.	Radio + slide show + field trip	8
9	Wall painting + slide show + group discussion	9
10	Field trip + slide show + group discussion	10
11	Field trip + group discussion + folder	11

The above ranking of the three media combination reveal the effective methods. In another study it was found that combination of three media could give desirable impact in terms of knowledge gain. However, over and above three media combination there was no significant effect. Various studies came with different media as effective based on the situation, area, socia-personal and psychological characteristics of farmers. There is no generalisation available regarding the effectiveness and combinations.

## **8. MEDIA FORUMS**

A combination of mass media and inter personal communication channels is the most effective way of reaching people with new ideas and persuading them to utilize these innovations. Media forums developed originally in Canada among farm families and later spread to such less developed countries as India, Nigeria, Ghana, Malawi, Costa Rica, and Brazil.

Media Forums are small organised groups of individuals who meet regularly to receive a mass media programme and discuss its intents. The mass media linked to the forum may be a radio, as in the India forums called Charcha Mandals or the radiophonics schools latin America, printed fare as is usually the case in Communist these study groups , or television as in the Italian telescuola. In cases media forums represent a combination of mass media with Interpersonal channels.

### **8.1 TYPES OF MEDIA FORUMS :**

#### **8.1.1. Radio Forums**

Undoubtedly the largest, most thoroughly searched media forum programme today is India's. Representing a agree of experience with the radio rural forum unequalled

in the world. There are currently about 12,000 forums enrolling a quarter are million Indian peasants in twice-weekly meetings. Radio forums to make farmers aware of agricultural and health innovations encourage them to try these new ideas. Regularly scheduled to programmes beamed at meetings of forum members gathered homes of public places to hear the broadcast serve as impetus the group discussion that follows. The forums usually provide regular feedback reports of decision and questions of clarification the broadcaster. Using the same format, but exchanging the to for television, UNESCO has sponsored experimental television learning groups in France and Italy, and the Government of India established tele-clubs in some villages.

#### **8.1.2. Mass Media “Schools”**

Media schools attempt to provide basic education including fancy training, for people living in remote rural areas. The Italian sciolista and the radiophonics programme in Latin America are implies of such schools, as well as Cruzada ABC in Brazil, which used materials, The radiophonic broadcasters intersperse their lessons with news, agricultural programmes, religious training, and tic. Each school group is led by a trained monitor who helps the contents learn and encourages them to listen regularly.

#### **8.1.3. Chinese Communist Study Groups**

The Chinese Communist Party has employed magazine and newspaper discussion groups as a means of indoctrination and learning among their own party cadres and recruits for 35 years. Approximately recent of the adult Chinese population regularly participates in by groups where printed material is read and discussed. Strict control of discussion is maintained by the cadre leader who forces each member to take a position on each issue and voice his opinion to the group. Study groups are considered essential elements in the special communication campaigns launched to achieve such varied goals as fly killing, river swimming anti-spitting, family planning, farm production, and “Maolearning”.

In all these various types of media forum currently in operation, some form of mass media communication is combined with interpersonal communication in small groups. The forum seems to be an important element in moving the individual towards

acceptance of the messages being transmitted through the mass media. The mediaforums are used primarily in less developed countries, chiefly to introduce new ideas to vast audiences. With proper adaptation, they could be utilized in educational or political campaigns in more developed nations.

## **8.2 EFFECTS OF MEDIA FORUMS**

Although there are important country-to country and programme to programme differences in the types of media forum systems just reviewed they possess certain common elements. All utilize a mass medium ( radio, television or print) to carry the major load of disseminating messages about technical innovations to the discussion forums. All feature small-sized groups ( usually with fifteen to twenty members ) who are exposed to the mass media channel and who then participate in discussion of the message. All of the media forum programmes seem to be generally effective in creating knowledge, forming and changing attitudes, and in catalyzing behaviour change.

Neurath designed his field experiment so that comparisons could be made in knowledge increase among peasants who live in three types of Indian villages : (1) those in which radio forums were established ; (2) those in which radios were already present, but no forums were organised, and (3) those with neither a radio nor a forum. Forum villages had much greater gain in knowledge of innovations than did the control villages. In fact, the nonforum villages with a radio showed only very slight gains in knowledge level. These results suggest that “The effects of mass media channels, especially among peasants in less developed countries, are greater when these media are coupled with interpersonal communication channels in media forums.”

Why do the media have greater effects on individual when they are members of media forums? Some of the reasons follow:

1. Interest in attendance and participation is encouraged by group pressure and social expectations.
2. Attitude change appears to be more readily achieve when individuals are in groups. Further, group decisions are more likely to be accepted by the individual if he participates in making the decision as usually occurs in the media forums.

3. The novelty effect of new channels of information and the subsequent high credibility that may be attached to these media (both electronic and interpersonal ) may account for some of the success of the media forums.

### **8.3 IMPLICATIONS AND CHANGE AGENTS**

In the foregoing section we have seen that media forums offer several advantages over purely interpersonal or mass media communication campaigns. By incorporating the advantages of each type of channel into a single propelling force, the change agents can reach a greater percentage of their clients and better persuade them to utilize new ideas.

We should not forget that even very traditional societies has masslike interpersonal communication systems. An example comes from the state of Orissa, one of the most traditional and least developed parts of India. For centuries Orissa has been the site of wandering story singers called cakulia pandas, who play an important role in introducing news and ideas to villagers. These story tellers walk from village to village with bells tied to their things to announce their coming. Then they promenade the main street of a village, singing recent news to guitar or accordion accompaniment. The story-singers are literate and generally well read. In addition their cosmopolite travel brings them into contact with ideas external to the village. Further, the story singers meet in occasional assemblies a exchanges ideas and to agree on the regions that they will cover.

The story-singer are highly credibly channels for villagers; the content of their messages represents a combination of religion, additional stories, and modern technology. One storyteller was heard to sing about a new fertilizer, which he advocated to villagers, and also about the number of tons of wheat being imported to India. Nevertheless, the story-singer's messages are largely limited relatively simple facts. As Schramm noted, "The mass media the necessary because the traveler and balled singer come too seldom and know too little ". In fact, in Orissa today the number and importance of story-singers is decreasing, because their role is being usurped by the transistor radio and the tabloid.

Another example of the use of traditional mass media, capitalizing on its connections with interpersonal channels is in the family planning campaign in India. An elephant is being used to create awareness knowledge of family planning. He walks from

village to village with family planning placards on his side, causing considerable attention. Further examples of traditional mass media are the amateur dramatic and song-and dance troupes which travel within many less developed countries.

A point which is clear from the examples we have just described is that combining mass media and interpersonal channels reduces the effect of selective exposure. Interpersonal channels reduces the effect of selective exposure. Interpersonal communication functions to multiply and increase the effect of the mass media messages, and the media forums serve to heighten the impact of change -oriented messages by reducing the possibility of selective exposure and selective perception.

The idea behind the use of elephants or storytellers in disseminating new ideas is similar to the radio forums, except that the latter are more formal, more frequent, and generally have more information to disseminate, The unique feature of study groups, forums and radio or television schools is that they involve a greater amount of intervention in the normal diffusion process than change agents have undertaken in the past. The limited research evidence we have, suggests this is an efficient strategy for change agents.

## **9.YOUTH CLUBS ( YUVAK MANDALS )**

Earlier than the formation of the Y.F.A. in India, the rural youth programme was first organised in the twenties around .Sriniketan in West Bengal by the workers of the Visva Bharati. In 1953-54, experiments were initiated in certain parts of the country to organised rural youth on the pattern of 4-H Clubs in the United States of America . The planning Research and Action Institute, Lucknow , Uttar Pradesh , initiated pilot youth club projects in Balia, Etawah and Saharanpur districts of Uttar pradesh. Similar programmes were also started in some other states like the Punjab and Mysore. But, so far, the progress has been limited and rural youth activity has not taken deep roots in our village development programmes. The Ministry of Community Development and Co-operation has been making concerted efforts to organise rural youth clubs as an integrated part of the Block development activities all over the country, and emphasis is now being



laid on the organisation of rural youth in the training programme of Gram Sevaks and Gram Sevikas.

## **9.1 OBJECTIVES**

Broadly stated, the rural youth club programme aims to be a specialised educational enterprise for rural youth for providing them with opportunities for developing their physical, mental, Moral and social standards. The specific objectives for the objectives of the club activities are as follows.

1. Developing in rural youth the qualities of leadership.
2. Providing them with opportunities to build up their character and health.
3. Providing them with technical information about and practice in improved farming and home making, so that they may acquire the necessary skill and understanding in these fields and teach others what they have learnt.
4. Teaching them the value of research. And developing in them a scientific attitude towards the problems of the farm and the home.
5. Training them in co-operative and community action as a means of increasing personal accomplishments and of solving group problems by practicing co-operation with others in the Community.

Teaching them the dignity of labour.

The technique of imparting training to rural youth is based on the principle of “learning by doing and earning while learning”. To do members of the clubs undertake various individual and group projects according to their aptitude and ability, and extension workers assist them with constant guidance in their endeavor. The clubs are convened with practical, economic activities designed to improve agricultural and rural development practices and also with the rural and recreational activities to raise the educational level of members and to foster a community spirit in the villages.

The village Level Worker undertakes the organisation of these in the villages of his circle. The Extension Wings of Agricultural Veterinary Colleges as well as Gram Sevaks Training Centres provide necessary guidance and help to selected youth clubs in the try of these institutions.

## 9.2. GUIDELINES

The following are some general guides which should be kept in while organising a rural youth club.

1. Make informal contacts with village leaders and parents of the first basic step which a rural club organiser should take contact village leaders and parents of village youth, individually or in groups. Then he should discuss the broad objectives of the programme with them and obtain their consent to start a club in the club will be a success if the consent of village leaders has been obtained before it is initiated. Parents and local should be often invited for discussion and should be associated developing future club programme, even after the clubs had functioning. This is very essential for the healthy functioning club. The absence of suitable local leadership sometimes ducted one of the greatest handicaps in the promotion of club . The youth club organiser should give serious consideration the local leaders interested in the programme. Similarly, the village school teacher should also be approached . He can make valuable and positive contribution to the organisation and functioning of the club.

2. Selecting youth interested and willing to join the club . We the leaders and parents have agreed to the formation of a youth and discussion with them, individually or in groups, the organisation of a club and the possibility of their joining it. A meeting of those who are willing to join the club may then be held to explain in detail the objective of the club and the programme to be undertaken.

3. Associate potential voluntary leaders to guide and assist in the youth programme. At this stage, it is essential that some potential leaders of the village are associated with the programme to guide and assist in the club activities. The access of the club programme to a very great extent depends on the initiative and lead voluntary leaders give to youngsters in club activities.

4. Organise meetings of youth and initiate educational programmes with the aid of films, filmstrips, flannel graphs, etc. In the initial stages, contacts with the youth should be maintained through youth club meetings and group discussions. In these meetings, the youth club members should be given a broad understanding of the economic and socio-recreational projects through films, filmstrips flannel graphs, puppet shows, folk songs, one-act plays and other visual aids.

5. Initiate Sports and Cultural Programmes . In the early stages of organising youth club activity, complex projects should not normally be assigned to youth club members, and the club programme should generally be started with cultural and sports activities. This will provide a common meeting place and give an opportunity to the members to understand other economic projects which they can take up on an individual or group basis.

6. Select Projects and organise a training programme of the club members and voluntary leaders. When a common understanding about the aims and objectives of the youth club has been reached and the villages youth have started taking part in club games, sports and recreational activities, suitable training programmes may then be arranged for them and the local leaders, on the projects which they intend to undertake. Such training is very essential to make them skilled and interested in the activity.

7. Assist club members in planning projects and keeping records. Club members must be helped in planning the projects. They wish to take up as part of the club work. Extension Officers of agriculture, animal husbandry, and other subject matter specialists at the Block level should guide and help each member in planning his programme. In the earlier stages, the specialists should create confidence in the club members by pointing out the economic advantages that could be had by undertaking individual and group projects. Members may then willingly extend the club activity to other spheres on their own.

Simple methods should be devised to maintain records of the club work done by each member. A consolidated account of these records; if convenient, may also be maintained by the secretary of the club. This will provide an opportunity to the members to exchange experiences and to learn about the progress of other individuals.

8. Evaluate the projects. Evaluation of the projects with simple methods should be done at every stage to appraise the club members of the progress they are making. Simple proforma may be worked out by the Block staff in agreement with the members of the club for undertaking evaluation work.

## **CHAPTER - II**

### **AUDIO VISUAL AIDS**

#### **10. MEANING NATURE & CLASSIFICATION**

##### **10.1 DEFINITIONS**

1. A visual aid is an instructional or communicating device in which the message can be seen but not heard.
2. An audio aid is an instructional device in which the messages can be heard but not seen.
3. An audio-visual aid is an instructional device in which the message can be heard as well as seen.

In common usage, some forms or educational aids are loosely called audio-visual materials. Some of these are specifically visual, some audio, and a few are true audio-visual media as illustrated in the classification given below. Strictly speaking, no extension medium is complete without talk in some form at some stage. It must be remembered that audio - visual aids can only supplement the teacher but can never supplant him.

##### **10.2 PURPOSE**

Audio - Visual aids are used to improve teaching i.e., to increase the concreteness, clarity and effectiveness of the ideas and skills being transferred. They enable the audience to look listen and learn (by doing); to learn faster, to learn more, to learn thoroughly and to remember longer.

##### **10.3 CLASSIFICATION OF AUDIO-VISUAL AIDS**

###### **1. According to Evolution**

**First-generation media:** Handmade charts, graphs, exhibits, models, hand-written material etc.

**Second-generation media:** Handmade printed illustrated are likely to be introduced.

**Third-generation media:** photographs, slides, film-strips, films, recordings, radio, tele-lectures etc.

**Fourth-generation media:** Television, programmed instruction, language laboratories, electronic digital computers.

## **2. According to senses involved**

### **AUDIO AIDS**

(1) Radio, (2) recordings; (a) tape, (b) disc, (c) Wire, (3) Sound commentaries including public address equipment.

### **VISUAL AIDS**

**1. Non-Projected:** (a) Models, Specimens. (b) flannel graphs. (c) Flash cards. (d) Photographs (e) Illustrations. (f) Charts (g) posters (h) Chalk Board (i) Bulletin Board.

**2. Projected:** (a) Slides (b) Filmstrips (c) Silent Films or motion pictures. (d) Illustrations etc. projected through epidiascope or opaque projector, overhead projector etc.

**3. Others:** (a) Exhibits (b) Demonstrations (c) Literature.

### **AUDIO - VISUAL AIDS**

1. Sound films. 2. Television. 3. Dramas and puppet shows Another way of classifying is as:

*A. Display Type:* eg., Posters, Bulletin Boards, Models, Exhibits etc.

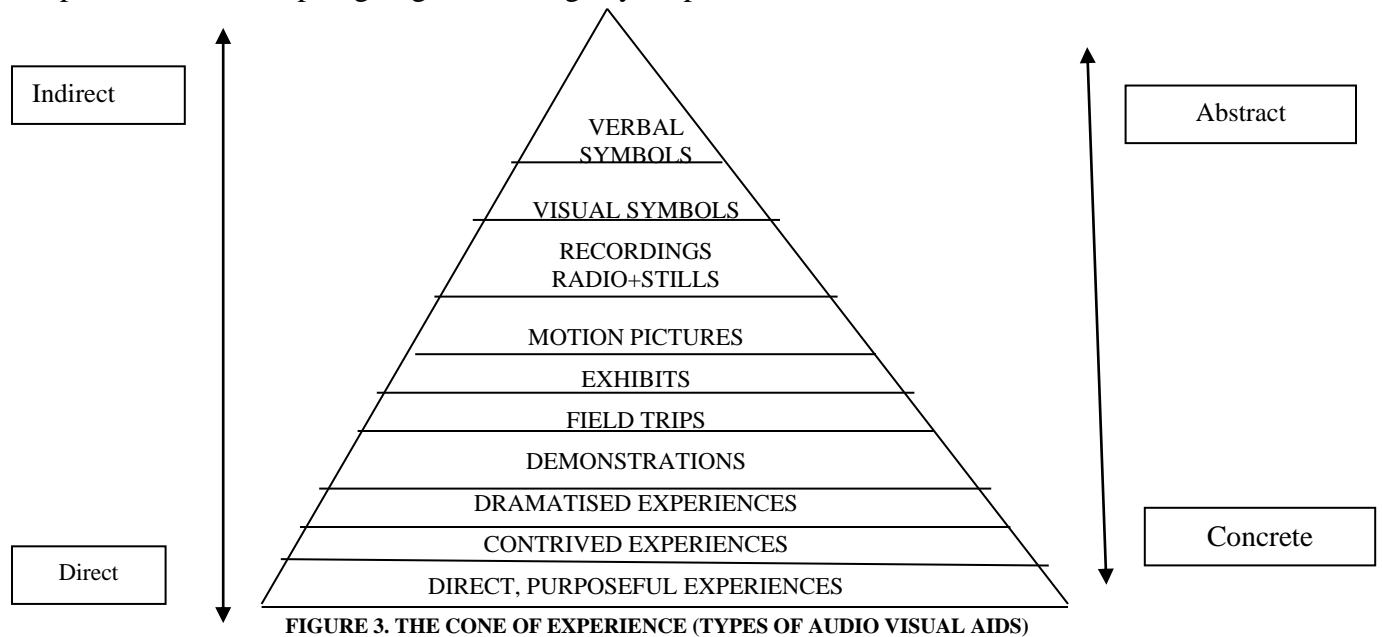
*B. Presentation Type:* eg., Flash cards, Pull charts, Striptease charts, Slides and Filmstrips etc., with running commentary.

## **3. According to contribution to learning**

Figure 3 shows the “cone of experience” devised by Edgar Dale in explaining the inter relationships of the various types of audio-visual materials, as well as their individual “position” in the learning process.

In this cone each division represents a stage between the two extremes-direct experience at the base, and pure abstraction at the apex. (The bands on the cone are not tight divisions)

**(a) Direct, purposeful experience:** It is the unabridged version of life itself, with three elements--directness, purposefulness, and responsibility for the outcome. e.g., making a piece of furniture, ploughing, cultivating any crop etc.



**(b) Contrived Experiences:** A contrived experience in an “editing” of reality, differing or not from the original in size, in complexity or in both e.g., models of animals, mock-ups of machinery, objects, specimens.

**(c) Dramatised Experiences:** I.e., participating in a reconstructed experience, e.g., dramas, puppet shows.

**(d) Demonstrations:** Practical experience, learning by doing.

**(e) Field Trips:** Exposing the farmers to field reality.

**(f) Exhibits (or Exhibition):** A planned display of models, specimens, charts, posters etc., presented to public view for instruction, judging in a competition, advertising or entertainment.

**(g) Motion Picture:**

- i. Television:
- ii. Motion pictures of Films - Silent pictures or combination of sight and sound.

**(h) Recordings, Radio + Stills**

- i. Radio-

- ii. Recordings - on disc, tape, or wire.
- iii. Still pictures:
  - a. Non-projected (for individual use) - e.g., photographs, illustrations.
  - b. Projected (for group use) - e.g., photographs and illustrations (used in opaque projector) slides, filmstrips.

**(i) Visual Symbols:** e.g., flat maps, chalkboards, sketches, cartoons, posters, diagrams, charts, graphs, bulletin boards, flash cards, flannel graphs.

**(j) Verbal symbols:** designations that bear no physical resemblance to the objects or ideas for which they stand. These are used together with every other material on the “cone of experience”.

These are a few of the several ways in which audio-visual aids can be classified. Each classification has merits and demerits. Some are easy to compressed while others are more systematic from the learning-teaching process. Further, use of many of these teaching aids depends on several pieces of audio-visual equipment, overhead projector, video cassette player, radio set, television set, chalk board, bulletin boards, projection screens etc.

#### **10.4 FACTORS INFLUENCING SELECTION OF AUDIO-VISUAL AIDS**

Audio - Visual aids are used singly or in combination, taking the following factors into consideration.

- (a) The teaching objective - i.e., the type of behaviour change you want to bring about - gaining information, or changing attitudes, or learning some skill.
- (b) The nature of subject matter being taught.
- (c) The nature of audience - age level, educational level, interest, experience, knowledge of the subject, intelligence.
- (d) The size of audience: e.g., Flash cards can be used for a small audience only: motion picture, for a large audience.
- (e) Relative cost of the various aids - Effective aids need not necessarily be expensive.

- (f) The teacher - i) the extension worker's familiarity with and skill in using the several aids. ii) his originality and skill in selection; preparation and use of aids.
- (g) The availability - An effective extension worker makes use of indigenous materials, when the teaching aid he would like to use, is not available.

## **10.5. THE EFFECTIVE USE OF AUDIO - VISUAL AIDS**

### **A. Planning**

- (a) Know clearly the objectives of the presentation.
- (b) Plan well in advance, this helps anticipate problems and avoid them.
- (c) Anticipate size of audience as closely as possible and make sure the aids are visible and/or audible to the entire audience.
- (d) Plan for the use of a variety of colourful visual aids. They help change the pace of presentation and help hold audience interest.
- (e) Determine the appropriate timing for the presentations.

### **B. Preparation**

- (a) Prepare by rehearsing or previewing in order to make a smooth presentation:
- (b) Select as convenient and as comfortable a meeting place as possible, with acoustics and seating arrangements suited to the specific purpose.
- (c) Anticipate need for special lighting or for total darkness and be prepared to provide either, at the right time.
- (d) Make sure that all equipment is in good working order before starting the meeting.
- (e) Arrange the audio-visual aids in sequence and have them within easy reach.
- (f) Keep aids out of sight until actually required for use.

### **C. Presentation**

- (a) Motivate the audience and stress the key points they should observe during the presentation.



- (b) Present aids at the right moment and in proper sequence.
- (c) Display only one aid at a time
- (d) Remove all unrelated material
- (e) Stand beside the aid, not in front of it.
- (f) Speak facing the audience and not the aids.

#### **D. EVALUATION**

- (a) At the end, evaluate by providing for discussion and application.
- (b) Undertake follow-up studies and observe results.

#### **10.6 ADVANTAGES OF AUDIO - VISUAL AIDS**

Research has shown that audio-Visual aids help:

- (a) The learner to (i) learn faster (ii) learn more (iii) learn more thoroughly and (i) remember longer.
- (b) The teacher to organise his teaching material in a systematic order.
- (c) Clarify ideas being presented.
- (d) Impress ideas more indelibly on the mind.
- (e) Vitalise and make to change more real.
- (f) Picture experiences outside one's own environment.
- (g) Combat verbalism or unnecessary or meaningless form of words.
- (h) Overcome the language barrier.
- (i) Attract and hold attention.
- (j) Arouse and retain interest.
- (k) Stimulate thinking and motivate action.
- (l) Change attitude or point of view.
- (m) Save time because they make learning easier and faster.

Dale (1965) has listed the following advantages of using audio - Visual aids,

- (a) Reduce verbalism
- (b) Make learning permanent

- (c) Add interest and involvement
- (d) Stimulate self-activity
- (e) Provide direct pent-up interest
- (f) Develop continuity of thought
- (g) Develop meaningful vocabulary
- (h) Enlarge the range of possible experiences
- (i) Teach efficiently
- (j) Add highly useful variety
- (k) Improve the effectiveness of other materials
- (l) Multiply messages.

Further Hoban, Finn and Dale (1950), on the basis of research studies, drew the following conclusions about the contribution of audio-visual aids to teaching.

(a) They supply a concrete basis for conceptual thinking and hence reduce meaningless word-response of learners.

(b) They have a high degree of interest for learners.

(c) They make learning permanent.

(d) They offer a reality of experience which stimulates self-activity on the part of learners.

(e) They develop a continuity of thought, which is especially true of motion pictures, television etc.

(f) They contribute to growth of meaning and hence to vocabulary development.

(g) They provide experiences not easily obtained through other materials and contribute to the efficiency, depth and variety of learning.

## **10.7 LIMITATION OF AUDIO -VISUAL AIDS**

Use of audio-visual aids also has a number of limitations, some of which are given below:

(a) Audio-visual aids do not necessarily give a true picture of the ideas they present.

(b) Audio-visual aids do not always contribute meaningful content to the topic under study.

(c) All audio-visual aids are not always appropriate for the age, intelligence, and experience of the learners.

(d) All audio-visual aids are not ways solve the problem of individual differences amongst the learners in terms of their ability to perceive and understand.

(f) Many of them suffer from what Dale (1965) calls COIK fallacy, i.e., clearly only if known.

(g) By introducing audio-visual aids in a teaching-learning situation, many physical and psychological disturbances

## **11. AUDIO MATERIALS**

### **11.1 RADIO**

#### **11.1.1. What is it?**

It is a medium for mass communication; a tool for giving information and entertainment.

#### **11.1.2. Purposes**

- a. To reach large number of people quickly and inexpensively.
- b. To reach people not reached by other means.
- c. To stimulate participation in extension through all other media.
- d. To build enthusiasm and maintain interest.

#### **11.1.3. Procedure or Technique**

- a. Determine its place in the teaching plan.
- b. Be clear about the purpose of your broadcast.
- c. Keep the interests and needs of the audience in view.
- d. Select topics of current interest.
- e. Time the broadcast to synchronise with the farmers leisure hours.
- f. Decide what treatment to give--straight talk, interview, panel, drama etc.
- g. For writing the script, follow the principles given for writing news articles.
- h. Encourage people to listen to rural programmes.
- i. Encourage them to write to the broadcasting stations about their like, needs and opinions.

- j. Encourage talented local people to participate in broadcasting.

#### **11.1.4. Advantages**

- a. Can reach more people more quickly than any other means of communication.
- b. Specially suited to give emergency and timely information.
- c. Relatively cheap.
- d. Reaches many who read little or none at all.
- e. Reaches people who are unable to attend extension meetings.
- f. Builds interest in other extension media.
- g. Possible to do other things while listening.

#### **11.1.5. Limitations**

- a. Limited number of broadcasting stations.
- b. Not within reach of all farmers.
- c. Recommendations may not apply to individual needs.
- d. No tuning back if not understood
- e. Frequently loses out in competition with entertainment.
- f. Difficult to check on results.

#### **11.1.6. Script for radio**

Radio is considered to be the best and the most effective means of communication for rural audience in our country. Radio, broadcasting has become almost a part of daily life. Radio as a media has great potential for creating awareness among farming population about new agricultural technology changing attitudes, stimulating the listeners and motivating them to adopt.

##### **11.1.6.1. Principles**

Vohra (1986) who has been producing farm radio programmes for over 25 years has given the following general principles and for writing the script for farm radio programmes.

a. Writing for radio is an art to be learned it is writing in spoken form. It should be easily absorbed by the listener. The listener must understand the conversation.

b. Simplicity is essential. In normal speech we use simple rather than complicated words and sentences.

c. Repetition of the key ideas is essential.

d. Avoid use of statistics.

e. Careful planning is essential.

f. Maintain continuity of narration in writing a script.

#### **11.1.6.2. Modes of presentation**

a. Straight talk

b. Interview

c. Discussion

d. Conversation

e. Feature

f. quiz

g. Question and Answers

h. Farm News

i. Farm school on AIR

j. Music

k. Drama

l. Folk Arts

m. Announcements

n. Magazine Programme.

#### **11.1.6.3. Script is it necessary ?**

Script writing is an essential part of the broad casting. The script helps in putting your ideas in a logical sequence and will keep you informed what the listening audience is to be communicated or in other words what the message is.

#### **11.1.6.4. Parts of an effective script**

- a. The first part should be designed to attract the attention of the listeners towards the subject proper.
- b. The second part may analyse the present situation, laying special emphasis on the problem encounter based on local needs.
- c. The third part may give out facts about the recommended practice and its merits over the previous practices and try to win the confidence of the listener.
- d. The fourth section may deal with an appeal to action.

#### **11.1.6.5. Writing the Script**

##### **11.1.6.5.1. Before Writing**

- a. Determine the purpose first, the objective should be clear.
- b. Know the type of listeners to be formed also keep in mind the probable activity which they might be performing while listening.
- c. While selecting your subject ensure that it is relevant, has been suitable to agro climatic condition, suitable to season on and reliable.
- d. Decide the mode of presentation.
- e. Collect all the possible related authentic for writing.
- f. Be sure to include supporting facts and illustration.
- g. Process the information by identifying the main points.

##### **11.1.6.5.2. While writing**

- a. Remember that it is writing for the ear only.
- b. Avoid academic style. Avoid jaw breaking words.
- c. Prefer to use local information and experience of farmers.
- d. Keep listener view point in mind at all times.
- e. Make listener realise importance of the programme.
- f. Be direct and personal.
- g. Use statistics sparingly.
- h. Be humorous.
- i. Time your script. Ideal speed of presentation is 125-160 words per minute.
- j. Repeat important details underline the words to be emphasized.

- k. Quote authoritative source, wherever necessary.
- l. Don't cover many topics.
- m. Cut down the use of hissing or the z words.
- n. Mark the points where you are to catch breath.
- o. Arrest attention: First 30 seconds are Crucial. You are dealing with a free and hot creative audience.
- p. Hold attention : Hold the attention continuously through writing words, local example appeal to emotions, keep material for this read.
- q. Run down information point by point.
- r. Fire imagination by presenting a picture of the situation likely emerge, after the listener talks the suggestion action.

#### **11.1.6.5.3. Before delivery**

Before delivering the talk rehearse it properly. If possible, record it on a tape recorder and listen it by putting yourself in the position of a listener.

#### **11.1.6.5.4. While delivering**

- a. Let your copy typed in double or triple space and use only one side of the page.
- b. Punctuate your copy for easy delivery.
- c. End the page with complete sentence.
- d. Be informal.
- e. Be sincere in your expression.
- f. Do not talk down to listeners.

### **11.2 RECORDINGS**

There are three ways of recording the sound: (1) Mechanical, (2) Magnetic process and (3) Optical process, Disc recording is done by the mechanical process. Tape and Wire recording is done by the magnetic process and recording of sound on a movie film by the optical process.

#### **11.2.1 Disc Recordings**

In the discs of Gramophone records, discs of Lac and plastic are usually used. In broadcasting transcriptions lacquer coated discs of glass and metal are used. They are

embossed and engraved. They can be used for teaching, group meetings, entertainments, etc. The rates of revolutions per minute of the disc are 78,45 or  $33 \frac{1}{2}$  . The  $33 \frac{1}{3}$  r.p.m. records are long playing (L.P), having 16 inches diameter and taking 15 minutes for each side, or 33 minutes from both. The common gramophone records revolve at 78 revolutions per minute and take approximately 3 minutes for one side. A disc with 45 r.p.m takes about 5 minutes. The recording time depends upon the size of the disc per inch when the speed of the revolution remains constant.

The disc recordings require an electric turntable with pick-up attachment or a spring turntable (Gramophone) with sound box attachment to be played back. The gramophone consists of one turntable to be rotated by spring mechanism and a sound box. The turntable rotates the record at the rated speed and the sound box produces sound. The sound box with its pin is placed slowly on the rotating record and the fine point of the pin or needle is made to vibrate by the grooves cut on the record. These mechanical vibrations are transmitted to the diaphragm of the sound box and cause vibrations in it. These vibrations come to the ears of the listeners as the original sound recorded on the disc.

The modern equipment known as the record player contains a turn-table, a pickup, an amplifier and a speaker, all in one unit. On it can be used all the three types of record discs having different speeds, it can be made to rotate at a particular speed by means of a sliding lever. The latest models of record players are fitted with automatic record changers by which 10 to 50 records can be played one after another, on one side only. After one side is played, they can be reversed. This saves time and the labour for changing the record every time.

### **Operating a record player:**

(1) Read the manual of the manufacturer and ascertain the rated voltage and frequency of the record player.

(2) Verify the electricity requirement and your current supply: Some American models operate on 110V. AC-60 cycles supply, in this case, a step-down transformer is required. So plug in the record player only when you are sure that the rated voltage is available.



(3) Switch on the record player. Its amplifier takes a minute or two to warm up. Advance the volume control and hear if there is the typical howling sound coming from the speakers. The sound indicates that the electric circuit of the equipment is in order.

(4) See that the pick-up has good needle. Some costly needles are now available which can be used for years.

(5) Set the turn-table speed to the proper value depending upon the specification of the record to be played.

(6) Place the record on the turn-table. If the record player incorporates an Automatic record changer, place a set of records in position. Just press the button of the record changer and the turn-table will start functioning.

(7) Adjust the volume and tone controls.

(8) After removing all the records, switch off the record player and remove the plug from the line supply.

### **11.2.2 Wire Recording**

The wire employed for this purpose is a steel wire which has diameter of four to five mils, (1 mil = 1/1000th of an inch). The process of magnetic recording on this wire is based on the working principle of an electro-magnet. When the microphone of the wire recorder picks up the sound to be recorded, feeble electric currents are generated in the coils of the microphone. The alternating electric currents are amplified by an amplifier incorporated in the recorder and are fed into the coils of the recording head, which is an electro-magnet. When the recording wire passes through the recording head it is influenced by the magnetic field lying across recording head, and a series of magnetic fields remain throughout the length of the recording wire. These magnetic fields vary from one another depending upon the pattern of sound waves picked up by the microphone.

In the process of playback, the reverse process takes, i.e., the magnetised wire passing through the playing head of the wire recorder induces alternating electric current in the coils of the playing head which, when amplified and fed into the speaker, produces the sound originally recorded. The recording head is also used as the playing head in playback. This wire is available in spools which are of three types:

- (1) lasting for 15 minutes,
- (2) 1/2 hour and
- (3) one hour. Erasing can also be done. So the same wire can be used again and again.

### **11.2.3 Tape Recording**

Using the principle of magnetic recording, recording can be done on tapes made of paper, plastic or metal. The plastic and paper tapes are very thin, having a width of 1/4 inch. These have an ultra thin coating of iron oxide on one of their sides. The metal tape is incorporated in the tape recorder itself as a continuous belt for recording. The plastic or paper tapes are wound in spools. The tape recorder accommodates two spools, one empty take-up spool and the other containing tape for recording or play back as the case may be. It operates on the same principle as the wire recorder. In it splicing at broken tape is possible by using Scotch Tape. Such tapes are light, compact and can be stored for a long time.

#### **11.2.3.1 How to operate a tape recorder**

Various types of tape recorders are : R.C.A., Philips, Ferrograph, Amro, Magnetape, Revere, Grunding and Ekotape. Their principles are generally the same. However the manufactures manual should be studied when the tape recorder to be used for the first time by the user.

- (1) Feed reel spindle : Carries the reel with tape.
- (2) Automatic shut-off switch: Automatically stop the machine when the tape breaks or runs out.
- (3) Tape counter is also known as position indicator. It helps to locate individual recordings
- (4) Instant stop lever : Stops the tape movement instantly either during the recording or replay.
- (5) Level meter : Indicates the current in the recording head. Too little current will have an unsatisfactory signal to noise creation. If there is too much noise the result is distortion.

- (6) Power switch : Function is on and off and volume control.
- (7) Playback tone control : Adjusts the playback tone quality.
- (8) Record volume control : Helps in adjusting the level of sound during recording.
- (9) Track exchange lever: Selects tape tracks for recording or replay.
- (10) Record button : For recording, this button should be pressed first and then the function selector should be moved to forward position.
- (11) Function selector : Selects all tape functions like rewind, stop, forward, etc.
- (12) Fast forward button : To move the tape forward rapidly.
- (13) Take-up reel spindle : Carries empty reel
- (14) Tape speed selector: To select the desired tape speed.

#### **11.2.3.2 Useful hints for the operator**

- (1) Know your recorder thoroughly. It is to run off 60 cycles, get a 50 cycles adopter for it on 50 cycles supply in India
- (2) If it runs on 110 volts, use a transformer.
- (3) Plug in the tape recorder to the socket of the electric supply line when the correct voltage supply is available
- (4) Switch on the recorder and allow the amplifier to take a couple of minute to warm up. Advance the volume control a little till you hear the typical howling sound from the speaker. This means that the electric circuit of the recorder is in order.

#### **a) Recording a programme - Loading the machine**

- (1) Turn selector switch to wind on.
- (2) Load reel on left spindle with free end of the tape in front and with coated side of the tape inside.
- (3) Take free end of empty reel on the right. Attach it and wind a few turns by hand.
- (4) Draw more tape in front of small peg on the right side of the cover.
- (5) Start motor and wind on.
- (6) See that the tape is in front of small peg on right side of the recorder.
- (7) Do not touch main selector switch when tape is running.

### **b) Selection of Speed**

On the recorder, there is a knob marked L and H meaning Low and High. L is 3 inches per second. Turn this knob only when the machine is stopped. Some recorders have additional speeds of 1-7/8 inches and 15 inches per second. The speed indicates the rate of movement of the tape over the recording head per second. The speed of 15' per second is very good for recording music, orchestra, etc. Speech can be recorded at 3 1/2" per second. The speed 7 1/2" per second is quite alright for recording music. So adjust the speed by selector switch.

(1) To begin recording, press the recording button of the recorder and simultaneously advance the volume control to see that the over-load lamp of the recorder does not glow, while the recording lamp fluctuates when recording goes on.

(2) Watch the recording lamp always. If fluctuations do not appear in the recording lamp, just advance the volume control a little till the fluctuations appear in the recording lamp. But take care that the overload lamp does not glow.

(3) When the programme is over, press the button marked "STOP".

### **(c) Rewinding of the recorded talk**

When you want to hear what you have recorded, return the volume control to minimum and press the rewinding button. After rewinding, press the "STOP" button to stop the machine. At this stage, the talk is recorded and it can be reproduced or played back.

To play back recorded matter

(1) Place the spool containing the recorded tape on the left spindle and let the tape pass through the recording head (here playback head or playing head) to the empty spool placed in the right spindle.

(2) Press the playing button and adjust the volume and tone controls. Here you get the recording played back. Press the "STOP" button when you want to stop the machine.

### **(d) Push button**

Five buttons allow automatic operation of the recorders as follows.

- (a) Fast : For rapid rewinding the tapes which has been recorded or played.
- (b) Record : For making a tape recording, or for automatically erasing the

previous one.

- (c) Stop : For stopping, without shutting-off the main power switch.
- (d) Play : For listening to a tape which contains recorded materials.
- (e) Fast : For advancing the tape at an especially fast rate in order to play back or begin recording at some inside spot on the reel or tape.

**(e) Erasing:**

Erasing of a recorded talk, etc., can be done in two ways. To erase a recording from a particular portion of the tape just let the portion of it pass through the recording head when the recording button is pressed.

This simple operation is enough to erase the recording from the tape.

The alternative method is to use a recorded tape for recording when the new recording is impressed on the tape, the old recording automatically vanishes. The second method is used for editing a complete recording when additions and alterations are necessary. So recording requires careful handling.

### **11.2.3.3 Uses of tape recorder**

A tape recorder can be used for many purposes. The uses mostly depend upon the imagination of the teacher and the taught. The following are some of the more important uses:

- (1) It helps the teacher and student alike to hear the recording of their voices and makes them much more critical of their own speech; thereby it provides an effective means of self-instruction.
- (2) It enables the extension worker to be in more than one place at a time.
- (3) It facilitates editing of sounds - shortening, eliminating, or adding of materials from many different sources.
- (4) It helps in preservation of sounds for future use.
- (5) It can be used for evaluation of sounds.
- (6) It helps transportation of sounds from one place to another.
- (7) It is used for duplication of sounds.
- (8) It helps in synchronisation of sound with pictures.

(9) It is of great help in the teaching and learning of foreign languages.

(10) It is used in the learning and teaching of music.

(11) It helps the practice of public speaking.

(12) It is used for rectifying defective speech.

(13) It can be used for recording radio plays, dialogues, group discussions, symposia, role-playing, interviews and songs by extension workers. Thus recorded tapes can be used in different teaching situations.

(14) It is of immense help in drama rehearsals and various extension education programme.

The uses outlined in the foregoing paragraph are only a few of the possible uses of the magnetic recorder available to the resourceful teacher either in the class or outside the class room.

#### **11.2.3.4 Ten features to look for in a tape recorder**

(1) Simplicity : Most of the tape records are easy to operate. You should choose one which has the minimum number of buttons and knobs. The 'cassette' tape is the simplest of all.

(2) Portability : The recording equipment should be as light as possible. Specially the one which is intended to be used exclusively in extension field activities. Generally the recorders are classified into four types. Each type is appropriate for a specific situation.

(i) Heavy - duty class room unit - The largest recorder built for class room use, it weights about 15kg. A trolley is usually necessary to move it from room to room but it is most often mounted permanently at one place.

(ii) Portable class room unit - Weighing about 11kg, can easily be carried from room to room.

(iii) Tape deck unit - Used in a fixed location e.g., information recording studios, language laboratories and radio recording stations, etc.

(iv) Light weight portable - This model weights less and is battery powered, but can also be used on AC or DC current. For outside class room use, these are very useful. The cassette recorders belong to this category.

(3) Cost : The amount of money available should be carefully considered before purchasing the equipment. Secondly, the selection should not be based only on the cost of the equipment. Generally expensive equipment is durable and as a result it may prove cheaper in the long run.

(4) Construction : Strong construction is very important because generally the tape recorders are portable in nature and have to be moved from place to place, especially the ones which run on batteries should be as strong as possible.

(5) Speed: The higher the speed used, the better will be the quality. If you want to record good music with the utmost fidelity, one of the recorders that operates at 15 I.P.S will be useful. If you want it mainly to listen to recordings of classical music 7 1/2 I.P.S is the best speed for it gives excellent reproduction.

If you only want to record a speech, and economy is more important than fidelity, the slow speed of 1-7/8 or even 15/16 I.P.S may be alright. Many people find a happy compromise by purchasing a machine with two speeds usually 7 1/2 and 3 1/4 I.P.S. In case the equipment is to be used for a variety of purposes and in a variety of places, it should have several speeds such as 1-7/8, 3 3/4, 7 1/2 and 15 I.P.S. The faster the playing speed, the more tape you will use to record a given piece of music or speech.

(6) Size of the tape reels : Different machine will use different sizes. Some use 3 diameter reels; many models use 5 or 5 3/4 reels. There is a greater advantage in using 7" or even 8 1/4" reels. 64 minutes of recording, or replay can be done if a 5 " reel is used at 7 1/2 L.P.S. speed on a double track machine. But if it is a 7" reel, the duration of recording or replay will be double.

(7) Recording tracks: The tape recorders can be classified according to the nature of the recording and replay heads fitted to it. Some have single track recording, some others have double track, four tracks and more. The important point to be understood here is, each time you double the number of recording tracks, you halve the width of the tape. On a four track recording machine you will get twice as much material on to a given spool of tape as with two tracks. For recording long speeches and to play lengthy uninterrupted music, the four track tape recorder is very economical. However, it will be wise to spend your money on a good basic quality rather than the dispensable extras.

(8) Frequency range : In face one of the most important points to be considered in making the selection is the sound frequency range of the equipment, and the programmes you plan to record. Every sound has a frequency range expressed in term of cycles per second. The male voice usually has a range between 100 and 8,300 cycles per second, and the female voice usually between 170 and 10,000 cycles per second. But many musical instrument have a much wider frequency range varying from 30 to 16,000 cycles per second. For high fidelity recording, the frequency range of the equipment should be similar to the frequency range of the sounds in the programme.

(9) Company and dealer : You should choose this carefully. It is always better if you choose tape recorders from well known companies and reputed dealers. Preference should be given to a local dealer who can service the equipment.

(10) Performance : You should operate the various controls by yourself in the dealers shop itself to make sure that everything is alright.

### **11.3 PUBLIC ADDRESS SYSTEM**

These include: microphone, amplifier and loudspeaker. A pick-up with an electric turn-table or spring turn - table is used in the public address equipments when recordings are played. The microphone and the pick-ups are connected to the inputs terminal of the amplifier, and the loud speaker is connected to the output terminals. The microphone converts sound waves into alternating electric currents which are fed into the amplifier. The amplifier is an electronic device to amplify these electric currents. The amplified electric currents fluctuate in accordance with the vibrations of the sound waves. When these amplified electric currents are fed into the loudspeaker, it converts them into sound waves and we hear the loud voice of the speaker. All these processes take no time to be completed and so the sound picked up by the microphone is reproduced simultaneously by the loudspeaker.

An amplifier required electricity which may come from dry battery, wet battery or A.C./D.C. power supply.



### **11.3.1. Operating the public address equipment**

(1) Note the special characteristics of the microphone, the amplifier, the pick-up and the loudspeaker, if any, and ascertain the voltage necessary to run the amplifier.

(2) Connect the microphone into the proper input terminals of the amplifier and, if necessary, connect the pick-up into the input marker “Phono”.

(3) Connect the loudspeaker to the proper output terminals of the amplifier. A loudspeaker connected to the improper output terminals of the amplifier is mismatched and so produces distortion in sound. An amplifier has many output terminals, but the pair suited to the particular speaker should be selected.

(4) Connect the amplifier to the proper power supply. Use a step-down transformer if the amplifier runs on 110 volts supply and the power supply is 220 volts. If you are using a generator, adjust its voltage.

(5) Switch on the amplifier and see that its pilot lamp glows. If the pilot lamp does not glow, it means that electricity is not fed into the amplifier, or the lamp is defective. Try to locate the defect in the connecting wires, electric supply, plug point or the pilot lamp. It takes some time to warm up and a typical sound is produced on advancing the volume control a little. Some amplifiers use more than one microphone in addition to the pick-up and separate volume controls for each of the microphones and the pick-ups in use. The volume control which is in the circuit of the microphone or the pick-up used should be operated, and other unused volume controls should be kept at their minimum.

(6) To test the microphone, repeat some word like “Testing”. Never blow air from your mouth, it is moist and will damage the sensitive microphone. If testing is not successful, locate the fault in the connections, or in any other circuit of the system.

(7) Place the microphone at a distance of about 10 inches from the speaker. When your test shows that the microphone is picking up sound, advance the volume control and adjust the tone control to get the volume of the desired sound.

(8) When you use a pick-up to play a recording, bring all volume controls to zero and advance the volume control of the pick-up circuit to the desired extent.

(9) It is better to have a highly directional microphone because it picks up sound only from one direction, and so does not produce feedback, i.e. the howling sound

coming from the speaker when the microphone faces it. If you do not have a microphone having “highly directional properties” you can avoid the feedback by placing the speaker at a considerable distance from the microphone.

## **12. VISUAL MATERIALS**

**12.1 Literature** ( *this has already been covered in chapter 5.2 and 3.3*)

### **12.2 SYMBOLISED**

#### **12.2.1. Charts**

##### **12.2.1.1 Definition**

The terms charts has a number of meaning to different persons. For our purpose, charts are a combination of such materials, which together are most likely to represent clear visual summaries of important facts, concepts and their relation ships.

According to wittich and schuller (1967), charts may be defined as a combination of graphic and pictorial media designed for the orderly and logic visualising of relationships between key facts or ideas. Date (1965) remarked that charts are a visual symbol for summarising or comparing or contrasting or performing other helpful services in explaining subject matter Brown and Lewis (1959) said that charts serve to highlight important points or outline materials in a presentation. According to Mohanty (1962), a chart is a diagrammatic presentation of facts or an idea. De Kieffer and Cochran (1966) said that to an extension worker, a chart is a graphic means or presenting a variety of related materials on large sheets of paper.

##### **12.2.1.2 Importance of charts**

Charts can help communicate difficult. often dull subject matter in interesting and effective ways in extension works.

They also :

- a) Make facts and figures clear and interesting.
- b) Show or compare changes
- c) Show size and placement of parts

### 12.2.1.3. Type of Charts

#### Basic types

There are many type of charts. However, the most commonly used forms are tree, flow, outline and tabular. However, several modifications exist in actual use.

(a) **Tree chart** : This chart is developed from a base composed of several roots which lead into a single trunk. The branches in turn represent developments and relationship. Sometimes a reverse forms of the tree chart is useful in showing how a great variety of elements are combined to form one important product.

(b) **Flow chart** : This chart is very useful when the purpose is to show the cycle of plant's growth, various stages of growth of a plant, or a phenomenon etc.

(c) **Outline chart** : The organisation of content into key points and subpoints, which a communicator may do on the chalkboard is also a useful chart form.

(d) **Tabular chart** : Sequence or relationships such as those in a historical time-line or a time-table can be shown on a tabular chart. A unique value of this chart is its ability to show time relationships.

#### Other types

**Pull Charts** : Consist of written messages which are hidden by strips of thick cardboard or plywood. The messages can be shown to the viewer, one after, another by pulling out the concealing strips. These strips can again be restored to the concealing position after the presentation or whenever needed.

**Strip Tease Charts** : As is true in the case of pull charts, the appeal of the strip tease chart is in its suspense. It 'teases' the interest and imagination of the audience.

The information on the chart is covered with thin paper strips to which has been applied wax, tape or other sticky substance of each end of the strip. Pins or tacks also can be used.

As the speaker wishes to visually reinforce a point with words or symbols, he removes the appropriate strip of paper,. It is possible to add considerable interest to the presentation by removing the paper with a dramatic flourish.

The strip tease chart adds sparkle to what might otherwise be a drab presentation. It centres attention on the most important fact at any one time. the teaching increase learning and aids recall.

**Flip Charts :** Consist of a series of individual charts which are tacked or bound together and hung on a supporting stand. These individual charts carry a series of related messages in sequence. The teacher flips them one after another, as the lesson or story progress. To be effective, a flip chart should deal with only one broad theme and give only the salient points without too much data or details.

**Over-lay Charts :** Consist of a number of illustrated sheets which can be laced one over the other conveniently and in succession. The drawing or illustration on each individual sheet forms a part of the whole picture. This enables the viewers to see not only the different parts but also see them against the total perspective when one is placed over the other. When the final over-lay is placed. The ultimate product is exposed to view. Such a presentation has a dramatic effect on the viewers.

#### **12.2.1.4. PREPARATION OF CHARTS**

**Title :** Each chart should have a title. the title should be a brief statement of the purpose.

**Simplicity :** Charts should be simple. Develop only one idea in a chart. Include only important details. Too much data or too many ideas are confusing.

**Size :** Charts should be large enough for the group with which they are to be used but small enough for convenient handling. Generally 20" X 30" charts are good for most purposes.

**Lettering :** Lettering should be simple, of the straight type and bold. As a general rule, letters, 1.5" to 2" high for sub-titles and 1"-1.5" for the body.

**Composition:** A good composition is particularly important for a chart.

**Colour or contrast:** Proper combinations colours/contrast should be used to increase their readability.

**Sequence:** Presentation should be logical, direct, clear and accurate.

**Source:** The source and year of the information contained in the chart should be mentioned at the bottom of the chart to increase its credibility.

#### **12.2.1.5 Techniques of using chart**

Charts can be used in extension education in a variety of ways. Some such useful techniques are listed here.

- (i) Displaying Charts with the help of boards.
- (ii) Using charts with the help of chart hangers.
- (iii) Using the striptease technique with charts.
- (iv) Using them as wall charts.
- (v) Using them as flip charts by making a couple of holes along the top edge.
- (vi) Using roller charts.
- (vii) Using them as posters, by cutting the picture from a chart.
- (viii) Using them as posters, by cutting the picture from a chart and adding a suitable caption.
- (ix) A set of charts can be used to put up a small exhibition by itself or can be used as a part a larger exhibition.

### **12.2.2 Graphs**

#### **12.2.2.1 Definition**

Graphs may be defined as a visual representation of numerical data. A table of figures may contain a wealth of valuable information but a graph of the same data presents the gist of that information for quick and easy grasping. Further, graphs reveal important relationships in data, such as trends and variation from the normal. Graphs are inherently more interesting than numerical tabulation. Facts presented through a graph become more intelligible.

#### **12.2.2.2 Types of graphs**

There are many kinds of graphs. However, commonly used forms are line, bar, pie, and pictorial graphs.

**Line graph:** It is the most precise or accurate of all graphs. It is particularly useful for showing trends or relationships between two sets of data. However, it should be used

only when considerable data are to be plotted or when the data comprise a continuous, series, which over a period of time, clearly shows the progress taking place.

**Bar graph:** This perhaps the simplest of all graphs to read. In this each of several groups of data are represented by either vertical or horizontal bars. The length of the bar is used to represent the magnitude of the phenomenon. The graph may depict single absolute bars, multiple absolute bars, single percentage bars, of multiple bar types.

**Pie Graph:** The circle or pie graph is divided into sectors, each of which is used to represent a component of a whole. The essence of the pie graph is that its combined parts must always add up to 100.

**Pictorial graph:** Flat, simplified, and representational figures are used in pictorial graphs, instead of bars, to represent the various groups of data. Pictorial statistics were first popularised in Vienna by Otto Neurath, a renowned sociologist. These pictorial graphs have the added advantage of using realistic representational figures to convey meaning.

**Area and solid figure Graphs:** Area graphs consist of squares, circles, of other outline figures of different sizes and pictorially represent two more related totals. These graphs depend on a comparison of area to represent information and in consequence of read less easily than other forms. Solid-figure graphs contain spheres, cubes or other figures that give a three-dimensional effect. However, in actual practice a large variety of graphs are developed and used by combining different graphic forms.

#### **12.2.2.3 Essential characteristics of charts**

- (a) Must be simple
- (b) Must show comparison of relationship
- (c) Give approximation rather than precise information
- (d) Symbols used must be self-explanatory
- (e) Should be brief, with one idea, depicted with a good layout.
- (f) Number of units should not be more than 4.5

## **12.3 THREE DIMENSIONAL**

### **12.3.1. Exhibits** (*This has already been covered in 5.6*)

### **12.3.2 Models**

A model is a three-dimensional recognisable imitation of an object. It may be of the same size, larger, or smaller than the thing it represents. It can be handled, operated, and seen from a number of angles, and so it is generally more interesting and instructive than a graphic form of the same. Use of models in teaching has many advantages.

#### **12.3.2.1 Classification of models**

Models vary greatly in form depending on the purpose they serve. Generally, they can be classified into (i) Scale models, and (ii) Simplified models.

(i) **Scale models:** These are models made in correct proportion to the original object. In some study situations, there is need for correct representation of thing through exactness of scale.

(ii) **Simplified models:** These are models that roughly represent the external form of an object. They are relatively cheaper than scale models and can be quite useful under many teaching-learning situations.

(iii) **Working models:** In some learning situations, working models which show in a simple way how things function or operate are very helpful. In many cases they are used in place of real objects as they may be easier to understand.

#### **12.3.2.2 Purposes of using models**

i) To get over the disadvantages in the size of the original from instructional view point. e.g., too big a size for the eye to take in, as in the case of a soil conservation project extending over many square miles, or too small study as in the case of thrills, or aphids.

ii) To make the past or the future visibly real e.g., an out dated farm implement or an implement likely to be introduced in future.

iii) To get over physical inaccessibility - e.g., seasonal fruits and vegetables etc.

**Note:** The models used for the above three purposes represent the external form and shape of the original object and are called 'Scale Model's' or solid models'.

iv) To circumvent “unusable” reality, e.g., models to explain the physiology of a cow’s udder or a hen’s reproductive system, or hidden features of any machinery. Such models which reveal the internal structure of a real object and or constructed in such a way as to be dismantled easily are called ‘Cross-sectional Models’.

### **12.3.3 Mock-UPS**

It differs from the model in that it is a functional (workable) device which differs the essential elements that are being studied in the original, and concentrates on these elements only to the exclusion of other e.g., operation mock-up of cylinder and piston of a diesel engine. These are also called working modes.

### **12.3.4 Specimens**

Real objects taken out of their natural settings. e.g., specimens of crop shown at a meeting or exhibition, preserved or mounted specimens of insects, plants etc.

### **12.3.5 Objects**

The term object refers to samples of real things minus the natural setting. They are very valuable teaching aids both in formal and adult education. Collections of stamps, coins, weights, minerals, bones, insect pests, diseases, and other agricultural products, have long been used in teaching. Their effectiveness can further be increased by using such devices as photographs, films, models, etc., to provide some idea of the natural setting, very often, use of objects in teaching has some advantage over using them in real life situations.

## **12.4. TWO DIMENSIONAL (Non-Projected)**

### **12.4.1 Chalk Board**

#### **12.4.1.1 Definition**

The chalk board, popularly known as black board, is the most universally used visual. If properly placed and used, it has great value in teaching at all levels.



#### **12.4.1.2 Material used**

It may be prepared from ordinary thick wood, plywood, monzonite cement or ground glass, fibre glass in case of fixed boards. Linoleum or Rexene cloth can be used in main roll up boards. Steel is used for making magnetic boards.

#### **12.4.1.3 Colour**

Black is the most commonly used. Other colours are green yellow and white.

#### **12.4.1.4 Chalks**

They may be white or coloured. Yellow chalk on olive green background is pleasing to the eye. In dark rooms, fluorescent chalks can be used.

#### **12.4.1.5. Varieties of board**

They are (1) Fixed (ii) Suspended (iii) Roll-up (iv) Foldable and (v) Magnetic. Roll-up and foldable types can be easily carried. A magnetic board produces diamagnetic effect.

#### **12.4.1.6 Placement of Boards**

Place board so that the lower edge of the board is on a level with the viewer's eyes. From the centre of board 60 angle is recommended to audience seating area. Closest viewers is one or more board width from the board.

#### **12.4.1.7. Size of the board**

Size is dependent on the number of audience. The minimum 2 feet by 3 feet for 15 persons.

#### **12.4.1.8 Importance of Chalk board**

A chalkboard particularly when it is black does not look very attractive, but when it is used properly it becomes very inspiring. It is of great importance in setting standards of neatness, accuracy, and speed, and it helps children visualize spelling. An illustration drawn on the chalkboard during a lesson can restore the attention of the class.

In chalkboard work the essential points in the lesson. He can let the children see a map or a picture built up with a few quick strokes. Moreover, the chalkboard is an old which is always available in the classroom for its use no technical knowledge of high artistic skill is necessary, no spares are to be kept at hand and there is no wastage of time in making the room dark.

#### **12.4.1.9 Uses of chalk board**

“Chalk board is a good medium for expressing.

Definitions	Sketches	Announcements
Key Words	Maps	Comparisons
Outlines	Graphs	Testing
Summarisation	Diagrams	
Drawings	Assignments	

#### **12.4.1.10. Lettering**

Viewer distance from board determines letter size. Printed letter are legible than cursive writing. Adequate spacing between letters improves readability and helps attention. The following specifications serve as a rule of thumb.

0.25 inch visible from 8 feet

0.50 inch visible from 16 feet

1 inch visible from 32 feet

2 inch visible from 64 feet

#### **12.4.1.11 Importance points in using chalk board**

The effectiveness of the chalkboard as a visual aid can be considerably increased if the following points are borne in mind in using it:

(i) Clean the chalkboard first by downward strokes with a clean eraser or cloth and not with the hand or fingers.

(ii) Write in straight rows starting at the top left corner.

(iii) Write only a few important points bearing in mind that the chalkboard is unsuited for elaborate work.

(iv) Write neatly in large letters making sure that the writing is easily readable from the back of class.

(v) Avoid abbreviations except those in common use.

(vi) Plan ahead what you will write on the chalkboard. But never draw a map beforehand or by constant reference to a book, as this may give the impression that map-drawing is not a simple business, there should, however, be no objection to a teacher taking the assistance of a drawing teacher for complicated diagrams which can be prepared in advance and shown when necessary.

(vii) Get together everything you need for the chalkboard before the class begins- eraser, chalk, rules, compasses, templates, stencils or any other device that may help you draw. The use of these devices is not indication of the teacher's lack of skill in chalkboard work.

If you have an opaque projector (an episcope) in your institution, it can be used for the tracing of outlines of maps and drawings. The tracing, however, should be completed very quickly. One should not take more than two minutes to trace the outline of a map.

(viii) Use a pointer to focus attention when you have drawn a map or a sketch.

(ix) The teacher should stand to one side of the chalkboard to permit the student full view of all that has been written or drawn on it.

(x) Make sure that the chalkboard is not high above the eye level of the student and is well lighted by natural or artificial means, and the front row is at least eight feet away from it.

(xi) Make sure that the chalkboard is serviced at least once yearly.

#### **12.4.1.12 Drawing techniques**

There are a number of special techniques one may use in presenting material. Some of these are:

**(a) Pattern method:** Draw the outline on heavy paper; perforate along outline by punching holes. Hold paper against board. Rub dustily eraser across perforations.

**(b) Template Method:** Draw design on template material (card boards, plywood etc.) and cut along lines. Hold template against board and draw outline.

(c) **Grid Method:** Used for enlarging diagrams, etc. Divide actual diagram into squares, draw larger sized squares on board, and transfer drawing to it.

(d) **Hidden Drawing Method:** Series of sequential illustration etc., are drawn in advance. Teacher exposes one remainder remain covered. A non transparent cloth can do the job effectively.

(e) **Projection Method:** Drawings and figures from books can be projected on the board by opaque projection and enlargements made easily.

#### **12.4.1.13 Tips for better use of chalk board**

Do not overcrowd the chalkboard

Avoid glare; use adequate lighting

Do not cover-stand to one side

Do not speak to the board.

Erase all unrelated material

Use colour chalk for emphasis

Use large captions and drawings

Erase from top to bottom

Clean the board regularly and thoroughly

### **12.4.2 Bulletin Board**

#### **12.4.2.1 What it is?**

It is a board with a background of coloured cloth. It can be covered with glass, netting or a plane board.

The material for display may be news sheets, announcements, booklets, bulletins, circular letters, newspaper cuttings, cartoons, pictures, charts, posters, maps graphs, subjects, etc.

That is a good medium for displaying the creative work of the students. Such boards should be fixed in colleges, in the images of the extension wing or those covered by an extension programme.

#### **12.4.2.2 How to make it?**

Bulletin boards are very easy to make. Make a frame of the by three and half feet (the size may be larger or smaller according to the size of the classroom) and cover it with either wood or fibber board. Apply suitable paint on the board to broke it attractive. Linoleum with its variety of colours is used in rocking bulletin boards.

#### **12.4.2.3 To use it?**

- a) The students of extension worker should collect suitable illustrations and other display material connected with the extension programme in advance
- b) They should classify if and file if.
- c) They should display it in an interesting manner.
- d) Each item should have a little followed by a brief description
- e) The material should correlate with the extension as regards extension work
- f) It should tell a complete story

#### **12.4.2.4 Location, type of material and colour**

The board should be at a place were it will be seen by more of the people for whom it is meant. The board should be fixed of eye-level and should have a work surface or something similar on which the material to be displayed can be attached with drawing pins.

#### **12.4.2.5 Advantages of using a bulletin board**

It makes available to students or the public those materials of which there is only one copy. It simulates interest. It saves time and allows the study of subjects not otherwise brought up classes. If encourages participation in programs introduced by the bulletin board. It provides a review of reminder of subject studied in class or heard through other channels. It helps students learn how to communicate ideas visually.

### **12.4.3. Flannel graph**

#### **12.4.3.1 Flannel graphs**

Flannel graphs are any visual or set of visuals produced on felt paper, other papers, on the back of which pieces of sand paper, have been affixed, for group viewing from a flannel board. This technique of visual aids is based on the fact that two pieces of flannel or rough-textured cloth adhere to each other when pressed together. Thus, a flat flannel-covered surface, tilted slightly backwards, becomes a background upon which paper cut-outs, diagrams, photographs, illustrations from magazines and newspapers, self-made visuals, and similar material backed with flannel or sand paper, is placed by the teacher, as he develops, use of tacks or tape. This permits a dramatic and effective step-by-step presentation in a logical manner.

#### **12.4.3.2 Advantages**

- a) Flannel graph or flannel board visuals are particularly effective in presenting detailed concepts, since the viewer is able to refer to points previously made and to relate them to new information being covered.
- b) Teaching with flannel graphs involves sequence, suspense and story-telling effect. Hence they attract, attention, build interest and keep the learners involved.
- c) They provide an outline for the teacher and hence are very useful along with the spoken word.
- d) They are very good visuals for teaching farmers, since the placing of each part on the board provides an action-like effect.
- e) Flannel board visuals are amongst the most easily prepared visuals, are inexpensive and can be used again and again.
- f) Places of a flannel graph can be moved about and used in several combination.
- g) No item distracts the attention of the learner as items are placed progressively along with the lesson.

Thus the flannel board is a most adaptable and flexible teaching aid. The user is able to present the material at the requisite moment and thus build up a composite picture step by step. Material can be arranged, developed and simplified at will. It is so closely allied to the learning process as that its effectiveness depends solely on the careful choice

of material and the care and skill of the user. Thus, regardless of the educational level of the learner, a flannel graph can be used for visualising concepts. Flannel graphs help to provide sequential visual change during discussion and demonstrations.

#### **12.4.3.3 Preparation of flannel board**

- a) Keep illustrations and letters bold and clear.
- b) Keep the story simple.
- c) Use of arrows, cartoons etc add interest.
- d) Number each part on the back and store them in folders.

Besides the above, the general principles of preparing graphic aids must be followed.

#### **12.4.3.4 Making flannel board**

- a) Take a piece of plywood about 24 x 30 inches.
- b) Cut flannel cloth larger than the board to allow overlap for securing on the back. Stretch tightly, fold over and take.
- c) The colour of the flannel graph board is of importance. Black, dark blue, dark green or gray material could be used to give a good contrast with the teaching material placed upon it.
- d) The flannel board should be slightly slanted when fixing it on a wall or on a stand.

#### **12.4.3.5 Using a flannel board**

- a) When the pictorials are ready, arrange them in the proper order for presentation.
- b) The flannel board should be placed where it can be seen by all viewers. The bottom of the board should be approximately at eye-level.
- c) Apply the objects with a slight downward pressure to help hold them in place.
- d) Before using the flannel graph, it is better to try it out first for self-preparation.

#### **12.4.4. Poster**

##### **Definition**

A poster is a visual combination of bold design, colour and message which is intended to catch and hold the attention of the passerby long enough to implant or to reinforce a significant idea in his mind. A poster is thus primarily intended to catch the eye of a viewer in a hurry and to pass on a simple message to him.

Poster must therefore exert great visual impact. Boldness, directness, simplicity, dynamism, shock-any or all of these qualities may be used in driving home a single dominant idea. In terms of visual symbolism, words as well as pictorial materials bear the burden of the message as the poster makes them part of the total design. Furthermore, it balances all its elements in order to achieve aesthetic appeal as well as power. A poster to be maximally effective, must be pleasant to see many times.

##### **Origin of the modern poster**

Poster have existed in primitive form almost since the invention of movable type in the fifteenth century . The modern poster was born, however, In 1867 in Paris, when Jules Cheref, the first of the great modern posters artists, was commissioned by Sarah Bernhardt to prepare a poster announcing her appearance in the play *a Biche au Bois*. Cheref's use of colour, design and bold lettering was superb, and his poster started a new trend in graphic communication.

##### **Components of a poster**

A poster has to be bold in design, simple to understand and attractive in colour. Its components may be:

- Picture or illustration
- The words
- Colour and
- Space



- (a) **Illustration or picture:** It should be such as to bring out the message clearly at a glance. If it is a drawing, the actual thing to be shown should be brought out in bold relief. Avoid unnecessary details so that the viewer's attention is not confused. If you use a photograph, avoid unwanted surroundings and bring out the point prominently. While preparing illustrations keep in mind the experience of the audience and use objects familiar to them.
- (b) **Caption in words:** As small as possible. A five word caption is the best. Never write the caption vertically as it creates difficulty in reading. Do not break the caption.
- (c) **Colour:** Use bright attractive colours. The centre core can be highlighted with a more prominent colour. Even in the caption some prominent word can be given a different colour. Do not use more than three colours, otherwise it may be confusing. Do not use odd combinations of colours.
- (d) **Space:** If a poster is loaded with pictures and words the viewer gets lost. So provide adequate space.
- (e) **Layout:** It should be well balanced so that the viewer's eyes can travel smoothly and quickly through the caption and illustration. It should hold his attention and clearly bring out the message to the viewer.
- (f) **Check:** After the rough layout is complete, show it to some people of the level of your audience. If there is any misconception or ambiguity, remove it.

The poster should recommend action. It should be placed where people pass or gather. It should give only one idea and details should be given through other media.

### **Characteristics of a good poster**

Good posters must have a dynamic, impelling quality in order to achieve their purpose. They must be essentially simple, as there is not time to involve the viewer in a detailed study. They must be striking enough to attract attention, otherwise their usefulness is lost.

- a. **Dramatic simplicity:** To attract attention, the prominent features of the poster must stand out sharply. These feature may be a photograph, a drawing, or a striking design.
- b. **Self-contained message:** Having caught the viewer's attention, the message must be transmitted clearly and quickly. This is usually achieved be combining the illustrative picture with a brief text in bold type. The meaning must be clear, interesting and graspable at a glance.
- c. **Attractiveness:** Effective posters are usually pleasing to the eye. Although the subject itself may not be pleasant, all posters must embody good design, good lettering and attractive colour. The attractive poster is inherently pleasing and interesting-both powerful factors in learning.
- d. **Design:** Good composition is one of the principal elements in preparing effective posters. A good poster requires a centre of interest, which must be strong and commanding.
- e. **Colour/contrast:** Colour provides meaning and expression as well as beauty in a good poster. It is also provides force, contrast and attractiveness.

### **ABC of Posters**

Attractiveness	:	Colour creates charm and illustrations increase attention.
Brevity	:	The message should be brief, can be easily read in a short time.
Clarity	:	Message should be clear. Layout with sufficient surrounding, with space for words and illustrations.

### ***Suggestions for attractive posters***

A poster is designed to make a public announcement of a special idea. It is a sheet of paper with few words and illustrations. It is designed to catch the attention of the passerby, impress upon him and to stimulate into action. A good poster arouses interest. It should be used as a part of a teaching programme or campaign. The poster should be attractive, brief and clear. The suggestions for attractive posters are given below:

- a. **One idea:** The aim should be to introduce single though or idea.

- b. **Few words:** Since the passerby looks for a shorter time, it should contain only few words.
- c. **Simple words:** Simple words can be easily understood.
- d. **Plain and Bold lettering and lines:** For more legibility simple letters should be used. Spacing of letters is important. The appropriate size of letters are as follows:

Minimum letter Height in inches	Distanced from the farthest viewer in feet
3.5	100
2.7	80
2.1	60
1.4	40
0.7	20
0.35	100

The line thickness should be  $\frac{1}{4}^{\text{th}}$  to  $\frac{1}{5}^{\text{th}}$  of letter height.

- e. **Colour:** Simple colours not more than three should be used.
- f. **Size:** Size must be large enough to be easily seen (22" x 28") or (28" x 44").
- g. **Legibility:** The legibility list is given below:
  1. Black on Green
  2. Green on White
  3. Red on White
  4. Blue on White
  5. White on Blue
  6. Black on White
  7. Yellow on Black
  8. White on Red
  9. White on Green
  10. White on Black
  11. Red on Yellow
  12. Green on Red

13. Red on Green

14. Blue on Red

- h. **The posters should be timely:** The techniques so far discussed are only guidelines. Based on your discretion and experience, you can make the posters a good one and also effective one.

When we require posters in small numbers, silk screen printing may be taken up. Otherwise, offset press posters can be more economical if it is required in large numbers.

### *Preparation of posters*

**Paper:** User only thick drawing paper, poster paper, litho offset paper or cardboard.

**Size:** The standard sizes of posters are 18 x 22 inches, 20 x 30 inches, 22 x 28 inches or 28 x 44 inches.

**Qualities:** A poster should be brief, simple, contain only one idea, with good layout, contrasting colours, bold and simple lettering and short captions.

### **Use of Posters in Extension Teaching**

Poster can be used in extension teaching for several purposes, principal among which are:

- (i) **Motivation:** Posters are used for motivation or stimulation. A set of good posters on a balanced diet can be effectively used in arousing curiosity and interest in this topic.
- (ii) **Reminders:** A poster may also be used as a reminder or to create an awareness of a subject. There is need for frequent and varied methods of ‘jogging’ the learner so that he will put his knowledge into practice until it become habitual. Posters strategically placed and frequently changed are highly effective.

- (iii) **Atmosphere:** Posters may continue to be valuable after their initial impact has passed. This may be called ‘atmosphere’ or ‘environmental’ use Teachers of foreign language, airline companies etc. frequently find that good posters assist in creating a desirable atmosphere or feeling. A similar purpose can be achieved by displaying posters in extension offices and at important public places.
- (iv) **Creative experience:** Another use of posters in teaching lies in their creative and participative possibilities. The student who makes his own posters has the opportunity of expressing what he has learned. For this reason, poster making may be culminating activity for a unit of work.

### **Evaluation of Posters**

- |        |             |   |   |
|--------|-------------|---|---|
| (i)    | Visibility  | : | Contrast, colour, size, lettering, legibility |
| (ii)   | Structure   | : | Form, grouping, continuity used to advantage. |
| (iii)  | Economy     | : | Economical to use                             |
| (iv)   | Technique   | : | Smooth method of presentation                 |
| (v)    | Appeal      | : | Attracts and hold attention                   |
| (vi)   | Clarity     | : | Message readily understandable                |
| (vii)  | Fidelity    | : | A faithful reproduction                       |
| (viii) | Validity    | : | Sound and factual                             |
| (ix)   | Credibility | : | Message believable                            |
| (x)    | Tactics     | : | Most feasible approach                        |

### **12.4.5. Flash card**

#### **12.4.5.1. What is a flash card?**

Flash cards are a set of paper cards flashed one by one in a logical sequence before an audience, to bring home an idea. The cards may also be used effectively in a drill or review. The message on each card is brief and simple.

Flash cards usually involve photographs, still pictures, illustrations, captions etc and are the simplest of all graphic aids. They are very convenient and effective for communicating improved technology to the rural population.

### **Size and number of Flash Cards**

The size of the flash cards should be such that the group can see but small enough to handle conveniently. For a group of 30-50 people use flash cards of 15" x 20" each. For a small group, say 10-25 people, we can use flash cards of 10" x 12" size.

The number of flash cards should be such as will hold the interest of the audience in a topic. About 10 to 12 cards usually suffice for one topic. Flash cards should not be used with large gatherings.

#### **12.4.5.3. Communication characteristics of Flash Cards**

- a) Sequence:* Different steps in a topic can be shown in a sequence. This will avoid distraction. Attention can be attracted from one step to another.
- b) Suspense:* Suspense can be created among the learners by using flash cards. When we show the first card with some idea in a sequence, suspense is created and the learners eagerly wait to know what will happen next.
- c) Story-telling:* People like to hear stories. Using flash cards is like telling a story which creates interest among the learners.

#### **12.4.5.4. Rules for preparation of Flash Cards**

- a) Know your audience:* Try to know the audience to whom you are going to convey some idea through flash cards. For this we should know their background, interest and problems etc. This will help us to prepare effective flash cards.
- b) Choose your subject matter:* Choose your subject very carefully. Clear objectives are basic to any good presentation or teaching assignment. It is not enough to decide for example to cover the way to call poultry birds; we need to know exactly what points we want our audience to understand what action has to be taken by them, and possibly what preconceived notions of the audience we shall have to displace.

**c) Pick up the main points:** Write down all the important points which seem good for conveyance to the audience. Now sort out the essential points from these points. In this way we can limit the number of cards to the minimum.

**d) Draw a picture for each point:** For this we should make simple drawings and should have one idea for each card. Two or three ideas together on one card will not be good for the audience. Do not crowd with figures. Too many illustrations are distracting. Further, the illustrations should be adapted to local conditions.

**e) Show action in pictures:** Make figures or pictures to show some action because static figures are not forceful and interesting.

**f) Make the illustrations big:** We should try to make illustrations as big as possible according to the number of people to whom we want to show them. Flash cards are not feasible for a large gathering or crowd. Even then the illustrations should be big so that everyone in a group can readily see and understand clearly.

**g) Use colour:** As we know, colour attracts and creates interest in the human mind, so we should use colour in pictures to make them attractive. If the picture is self-explanatory, we need not give it a caption as this would only distract the attention of the audience from the picture. Captions on flash cards should be brief. It is better to limit them to five or six words.

**h) Write the talking points:** If we write the talking points on the back of the cards, it will help us to follow our subject easily. Points should be written in the right-hand corner on the backside. For the first card the points should be written on the last card and for the second, the points should be written on the back of the first card and so on.

**i) Cards should be numbered:** Flash cards should be first serially arranged to the subject matter and each card should be numbered at the top on the backside for convenience of use in sequence and continuity.

#### **12.4.5.5. Some tips for using of flash cards**

a) Before using flash cards in front of the audience, practice using them repeatedly. One should be able to use the cards without evidence of any visible effort. This enables better concentration on the talk.

b) Before going to the meetings arrange the cards logically by numbering them at the back.

c) See that the cards are clearly visible to everyone in the audience. Hold them before your chest on your left palm, so that everyone can clearly see and read them.

d) Explain the cards properly. Do not merely show them. At the end of your talk summarise the main points which you want your audience to remember.

e) Talk to the audience and not to the flash cards. The group should not normally comprise more than 20-30 persons.

f) Flash cards are especially useful when people need drill. Have people work together when using flash cards.

g) Do not flash cards for prolonged periods of time.

#### **12.4.5.6. Advantages of Flash Cards**

a) They are easy to make

b) They are easy to carry and handle

c) They are cheaper to make

d) They can be used again and again.

e) They provide suspense and sequence

f) Technological knowledge can be transmitted to illiterates through these cards.

g) Logical presentation through these cards keeps the audience attentive.

#### **12.4.6. Pictures**

Without pictures the world to day would not be as meaningful as now it is to most of us. Pictures crystallize ideas and form much of the basis for thinking. In teaching, pictures may be used to (i) arouse interest (ii) Introduce new subjects (iii) illustrate specific steps in the problem (iv) build wholesome job attitudes (v) develop appreciation



(vi) test students' knowledge and review units of subject matter. Pictures are old familiar friends both of teachers and students.

#### **12.4.6.1. Selection of Pictures**

Pictures cannot be selected haphazardly. The teacher must judge the relative merits of available pictures before he uses them and select those best suited to his specific purposes. From this standpoint both educational and artistic considerations are important. Prof. Wittich and Schuller have suggested the following five criteria as a practical guide to the teacher in selecting pictures for class-room use, viz., suitability for teaching purposes, artistic quality, clarity and size validity and interest.

#### **12.4.6.2. Tips for using pictures**

A picture is valuable in teaching only when it is effectively used to put across a specific point. Generally the following steps should be observed while using pictures for class-room Instruction.

*a) Preparing students:* The students should be well prepared to take interest in the picture before it is presented. With a little effect, the instructor can put each student in a receptive mood.

*b) Timely Presentation:* Pictures cannot be abruptly presented. Pictures should be presented only when they are thought to illustrate the oral description or some verbal explanation. In order to present a picture for proper understanding, each point must be indicated to the students in logical order.

*c) Application of Information:* The student should be given an opportunity to apply the information obtained from the picture as soon as possible.

*d) Checking students' understanding:* It is desirable that teacher should check up student's understanding of information given by the picture. Errors in students' interpretation of the picture should be sympathetically corrected.

*e) Review:* Do not hesitate to re-show a picture, if you think it might clear up a discrepancy or correct an error.

#### **12.4.7. Photograph**

Photography has the power to reproduce what we see. Like creative art, photography requires practice. First it is important to practice seeing good pictures. Second skills required to respond quickly to good pictures and finally to practice being spontaneous.

#### **Duties of a Photographer**

- ◆ Taking a picture with good composition and news values
- ◆ producing photographic prints of excellent quality
- ◆ Too 'gray' pictures or too much contract or amateur photography
- ◆ Reporter and photographer should work together

#### **Rules for good Photography**

- ❖ Be sure your camera is located
- ❖ Advance your film after each shot
- ❖ Catch your subject when it is not moving
- ❖ Shoot with the sun behind you
- ❖ Give importance to your subject by centering it

#### **CAMERA**

Primarily a light proof box with the following important parts

Object lens	: Bending the selected light from object
Diaphragm	: A device which controls the quantity.
Shutter	: A device which controls the duration for which light passes into the camera.
View finder	: For composing the picture
Exposure counter	: To read the number of exposure
Speed setter	: To synchronise the camera to that of the film's shutter release speed.

## **Types of camera**

**I. TLR:** Object lens and view finder lens are at two different levels, hence paralox error.

**SLR:** Same lens. So no paralox error. Suitable for close up shots and slide making.

**II. Fixed lens:** Minimum distance to be kept is 6' and not suitable for slides

**Replaceable lens:** Good for close ups. Telefocus, wide-angle, close-up and any type lens can be used.

**III.** Box camera, folding camera, miniature hot shots, cut film camera, poloroid camera, field camera, cine camera of 8mm, 16mm, 35mm and 70mm, and video camera 'electronic' are some other types of cameras.

## **FILMS**

It is a transparent sheet of plastic with a coating of photosensitive chemical one side.

Photographic film:

cut film - field camera

Roll film - 110, 120, 620 and 35

cine film - 8, 16, 35 and 70mm

Speed of the film:

ASA numbers

ASA 25, 50 - slow

ASA 120 - medium

ASA 200 - fast

The film may be colour or block and white. The film may be positive or negative. The positive films (for slide making) are available in the commercial names ending 'ochrome' (eg.) Ektachrome, Conicachrome., Orwochrome etc. these positive films, after exposure, are sent to the respective companies for development. there the slides are made

after development and mounted slides are sent by post. The negative films are used for taking photo prints. After exposure these negatives are developed in any local shops and now there are computers available for taking prints.

From black and white films the colour prints could not be made. If colour prints are wanted water colouring is to be done. But with the colour films the black white prints can also be made, with some reduction in the depth of print.

### **How to take photographs**

- ◆ Select the camera for the purpose
- ◆ Select the film for the purpose
- ◆ Load the camera and bring the first frame to position
- ◆ **Know your object** : immovable, moving , microbes, portraits, etc.
- ◆ **Check the light**: Bright, dull or dark. if dark use the flash light
- ◆ **Set the diaphragm**: ranges 2.2, 4.0, 5.6, 8.0, 11.0, 16.0 and 22.0. Lessor the number widen the opening. Lessor the light widen the opening and more the light narrow the opening. If close-up shots are taken wider the opening and long shots are taken narrow the opening.

- ◆ **Select the shutter speed:**

Ranges: 1, 2, 30, 60, 100, 125, 250, 500, 1000 & 1500

Dull light stationary objects: Low shutter speed.

Bright lights moving object

Moving cameraman : High shutter speed

Flash lights: Synchronies the speed with the power of the flash light

- ◆ **compose your picture**

a. by going further or nearer the object

b. by changing the suitable lens

- wide angle lens : for more coverage
- tele lens : for close-up of a the
- close-up lens : for close-up of the objects like  
insect, disease symptoms etc.

- ♦ **Focus the objects:** Focus sharply by looking the straight edges of cut figures or spilt figures.
- ♦ **Release the shutter:** Hold the camera firmly for avoiding the shaking. Press the shutter release gently. Advance the film before next shot.
- ♦ **Unloading the camera:** Unhold the film following the instructions given in the manual. Do it gently and carefully. Wrap in a black paper and put into the container.

The packed film is sent for development at the dark room.

### Common mistakes one may commit

It is not enough one should know how to take photographs. He should also know the possible mistakes to committed by any photographer.

	Mistakes	How to identify	How to rectify
1	Bad focus	Unclear or hazy pictures.	Focus correctly.
2	Camera moved	Both the object and background unclear.	Firmly hold camera / use tripod stand.
3	Object moved	Object alone unclear.	Increase shutter speed.
4	Under exposure	Dark pictures.	Open diaphragm and reduce shutter speed.
5	Over exposure	Object looking washed out.	Cut diaphragm and increase shutter speed.
6	Double exposure	Overlapping objects.	Advance film after every shot.
7	Distracting background	Importance to object lost.	Open diaphragm.
8	Flash not synchronised	Dark and unclear pictures.	Use better flash lights choose correct shutter speed.
9	Unexpected	No pictures.	Correctly thread the film in the take-up spool.
10	Scalping	Important portions of object cut.	Correctly compose the film

### **Use of photographs**

- ✧ To supply information and idea
- ✧ To arouse interest
- ✧ To stimulate discussion
- ✧ To raise questions
- ✧ To illustrate specific steps
- ✧ To build wholesome attitude
- ✧ To develop appreciation
- ✧ To test the knowledge of learner
- ✧ To speak universal language
- ✧ To overcome time and distance

### **A good photograph should be**

- Authentic in giving details
- Simple in composition
- Represent relative size of items
- Show action to be realistic
- Artistic to be attractive
- Natural and informative
- Free from blemishes, spot or scratches.

## **12.5 TWO DIMENSION (PROJECTED)**

### **12.5.1. Projection techniques**

#### **12.5.1.1.Types of Projection**

##### ***a) Direct Projection:***

The slides projector, film-strip projector and the film projectors are based on direct projection. In such projection, the rays of light directly come from the projection lamp or some other source of light, pass through the condenser, the object (slide, film-strips or film), the objective lens and finally the enlarged image appears on the screen. The loss of light in this projection is very negligible.

***b) Indirect Projection:***

This principle is used in the overhead projector. The rays of light come from a projection lamp, enter one element of a condenser lens unit and are reflected by a plane mirror placed at an angle of  $45^\circ$  with either of the axes of this condenser lens unit. The reflected rays enter the other element of the condenser unit, pass through the slide, or the transparency, enter the objective lens and are again reflected by another plane mirror, placed at an angle of  $45^\circ$  with the axis of the objective lens to form an enlarged image of the material on the screen. The source of light in this case is considered to be indirect, so this method is called “indirect projection”. The loss of light in this case is more as compared to direct projection.

***c) Reflected Projection:***

Opaque projectors are based on this system. In this method the light indirectly coming from the lamp hits the surface of the picture (object to be projected) at an angle and consequently the image of the object. The reflected image is made to pass through the objective lens by the rays of light coming all the way from the projection lamp, and finally a magnified image appears on the screen.

**Environment for good projection**

Projection is more than a mere setting up of machines and a mechanical flashing of pictures on a screen. To have good quality projection and to utilise it effectively, needs several considerations have to be made.

***(i) well-equipped classroom:*** Every audio-visual situation involves the selection of a room in which the use of aids can be properly accomplished. Most classroom designs are provided for most convenience except that of projection. Whereas the use of audio-visual aids is being expanded. The necessity for providing adequate facilities for projection in all of its variations is not receiving adequate attention from the architects of the modern classroom. It is therefore highly desirable that classrooms be designed and equipped to facilitate the use of audio-visual aids. Facilities must be provided in each classroom for

presenting graphic aids, such as charts, graphs, flannel graphs, photographs and projection of projected aids, such as slides, film-strips, movies, overhead transparencies and opaque material. This would require the provision of:

- (a) Facilities for instantaneous darkening of classrooms for projection.
- b) Improved multipurpose blackboard-cum-flannel board, fitted with folding screen.
- c) Adequate electric connections for simultaneous use of audio-visual equipment.
- d) Provision of audio-visual equipment such as overhead projector, video record players, T.V. monitors, slide projector, supported by adjustable height stands.
- e) Provision of a separate cabin for the operation of movie and slide projectors with proper signaling system between the teacher and the operators.
- f) Proper seating arrangement.

**(ii) Seating Arrangement:** The seating arrangement should be convenient for the learners. Also it should match the maximum brightness reflection pattern of the projection screen. Besides, seating arrangements should be such as to allow face-to-face discussion amongst the participants and the teachers.

- a) When using projected aids, no one should be seated nearer than the distance of 2 screen widths or farther than the distance of 6 screen widths. Thus, if we use a screen of the size 1.80m x 2.40m, the seats should be between 3.60m and 10.80m from the screen. These are not absolutely essential requirements but rather an ideal arrangement.
- b) Further, most of the screens commonly available in India, Viz. glass-beaded, matte etc., are such that their optimum reflection area is between  $25^\circ$  and  $30^\circ$  on either side of the projection axis. Thus the seats in a classroom fitted for use of projected aids should be within this area. This means that the classrooms should be rectangular.
- c) Where the existing classrooms are broad, lenticular screens (particularly the optiglow lenticular type) will have to be provided as these screens have a relatively wide viewing angle (up to  $50^\circ$ ) on either side of the projection.

### **Projection Screens**

A good screen is essential for successful projected picture viewing. Many different types of screens are available. Each has a specific purpose when used under



certain conditions. Some screens are wide angle, some are narrow and others are made for rear projection.

***The beaded screen:*** The beaded screen is probably the most commonly used type because it provides a better reflecting surface than most other kinds. This screen is covered with minute glass beads that serve as the reflecting surface for the projected picture. This type of screen has a narrow viewing angle and is particularly successful when used in a long narrow room. It should not be used in a wide room where the trainees would be seated more than twenty-five degrees to the right or left on a line perpendicular to the centre of the screen.

***The matte screen:*** The matte screen has a smooth white surface. This type does not reflect as much light as the beaded screen but is recommended for use in a wide classroom. Those trainees who must be seated beyond a line twenty-five degrees to the right or left on a line perpendicular to the centre of the screen will receive a better view of a projected picture on a matte screen than on a beaded screen. Thus the matte screen is often used in wider classrooms or auditoriums.

***The aluminium or silver screen:*** The aluminium or so-called silver screen was one of the first types used for projection. It has, of course, been greatly improved since the early days of motion pictures. Today, aluminium screens are recommended for the projection of stereo or three-dimensional pictures. In addition, they are highly recommended by some for the projection of colour slides or films.

***Lenticular screen:*** The 'lenticular screen' can be recognised by the series of vertical ridges and valleys on the surface. This screen has a wide viewing angle on either side of the projection  
***The translucent screen:*** The translucent screen is a semi-transparent material, such as engineer's tracing cloth or other professionally prepared surfaces. The projector is placed behind the screen, and the picture is projected through the screen and viewed from the front. In using this type of screen, the picture in the projector must be reversed, so it will appear in the proper position for reading titles and viewing pictures.

In using sound motion pictures on the translucent screen the picture cannot be reversed, since the sound track must always be located on one side of the film. In this case, a series of mirrors must be used to reflect the picture into the proper position for reading on the screen. The screen size is usually small, and the viewing audience is therefore limited.

***Plastic screens:*** The plastic screen is of the rear-projection type, made in one piece, with an etched surface for projection. It is quite successful for viewing in a lighted room, although the size of the picture is somewhat restricted.

### **Screen size and seating arrangement**

The correct screen size is important. Most people are now buying square screens instead of oblong ones. If a number of different projectors are to be used, such as opaque or 2 x 2 slide projectors, the square screen would be better. By pulling the screen only partially from its case, the square screen can also be used for motion pictures, film strips and other projected materials that are oblong.

The ideal screen size for any room should be found by testing different sizes from the back of the room. Titles and other reading materials in projected pictures should be large enough to be read from the last row of seats in the room. The 2-6 formula is quite often used in selecting screen sizes. This formula indicates that the first row of seats should be at a distance from the screen that is twice the screen should not exceed six widths of the screen. Using this formula, a 36-foot room would need a six foot screen as a minimum size.

### **Screen position**

The projection screen is usually located at the front of the room, but, in modern rooms with movable seats, it might be advisable the screen in some other position. In some instances the screen might be placed against the outside light source, since this would minimise the extraneous reflected light which causes a poorly projected image. Thus screen placement may help present a better projected picture in a room without proper light control, but it cannot take the place of proper darkening of the class room for

ideal projection. If the screen is to be used for first or second graders, it should always be at an appropriate height to present the picture to the entire audience with a minimum of strain on the viewers.

Screen selection, care and placement are important to good projection and should receive major consideration. Small screens may make the projected pictures quite ineffective for use in the classroom. Old, dirty projection surfaces cut down the reflected light to such an extent that only a small percentage of the audience can see the picture properly.

### **Key points in using projected aids**

1. Preview the material to be projected (film, slide, transparencies etc.,) to insure proper handling of the material. Note the contents of the material in separate files for easy reference.
2. Set up the equipment and screen to provide the best vision on the screen.
3. Check seating arrangements to prevent distorted image.
4. Check lighting.
5. Check ventilation.
6. Test the projection equipment and have an advance rehearsal.
7. Always follow the instructions that accompany the equipment.
8. Place 'Keep out' signs on door to prevent people from entering during the shows.

### **12.5.2. Opaque projector**

#### **Epidiascope**

In India and England, opaque projector is also called as Epidiascope. The word “epi” means upon and “scope” means a machine for a looking upon. It projects opaque pictures. The Americans call it “Spencer Delineascope or Baloptician”. It uses two systems of projection: (1) direct system to project transparent materials, and (2) reflected system to project opaque materials. It is a combination of a slide projector and an opaque projector. It is fitted with two different objective lenses.

In the epidiascope, the projection lamp is fitted as to allow movement in the desired inclination. Change of epidiascope (reflected) to diascope (direct) projections is done by levers.

### **Use of Epidiascope**

The object (picture, diagram or a page of book) is placed on the platform, which is brilliantly illuminated by a bright projection lamp. A reflector is used to concentrate the light on the material being projected. The projection lamp, which is usually of 1000 watts, produces much heat and so there is a fan for cooling. The large mirror placed at an angle of 45 degrees above the object being projected, reflects it and sends an image through the objective lens to the screen.

### **Parts of Epidiascope**

(1) Epi and dia projection adjusting lever. (2) Platform, adjusting lever (3) Knob to adjust dia-objective lens. (4) Knob to adjust the level of epidiascope. (5) Epi-object lens. (6) Terminal (7) Switch (8) Knob to open chamber (9) Film-strip and film-slide adjustment.

### **Preparing materials for projection**

**Materials:** Pictures, cartoons, drawings, magazines, illustrations, etc., which are to be projected, can be arranged on a strip of paper which can be rolled or mounted on cloth-strips or on card board.

### ***To prepare folder card sets:***

- (1) Assemble a group of individually mounted pictures in the desired order. Use 8x8 inches mounts for folder card sets.
- (2) Lay pictures out on table in order from right to left facing you.
- (3) Attach each mount to the next one with a piece of  $\frac{3}{4}$  of an inch cloth-binding tape on the back.
- (4) Leave a small space about  $\frac{1}{16}$  or  $\frac{1}{8}$  inches between mounts to allow for the folding.
- (5) Place topic, unit or subject and other identification on the back of the first mount to facilitate filing. These pictures will fold into a small compact unit and as each mount is pushed through the projector. It refolds in the same order.

***To name a rolled paper base:***

- (1) Arrange related illustration in the desired order
- (2) Secure ordinary rolled wrapping paper, if necessary trim to 8 inches width
- (3) Paste the materials in the centre of the paper, facing you, allowing 6 inches for each picture
- (4) Work from right to left and leave at least 1 inch between pictures
- (5) Roll the complete unit and fasten with a rubber band or string
- (6) Identify material on outside of roll for filing.

**Operating an opaque projector**

- (1) Set up projector and insert plug in electric outlet.
- (2) Turn on lamp
- (3) Turn on motor for cooling system
- (4) Place picture on model tray or “plate” and bring housing into place with lever.  
The bottom of the picture should face the front of the machine
- (5) Bring image to sharp focus by turning lens left or right
- (5) If the picture are of post card size, or smaller use the card-holder which is in the slot under the model tray
- (6) If using a newspaper, magazine or textbook or actual object, adjust the lens for each.
- (8) Turn blower to fuller speed
- (9) After showing material, turn off blower and lamp.
- (10) Hold up extension cord, cover projector and return the machine to storage.

### 12.5.3. Slide projector

#### Classification

Slide projectors are based on principle of direct projection. The classification of such projectors may be:

**1) 3.25 X 3.25 inches slide projector:** It requires either an electric lamp or petromax lantern for illumination. It is called magic Lantern or Projection Lantern. The petromax lantern is lighted and placed inside the projection chamber.

**2) Dual purpose projection lantern.** It can project 3.25 x 3 inches and 2 X 2 inches slides. It has a lens on sliding girdles with sufficient extension which gives a pin-sharp picture. It has a heat-proof, crystalline enamelled body. Acetylene gas as well as an electric lamp can be used in it.

**3) Multi-purpose projector:** This can also be of two types: (a) Petromax and (b) electric. These are suitable for displaying 3.25" x 3.25" slides or 2 x 2" slides, or 35 mm film-strips.

#### Operation of 2 x 2 inches slide projector

- 1) Carefully remove the projector from the case and place on a table or any table stand.
- 2) Insert projector plug in electric outlet of proper voltage.
- 3) Adjust screen in front of the projector.
- 4) Insert slide carrier in its holder.
- 5) Check it for centring and secure it by tightening the set screw.
- 6) Place a test-slide in the right hand side of the carrier and gently push the frame over to the centre.
- 7) Turn on projector light.
- 8) Focus image on screen by turning the objective lens backward or forward.
- 9) To change height on the screen, adjust wing nut at the base of the projector or put something like a book under the projector face.

### **Advantages of slide projector**

- a) Potential high quality of pictorial slides
- b) Natural colours
- c) Using 35mm camera you can produce your own slides
- d) You can change the order of your slides to fit the situation.
- e) Magazine loading
- f) Automatic with remote control

### **Disadvantages of slide projector**

- a) Needs planning and preparation
- b) Needs darkened room
- c) Loss of contact with audience in darkened room
- d) Difficulty of reading notes in darkened room
- e) Operator problems with manual machines
- f) Fixed order of slides during presentation
- g) Possible low quality of prepared slides
- h) Slide 'popping' - focusing problems
- i) Finger marking

## **SLIDE-CUM-FILMSTRIP PROJECTOR**

The most commonly used slide of today is made on 35mm film. The following points are to be remembered while using this projector.

- ❖ Insert the slide in an exactly "inverted position" to have the image insert in the right position on the screen.
- ❖ Focus and centre the image on the screen.
- ❖ Turn the switch first to 'fan' and then to 'lamp'. Similarly put off the lamp first and after the equipment get cooled put off the fan.
- ❖ Turn the objective lens and get the sharp image.
- ❖ Keep the slides in order.'

- ❖ The disc type or lenear type carriers are available.
- ❖ Now slide synchronizer is available. With the help of this synchroniser the slides are screened with the recorded commentary in the cassette player.

### **Advantages**

- ❖ Slides can be made at low cost
- ❖ natural colour slides are now possible
- ❖ The slides an projector can easily be transported
- ❖ Slide sequences can easily be changed to keep them timely and localised
- ❖ Each slide can be retained for any length of time according to the teaching situation.
- ❖ Pertinent slides can attract attention, arouse interest, assist lesson development and learning process.
- ❖ The audience can interfere the extension worker at any time to get their doubts clarified
- ❖ Complete process can be explained step by step

### **Limitations**

- They do not show action
- A live narration is essential to be effective
- The film strips have the special limitations of
  - The sequence can not be altered
  - Surface of film strip may become scratched after profuse use and
  - The teacher is dependent on film strips produced commercially, which may not suit his requirements.

### **12.5.4. OVER HEAD PROJECTOR**

Overhead projectors are generally used in a classroom situation. An overhead projector transmit a strong beam of light through a transparency and onto a screen behind the instructor, who faces the learners while using it. The projector has a stage on which the prepared transparency may be placed and projected, or a blank transparency may be placed on which the instructor can write while teaching a topic. In most projectors, the



light is reflected through a larger plastic lens, which directs the light through the transparency into a second reflector above and onto the transparency onto the screen. An overhead projector can project transparencies of generally 10" X 10" size. The large image makes it possible to use overlays. The picture should not be projected too high on the screen because it will cause a key stoning effect. The operation of the projector is very simple. Overhead transparency blanks are available in the market. Even ready made transparencies are also available in large numbers. The transparency is placed on the projector stage, the projector turned on and the material focused by raising or lowering the upper reflector unit by turning a knob.

### **OHP Transparencies**

***Types of OHP Transparencies and their use:*** One may prepare different types of transparencies and use them effectively as follows:

- a) Single sheet prepared on only one acetate sheet. Such a transparency may either be projected wholly or at a controlled rate by progressive unmasking. A paper or a cardboard may be used as a mask. This technique is also known as revelation technique. Single sheets are also often used for on-the-spot writing and live teaching.
- b) Transparency scroll for continuous projection of prepared subject matters. Scrolls are also used to write on-the-spot and to use the projector in chalkboard mode.
- c) Overlays planned and prepared to add on information in steps. complicated sketch as may be built up in parts, the components may be labelled and unlabelled answers to questions may be added etc. by starting with a base transparency and by superimposing additional transparencies on it. Overlay transparencies should always be affixed on OHP frames or mounts with 20 X 25 cm opening.

***Preparation of OHP Transparencies:*** Transparencies may either be hand-made or machine made. In either case due care should be taken to select the content, the layout, and the most suitable type of transparency. It must be confined to 20 X 25 cm size and the layout should have an aspect ratio of 4:5.

Hand made transparencies must be clearly written with at least 5 mm size letters either free hand or by transfer letters of pamphlets. The transparency grid can be used while preparing the transparencies.

### **Using an over head projector**

1. Set up the projector. Install the head support. Attach the head assembly.
3. Adjust the top mirror by using the mirror tilt knob. Adjust the focus knob until the light on the screen has sharp ideas.
4. Place material on the transparency table and again adjust the focus knob as required. Practice pointing to item on the transparency.
5. Install the plastic roll over the plate. Practice drawing and lettering on the plastic roll.
6. Practice manipulating overlays.

***Effective use of Over Head Projector:*** The OHP and the screen should be positioned before the teaching session. It should be switched on with a transparency in position, as and when required. In other words, it should be switched off when the projected image is not being referred to and while changing transparencies. This practice helps in drawing the attention of the student to the screen when desired. It also prolongs the working life of the projection lamp. The fan switch, if provided, should not be switched off until the light source cools down. Thermostatically controlled fan would switch it off and on automatically even when the lamp is switched off. The main plug and switch should not be turned off soon after using the projector. One should not transport an overhead projector while the lamp is still hot. A spare lamp may, however, be kept handy light by movement and gesticulation. Transparent colour perspex arrowheads or pointed objects such as a pencil placed on the transparency at the platform are recommended for pointing. Direct screen pointers such as a long stick or a light-arrow are not suitable for OHP because in doing so:

Human silhouettes are irritating. So one should not interrupt the passage of

- i) the teacher cannot maintain eye-contact with the class
- ii) the shadow of the stick pointer on the screen creates

some confusion.

Different types of transparencies are used to create different learning effects. It is, therefore, desirable to conceive and prepare a variety of graphics on transparencies.

An OHP may be used singly or in conjunction with other aids. eg. Chalkboard and hand outs. it has been noticed that a completion type hand out activates a learner considerably while viewing a transparency.

OHP transparencies are particularly useful to show complicated diagrams step by step monograms, design curves and charts; sequence of steps; interacting elements and components; graphical solution of problem; to summarize and to evaluate a lesson.

### **Advantages of over head projection**

1. It is the simplest and cheapest of all projected aids.
2. It can be used in normal classroom light, thus enabling teachers to use different teaching methods, eg., discussion, question / answer and ensuring note-taking by students.
3. It projects from large transparencies which can be hand made or machine-made readily.
4. The teacher, while pointing at or writing on an OHP transparency, can maintain face to face contact with students.
5. Transparencies prepared in advance with graphics, ie., sketches, curves and verbal points make learning easier and faster.
6. Photocopies of transparencies may be handed to the students, if desired. Alternatively completion type handouts, may be designed and provided to the students in order to activate them.
7. Transparencies can be made in different colours and used in a variety of ways eg. revealing gradually, asking in parts, overlaying or superimposing two or more images, making simply movements of components, creating illusion of motion by polarising, projecting silhouettes of opaque objects or lifting photographs etc.
8. Transparencies may be reused by employing washable colour pens wholly or in part ie., to emphasize certain points during teaching.

9. Using transparencies is less strenuous and less hazardous than using a chalkboard.
10. Transparencies may be pre-arranged as a set of prepared and blank sheets to be used in a desired sequence.
11. Transparencies may be referred back and forth in the same or in different teaching-learning session.

### **Limitations of over Head projection**

1. Dependency on electricity
2. One way nature of communication
3. Straining the eyesight of learners
4. Inability to project pictures
5. Tendency to proceed too fast.

## **13. AUDIO VISUAL MATERIALS**

### **13.1. 16mm MOVIE PROJECTOR**

#### **Setting up the projector**

- a) Keep the projector on the table
- b) Remove cover
- c) Attach reel arms
- d) Put spring belts
- e) Give connections to power source and to speaker
- f) Switch on the projector lamp
- g) Initial adjustments - focusing on screen should be done.
- h) Adjust the distance between projector and screen.
- i) Centre the light vertically.

#### **Threading the film**

- a) Fix empty reel on lower arm and full reel on upper arm.

- b) Take the lead film, examine for beginning
- c) Check rewind operate lever is in operate position.
- d) Take 4 feet lead film, attach the end to the take-up reel.
- e) Follow the white guide line.
- f) Bring the film through upper sprocket
- g) Open the picture gate by pulling the lens
- h) Push the lens for its original distance to close the aperture plate.
- i) Run the film over the guide roller, under the pressure roller, around the sound drum and over tension roller.
- j) Thread the film under the lower sprocket.
- k) Finally under snubbed roller to the lower reel.

### **Precautions in handling the projector**

- 1) Always keep the projector on a firm base.
- 2) Supply correct voltage to the projector. High voltage will fuse out the bulb.

Most of the American projectors run on 110 volts A.C. (Alternating Current) and in India, the electric supply is in 220 Volts, so it is necessary to use 1500 watt step-down transformer is always preferred. When a generator is used to supply electricity to the 110 volts projector, the output voltage of the generation can be adjusted to 110 volts, and then connections may be made to the projector. So it is safe to run the generator at 220 volts, and step down the voltage to 110 volts by a transformer, before the electric power is fed into the projector. It is seen from experience that the projector lamp lasts longer if the projector is operated at a voltage which is about 5 volts less than the rated voltage. It is therefore, necessary to run generator at 210 volts and then stepdown the voltage to 105 volts so that the projector can be operated at this voltage. A generator, producing 115 volts, A.C. current can be adjusted to run at 105 or 107 volts before projector unit is connected to it. In this case, a transformer is not necessary unless the voltage is required to be stepped up to 220 volts to run 200 volts projector.

In case of 220 volts D.C. current, the way is to change the wiring of the projector so that a 220 volts bulb can be used from the main supply. An inverter or vibrator will be necessary to **OP** change the 220 V.D.C. to 110 V.A.C. so that the amplifier of the 110 volts projector can work:

- a) So see the correct current A.C. or D.C as is required in your equipment.
- b) Use transformer if A.C. supply is more than 110 volts.
- c) All connections in the projector should be in the off position.
- d) The transformer tapping or the resistance or converter should be set to the voltage of the main supply before making any connection to the projection.
- e) It is important that the equipment is earthened by connecting the third lead in the main cable to the earthen pin on the wall plug or other suitable points.

(3) Before threading the film, examine the film and see that there is no breakage. If broken during projection, then join by cement by cutting it at suitable point and pressing.

(4) Examining the hand winding knob to be sure the film is correctly laced.

(5) See that the loops in the film are of correct size.

(6) Never touch the film lens or condenser, or any other glass part with oily or dirty hands. These parts should be thoroughly cleaned with the lens-cleaning tissue paper. Never use a dry or wet piece of cloth.

(7) Lubricate the projector at regular intervals.

(8) Always put the switch in the following order.

(a) Amplifier (will take 12 minute to warm up);

(b) Projector lamp switch.

(9) Always keep spare parts, e.g., spring belt, exciter lamp fuse, projector lamp.

(10) Never take the projector bulb out immediately after it has been used.

(11) Before actually starting the projector, see that the correct speed is chosen for silent or sound film. If the switch is in the forward direction, the projector is switched on.

(12) Never attempt to remove or adjust the lens of the sound optical system, as it requires special training.

(13) The pilot light should always be off when projector is in operation.

#### **OPERATION OF SOUND PROJECTOR**

1) Unless the speaker and projector form one single unit, the cable must be plugged into an amplifier outlet.

2) Locate the speaker near the screen and off the floor. Check the sound system.

3) Warm up the amplifier several minutes before starting the projector.

4) After starting the projector, turn up volume. It should not be too much.

5) To obtain clear sound, adjust tone control.

6) Before stopping the picture, turn down the volume.

7) Put the projector on proper stand.

8) Fix up its screen at a distance of twice its width from the projector.

9) Open the projector, fit up the reel arms into the projector, and supply the proper spring belts to the reel arms.

10) Connect the speaker cord to the projector.

11) Check up the electric supply and see that you get the rated voltage for your projector.

12) Connect the projector to the power supply by means of "Power cord" provided with the projector.

13) Switch on the amplifier and advance the volume control a little. Inserting the microphone plug into socket in the projector, test the loudspeaker. The microphone can be removed after this test.

14) Switch on the exciter lamp and put the speed switch in "sound" position. Advance the volume control a little. If a piece of paper is moved in between sound lens and the sound drum, you can hear the sound effect in the loudspeaker. This test confirms that the sound optical system of the amplifier is functioning. The exciter lamp can be switched off after this test.

15) Switch on the motor and then switch on the projection lamp. In some projectors, such as Victor, the two operations are controlled by one switch. If the lamp is switched on first, it will be overloaded with current and be fused. Focus the light on the screen and adjust the tilting screw to bring the rectangular area of light to the centre of the screen.

16) Thread the film as described previously. Check up your threading by rotating the threading knob. If the threaded film moves as the threading knob is rotated, then it has been threaded correctly.

17) Be sure that the speed switch is in “sound” position. Switch on the motor. Operate the projection lever on knob, as the case may be, and let the film start moving.

18) Switch on the projection lamp and refocus the image sharply on the screen. It may be necessary to frame picture on the screen by adjusting a knob.

19) Switch on the exciter lamp and adjust the volume and tone controls for a pleasing and loud sound.

20) Stop projection when the “end” appears on the screen and remove the take-up reel from the arm. Leave the motor on to cool the projector.

21) After the show, disconnect all electrical connections and put everything in order as you want them for the next show.

**13.2. Television** ( This has already been covered in chapter 5.4)

**13.3. Video** ( This has already been covered in chapter 5.4.8)

## **14. USE OF MODERN INFORMATION TECHNOLOGY**

Information is an important resource in modern agriculture. The development of computers and improvement in telecommunications often farmers many new opportunities to obtain technical and economic information quickly and use it effectively for their decision-making. The modern farmer is a business man who tries to grow right crops and animals in the most profitable way. The amount of information a farmer can and should use for his management decision is increasing rapidly.



Previously the mass media gave generalised advice to farmers, but with modern information technology extension can provide for each farm and farmer without visiting the farm personally. The following are few modern information technology flow.

#### **14.1 VIEW DATA :**

This transmits the information from a central computer by telephone line to the screen of a home television set or a computer. The amount of information the system can store is limited only by the capacity of its computer. The farmer interacts with the central computer containing the data base. He can request the computer to make certain calculation by combining information from the data base with information from his own farm. For example he can calculate results he can expect from using different production techniques, or the income he can expect from selling livestock of a certain weight at a particular market.

Farmers would find it difficult to find the information they require, partly because they are not always quite clear which information they need for their decisions. Furthermore it will be expensive to use.

#### **14.2 TELE TEXT**

It is a system somewhat like view data in which printed information is broadcast through television rather than transmitted through a telephone line. It has no interactive capacity and it has a very much smaller data base.

#### **14.3. MICRO - COMPUTER :**

Through a micro - computer on the farm, the farmer can process accounts and data from his farm production. Many extension agents in industrialised countries now have micro - computers and can make similar calculations for farmer.

#### **14.4. NET WORK SYSTEM :**

Net work systems in which view data is connected with the micro-computer of the farmer or extension agent. This makes it possible to use data or computer programmes from view data in the micro-computer or to process data from the farm in the view data mainframe computer which can accommodate more complicated models than a micro-computer. These act work systems become important in relations between farmers and their suppliers and customers. They can also be used for extension information when they have been installed for that reason.

Following are some examples of the ways in which information technology is used to improve farmer's decision making.

**EXAMPLE-A:** Dairy farmers have to decide how much and which kind of concentrates to give as a supplement to the roughage's their cows receive. Their decision depends on the amount of milk each cow gives, the quality and quantity of the roughage's, the stage of pregnancy of the cow, etc. These data are entered in the farmers micro-computer. Each cow is connected with the computer through a small radio transmitter. This identifies the cow as it approaches the machine which dispenses the concentrates. The computer then calculate the appropriate ration and signals the machine which dispenses the measured amount of feed to the cow in her stall. This system ensures that fewer concentrates are consumed because each cow received only as much as she needs in a series of small amounts which she used efficiently to produce more milk.

**EXAMPLE - B:** A farmer has to decide which wheat variety to grow and when to sow it, without knowing what the rainfall pattern will be this year. The model can include random variation in the recorded rainfall pattern of his district as well as the agronomic characteristics of the wheat plant. In minutes he can simulate twenty different years using the computer model to predict the yield each year. This means the farmer can learn quickly from the accumulated experience without the danger of losing money if he makes the wrong decision. Some simulation models incorporate farmers' observations of weather conditions and the extent to which their crop is infested with various insects and diseases and make recommendations for the use of pesticides based on these data.

When farmers use this information technology the role of extension agents changes. For example, in pest control the extension worker used to tell farmers which pesticide they should use. With this information now readily available from a computer the worker now has the opportunity to teach farmers the basic principles of epidemiology on which computer model is based. The extension worker can help the farmers in teaching the following .

- a) how to select a computer and a computer system.
- b) Which data he has to collect and record on his farm to use with the computer programme.
- c) How to collect these data, for example, how to recognize the infection rate of different wheat diseases.
- d) To select the information he needs for his decision making, and
- e) How to interpret correctly the information he receives.

## **15. TRADITIONAL MEDIA**

### **15.1 PUPPETS**

Puppets can be interesting aids for telling stories to the village people. The puppets may be (1) Glove of hand puppets, (2) String puppets (3) Rod puppets, and (4) Shadow puppets. A glove or hand puppet is simple to handle for the students and they can prepare some stories which can be shown with the help of these puppets. Such puppets can also be prepared by the students in the class or at homes.

#### **15.1.1. Glove or hand puppets**

This is like to three-fingered glove which fits on the hand. The first finger is inserted inside the head and moves it, when we tell a story. The middle finger and thumb fit in the hands and move them.

#### **15.1.2. How to prepare a hand puppet. Materials required**

Post card, old newspaper, glue, two pieces of string, Indian ink, colour box, pins and brushes, scraps of coloured cloth, a pair of scissors, needle and thread.

### **15.1.3. Procedure**

(a) Roll the piece of used post card around your finger. Glue it into a firm tube which fits the finger.

(b) Crumple a piece of paper into a ball of the size of your finger, Press this ball over and around the tube on your finger, and gave it the shape of a head.

(c) Tie a piece of plain paper and use Indian ink to put on eyes, hair, nose, lips, etc., and put red and black colours as needed to give it an attractive appearance.

(d) Take a piece of bright coloured cloth and sew it into a long tube and tie the cloth on the neck and then turn it.

(e) Some puppets may be prepared to play roles of females, some of males or children. They may have moustaches, turbans, salwars, kurtas, etc., depicting the characters you want to show to the audience.

(f) The stage for the show of puppets can be prepared by using a wooden frame, two chairs, one cot, two pillars of verandah, two charpoys.

(g) The puppets should not be seen with the hands or body of the puppeteers. Songs or speech from the back or recorded talk are used. Usually, two puppeteers are behind the stage and only four characters can be on the stage at a time. The actual voices of men, women the children can be imitated.

(h) Before the show, a brief description of the dialogue is given. There should not be silent pauses. The dialogue should be quick and speeches and scenes should be short. There should be lot of actions, wit and honour.

### **15.1.4. Important points about puppet-plays**

i) In selecting a puppet-play it should first be borne in mind that puppets are suitable for those actions which are not very easy for children to perform on the stage.

ii) Secondly, in choosing a puppet-play we must see that there is a great deal of action in it. Children as well as adults love to see the puppets do things. A puppet show is likely to be dull if the puppets remain stationery for long in a scene.

iii) The play should have plenty of music and dancing as in a regular drama. A tape recorder, if available can be used to provide background music.

iv) As puppet-play should be a short one, in a long play the puppets and particularly the marionettes may get out of order.

## **15.2 DRAMA**

The students of the extension wings of Agricultural or veterinary college with the help of their teachers, teachers of village schools. VLWs and villagers, can arrange to produce dramas in their villages. This is a good source of entertainment and education for the villagers. The school building or any such place, which has a stage and some place for the village audience to sit can be used for drama. A curtain, if possible, with village pictures printed on it may be used as a backdrop. Petromax or lantern or electricity, either from power line or generator, can provide the lighting.

The subjects for drama stories may be:

- 1) Poor yields and role of demonstrations on improved practices.
- 2) Working and organisation of the government programme.
- 3) Role of democratic decentralisation through village leaders.
- 4) How to handle village problems like purdah, child marriage, waste of money through ceremonies, etc.,

## **15.3. FOLK SONGS AND FOLK DANCES**

The village have a great fascination for their folk songs and dances. We go closer to them if we participate with them and organise such functions, at times of exhibition, meetings, film shows, drama, etc. Songs connected with the development programmes and practices in local dialects can be composed by some student or villager and with the help of Harmonium, Table, sarangi, Ohani, Chimta, etc. This is a good way of conveying the information to the villagers. Competitions for songs and dances can be arranged and even some prizes may be given if possible.

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# CHAPTER III

## COMMUNICATION

### 1. DEFINITION SCOPE AND IMPORTANCE

#### 1.1. Origin

The word 'Communications' comes from the Latin word '*communis*', meaning common. This implies that when we communicate, we are trying to establish 'Commonality' with someone through a message. Communication, then, is a conscious attempt to establish commonality over some idea, fact, feelings and the like, with others. In essence, it is a process of getting a source and a receiver tuned together for a particular message or a series of messages.

#### 1.2. Defining Communication

Definitions of communication are many, but a few selected ones are given

- a. 'Communication is the discriminatory response of an organism to stimulus'.  
– *Stevens (1942)*
- b. 'Communication is anything that conveys meaning, that carries a message from one person to another'  
– *Brooker (1949)*
- c. 'Communication is a process by which two or more people exchange ideas, facts, feelings, or impressions in ways that each gains a common understanding of meaning, intent and use of message.  
– *Leagans (1961)*
- d. 'Communication may be defined as a process by which an individual – the communicator, transmits (usually verbal symbols) to modify the behaviour of other individuals Communicatees'.  
– *Hovland (1964)*
- e. 'Communication is all of the procedures, by which our mind can affect another'.  
– *Weaver (1966)*
- f. 'Communication is the control of behaviour through descriptive and reinforcing stimuli'.  
– *Hartman (1966)*

- g. 'Communication has as its central interest those behavioural situations in which a source transmits a message to a receiver(s) with conscious intent to affect the latter's behaviour'.  
– *Miller (1966)*
- h. Communication is any occurrence involving a minimum of four sequential ingredients : (1) a generator of a (2) sign- symbol system which is (3) projected to (4) at least one receiver who assigns meaning'.  
– *Robert Goyer (1967)*
- i. Communication is the process of effecting an interchange of understanding between two or more people'.  
– *Thayer (1968)*
- j. Communication is a purposeful process, which involves sources, messages, channels, and receivers'.  
– *Andersch et al (1968).*
- k. Communication is the process by which the messages are transmitted from the source to the receiver.  
– *Rogers (1983)*
- l. According to Dahama and Bhatnagar (1987) Communication is a process of social interaction, i.e., in a communication situation two or more individuals, interact. They try to tangibly influence the ideas, attitudes, information, knowledge and behaviour of each other. Communication is an exchange of information, knowledge, ideas or feelings taking place between two individuals. In a face-to face situation, however, communication is not a mere exchange of information but something more, because in such a situation along with the information one passes, the gestures, expression, language, the manner of expression and tone --all these combined together, create a sort of impact on both. Some kind of change occurs as a result of interaction. This change may be visible in terms of knowledge and behaviour.
- m. Communication means the movement of knowledge to people in such ways that they act on that knowledge to achieve some useful results. – *(Winfield)*
- n. Communication is the process by which a source sends a message to a receiver by means of some channels in order to produce a response from the receiver in accordance to the intention of the source. – *IRRI Publication on Communication process, 1992.*
- o. Communication is a give-and –take of ideas which blends into a mutual understanding of a theory principle or facts.  
– *(Kieffer & Cochran)*

An analysis of the above definitions reveals no complete agreement between social scientists on a single definition of communication. Thayar (1968) also lists several shortcomings of these definitions. Considering that communication is the most basic and earliest activity of the human organism, this appears rather astonishing. However, there is no cause for concern, as the lack of uniformity over a definition does not reflect a lack of understanding of the concept, nor does any definition change the laws of communication. In fact, communication is so diverse that any attempt to create a generally accepted definition becomes so profoundly involved that it hinders rather than helps in clarifying and understanding the subject.

Most of these definitions imply involvement of the actors over a message or content, some sort of interaction, by some commonly understood means, and with some effect. Analysis has also shown that several elements are involved in a communication encounter. Because of our interest in technology transfer, we can define “communication as a process by which extension workers individually, in a group or through a medium, exchange attitudes and share knowledge and /or skills on behalf of an organisation with farmers/ farm women, through such ways that each gains comprehension, understanding and use of the message”. This is a very limited view of the process of communication but will serve our purpose.

### **1.2.1. Agricultural communication**

Agricultural communication is defined as a planned transfer of farm technologies from the research system to the farmers’ system through extension system and media with a view to make desirable changes in respect of higher productivity, profitability and prosperity and also get feed-back from the clients.

### **1.3 Scope of communication**

- a. **Verbal:** The researchers show that, on an average, a person spends about 70 percent of his active time on communicating verbally – listening, speaking, reading and writing. In other words each of us spend about 10 or 11 hours a day on verbal communication. Language is one of the codes we use to express our ideas.



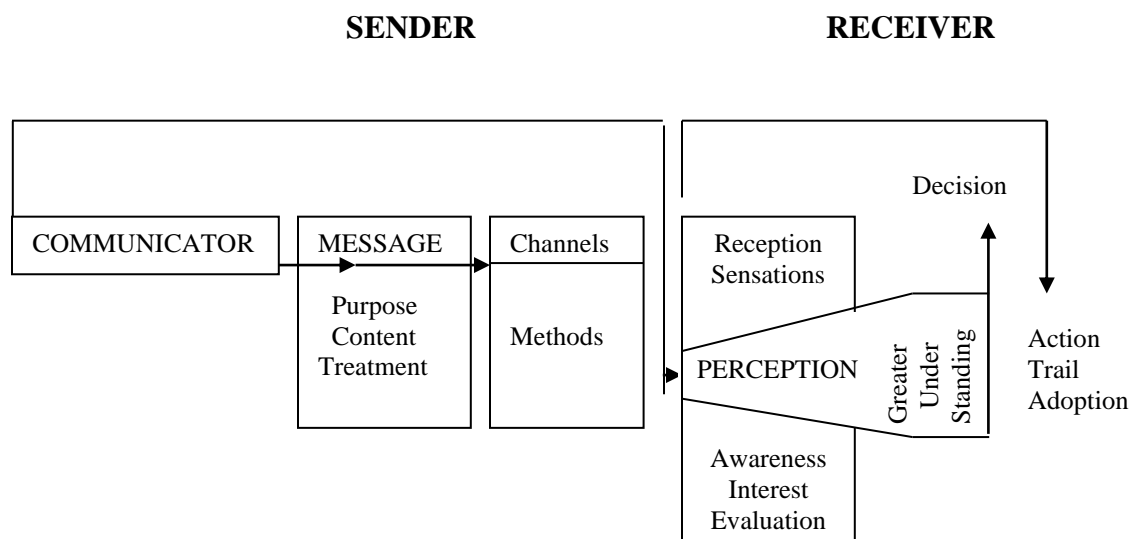
- b. **Non-verbal:** Non – verbal communication includes the gestures, facial expressions, movements of parts, etc., which make our communication more effective.
- c. People communicate on many levels, for many reasons, with many people, and in many ways. A typical man on an average day may communicate in the following ways (the illustration is about an Agricultural officer):
  - i. He reaches his office and gets his mails – it is written communication.
  - ii. He receives a peon in the office who conveys to him that the ADO wants him in his office – it is spoken communication.
  - iii. When the clerk enters his office and greets him with a “ Namaste, Sir” – it is spoken communication.
  - iv. He conducts a meeting of AAOs – it is group- communication.
  - v. When he comes back to his office and is engaged in thought about writing the report- it is self – communication.
  - vi. He goes through the reports from the AAOs – it is written communication again.
- d. The word communication has become popular in management, in industry, in agricultural universities the extension services and advertisements. Newspapers, magazines, oratory, photography, journalism are markets for professional communicators. The market has been increased by the need for advertising and public relation experts, radio, television and film producers, audio-visual experts, etc.
- e. Communication industry: Opinion seekers, attitude researchers and marketing researchers, etc., play their roles in the communication industry. On the basis of researches differentiations can be made between advertisements. The audiovisual experts create the impact of the message on the audience.
- f. Communication in management: In industrial management most of the time of the working day is spent in talking, giving information to subordinates, receiving information from top management and transmitting it to them. Meetings and interviewing increase the efficiency of workers and improve coordination. As automisation develops even the mere machine operator will spend more time in manipulating symbols.
- g. Communication removes the time-lag: The accelerated pace of research has made it more difficult for scientific, technical and operating personnel to keep abreast of

recent developments. An extension worker in agriculture is outdated if he lacks communication about the latest researches on wheat, paddy, soyabean and other crops varieties, the use of fertilisers and the plant protection measures developed in the last five years. This necessitates in-service training, development of communication centres, extension directorates and other such agencies to keep them up-to date. Similarly the farmers have to be demonstrated the improved practices, given information through radio-programmes, supplied with literature which they can follow they have to be given the opportunities of seeing demonstrations, exhibitions, the farms of the progressive farmers or agricultural colleges, etc. If this gap between the knowledge developed and the technology known to extension workers and farmers is widened, the pace of progress will be slow.

#### 1.4. Importance of communication in extension work

Communication has attained great importance in the community Development and Extension programmes. It is through this process that the aims and objectives of the programme are to be widely disseminated to the people and useful information to solve their problems is to be passed on to them. This necessitates that the extension workers should have a thorough understanding of the communication process (see Fig.1)

**Fig. Communication Process**



The extension worker cannot expect to bring about change unless he is able to communicate effectively. He has to create a conducive situation where information can be transmitted with greater impact on the people. The new knowledge acquired through research has to be disseminated to effect change in the methods of farming or living and in improving them. The central challenge, therefore, to the extension worker is to help people to adopt innovations for increasing the production of crops and livestock, to help homemakers into good homes, children, etc. The better the communication the earlier will be the development of a society. In general communication is important because

- a. communication establishes a favourable climate in which development can take place.
- b. Communication has multiplier effect.
- c. Communication raises the aspirations of the people.
- d. Communication is essential for all human activities.
- e. Communication is essential for good leadership.

## **2. FUNCTIONS AND TYPES OF COMMUNICATION**

### **2.1. Basic Function of Communication**

Communication has four basic functions

- a. Information function: The basic requirement of adapting and adjusting oneself to the environment is information. There must be some information which concerns the people. The getting or giving of information underlies all communication functions, either directly or indirectly.
- b. Command or instructive function: Those who are hierarchically superior, in the family, society or organization, often initiate communication either for the purpose of informing their subordinates or for the purpose of telling them, what to do, how to do, when to do etc. The command and instructive functions of communication are more observable in formal organizations.
- c. Influence or persuasive function: According to *Berlo (1960)*, the sole purpose of communication is to influence people, persuasive function of communication is extremely important for extension in changing their behavior in the desirable direction.

- d. integrative function: A major function of communication is integration at the interpersonal or at the organizational level. This helps to maintain individual, societal or organizational stability and identity.

## **2.2 Types of communication**

### **2.2.1 Verbal communication**

Communication through spoken words is called verbal communication. Past researches show that, on an average a person spends about 70 percent of his active time in communicating verbally.

### **2.2.2 Non-verbal communication**

Non-verbal communication may be anything what people do on purpose, intentionally in order to get something across to others. It also includes what people do out of habit or because of spur of the moment feelings, sometimes without their being aware of it. Our dress, smell, physical appearance, hair style, facial expressions, home surroundings and office arrangements etc. communicate meaning to other people.

In day to day communication events, we exchange our ideas and thoughts verbally only to the extent of 35 %. In a face to face communication, the other person may receive 65% of our message by means, other than words we use by our tone or voice, our gestures even by the way we stand and dressed. Some of the researchers term the study of non-verbal features of spoken communication related to voice productions and the articulation of sounds as 'para language'. 'Para' a prefix borrowed from the Greek language, means 'beyond language', so the term 'para language or paralinguistic' means "beyond language" and refers to that part of talking that goes beyond words, including extremely complex series of highly significance sounds, voice modifications and silences produced. Sebeok (1977) suggested the formula, 'communication minus language = non verbal communication'.

### **2.2.3. Intrapersonal Communication**

It refers to communication that transpires inside a person; and this happens all the time. It is like talking to oneself, listening to oneself and relating one to oneself.

Interpersonal or auto-communication, therefore, is important in contemplating. Conceptualizing and formulating our thoughts or ideas before we actually indulge in overt communication.

#### **2.2.4. Interpersonal communication**

Interpersonal communication occurs if one communicates directly with other people in a one-to-one situation or in small groups. Practically speaking, these situations usually involve 2-8 persons. The deciding factor is not the number of people but the direct interaction in a face-to-face manner is the essential feature.

#### **2.2.5. Group Communication**

Group Communication is an extension of interpersonal communication where a group of individuals are involved in exchange of ideas, skills and interests. Groups provide an opportunity for people to come together to discuss and exchange views of common interest.

Group communication is considered effective as it provides an opportunity for direct interaction among the members of the group; it helps in bringing about changes in attitude and beliefs.

Group Communication has limitations too, as group interaction is time-consuming and often inefficient especially in an emergency. Besides, imbalances in status, skills and goals, may distort the process and the outcome sharply.

#### **2.2.6 Mass Communication**

Any mechanical device that multiplies messages and takes it to a large number of people simultaneously is called mass communication. The media through which messages are being transmitted include radio, TV, newspapers, magazines, films, records, videocassette recorders etc., and require large organizations and electronic devices to put across the messages.

#### **2.2.7 Organisational Communication**

An organisation is a stable system of individuals who work together to achieve through a hierarchy or ranks and a division of labour, common goals and objectives. Like

human beings organisation also establish and maintain themselves through communication with their environments and amongst their parts.

Organisational communication is a distinct form of communication as it occurs in a highly structured setting. It is supposed to be a two-way communication where ideas should travel to and fro, without distortion or bias. It determines the quality and climate of human relationship in an organisation.

#### **2.2.7.1 Grape Vine Communication**

In communication literature, organisational communication has been classified into first, formal (follow-lines of authority) and informal (grape vine) communication. Whether the authorities wish it or not, informal networks do exist in all organisations. They can be source of clarity or confusions, depending on how they are viewed and utilised by the management. The informal channels do not cater to the employees information needs.

#### **2.2.7.2 Cross communication**

Incumbents in any organisation are naturally, as also professionally, required to interact with each other horizontally or diagonally within the administrative structure and is called cross communication. This is a basis for healthy cooperation and coordination at present.

Such communication takes place more at the lower levels and should be encouraged and utilised by the management. For adequate cross-communication an effective use of meetings, conferences, newsletters, special bulletins etc., can be made use of.

#### **2.2.7.3 Downward Communication**

The flow of information from top to bottom in the organisation is called downward Communication. The higher ups would like to send messages in the form of orders directions or general educational news either written or oral to different levels of the

organisation. Timeliness, quality and adequacy of communication are three important ingredients which must be kept in mind while communication down below the lines.

#### **2.2.7.4 Upward communication**

Two -way communication is an imperative in all types of interaction; the downward communication will be poor, incomplete and ineffective in the absence of proper and timely upward communications for many of the top-down communications are based on upward communications. In the context of the democratic decentralization concept in action, in our rural reconstruction efforts, upward communication occupies a still greater significance. But, unfortunately, upward communication has always been found wanting either due to the weakness of the lower staff, non-availability of facility or the discouragement of the higher-ups.

To enhance the upward communication, the administrators, managerial staff and supervisors should encourage counseling services, grievance systems, consultative decisions, opinion surveys, suggestion systems, informal get-togethers, formal and informal meetings and so on. Above all, all these devices will work when the superiors have an open door policy -open to facts, criticism and suggestions.

#### **2.2.7.5 Interorganisational Communication**

This refers to systems developed by each organisation to communicate with another organisation.

### **3. COMMUNICATION PROCESS**

#### **3.1. Process of communication**

In simple terms the basic process of communication comprises a sender or a communicator who has a message that he or she transmits or conveys through some means, say a channel, to a receiver who responds, according to his or her understanding of the message, to the sender (feedback) This is a simple , yet verbal version of

communication process which when explained pictorially in the form of a model will look like this :

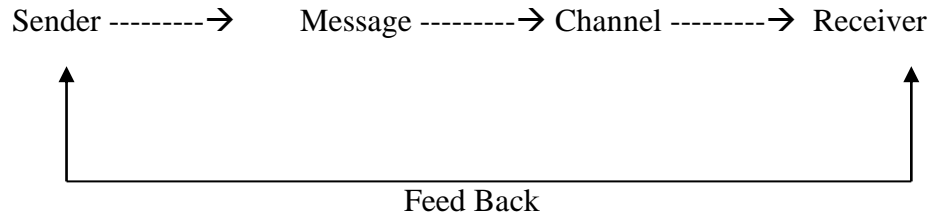


Fig.2. A Simple Model of Communication process

At a glance the model not only reveals the various elements of human communication but also their interdependence and the flow of communication from sender to receiver and back to sender. For instance, in a communication process there has to be a sender whose main intention is to communicate a message; what to convey is his/her thinking process; how to communicate the message is his / her choice of right means or channel; and whom to convey the message is his /her job to decide. The sender also needs to know the receiver's response to the message, whether or not it is being received as intended. Then only can the sender proceed further with the next act of communication and in this way it goes on and on. In this interaction process, there is an interdependence of relationship among the various variables of human communication. The mechanistic perspective of communication emphasizes the physical element of communication, the transmission and the reception of messages flowing in 'conveyor belt fashion' (B. Aubrey Fisher 1978).

The basic process of human communication applies to mass communication process as well, but as the nature of the latter's elements differ markedly, the process becomes different and more complex. For instance, in mass communication a big organisation that takes on the role of a sender, the message is not single but multiplied. Further, it is not as personal, specialized, and unique as in interpersonal communication. The multiplied messages are directed to large, scattered, heterogeneous audiences whose responses are delayed and diffused. Therefore, in mass communication the relationship between sender and receiver is often one-way and rarely interactional.



### **3.2. Characteristics or attributes of communication as a process**

#### **a. Dynamic**

Communication has an ever-changing character. It fluctuates constantly, is never fixed; has no clear beginning and ending.

#### **b. Systemic**

Communication should be recognized as a system that consists of a group of elements which interact to influence each other and the system as a whole.

#### **c. Interaction Through Symbols**

What is essential to communication is that symbols should arouse in oneself what it arouses in another. The language or symbols we select and the way in which we organize them affect how others will interpret our messages.

#### **e. Meaning is Personally Constructed**

Each of us generate an individual meaning from communication, on the basis of our past experiences and our ways of interpreting others. No two people construct the same meaning even if they hear or see the same thing. We must interpret another (persons) message before we can respond, and our interpretations are bound by our experiences, thoughts, feeling, needs, expectations, self concepts, goals and knowledge of these with whom we communicate. Each of us is unique so we interpret in unique ways. This is why we say that meanings are in people, not in words.

### **3.3. Basic elements of the communication process**

- a. communicator / source / sender
- b. Message
- c. Channel
- d. Communicatee / receiver / audience
- e. Response

- f. Feedback and
- g. Noise / Distortion

## **4. MODELS OF COMMUNICATION**

### **4.1. Meaning and Definition**

In order to communicate effectively, knowledge of the dynamics underlying the communication process is essential. One way to analyse communication is to present it in the form of a 'model'. A good model comes as close to reality as possible and discusses and explains the reality as clearly as possible. But being an abstraction, a model is not a reality, it only represents the reality of communication for better understanding of the communication process. For example, an architectural model of a house is only a representation of the house giving a fair idea of the number of rooms, layout etc., but it is not the house '*per se*'.

A model is a pictorial presentation to show the structure of communication process in which various component elements are linked. Arrows are used to depict the transmission of message from communicator to receiver. Models are based on assumptions that theorists make as to how communication and the role each part plays in the total process.

In scanning the literature on communication, we find several authors have attempted to present models or theories in order to give us a better understanding of the various elements in the communication process and their relationship. Most of these theories or models of communication have sprung up from a variety of intellectuals with varying backgrounds in psychology, sociology, sociology, anthropology, philosophy, political science, psychiatry, education and even electronic engineering, mathematics, as well as from professional communication areas such as speech, journalism, broadcasting etc., As a result we see the communication theory growing into what may be termed an interdisciplinary subject, often in constant ferment with mixtures never seen before.

On examining the evolution of communication model building, several phases become evident in which the emphasis starts with linear, one-way manipulative communication then begins to shift to organic, circular, two-way contextual communication. Later it shifts to interactional communication that is viewed in specific socio-cultural contexts though shared meanings.

## **4.2. Models.**

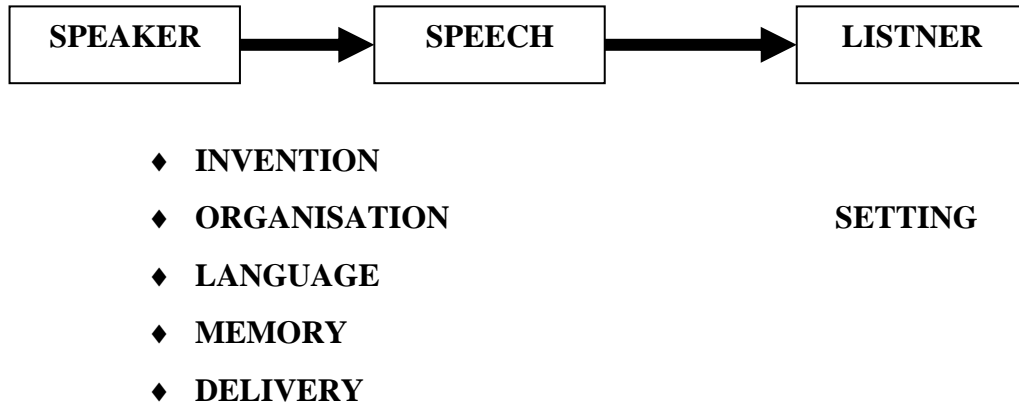
### **4.2.1. Aristotle's model of Communication [384-322B-C]**

In the Rhetoric, Aristotle (384-322 B-C) provides the first the basic persuasive communication model. He said that we have to look at three communication ingredients; namely the speaker, the subject and the audience. He meant that each of these elements is necessary to communicate and that we can organise our study of communication process under the three headings:

- a) the person who speaks
- b) the speech that he produces, and
- c) the person who listens.

Traditionally the creation of significant things to say by the source has been treated as "rhetoric invention". In classical antiquity a speaker was taught, five processes were involved in the study of communication, namely invention, organisation, language, memory and delivery. Message preparation, according to Aristotle involved invention, (finding material to be included in the message), arrangement (organizing the material in some persuasive manner), language or style (to fit the speaker and the audience), memory and delivery (the practice of actual presentation). Invention was the most important to many rhetoricians. Since the discovery of ideas was central to the whole process and all other elements seemed to emanate from it. Indeed, Aristotle uses "discovery of the available means of persuasion" as his definition of the whole art of persuasive communication. Another implication of Aristotle's conception of rhetoric is that persuasion is contingent upon the impression that a speaker creates or maintains. By and large Aristotle and later rhetorical theorists were interested in the ability to communicate effectively.

One of the greatest faults in Aristotle's theory was his view of persuasion as a one-way process flowing from the communicator to the receiver. He did not include in his writings the role that feedback can play in influencing the speaker.



**Fig : Aristotles model of Communication**

#### **4.2.2. Berlo's Model of Communication (1966)**

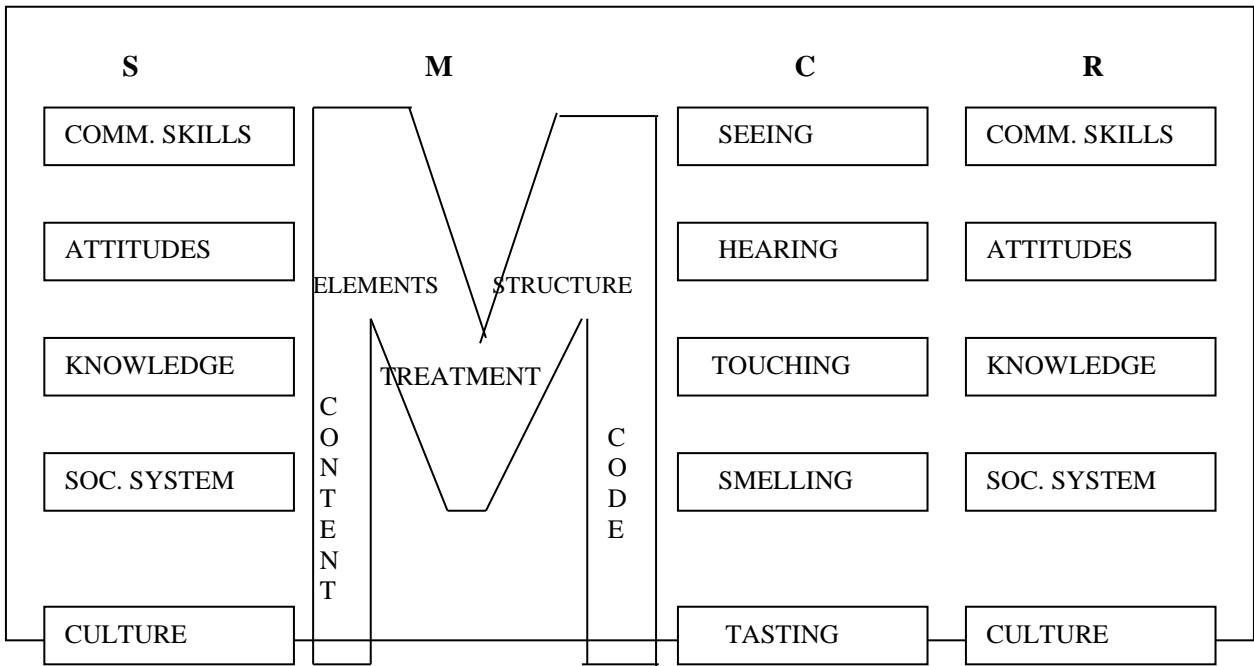
Berlo model is one of the most widely used and based on an impressive, background of behavioural theory and research. As a result it has exercised a far-reaching influence on communication research in the social sciences. According to this model, all human communication has some source. Given a source with ideas, needs, intentions, information and purpose for communicating, a second ingredient is necessary for communicating. The purpose of the source has to be expressed in the form of message. This requires a third ingredient, an encoder. The communication encoder is responsible for taking ideas of the source and putting them into a code, expressing the source's purpose in the form of message.

The fourth ingredient needed in a communication act is a channel. A channel is a medium, a carrier of a message. It is correct to say that message can exist only in some channel. However, the choice of a channel is an important factor in the effectiveness of communication. When we talk, somebody must listen; when we write somebody must read. The person(s) at the other end can be called the communication receiver(s), the target of communication. Just as a source needs an encoder to translate his purpose into a

message, to express purpose in a code, the receiver needs a decoder to retranslate, to decode the message and to put into a form that the receiver can use. So, according to Berlo (1960), the ingredients in a communication process include

- the communication source
- the encoder
- the message
- the channel
- the decoder
- the communication receiver

In this model, communication is seen as a continuous process in which noise is reduced by a process called feedback. As stated earlier, this model includes four elements – source, message, channel and receiver. It is fairly explicit about the elements involved in each. In sources, we find that the source’s communication skills, attitudes, knowledge and social and cultural systems are the important variables. The receiver has the same variables. Channels include seeing, hearing, touching, smelling and tasting, and messages are varied in their structure, elements, content, code and treatment. Berlo emphasizes that this model is far from static and needs feedback between a source and a receiver, when the source actually becomes a receiver and the receiver becomes a source. Once again, this is a linear model of communication with emphasis on the communicator. As stated earlier, this model has had a far-reaching influence on communication literature.

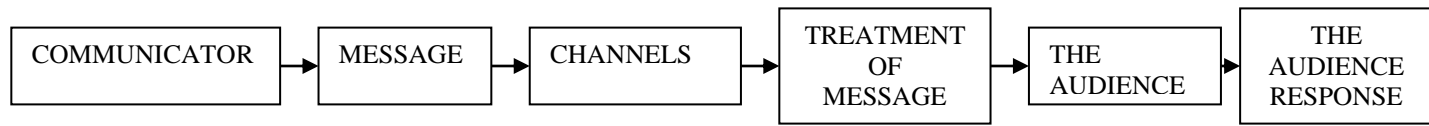


**Fig : Birlo’s Model of Communication**

#### 4.2.3. Leagon's Model Communcation (1961)

Leagans (1961) defined communication as a process by which two or more people exchange ideas, facts, feelings, impressions, in ways that each gains a clear understanding of the meaning, intent and use of the message.

According to him, successful communication in extension education requires a skilled communicator sending a useful message through a proper channel, effectively treated to an appropriate audience, that responds as desired. The key elements involved in his model are (fig.5)



**Fig. 5. Leagon's Model of Communcation**

- a. Communicator
- b. Message of content
- c. Channels of communication
- d. Treatment of message
- e. The audience
- f. Audience response

Leagon's emphasis on treatment of message and audience response comes from his background in extension education. According to him, the extension educator derives from his knowledge of technology and extension process, the principles and content from which he synthesises a system of communication to achieve educational objectives; he should continue to communicate, repeat, motivate, persuade, until the desired response occurs on the part of the receiver(s)

#### **4.2.4. Joseph A.Devito's Model of Communication**

##### **4.2.4.1. Communication Context**

Communication always takes place within a context. The context of communication has at least four dimensions viz., physical, social, psychological and temporal.

The room or hall or park - in which communication takes place, is the physical context.

The social dimension of context includes for example, the status relationships among the participants, the roles that people play and the norms and the cultural mores of the society in which communication takes place.

The psychological context consists of friendliness or unfriendliness of the situation the formality or the informality and the seriousness or humorousness of the situation.

The temporal dimension includes, the time of the day in which the communication act takes place. For many people the morning is ideal. Some communication behaviours, for example, political meetings seem to be more appropriate at night than in the morning or afternoon.

These four dimensions interact with each other, each influences and is influenced by others. If for example temperature in a room becomes extremely hot (a physical change ) it would probably lead to changes in the social and psychological dimensions as well

##### **4.2.4.2. Source**

He is the sender of messages. For effective verbal communication, the source should first identify the general communication needs, information needs emotional needs entertainment needs, motivational needs, aesthetic needs and ideological needs and specific communication needs of himself as well as the receivers before selecting the messages.

The communicator as perceived by the audience is a power determinant in communication Who is he? What are his motives? What does he know? What are the attitudes and skills? What does he look like? How does he act, write and speak? Is his

purpose to impart information that really helps or is it to show his knowledge? Questions like these and many other often enter the mind of people. When the communicator does not hold the confidence of his audience, communications will not take place.

#### **4.2.4.3 Message**

A message is the information a source wishes his audience to receive, understand, accept and act upon.

After exposure to a communication, if one remarks so what? or i do not get the point or where do we go from here ? Then it shows that he has not received the message. This may be due to poor communication

#### **4.2.4.4. Channel**

The channels of the communication connect the source and the receiver of messages. For this, they are the physical bridges between the source and the receiver of messages.

A channel may be anything used by a source to connect him with the intended receivers. Common channels in extension education are meetings of all kinds , radio, books, bulletins, letters newspaper, organized tours, personal contacts etc., With our proper use of channels, no matter, how important messages will not reach.

#### **4.2.4.5. Noise**

Many obstructions can enter channels. These are called 'Noise'-that prevents the messages from being heard. Noise may be environmental, biological, vocabulary, grammatical structural, emotional or social.

#### **4.2.4.6. Receiver**

He is the consumer of messages. In good communication the intended receiver would have been already identified by the source. The effectiveness of communication depends on what the receiver does in response to messages.

A receiver may consist of one person or many. It may comprise men, women or both, young or old, farmers, artisans professional groups and many other categories. The more homogenous a receiver group, the greater the chances of successful communication.



#### **4.2.4.7. Encoding and Decoding**

In communication theory the process of speaking or writing and understanding or comprehending are referred to as encoding and decoding respectively.

#### **4.2.4.8 Competence and Performance**

Competence and performance are essential for encoding and decoding. Competence is the knowledge and language, which is not include by any psychological or physical process. performance, on the other hand, is influenced not only by competence but also by other factors such as fatigue, anxiety, boredom, attention span, interest etc.

#### **4.2.4.9.Feed back**

Feed back means a response that comes from the receiver side which inturn interpreted by the source.

#### **4.2.5.10 Field of Experience**

The overlapping circles in the model refer to what is called a "field of experience". The assumption here is that communication can take place to the extent that the participants share the same experiences. Communication is ineffective or impossible to the extent that the participants have not shared the same experience.

#### **4.2.4.11 Communication Effect**

Communication always has some effect on the receiver. Response may be in the form of some kind of action (mental or physical). The number of possible kinds and degrees of response to messages received are almost infinite.

### **5. ELEMENTS IN THE COMMUNICATION PROCESS**

#### **5.1. COMMUNICATOR**

##### **5.1.1. Who is Communicator?**

The communicator is that person who initiates the process of communication. He is the source, originator or sender of messages. He is the to give expression to a message intended to reach audience.

A communicator may be an individual, a group or a social system. In each case the source may either represent itself or may communicate on behalf of someone else. i.e. all those change agents, extension workers, scientists, administrators planners, key are communicators etc. who individually or as a group are communicating in person or through a mass medium with rural people on behalf of an extension agency.

Who the communicator is, what he says, or does not say his status, his position vis-a-vis receivers, his credibility reputation, and receivers' expectations and past communication experience with him etc.-all these are to likely to influence his communication performance.

### **5.1.2 Characteristics of good communicator**

The following are characteristics of a good communicator

#### **A. He knows**

- a) his objectives-has them specifically defined
- b) his audience-their, needs, interests, abilities and pre-dispositions
- c) his message-its content, validity, usefulness and importance
- d) channels that will reach the audience and their usefulness
- e) how to organize and treat his message
- f) his professional abilities and limitations

#### **B. He is interested in**

- a) his audience and their welfare
- b) his message and how it can help people
- c) the results of communication and their evaluation
- d) the communication process
- e) the communication channels - their proper use and limitation
- f) how to improve his communication skill.

#### **C. He prepares**

- a) a plan for communication - a teaching plan
- b) communication materials and equipment's
- c) a plan for evaluation of results

D. He has skill in

- a) selecting messages
- b) treating messages
- c) expressing messages - verbal and written
- d) the selection and use of channels
- e) understanding his audience
- f) collecting evidence of result.

### **5.1.3. Characteristics of Poor Communicator.**

The following are the characteristics of poor communicators

- a. Fail to have ideas to present that are really useful to the audience.
- b. Fail to give the complete story and show its relationship with people's problems
- c. Forget that time and energy are needed to absorb the materials presented.
- d. Feel they are always clearly understood.
- e. Refuse to adjust to 'closed' minds.
- f. Talk while others are not listening.
- g. Get far too ahead of audience understanding.
- h. Fail to recognize other view point and develop presentation accordingly.
- i. Fail to recognize that communication is a two way process.
- j. Let their own biases over- influence the presentation.
- k. Fail to see that everyone understands question brought up for discussion.
- i. Fail to provide a permissive atmosphere.
- m. Disregard the values, customs, prejudices and habit of people with whom they attempt to communicate.
- n. Fail to start where people are, with respect the knowledge, skill, interest and need.

## **5.2 MESSAGE**

### **5.2.1 What is message ?**

A message is the information a communicator wishes his audience to receive, understand, accept and act upon messages, for example may consist of statements of scientific facts about agriculture, sanitation or nutrition; description of action being taken by individuals groups or committees reasons why certain kinds of action should be taken; or steps necessary in taking given kinds of action. Potential messages range as wide as the content of the programmes is.

A successful communication is one in which the major factors influencing the message are controlled as far as possible. This is the responsibility of the communicator.

### **5.2.2. Types of Messages**

There are two types of messages viz., intended message and perceived messages.

#### **5.2.2.1. Intended messages**

Intended messages are the ideas or feelings a source want a receiver to understand or know. They exist only with the source. They are to be coded if they are to be communicated Coding message intended refer what source want to say by choosing word and sentence structures.

#### **5.2.2.2. Perceived messages**

Perceived message are what a receiver hears, sees, touches, smells or tastes and decodes. This requires more than just hearing or seeing. It also involves interpreting (decoding) For e.g. A person who has heard just words has otherwise received only sensations, but has not yet received a message. The person must interpret what is received, and must give some meaning to the sensations. Just hearing the words does not form the perceived message.

In short perceived message is one which receivers interpret but not the actual words said by the source. In other words the perceived message is, the meaning a receiver attaches to the sensations received. These sensations may be sent either intentionally or unintentionally.

### 5.2.3. Dimensions of Message

As Berlo (1960) pointed out, at least three factors need to be taken into account in the message content. They are the message code, the message content and message treatment.

- (a) **The message code:** A code may be define as any group of symbols that can be structured in a way that is meaningful to some person. According to Berlo (1960), a code is anything which has group of element (a vocabulary) and a set of procedures for combining those elements meaningful (a structure) Language is a code. Whenever we encode a message, we must make certain decisions about the code to be used. We must decide (i) which code, (ii)its elements and (iii) the methods of structuring these elements.
- (b) **The message content:** We can define as the material in the message selected by the source to express his purpose. Content, like a code, has both element and structure. If you try to present three piece of information you have to present them in some order or sequence.
- (c) **The message treatment:** We may define the treatment of a message as the decisions which the communication source makes in selecting and arranging both code and content in order to achieve comprehension on the part of receivers. In general, message treatment refers to the decisions the source makes as to how he should deliver his message. For example, given his code and contain choices, a newspaper copywriter will use various type sizes to let his reader know that he considers some things more important than others. In interpersonal communication we use such phrases as 'now hear this,' 'listen', 'this is important'.

### 5.2.4. Characteristics of good message

A good message must be

- a. In line with the objective to be attained
- b. Clear--understandable by the audience

- c. In the line with the mental, social, economic and physical capabilities of the audience.
- d. Significant--economically, socially or aesthetically to the needs, interests and values of the audience.
- e. Specific-no irrelevant material
- f. accurate--scientifically sound, factual and current
- g. simply stated covering only one point at a time
- h. timely-- especially when seasonal factors are important and issues current
- i. supported by factorial material covering both sides of the argument
- j. appropriate to the channel selected
- k. appealing and attractive to the audience--having utility, immediate use.
- l. Applicable - audience can apply recommendation
- m. adequate --comparing principle and practices in effective proportion
- n. manageable--can be handled by the communicator with high professional will and limits imposed by time.

Applied properly, the foregoing criteria for selecting and sending message will contribute much to the goodness of the message. Effective communicators use them skillfully. In contrast, poor communicators often do the following.

- a. Fail to clearly separate the key message from the supporting content or subject matter.
- b. Fail to prepare and organize their message properly.
- c. Use inaccurate or 'fuzzy' symbols- words, visuals, or real object--to represent the message.
- d. Fail to select that are sharply in line with the felt needs of the audience.
- e. Fail to select message objectively-- present the material, often bias, to support only one side of the material, often biases, to support only one side of the proposition.
- f. Fail to view the message from the stand point of the audience.
- g. Fail to time the message properly within a presentation or within a total programme.

### **5.3. CHANNELS**

#### **5.3.1.What is a channel?**

The sender and the receiver of message be connected or turned with each other so that the message get through For this purpose, channels of communication are necessary They provide the vehicle for getting communication from one person or institution to another. According to Roggers and Shoemaker (1971), communication channels are the mean by which message travel from a source to a receiver. Leagues (1961) calls them the physical bridge between the sender and communicator and the message. They are the avenues between a communicator and an audience on which messages travel to and fro. They may be referred to as transmission lines for carrying message to their destination. Thayer (1968) distinguished between media and channels of communication According to him media refers to the technological medium over or through which message are disseminated; a channel is any specialized, functional link between and among people such as polices, rules, practices etc. that link individual together in a communication system. Thus media are means of transporting data in particular ways.

#### **5.3.2. Dimensions of channels**

According to Berlo (1960) we, need to consider at least there dimensions of the concept of the a channel, namely:(i)models of encoding and decoding message such as an speaking an hearing mechanism ii)Message vehicles such as sound wave and (iii)vehicles carries that support the sound waves during transmissions.

#### **5.3.3. Classification if channel**

Roger and Shoemaker channel as follows:

##### **5.3.3.1. Interpersonal and mass media channels**

While interpersonal channel are those which are used for face-to-face communication between two or more people,-mass media are mechanical devise through which an individual or a group can reach a relatively larger population in a shorter time. The audience members may be physically separated.

### 5.3.3.2. Localite and cosmopolite channels

Locality means communication of the same system. Cosmopolite indicates communication between many cultures, any thing outside the system.

While localite channels originate within the social system of the receiver, cosmopolite channels have their origins outside his immediate social system. For example, interpersonal channels may be cosmopolite or localite depending on the location of service but mass media channels are almost always cosmopolite.

### 5.3.4. Characteristics of channels

Rogers and Sovereign (1969) have provided the distinguishing characteristics of interpersonal and mass media channel.

**Table1**

Characteristics of channels (Rogers and Sovering 1969)

S.No	Characteristic	Massmedia channels	Interpersonal channels
1	The senses stimulated at a time	Limited to one or two	Almost all senses
2	Opportunity for feed back	Minimum and Delayed	Maximum and Immediate
3	Control of the pace	Uncontrollable	Controllable
4	Message codes	Highly verbal	Highly Non-verbal and verbal
5	Multiplicative power	High	Low
6	Direction of message flow	One-way	Two-way
7	Power to preserve a message	High	Low



8	Ability to select receiver	Low	High
9	Ability to meet specialised Needs	Low	High
10	Speed to a larger audience	Fast	Slow
11	Possible effects	Knowledge gain	Attitude and action changes

### 5.3.5. Nature of channels

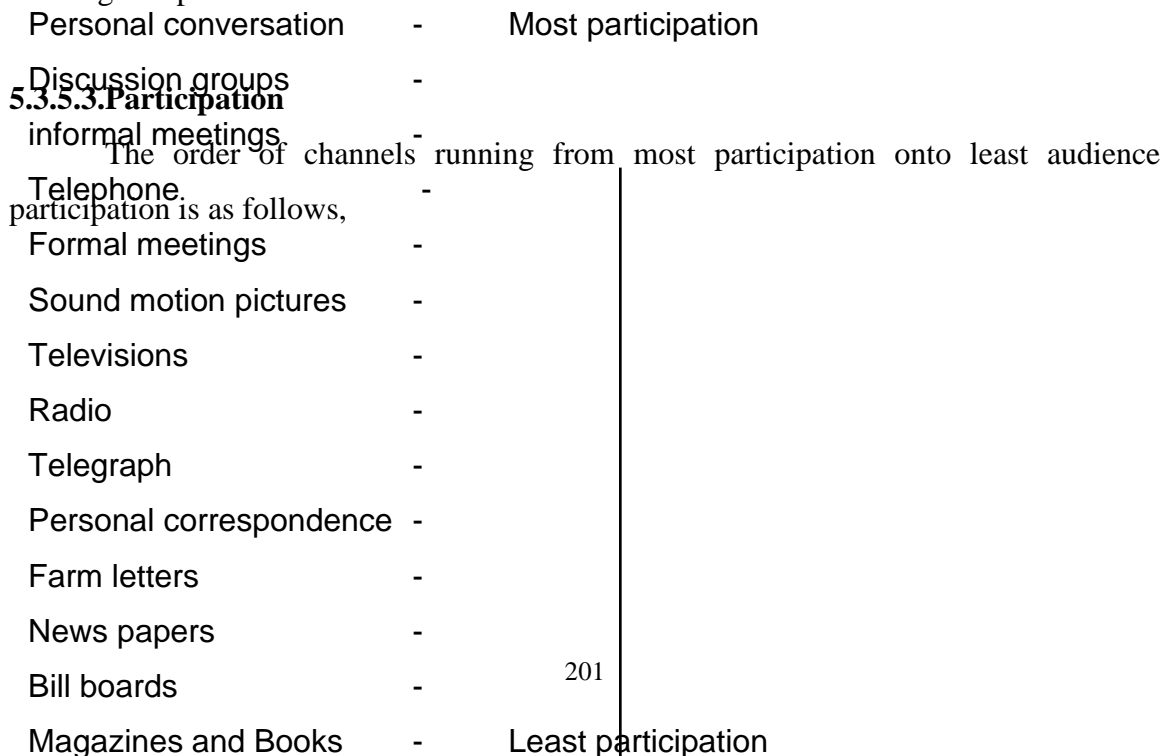
For proper selection, the nature of channels should be known to the communicator  
The natures of channels are as follows:

#### 5.3.5.1. Space and time organised channels

Space organize-Printed materials, still pictures, and objects, which occupy space.

#### 5.3.5.2. Time organized

A radio broadcast with stipulated timings. The time-organised media appear to offer only for learning of simple material. The space organised channels are useful in learning complicated material.



#### **5.3.5.4. Speed**

Speed is being considered high in television and radio when compared to other media.

#### **5.3.5.5. Permanence**

Books give the greatest sense of permanence followed by motion pictures, magazines, and the newspapers. Least permanent are radio and television.

#### **5.3.6. Selection of Communication Channels**

There are several channels of communication available to the extension communicator. It is obvious that there is no one channel that is effective or best for all situations. What is needed is a parallel combination of channels in order to have the intended impact. Proper selection and use of channels is very important in the to reach a given audience and to achieve a predetermined objective. Amongst the large number of factors that may the wise selection of channels, some are listed below:

- a) Availability of the channel to communicator.
- b) Suitability of the channel for audience and message
- c) Competency of the communicator in using the channel.
- d) Frequency of use of the channel.
- e) Ability to combine different of channels.
- f) Relative effectiveness of channels.
- g) Efficacy of the extension education system, i.e., having or not having the kinds or qualities and characteristic that would enable and facilitate effective communication by their users.

### **5.4. NOISE**

#### **5.4.1. Definition**

Many obstructions can enter channels. These are often reefed to as 'noise', that prevents the message from being heard by carried over clearly to the audience.

### **5.4.2. Types**

#### **a) Environmental noise**

A noise or disturbance in the area in which the communication takes place between the source and the receiver and which prevents the receiver from receiving a message called environmental noise.

#### **b) Biological noise**

Biological is the result being physically handicapped such as laryngitis, stuttering or deafness by the source receiver.

#### **c) Vocabulary noise**

One of the major communication problems is vocabulary noise-the use words which others don't understand. It is important for the encoder to select words the decoder can understand or define. Otherwise, the message may simply be sent and received, but not decoded.

#### **d) Grammar noise**

The sender should consider the grammatical nature of the sentence considering the level of audience.

#### **e) Emotional noise**

All people get emotionally upset, both as senders and receivers. If these emotions interfere with the ability to clearly send or receive the messages, then emotional noise has entered into the communication.

#### **f) Social noise**

Every family, group or society follows some rules and regulation. If these rules get in the way of effective communication, then social has entered into the source receiver flow of ideas.

#### **5.4.3.Sources and Causes of Noise**

'Noise' emerges from a wide range of sources and causes. The following are some of them.

- a. Failure of a channel to reach the intended audience. All people can not or may attend meetings, all people may not have radio or T.V receiving sets or not be tuned if they had or T.V, receiving sensor many people can not others may read the written materials.
- b. Failure on the part of a communicator to handle channels skillfully. In a meeting who can not hear what is said and see what is shown do not receive the message.
- c. Failure to select channels appropriates to the objective of communicator. If the objective is to show how to do certain thing, method demonstration and television will be appropriate, rather than radio or newspaper.
- d. Failure to use channels in accordance with the abilities of the audience. Written materials can not serve as user channels of communication for an illiterate group of persons.
- e. Failure to avoid physical distraction. Loud noise near a place of meeting or load shedding at the time of projecting visual may cause distraction of the audience.
- f. Failure of an audience to listen or look carefully. There is tendency of people not to give undivided attention to the communication.
- g. Failure to use enough channels in paralleled (simultaneously) Research indicates that up to five or six channels used in combination are often necessary to get a message through to large number of people with enough impact to influence significant changes in behavior.
- h. Use too many channels in a series. An important principle of communication is that is that the more channels used in a series (communicating through several levels of line personnel the less chance a communicator has for getting his message through to the intended audience.

To help overcome some of the problems of communication enumerated and others not mentioned, one should take the following factors into account.

- a. The specific object of the message
- b. The nature of the message - degree of directness versus abstractness level of difficulty, scope, timing etc.,
- c. The audience - size, need, interest, knowledge of the subject etc.,
- d. Channel available that will reach the audience parts of it.
- e. How channel can be combined and used in parallel.
- f. How channel that must be used in a series can be reduced to the minimum and those use made effective without fail.
- g. Relative cost of channel in relation to anticipated effectiveness.
- h. Time available to the communication and the audience.
- i. Extent of seeing hearing or doing the necessary to get the message through.
- j. Extent of cumulative effect or impact on the audience necessary to promote action.

## **5.5 TREATMENT OF MESSAGE**

### **5.5.1. Definition**

Treatment means the way a message is handled, dealt with, so that information gets across to the audience. It relates to the technique, or details of procedure or manner of performance, essential to effective presentation of the message. The purpose of treatment is to make message clear, understandable and realistic to the audience.

Treatment of the message by the communicator shall depend to a great extent on choice of the channel and the nature of audience. The task can not be reduced to a formula or recipe. Treatment is a creative task has to be 'tailor made' for each communication function.

For example, treatment of a message will be different when it is conveyed in a meeting, or published in a folder or telecast. Similarly, there will be difference in treatment of the message according to the level of literate, socio-economic condition and degree of progressiveness of the audience.

### **5.5.2. Bases useful for varying Treatment**

Treatment of message can be varied in an almost infinite number of ways. The following are the three categories bases useful for varying treatment.

#### **A. Matters of general organisation**

- a. Repetition or frequency of mention of ideas and concepts.
- b. Contrast of ideas.
- c. Chronological...compared to logical, compared psychological.
- d. Presenting one side compared to two sides of an issue.
- e. Emotional compared to logical appeals.
- f. Starting with strong argument compared to saving them until the end presentation.
- g. Including compared to deductive.
- i. Proceeding from the general to the specific vice versa.
- j. Explicitly drawing conclusion compared to leave conclusion implicit for the audience to draw.

#### **B. Matters of speaking and acting**

- a. Limit the scope of presentation to a few basic idea and the time allotted. Too many ideas at one time are confusing.
- b. Be yourself. You can't be anyone else. Strive to be clear not clearer.
- c. Know the facts. Fuzziness means sure death to message.
- d. Don't read your speech. People have more respect for a communicator who is sure of his subject.
- e. Know the audience. Each audience has its own personality. Be responsive to it.
- f. Avoid being condescending. Do not talk act or down to people, or over their heads. Remember, good treatment of messages result in hitting the 'bull' eye', not the surrounding terrain. Never over-estimate the knowledge of an audience or under estimate his intelligence.
- g. Decide on the dramatic effect desired. In addition to the consent of message, a communicator should be concerned with 'showmanship'. Effective treatment

requires sincerity, smoothness, enthusiasm, warmth, flexibility and appropriateness of voice, gestures, movement and tempo.

- h. Use alternative communicators when appropriate, as in group discussions, panels, interview, etc.
- i. Remember that audience appeals is a psychological bride for getting a message delivered.
- j. Quit on time. Communicators who stop when they are "finished" are rewarded by audience good will.

### **C. Matters of symbols variation and devices for representing**

#### **Ideas :**

- a. Word symbols...speech.
- b. Real object.
- c. Models
- d. Specimens.
- e. Photographs
- f. Graphs
- g. Charts
- h. Matron pictures.
- i. Slides
- j. Drama
- k. Puppets
- l. Songs
- M. Flash cards, etc.

The foregoing of suggested possibilities for message treatment can be extended and techniques used in an almost in fit number of combination.

## 5.6. AUDIENCE

Obviously, an audience is the intended receiver of a message. It is the consumer of messages. It is into need respondent in message in the-sending and is assumed to be in position to gain economically socially or in the other ways by responding to the message in particular ways. In good communication, the audience aimed at is already identified by the communicator. The 'pay off' in communication is dependent on the audience does in response to message.

An audience may consist of one person or many. It may comprise men, women groups villagers or the leaders. An audience may be formed to occupation group as farmers as farmers or artisans; professional groups, as engineers educators, administrators etc.

The importance of clearly identification an audience cannot be overstressed. The more homogeneous an audience, the greater the chances of successful communication. Likewise, the more a communicator knows about his audience and can pinpoint its, characteristics the more likely he is to make an impact. An audience is found by identifying categories such as those previously mentioned.

In addition to knowing the identify of an audience and some of its general characteristic, there are other there somewhat more specified aspects that help to clarify the exact nature of an audience and how to reach it. The following are some of these :

- a. Communication channels established by the social organisation.
- b. The system of values held by the audience.. What they think is important.
- c. Forces influencing group conformity. custom , tradition, etc.
- d. Individual personality factors susceptibility to change etc.
- e. Native and acquired abilities.
- f. Education, economic and social levels.
- g. Pressure of occupational responsibility-how busy or concerned they are.



- h. People's needs as they see them, and as the professional communicator sees them
- i. Why the audience is in need of change ways of thinking, feeling and doing.
- j. How the audience views the situation.

It is useful to a communicator to understand there and the of an audience in making his plan of communication.

### **5.7. AUDIENCE RESPONSE**

The response of the audience is the ultimate objective, the goal of any communication function. Response of an audience to messages received may be in the form of some kind of action, mental or physical. Until the desired action results, extension communication does not achieve its most essential objective.

The possible kinds of response of messages received are almost infinite. The following gives an idea of possible variety in response that may result when a useful message is received by a typical village audience of Indian cultivators.

#### **a. Understating versus knowledge**

People usually do not act on facts alone, but only when understating of facts is gained. Understating is attained only when one is able to attach meaning to facts, see the relationship of facts to each other and the problem communication must promote understanding

#### **b. Acceptance versus rejection**

Audience response may be either way. Communication should lead to understanding and the acceptance of idea.

**c. Remembering versus forgetting**

When opportunity for action is not immediately available or action is delayed, the message may be forgotten. Transmitting the right message to the right people at right time is often a crucial factor in successful communication.

**d. Mental versus physical action**

Changes in the mind of people must always predict changes in the action my hands. People should not only understand and accept the message but shall also act on it.

**e. Right versus wrong**

The goal of communication is to promote desirable action by audiences as determined by the communicator and expressed in the objective. If the response of the audience is in line with the objective it is assumed to be the 'right' action. However, 'noise' may prevent in getting the desired response from the audience

**5.7.1.Factors determining audience response**

The response of a receiver to message seems to be a function of a whole personality. Berlo (1960) pointed out that the response of the receiver of a message depends upon his a) communication skills, b) attitudes c) knowledge level and d) Poisson in a social cultural system.

**a) Communication skills**

If the receiver lacks the ability listen, to read, to think, he will not be to receive and decode the message that the source-encoder transmits. So the response of receiver will depend will depend upon the larder's communication abilities.

**b) Attitudes**

How he decodes a message is a in a part determined by the receiver's attitudes (i) towards himself, (ii) towards the source and (iii) towards the content of the message. If

these attitudes are favorable, the response is likely to be high and positive but Vice Versa otherwise.

**c) Knowledge level**

If the receiver does not know the code he cannot understand the message. If he knows nothing about the content of a message, he probably will not understand it either. If he cannot understand the nature of the communication process itself, the chances are good that he will misperceive messages and make incorrect inferences about the intentions of the source. Thus the previous knowledge level of a receiver about the message is likely to affect his quality of response to a new message.

**d) Position in a social system**

The receiver's own social status, his group membership, his position in a social system and his customary modes of behavior affect the ways in which he receives and interprets messages. Farmers with a high socioeconomic status and social participation are likely to be more active in receiving and interpreting a message that is in line with their needs and interests.

## **5.8. Feed back**

### **5.8.1. Definition**

Extension communication is never complete without feedback information. Feedback means, carrying some significant responses of the audience back to the communicator, communication work is not an end in itself communicator should know what has happened to the audience, the farmers, after the message has reached them.

For effective communication, feedback is of paramount importance. It concerns to and from communication. This return process is called feedback. It serves to control and the signals and go forward. It also serves to realign all the signals within the network in relation to one another. Feedback's an error-correcting mechanism that can overcome noise. It makes persons truly interacting members of a communication system and tells us how our message are being interpreted. An experienced communicator is attentive to

feedback and constantly modifies his message in the light of what he observe in, or hears, from the audience.

Feed back provides the source with the information concerning his success in accomplishing his objective. In doing its exerts control over future messages which the source encodes.

### **5.8.2. Characteristics**

Feedback has the following characteristics.

- a. Feedback is source oriented.
- b. Feedback varies in different communication situation
- c. Feedback affects the source or communicator.
- d. Feedback exerts control over future messages.
- e. Feedback affects communication fidelity.
- f. Feedback maintains the stability and equilibrium of communication system.

### **5.8.3 Role of Feedback in Extension**

The extension worker shall take steps to analyze responses of the audience, which may positive, negative, or no response. If there has been no response or negative to a message, the extension worker shall find out reasons for the same. If it pertains to research, he shall refer the problem as feedback information to research, to find out solutions for the same.

If the problem does not relate to research, the extension worker shall find out whether the message has been relevant the audience, or whether the channel, treatment, audio-visual aids have be appropriately used. If not, he shall take corrective steps with out any loss of time. For a season bound programme, if nothing can be done in the particular season, he shall take appropriate steps during next season, so that the mistakes are not repeated.

If there has been a favourable response to the message by the audience, the extension worker shall find out what next is to be done to reinforce the leaning already made by the farmers.

Adequate and correct feedback are essential for purposeful communication. Feedback information provides the communicator an opportunity to take corrective steps in communication work, helps in identifying subsequent activities, and act as a pathfinder for need-based research.

## **6.COMMUNICATOR - COMMUNICATE RELATIONSHIPS**

The communicator and receiver are the important persons communication. As the communicator is the person who puts the process of communication into operation, he is the source or originator of messages. He is the first to give expression to messages intended to reach an audience in a manner that results in correct interpretation and desirable response. The one to whom he sends the message is the receiver or audience, or listener or communicatee. The following are the communicator and communicatee relationships :

- 1) Orientation
- 2) Empathy
- 3) Feedback
- 4) Physical interdependence
- 5) Credibility
- 6) Interaction
- 7) Homophily - Hetrophily

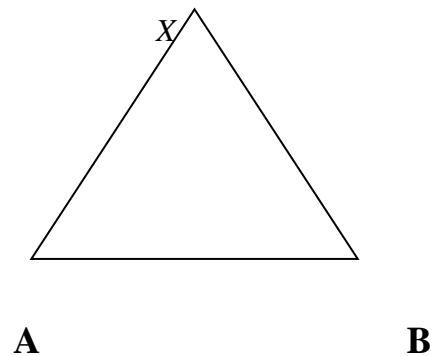
### **6.1. Orientation**

The term "Orientation" is used equivalent to 'attitude' in its more inclusive sense of referring to both cannotive and cognitive tendencies The phrase 'simultaneous orientation' itself represents an assumption, namely, that A's orientation towards B's and towards 'X' are interdependent. That is the certain definable relationship between A and

B, between A and X and between B and X are all viewed as interdependent as explained in the following diagram.

- (i) A's orientation towards X including both attitude towards X as an object to be approached and cognitive attributes.
- (ii) A's orientation towards B in exactly the same sense.
- (iii) B's orientation towards X.
- (iv) B's orientation towards A.

**Fig. Simultaneous orientation**



This very simple system is designed to fit two-person communication. The assumption that co-orientation is essential to human life is based upon two considerations of complementary value.

- a) The orientation of any A towards any B is rarely, if ever, made in an environmental vacuum. It is not certain that even the most person-oriented communicators are devoid of environmental reference. The more intense one person's concern for another, the more sensitive he is likely to be to the other's orientations, to objects in the environment.
- b) The orientation of any A capable of verbal communication with almost any conceivable X is rarely, if ever, made in a social vacuum. There are few, if any, objects so private that one's orientation towards them are uninfluenced by any of the orientations. This is particularly true with regard to what has been termed social reality.

In short it is an almost constant human necessity to orient one towards objects in the environment and also towards other persons.

## **6.2 Empathy**

When we develop expectations, when we make predictions, we assume in that we have skill in what the psychologists call empathy - the ability to project ourselves into other people's personalities. We can define empathy as the process through which we arrive at expectations and anticipations of the internal psychological states of a man.

As sources and receiver, we carry around images of ourselves and a set of expectations about the people. We use these expectations in encoding, decoding and responding to messages. We take of the people into account in framing messages. We frame messages to influence a receiver but our expectations about the receiver influence us and our messages.

There are three major points of view on empathy. Our school of thought argues that there is no such thing that we cannot develop expectations.

We do develop expectations we do have the ability to project ourselves into the internal states of others. We cannot accept the argument that empathy does not have meaning for us, that we cannot develop expectations until some kind of interpretation process occurs.

The developments of expecting requires a special kind of talent. We need to be able to think about objects that are not available. Expectations require a decision about the things that are not here and does not exist now.

## **6.3. Feedback**

One is constantly communicating with the other, the "return process is called feedback", and it plays a very important role in communication. Communication often involves an action, reaction and interdependence. The communication can use the reaction of the receiver as a check for his own effectiveness and a guide to his own future action. The reaction of the receiver is a consequence of the response of the source. As a response consequence, it serves as feedback to the source. When a source receives feedback that is rewriting, he continues to produce the same kind message. When he gets non-rewriting feedback, he will eventually change his message.

#### **6.4. Physical interdependence**

The function of the source and receiver are physical interdependent although the function may be performance although the function may be performance at different points in the space.

#### **6.5. Credibility**

Credibility is the degree to which the receiver perceives a communication source as trustworthy and competent.

An individual attitude change is positively related to the credibility with which he perceives the source of a persuasive message. If a client perceives that a change agent possesses relatively higher credibility than various other sources and channels, the client will be more receptive to messages from that change agent.

The credibility is limited to " How to " information and does not usually extend to an ability to persuade the individual to a favourable attitude towards innovation.

#### **6.6. Interaction**

Interaction is the mutual and reciprocal influencing of each others behavior. The concept of interaction is central to an understanding of the concept in communication. If two individuals make influences about their own roles and take the role of the others of the same time and if their communication behavior depends on the reciprocal taking of roles, then they are communicating by interacting with each others. We can communicate without interaction, however, to the extent we are in interactional situation. Our effectiveness, our ability to affect and the affected by others, increases. Homophily is a condition of interaction.



## **6.7. Homophily-Heterophily**

One of the fundamental principles of human communication is that the transfer of ideas most frequently occurs between a source and receiver who are a like, similar homophilous.

Homophily is the degree to which the pairs of individuals who interact are similar in certain attributes such as beliefs, values, social status and the like. Better communication occurs when source and receiver are homophiles. When source and receiver have common meaning attributes and beliefs and a mutual language communication between them likely to be effective. Differences in technical components social status attitudes and belief all contribute to heterophily in language and meaning thereby leaving the message to go unheeded.

But we can't say Homophily is more effective than heterophily. In some cases heterophily is more effective than homophily and in some cases homophily is more effective than heterophily. Both have different effects in different situations.

## **7. PROBLEMS IN COMMUNICATION**

Communication is a process. Process is the act of proceeding a series of action or operations definitely leading to a decided end. The communication has at least 3 phases.

- a. Expression
- b. Interpretation
- c. Response

These are the crucial points in communication. If the expression is not clear, the interpretation will be inaccurate and the response improper, thus one's effort communicate

Will not succeed.

### **7.1. Main Problem in Communication**

These are

- a) The problems that the individuals has in fulfilling his own goals and adoptive needs-logically they have their origin in the adequacy and the appropriateness of his own strategies or technical communication competence.

- b) At the interpersonal level, communication problems may be sourced in the relative inadequacy or inappropriateness of the communication competence of any, or all of the participants. That is, any given problem may be attributes of one or the others, or to both persons engaged in a two-person communication encounter.
- c) An originator or a receiver may fail to achieve his communicative goals or intentions for reasons other than the skill and comprehensibility involved. There are situations in which intercommunication is satisfactorily achieved but the consequences anticipated by the receiver for doing, thinking, or feeling as intended by the originator are so negative as to preclude then fulfillment of the originator's intentions.
- d) A communication system which links two or more people to gather may be more efficacious, more or less, economical, or both. Often then source of this order of communication problem is in the inappropriate designation of criteria by which the system's progress is to be assessed.
- e) Yet another higher-communication problem of some complexity is the organization level of analysis. It is at this level of analysis that we should contemplate problems which have their source in the relative incompatibilities of communication system at their interface. Those incompatibilities may emerge of communication system at their interfaces. Those incompatibilities may emerge at the interfaces of different levels of system.

These problem of communication process can be classified by various methods. Some of these methods are:

## **7.2. According to phases of communication**

Every communication process has at least three phases.

### **7.2.1. Relating to the communicator**

- a) **Ineffective environment:** The environment created by the communicator influences his effectiveness. The physics facilities, air of friendliness, respect for others , point of view recognition of accomplishments of others, permissiveness and rapport in

general all important ingredients of a climate which is conducive to effective communication.

- b) **Disorganised efforts to communicate:** To make Sense the communication effort must be organised according to some specific form or pattern.
- c) **Standard of correctness :** This involves the use of correct words or other symbols, correct logic and correct content or facts.
- d) **Standard of social responsibilities:** This infers that when one communicates, one assumes responsibility for the effect of one's communication on the respondents and the society.
- f) **Cultural values and social organisation:** Cultural values and social organisation are determinants of communication. For effective communicator must possess knowledge of the cultural values of his listeners.
- g) **Inaccurate symbols:** The system of symbols used to represent ideas, objects, or concepts must be accurate and used skillfully. The crucial points in the use of symbols to convey ideas is to select those that accurately represent the idea to be conveyed and are understood by the audience. Symbols are meaningful to a person only when he understands what they stand for.
- h) **Wrong concept of the communication process:** A common mistake committed by the communicator is the identification of the part with the whole or the parts fallacy. Successful communication programs of rule development is not a single unit. It requires a series of unit acts. The way one thinks about communication will influence its quality.

### 7.2.2. Relating to transmission of message

Many obstructions can enter at the interpretation level. These are often referred to as, 'noise'. 'Noise' emerges from a wide range of sources and causes which affect the interpretation of the message.

- a) **Wrong handling of the channel:** If a meeting, tour, radio programme, or one of the other channels, is not used according to the correct procedure and techniques, its potential for carrying a message is dissipated.

- b) **Wrong selection of channels:** All channels are not equally useful in attaining a specific objective. Failure to select channels appropriate to the objectives of a communicator will interrupt the interpretation of the message, in the manner in which it is desired, by the intended audience .
- c) **Physical distraction:** Failure to avoid physical distraction often obstructs successful message-sending.
- d) **Use of inadequate in the parallel:** The more channels a communicator uses in parallel, or at about the time, the more chances he has of the message getting thorough and being properly received.

### 7.2.3. Relating to the receiver

- a) **Attention of the listeners:** There is unfortunate tendency not to give undivided attention to the communicator. This is a powerful obstruction that prevents the message from reaching its desired destination.
- b) **Problem of cooperation, participation and involvement:** Both the communicator and the receiver must be brought into the act. Hence the part of the listener must work a little hard. Learning is an active process on the part of the listener and unless the respondent is to same wave length, the character of what is sent out hardly governs the communication process. Thus it takes two communication.
- c) **Problem of homogeneity:** The more homogeneous an audience, the greater the chances of successful communication. Likewise, the more a communicator knows about his audience and can pin-point its characteristics the more likely he is to make an impact.
- d) **Attitude of the audience towards the communicator:** An important factor in there effectiveness of communication is the attitude of the audience towards the communicator. It is a function of the communicator to make their attitude favourable. Indirect data on this problem come from studies of 'prestige' in which are attributed to different individuals.

### 7.3. According to various types of problems

These are (1) Technical problems; (2) Semantic problems and (3) Influential problems.

- 1) **Technical problems:** These are problems concerned with the accuracy of the transference of information from sender to receiver. Certain things that are not intended by the information source are added to the signal. These unwanted additions may be distortions in the shape or shading of a picture or errors in transmissions. All these changes in the signal are called 'noise'.
- 2) **Semantic problems:** Problems regarding the interpretation of meaning by the receiver as compared to the intended meaning of the sender. This is a very deep and situation even if one is dealing only with the relatively simple problems of communication through speech.
- 3) **Influential problems:** The problems of influence, or effectiveness are concerned with the success with which the meaning conveyed to the receiver leads to the desired conduct on his part. It may seem, at first glance, undesirably narrow to imply that the purpose of all communication is to influence the conduct of the receiver.

#### 32.4. According to nature of problems

- a) **Physical problems:** The possible disorders affecting communication fall generally into the following categories. Speech and voice defects; anxiety-tension reaction such as those involved in stage fright, or feeling of inferiority, which noticeably affect speech, paralysis, disease or characteristics of physical appearance which interfere with expressive bodily of action or which tend to call forth unfavourable reactions on the part of the listeners; lack of skill in the use of background or staging in the means and conditions of transmission.
- b) **Psychological problem:** These psychological difficulties are, in part, a function of the very nature of language; in part they are due to the emotional characteristics, and mental limitations are (i) the failure to refer language to experience and reality, (ii) the inability to transcend personal experience in inter-group communication, (iii) stereotypes, the assimilation of material to familiar frames of reference, (iv) the confusion of precept and concept, ramification and personification.
- c) **Cultural problems:** Cultural differences pose serious barriers in the communication process. Within this expanding field of activity, we distinguish three small questions; (i) the way in which communication systems are related in given cultural

values,(ii)the particular ethical problems of responsibility raised by our current use of communication systems and (iii) problems of communication when cultural boundaries have to be transcended.

### **7.5. Other classified problems**

- a) **Entropy and redundancy** : Information is defined terms of its ability to reduce the uncertainly or disorganization of a situation at the receiving end. Entropy simply mean the uncertainty or disorganization of a system, redundancy is the opposite. Entropy will obviously be at its maximum all states of the system are equally as when a coin is tossed.
- b) **Noise**: The idea if noise is another information theory concept which intuitively makes sense in the study communication. Noise is anything in the channel other than what the communication puts there.
- c) **Channel capacity**: Error can be reduced as much as desired by keeping the rate of transmission below the total capacity of the channel. If the is overloaded errors increase very swiftly.
- d) **Interpretation**: One of the major problems of communication policy and techniques is to find ways controlling the interpretation which an audience will place upon events and notions.

**CHAPTER IV**  
**DIFFUSION OF INNOVATIONS**  
**8. DIFFUSION**

**8.1. Definition**

Diffusion is the process by which innovations spread to the members of a social system.

**8.2. Communication and Diffusion**

Diffusion is a special type of communication. Diffusion is concerned with new ideas or message, whereas communication includes all types of message or ideas. Any new idea or message introduced in the social system would carry some risk factors for the audience who are following routine ideas. In communication research we often focus on attempts to bring about changes in knowledge or attitude. But in diffusion research we usually focus on bringing about overall behavioural change, that is adoption or rejection of new ideas, rather than just changes in knowledge or attitude.

**8.3. Elements in the Diffusion of Innovation**

1. Innovation
2. Channels of communication
3. Time
4. Social system

**9. INNOVATION**

**9.1. Definition**

An innovation is an idea, practice or object perceived as new by an individual. If the idea seems new to the individual, it is an innovation.

**9.2. Perceived Attributes of Innovations**

Attributes are qualities, characteristics or traits possessed by an object. An innovation has some qualities or characteristics. It is not the intrinsic quality, but the

quality or character of the innovation as people see to them, are important for extension. The perceived attributes of innovating, which are to extension, are as follows.

### **9.2.1. Relative advantage**

Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes.

The degree of relative advantage may be measured in economic terms, but often social prestige factors, convenience and satisfaction are also important components. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption by the audience.

The relative advantage may have a number of dimensions. For example, if a new technology or practice gives more yield or income, or saves time, labour and cost, or has less risk than the existing one, it has more relative advantage. Multiple use of an innovation may be a form of relative advantage. For example, an equipment or material which may be used in raising a number of crops has more advantage than, an equipment or material which may be used for a single crop. The advantage of location for specific enterprises in specific areas may provide some relative advantage. The innovations, which have more relative advantage, are likely to be adopted quickly.

### **9.2.2. Compatibility**

Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the receivers. An idea that is not compatible with the salient characteristics of a social system will not be adopted so rapidly as an idea that is compatible. Compatibility ensures greater security and less risk to the receiver and makes the new idea more meaningful to him. An innovation may be compatible

- (a) With socio-cultural values and beliefs
- (b) With previously introduced ideas
- (c) With clients needs for innovation



### **With Values**

- a. The lack of compatibility of beef consumption in India with cultural values prevents the adoption of beef eating.
- b. India (1961) has about 520 million people and 200 million sacred cows. No cows can be killed, and the best milkers are not selected for breeding. These facts, plus the poor nutrition of the cattle, results in a average milk yield of only 900 pounds per year. U.S experts introduced milk goats in 1964 as a substitute for cows, because goats eat only one-fourth as much feed and yield relatively more milk; but the incompatibility of the goats with a status and religious factors prevented their of adoption. Indian villagers regard goat-raising as an enterprise for "untouchable" only, those at the very bottom of the social structure. Further the, social status of a villagers is measured in art by how many cows he possesses. Hence, an innovation that would effectively raise the level of India's starving millions was rejected because of its incompatibility.
- c. Another example of the importance of culturally learned values in blocking had become discouraged about treating residents of the remote village for intestinal parasites. Within a few weeks after medical treatment, the villagers would be reinfected because of their inadequate sanitation methods. Accordingly, public health officials set about introducing latrines, which the villagers at first seemed to welcome. But the new facilities were seldom used because the villagers were accustomed to defecating whenever and wherever they felt the necessity. Their sphincter muscle, culturally conditioned to a squatting position, were incompatible with use of sit-down latrines, Had the outhouses being designed with the clients habits in mind, adoption would have been facilitated.
- d. Among the India in Bolivia's Andes Mountains, milk is perceived as a type of animal excrement similar to urine. Attempts by change agents to improve the Indians largely potato diet have failed when it comes to milk, which is locally available from llamas, a goat-lake animal. A recent diffusion strategy was to provide free milk flavored with sugar to small school children. Even the sugar-flavored milk, however has not been accepted.
- e. In an Asian country steel plows were introduced where a pointed stick had previously served. The peasants accepted the new implements with polite gratitude but used

them for ornaments rather than plowing. Why? Because the steel plows required two hand to use; the peasants were accustomed to using only hand (and driving the pesetas their bullocks with the other)

### **With previously introduced ideas**

An innovation may be compatible not only with deeply imbedded cultural values but also with previously adopted ideas. Compatibility of an innovation with a preceding idea can either speed up or retard its rate of adoption. Old ideas are the main tools with which new ideas are assessed. One cannot deal with an innovation except on the basis of the familiar and the old-fashioned.

Example of the use of past experience to judge new ideas come from a study conducted in a Colombian peasant community (Fals Borda, 1960).

- a. At first the farmers who practiced with a new scythe to cut their grain tended to cut their grain tended to cut jerkily, as if it were the sickle which they had been using for years and which the scythe replaced.
- b. Similarly, some farmers applied chemical fertilizers on top of their potato seed (as they had done with cattle manure), thus damaging their seed and causing a negative evaluation of the innovation.
- c. Other peasants excessively sprayed their potatoes with insecticide chemicals, transferring to the new idea their old method of watering their plants.

### **With Needs**

One indication of the compatibility of an innovation is the degree to which it meets a need felt by the clients. One obvious tactic for change agents is to determine the needs of their clients, and then recommend innovation to fulfil these needs. The difficulty often lies in how to become aware of the felt needs; change agent must have a high degree of empathy and rapport with their clients in order to assess their needs accurately. Such techniques as informal probing in interpersonal contacts with individual clients, clients advisory committees to change agencies, and surveys are some times used to determine needs for innovations.

But often client do not recognize that they have needs for an innovation because they are not aware of the new idea or its consequences. In these cases change agents may seek to generate needs among their clients, but this must be done carefully or else the felt needs upon which diffusion campaigns are based may be only a reflection of the change agent's needs, rather than those of his clients. Therefore one dimension of compatibility is the degree to which an innovation is perceived as meeting the needs of the client system. When felt needed are met a faster rate of adoption will occur.

### **9.2.3. Complexity**

It is the degree to which an innovation is perceived as relatively difficult to understand and use. An innovation should, as far possible, be less complex for the farmers to understand and use. However, complexity of an innovation may not deter its adoption, provided it has high relative advantage. For example, many of the high yielding technologies like HYV corps, cross-bread cattle, composite fish culture etc. are quite complex. Still their diffusion have been quite high, which may be their high relative advantage in terms of more yield and income and shorter gestation period.

Complex technologies often require 'complementary' adoption. For example, adoption of high yielding technologies often require adoption of balanced nutrition practices, appropriate protection technology and better management methods, to get the best results. Complex technologies, because of their complicated and intricate nature, require consistent training and communication support for the clientele, for their adoption and continued use.

### **9.2.4. Trilability**

It is degree to which an innovation may be experimented on a limited basis. Adoption of new seeds and fertilizers are more, compared to new farm machinery, simply because seeds and fertilizers may be purchased in small units and tried, whereas, purchase of a farm machinery requires large investment and can not be tried parts. The mini kit demonstrations have helped in spreading the cultivation of high yielding variety crops as this method involves small scale trial by the farmers.

### **9.2.5. Observability**

It is degree to which results of an innovation are visible. The visible impact of an innovation facilitates its communication and diffusion in the social system. For example, application of balanced fertilizer in crops has almost always been recommended to the farmers. In crops has almost always been recommended to the farmers. In practice, farmers generally use more of nitrogenous fertilizer. It is because, the effect of nitrogenous fertilizer is very obvious in the eyes of the farmers-the plants 'jump', the leaves turn green, whereas, the effect of phosphoric and potassic fertilizers are not so evident. Understanding the beneficial effects of balanced fertilization by the farmers, which is more profitable in the long run, requires high level comprehension, which may be brought about by intensive training and communication.

Diseases control has two aspects-preventive and curative. Preventive innovations in disease control are generally less costly than the curative innovations, but the results of preventive innovations are not so obvious, compared to those of the curative innovations. That is why technologies like treatment of seeds, prevention vaccines etc. has been less adopted. Treatment of seed potato has, however, very high rate of diffusion, because preventing diseases in this high investment crop brings high return, i.e. has high relative advantage.

The problem of lack of observability may, however, be overcome by strengthening  
Extension efforts like training communication etc. which can enlarge one's vision and reasoning.

## **10. COMMUNICATION CHANNELS**

Communication channels are the means by which messages travel from a source to a receiver. Channel provides the vehicle for getting communication from one person or institution to another. Researchers categorize communication channels as either interpersonal or mass media in nature, and as originating from either local or cosmopolitan sources.

Mass media channels are all those means of transmitting messages that involve a mass medium, such as radio, television, film, newspapers, and the like which enable a source of one or a few individuals to reach an audience of many. Interpersonal channels are those that involve face-to-faced exchange between two or more individuals.

Mass media channels are relatively more important than interpersonal channels for early adopters than for late adopters. Cosmopolite channels are relatively more important for early adopters than for late adopters.

Media forums are organized, small groups of individuals who meet regularly to receive a mass media program and to discuss its contents. They are a method of combining mass media and interpersonal channels to maximize communication effects. Media forums have been used in India, Nigeria, Colombia, Brazil, France, china, and other Countries. The effects of mass media channels, especially among peasants in less developed countries, are greater when these media are couple with interpersonal communication channels, as in the media forums. Media forums appear to have a greater effect because they exert social pressure on attendance and participation and on attitude change on attitude change in small groups, because of a high-credibility "novelty" effect form the media , and because feedback to the broadcaster is comparatively immediate.

### **10.1. Extension methods useful for Extension Teaching. ( AIDCAS)**

#### **A. Methods useful in getting attention**

- a. Pictures related to the subject
- b. Demonstrations
- c. News Stories
- d. Slogans
- e. Poster
- f. Radio Talk
- g. Cartoons
- f. Displays

- i. Exhibits
- j. Radio announcement
- k. Leaflets
- l. Banners
- m. Wall painting
- n. Heading
- o. Tom-Tom
- p. Public address system
- q. Personal Contact
- r. Awareness campaign

**B. Methods useful in developing interest**

- a. Meeting of various types
- b. Filmstrip and slide lectures
- c. Subject matter news items
- d. Radio talks
- e. bulletins and pamphlets
- f. Tours
- g. Result Demonstration
- h. Video
- i. Photographs
- j. Charts
- k. Personal Contact

**C. Methods useful in creation desire**

- a. Show real object
- b. Show the operation
- c. Circulars suggesting benefits
- d. Before and after picture
- e. working models
- f. Samples and exhibits

- g. Sharing experiences of benefited farmers
- h. Success stories
- i. Charts
- j. Folders
- k. Field Trips \Study tour

#### **D. Methods of developing confidence**

- a. Showing demonstration
- b. Field trips / Field days
- c. Discussion with Scientists \SMS
- d. Study tour
- e. Shorting experience of farmers

#### **E. Methods useful in ensuring action**

- a. Reminding circulars
- b. News stories and radio talk about action
- c. personal contacts
- d. Group decision making
- e. Leader contact
- f. Campaign

#### **F. Methods useful in maintaining satisfaction**

- a. Personal contacts/ continued contacts
- b. News Notes
- c. Personal mention
- d. Showing value of results obtained by others
- e. Personal/Circular letters
- f. Success stories

### 10.2. Extension methods used in different stages of adoption process(AIETA)

Stages	Extension methods
1. Awareness	All printed materials, personal contact, film show, Radio, T.V., posters, Local leaders, newspapers, Mass awareness campaign, leaflets, Banners, Tom-tom, Circular letters, slide.
2. Interest	Contact with extension workers, meetings, radio talk, leaflets, folders, bulletins and farm journals, films, slides, Filmstrip, Record Cassettes, Video Training, Television
3.Evaluation	Demonstration and Discussion, Cassettes, Field trips, Printed material, sharing of farmers 'Experience, Field Day.
4.Trial	Personal contact by extension agents with individual farmers .Method and result demonstration.
5.Adoption	Group discussion, Demonstration, Field trips, Slides show, self-experience, printed, material Training, campaign.

### 10.3. Effective and reliable extension methods as perceived by farmers

Sl No.	Extension Methods	Effectiveness Rank	Reliability Rank
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1.	Personal contact	I	I
2.	Radio	II	II
3.	Literature	III	III
4.	Demonstration	IV	V
5.	Group meeting	V	IV

#### 10.4. Effectiveness of combination of extension methods

<u>S.No.</u>	<u>Methods</u>	<u>Percentage of families who change their behavior</u>
1.	One method	35%
2.	Two methods	64%
3.	Five methods	86%
4.	Nine methods	98%

#### 10.5. Characteristics of Extension Methods

<u>S.No.</u>	<u>Extension Methods</u>	<u>Characteristics</u>
1.	Farm and Home Visit	Essential to reach those having little Interest in (extension) progress, Suitable for all categories
2.	Personal letters	Shows strong interest on part of writer
3.	Result demonstration	provide local proof.
4.	Method demonstration	Exceedingly useful in teaching skills.
5.	General meetings	knowledge is shared and learning is strengthened.
6.	Visual aids	Build meeting attendance and contribute to orderly prevention,

		sensation arouses interest, promote understanding.
7.	Bulletins, leaflets and other publications	Authenticity of the printed word. Supplement to other methods.
8.	News Story	Reaches large audience with periodic frequency.
9.	Circular letters	Carries special message to a selected audience.
10.	Radio	Quickest means of imparting timely and mergency information. Develops interest. Helps in developing conviction among fence sitters.
11.	Television	Shows a large numbers of people 'how-to-do-it"
12.	Exhibit at fair	More valuable in creating good will towards extension workers and promotes under-standing, favours action.

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#### 10.6. A checklist of Types of Resources

<u>S.No</u>	<u>Types of Resources</u>	<u>Special purpose and uses</u>
<b>I. Human Resources</b>		
1.	Speaker	Presents knowledge ad experiences

systematically and with personal touch. Can be inspirational. Can interact with audience through questions.

- |    |                 |   |
|----|-----------------|---|
| 2. | Debate          | Presents opposing points of view.<br>Focuses on points of controversy.<br>May clarify issues. |
| 3. | Symposium       | Presents several points of view or kinds of experience systematically.                        |
| 4. | Panel           | Shows several minds at work cooperatively on a problem. Presents information functionally.    |
| 5. | Group interview | Develops information in relation to specific questions.                                       |
| 6. | Book review     | Combines thinking of an author with interpretation of reviewer may stimulate further reading. |
| 7. | Chalk talk      | Clarifies information and develops understanding of relationships through visual symbols      |
| 8. | Dramatics       | presents knowledge and experiences with emotional overtones place ideas in situation.         |
| 9. | Consultant of   | Makes special knowledge and experience "Resource person" available to a group in terms of its |

own needs and problems.

- |     |               |   |
|-----|---------------|---|
| 10. | Demonstration | Provides a direct common experience.<br>Permits interpretation of the process through words and illustration. |
|-----|---------------|---|

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**II. Printed Materials**

- |     |  |   |
|-----|--|---|
| 11. | Books  | Present knowledge and experience systematically and thoroughly. Make thinking of best minds of all times and places available at convenience of reader. |
| 12. | Pamphlets  | Provide knowledge and experience in special areas in condensed form.<br>In expensive  |
| 13. | Study guides   | Provide progressive learning experiences towards predetermined goals  |
| 14. | Discussion guides  | Enable in experienced groups to move their thinking in directions set by others.  |
| 15. | Manuals  | Give Instruction in performance of skills   |
| 16. | Newspaper,<br>Magazines reports,<br>periodically catalogues. | Provide reports of current events and contemporary ideas. Readily available . Inexpensive.  |

- |     |                 |   |
|-----|-----------------|---|
| 17. | Bibliographies, | Provide over-view of literature available on reading lists selected subjects. |
|-----|-----------------|---|

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### III. Audio-Visual Aids

- |     |                |   |
|-----|----------------|---|
| 18. | Chalk Board    | Permits creative and simultaneous Illustration of ideas by speaker. Especially valuable for listing ideas. Highly flexible.                     |
| 19. | Motion Picture | Provide wide range of knowledge and experience Condensed and selected makes possible visualization of realities , otherwise out of reach.       |
| 20. | Slides, films, | Permit personal interpretation & expansion opaque projection of visual experience. Visual images can be enlarged greatly and held indefinitely. |
| 21. | Charts, graphs | Especially valuable in communicating statistical data.  |
| 22. | Maps, globes   | Permit visualization of geographical relationship.  |
| 23. | Photographs    | Provide permanent visual records of local situations.   |

24.	Exhibits, bulletins,	Provide concrete examples of wide range board, models, of objects. permit organization in terms of specimens functional operation, developmental sequence, categories, etc. Can be examined closely.
25.	Puppets	Permit creative portrayal of situations.
26.	Radio, Television	Provides rapid reports of contemporary Events. Makes available the ideas and talent of national figures.
27.	Tape recordings	make precise record of groups or individuals performance, Available for later detailed analysis.

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#### **IV. Group Activities**

28.	Field strips, Study tour	provide first hand observation situations.
29.	Role playing	enables group to develop insights into cause and effect relationship and test ideas for producing change in human relationships.
30.	Discussion	Permits maximum use of experiences of Individual group members as resource for group.

## **11. TIME**

Time is an important consideration in the process of diffusion. The time dimension is involved

- a. In terms of a innovation decision process by which an individual passes from first knowledge of the innovation through its adoption or rejection
- b. In terms of the innovativeness of the individuals, that is the relative earliness-lateness with which an individual adopts innovation when compared with other members of his social system.
- c. In terms of rate of adoption in a social system, usually measured as the number of members of the system that adopt the innovation in a given time period.

### **11.1. Adoption process**

#### **11.1.1. Definition**

According to Rogers " adoption process is the mental process through which an individual passes from hearing about innovation to final adoption".

#### **11.1.2. Stages in Adoption process.**

The North Central Rural Sociology Subcommittee for the study of Diffusion of Farm Practices (1955) identified five stages of the adoption process, which received world-wide attention. These are -

- a. Awareness.
- b. Interest
- c. Evaluation
- d. Trial
- e. Adoption.

According to them adoption is not an instantaneous act. It is a process that occurs over a period of time and consists of a series of actions.

- a. **Awareness Stage :** The individual learns of the existence of the new idea but lacks information about it. At this stage an individual comes to know of a new idea, which may be new crop variety or a new technique of doing things etc. He is aware of the idea, but lacks detailed information about it. For instance, he may know only the name and may not know what the idea is, what it will do or how it will work. Opinion leadership in most social systems. Potential adopters.
- b. **Interest Stage :** The individual develops interest in the innovation and seeks additional information about it. He wants to know what it is, how it works and what are its potentialities.
- c. **Evaluation stage:** The individual makes mental application of the new idea to his present and anticipated future situation and decides whether or not to try it. At this stage the individual judges the worth of the innovation. He makes an assessment whether the idea is applicable to his own situation, and if applied what would be the result.
- d. **Trial Stage :** The individual actually applies the new idea on a small a scale in order to determine its utility is his own situation. These are generally small-scale trials to test the effectiveness of the innovation in one's own situation. Apparently individuals need to test a new idea even though they have thought about it for a long time and gathered information concerning it.
- e. **Adoption stage:** The individual uses the new idea continuously on a full scale. Trial may be considered as the practical evaluation of an innovation. It provides evidence of the advantages of the innovation. Being satisfied with the trail and considering the pros and cons of the situation, the individual takes a final decision and applies the innovation scale appropriate to has own situation on a continued basis.



**Table 2. Rank order of Information Sources (in U.S.A) (By stages in the adoption process)**

<b>Awareness</b>	<b>Interest</b>	<b>Evaluation</b>
Knows about it : lacks details.	Develops Interest, gathers general information and facts.	Mental trial, application to personal situation
1. Mass media (Radio, News-papers Magazines)	Mass media	Neighbors, Friends
2. Neighbors, Friends	Neighbors, friends	Govt. Agencies.
3. Govt. Agencies	Govt. Agencies	Salesmen, dealers.
4. Salesmen, Dealers	Salesmen, Dealers	Mass media
 <b>Trail</b>	 <b>Adoption</b>	
small-scale	Large scale continued use, satisfaction	
Experimental use		
1. Neighbours, friends	1. Neighbours, friends	
2. Govt. agencies	2. Govt. agencies.	
3. Salesmen, Dealers	3. Mass media	
4. Mass media	4. Salesmen, Dealers	

\* personal experience is the most important factor in continued use of an idea.

According to Singh (1965) the stages of adoption are dynamic and not static. The same five stages occur with all the respondents and all the practices. Sequence is not always the same. Sometimes one stage appears more than once. In some cases some stages are so short as to be imperceptible, and in other cases some stage seem to be skipped. There are no clear cut differences and sometimes the whole process is capsuled and looks like a unit act. The scheme of stages according to him are-

**TABLE 3. Adoption Stages and information Sources(in India)**

<b>Adoption stages</b>	<b>Important media or sources</b>
1. <b>Need:</b> This is a stage when an individual wishes to change his existing practices.	Village level change agent and to some extent mass media.
2. <b>Awareness:</b> The individual just comes to know about an innovation without knowing the details of it.	Village level change agent, mass media and other farmers.
3. <b>Interest:</b> He makes an attempt to know more about the innovation.	Formal sources as extension agency, and other-farmers
4. <b>Deliberation:</b> This is a stage of deliberation and mental evaluation.	Informal personal sources including family members.
5. <b>Trail:</b> An individual uses an innovation in part or sometimes in full.	No communication for simple substitutive practices. For complex or new practices, change agent and fellow farmers.
6. <b>Evaluation:</b> The individual evaluates the Performance of the innovation.	Fellow farmers and neighbors.

7. **Adoption:** It is decision to use the practices on continued basis. Self-experience gained at the trial Stage.

**Note:** In all stages of the adoption process, the complexity of the ideas is related to be choice of information sources. The more complex the idea, the greater is the tendency to rely on Government agencies (Change agents).

### **11.1.3. Limitations**

- a. It implies that the process always ends in adoption decision, where as in reality, rejection may also be a likely outcome. Therefore, a term more general than 'adoption process' is needed that allows for either adoption or rejection.
- b. The five stages do not always occur in the specified order and some of them may be skipped, especially the trial stage.
- c. Evaluation actually occurs through the process, rather than just at one of the five stages.
- d. The process seldom ends with adoption, as further information seeking may occur to confirm or reinforce the decision, or the individual may later switch from adoption to rejection (a discontinuance).

## **11.2. Innovation-Decision process**

### **11.2.1. Define**

Rogers and Shoemaker have used the term innovation decision in preference to adoption process.

The innovation-decision process is the mental process through which an individual passes from first knowledge of an innovation to a decision to adopt or reject and to confirmation of this decision.

### **11.2.2. Innovation Decision process and Diffusion process:**

Diffusion process is the spread of a new idea from its source of invention or creation to its ultimate users or adopters. The major differences between the two

processes is that diffusion occurs among the units in a social system, where as innovation decision making takes places within the mind of an individual.

### **11.2.3. Paradigm of innovation-decision process :**

#### **11.2.4. Divisions**

The model contains three major divisions.

**Antecedents** - are those variables present in the situation prior to the introduction of an innovation. Antecedents consists of

- the individuals personality characteristics such as his general attitude towards change.
- his social characteristics such as cosmopoliteness etc.
- the strength of the his perceived need for the innovation.

All these variables and others affect way in which the innovation -decision process occurs for a given individual.

- ii. **Process** - The social systems norms (modern or traditional) serve as incentives or restraints on the individual's decisions. Such system variable as tolerance for deviancy, communication integration and other characteristics also effect the nature of the innovation-decision process of the system members.

Communication sources and channels provide stimuli to the individual during the innovation- decision process individual gains in the typical individual gains initial knowledge of the innovation mainly from cosmopolite and mass media channels.

At the persuasion function, the individual forms his perception of the innovation from more localite and interpersonal channels.

An innovation may be adopted at the decision stage in the process and be used continuously or rejected at a later date (a discontinuance).

- iii. **Consequences :** A discontinuance may be due to the innovation replacement by an improved idea or to disenchantment with the innovation. The new idea may be rejected at the end of process but adopted at a latter date due to changes in how the individual perceives the innovation. Continued information seeking often occurs through out the confirmation function because the individual seeks to reinforce his decision. Sometimes, however, contradictory messages reach the individual and this leads to discontinuance or later adoption.

#### 11.2.3.2. Elements

**a. Knowledge function:** The individual is exposed to the innovation's existence and gains some understating of how it functions. Knowledge function is mainly cognitive or knowing. Knowledge seeking is initiated by an individual and is greatly influenced by his predisposition. Exposure is selective and, generally, an individual tends to expose himself to those ideas which are consistent with his existing attitudes and beliefs, and avoids those which are in conflict with them. A need can motivate an individual to seek information of an innovation and the knowledge of an innovation may also develop the need.

In addition to the knowledge that an innovation exists, there may be two additional types of knowledge how-to-knowledge and principles-knowledge. That is in addition to knowing that a particular new fertilizer or seed exists, a farmer would like to know how to use and why to use them.

**b. Persuasion Function:** The individual forms a favourable or unfavorable attitude towards the innovation. Persuasion function is mainly affective or related to felling. At this stages the individual becomes more psychologically involved with the innovation, which is conditioned by his personality and social system norms, and develops a general idea about the innovation.

In developing a favourable or unfavorable attitude towards the innovation, the individual may mentally apply the new idea to his present or anticipated future situation before deciding whether or not to try it. There may be two levels of attitudes, a specific attitude towards the innovation, and a general attitude towards change. A previous positive experience helps the process and a previous negative experience. I.e. a failure develops resistance to future new ideas.

**c. Decision function:** The individual engages in activities which lead to a choice to adopt or reject the innovation. The individual puts the innovation to a small-scale trial in his own situation. Considering the relative advantage, risks involved and many other related factors like availability of market, need for the family etc. the individual takes decision to adopt or reject the innovation. Rejection is a decision not to adopt an innovation.

**d. Rogers (1983) Proposed implementation function:** i.e. putting the practice in operation, between Decision and Confirmation functions. Implementation may involve changes in management of the enterprise and can take place partly before the decision is taken. Implementation often implies that the innovation is modified to suit more closely the needs of the farmer who adopts it.

**e. Confirmation function:** The individual seeks reinforcement for innovation decision he has made, but he may reverse his previous decision if exposed to conflicting message about the innovation. The decision to adopt or reject an innovation is not a terminal act. Human mind is in a dynamic state and an individual constantly evaluates the situation. If the individual perceives that the innovation is consistently giving satisfactory or unsatisfactory results, he may continue to adopt or reject the innovation, as the case may be.

Reversal of the decision after adoption or rejection of an innovation may, however, take place at a latter stage. An individual may discontinue an innovation after initially adopting it, if the innovation loses its relative advantage or a better substitute is

available. Crop varieties generally deteriorate after a number of years. They are then replaced by superior Varieties, if available, or may not be cultivated at all.

An individual continuing his decision not to adopt an innovation for some period, may later on reverse his earlier decision, and decide in favour of the adopting the innovation. Growing of non-traditional crops by the farmers may fall under this preview. Large-scale cultivation of wheat in the west Bengal and rice Punjab where these two crops were not traditionally grown to a large extent earlier, are examples of later adoption.

Discontinuance is a decision to cease use of an innovation after previously adopting it. There are two types of discontinuance: (1) replacement discontinue, in which an innovation is rejected because a better idea supersedes it, and (2) disenchantment discontinuance, in which an innovation is rejected as a result of dissatisfaction with its performance. Late adopters are more likely to discontinue innovations than early adopters. Further, innovation with a high rate of adoption have a Low rate of discontinuance.

The innovation-decision period is the length of time required to pass through the innovation-decision process. Generally, the rate of awareness- knowledge for an innovation is more rapid than its rate of adoption. This means, in other words, that early adopters have a shorter innovation-decision period than late adopters.

### **11.3. Innovativeness and adopter categories**

#### **11.3.1. Innovativeness**

Innovativeness is the degree to which an individual is relatively earlier in adopting new ideas than other members of his social system.

#### **11.3.2. Adopter Categories**

All individual in a social system do not adopt an innovation at the same time. Rather, they adopt in an ordered time sequence, and they may be classified into adopter categories on the basis of when they first begin using a new idea.

The adoption of an innovation over time follows a normal, bell-shaped curve when plotted over time on frequency basis. If the cumulative number of adopters is

plotted, it results in an S-shaped curve. The S-shaped curve rises slowly at first when there are few adopters in a time period, accelerates to a maximum when about half of the individuals in the system have adopted, and then increases at a gradually slower rate as the few remaining individuals finally adopt (fig.9).

The distribution of adopters over time closely approaches normality, and may be explained by the statistical concept of normal curve. The distribution of the adopters may be partitioned into five adopter categories by using the mean ( $\bar{x}$ ) and standard deviation. The area lying to the left of the mean time of adoption minus two standard deviations includes 2.5 percent of the who are the first to adopt an innovation and are known as innovators. The next 13.5 percent between the mean minus one standard deviation and the mean minus two standard deviation to adopt the new idea are called as early adopters. The next 34 percent of adopters between the mean of adoption and minus the standard deviation are known as early majority. Between the mean and one standard deviation to the right of the mean are located the next 34% to adopt the new idea the late majority. The last 16 percent to the right of mean plus one standard deviation are the last to adopt the innovation, the laggards. The five adopter categories are conceptualized as ideal types and are presented in Fig. 10.

### **11.3.3. Characteristics of Adopter categories**

#### **11.3.3.1. Innovators: Venturesome**

Observers have noted that venturesome is almost an obsession with innovators. They are eager to try new ideas. This interest leads them out of a local circle of peers and into more cosmopolite social relationships. Communication patterns and friendships among a clique of innovators are common, even though the geographical distance between the innovators may be great. Being an innovator has several prerequisites. These include control of substantial financial resources to absorb the possible loss due to an unprofitable innovation and the ability to understand and apply complex technical knowledge.



The salient value of the innovator is venturesome. He desires the hazardous, the rash, the daring, and the risky. The innovator also must be willing to accept an occasional setback when one of the new ideas he adopts proves unsuccessful.

These are the first people to adopt a new idea, much ahead of other people. They are very few in number, probably not more than one or two in a community.

### **Characteristics**

- a. Have larger farms.
- b. High net worth and risk capital.
- c. Willing to take risks.
- d. Usually not past middle age.
- e. Generally well educated
- f. have respect and prestige in progressive communities but not in conservative type of communities.
- g. Mentally alert and actively seeking new ideas.
- h. Their sphere of influence and activity often goes beyond the community boundaries.
- i. They have many formal and informal contacts outside the immediate locality.
- j. They often bypass the local extension worker in getting information from the origination sources and may learn about new things even before he does. They sometimes manage to get samples of seeds or chemicals even before they are released for public use.
- k. They subscribe to many farm magazines and specialized publications.
- l. Other farmers may watch the innovators and know what they are doing but the innovators are not generally named by other farmers as "neighbors and friends" to whom they go for information.

### **11.3.3.2. Early Adopters: Respectable**

Early adopters are a more integrated part of the local social system than innovators. Whereas innovators are cosmopolites, early adopters are localities. This adopters look to early adopters for advice and information about the innovation. The early adopter is considered by many as "the man to check with" before using a new idea.

This adopter category is generally sought by change agents to be a local missionary for speeding the diffusion process. Because early adopters are not too far ahead of the average individual in innovativeness, they serve as a role model for many other members of a social system. The early adopter is respected by his peers. He is the embodiment of successful and discrete use of new ideas. And the early adopter knows that he must continue to earn this esteem of his colleagues if his position in the social structure is to be maintained.

### **Characteristics**

- a. Younger than those who have a slower adoption rate but not necessarily younger than the innovators
- b. They are not the persons who test the untried ideas but they are quickest to use tried ideas in their own situations.
- c. Have large farms.
- d. Higher education than those who adopt more slowly.
- e. High income.
- f. They participate more in the formal activities of the community.
- g. They also participate more in government programmes.
- h. This group usually furnishes a disproportionate amount of the formal leadership (elected positions in the community).
- i. They read papers and farm journals and receive more bulletins than people who adopt later.
- j. They may be regarded as community adoption

### **11.3.3.3. Early Majority: Deliberate (Local adoption Leaders)**

The early majority adopt new ideas just before the average member of a social system. The early majority interact frequently with their peers, but leadership positions are rarely held by them. The early majorities unique positions between the very early and relatively late to adopt makes them an important link in the diffusion process.

The early majority may deliberate for some time before completely adopting a new idea. Their innovation-decision is relatively longer than that of the innovator and the early adopter. "Be not the last to lay the old aside, nor the first by which the new is tried", might be the motto of the early majority. They follow with deliberate willingness in adopting innovations, but seldom lead.

### **Characteristics**

- a. Slightly above average in age, education and farming experience.
- b. They take a few more farm journals and bulletin than the average.
- c. They have medium high social and economic status.
- d. Less active in formal groups than early adopters but more active than those adopting later.
- e. In many cases, they are not formal leaders in the associate.
- f. They also attend extension meetings and farm demonstrations.
- g. They are most likely to be informal leaders, but not holders of elected positions.
- h. Have more limited resources than early adopters and innovations, and so cannot afford to make hasty or poor decisions.
- i. They associate mainly with people of their own community.
- j. They value highly the opinions their neighbours and friends hold about them.
- k. They are mostly mentioned as "neighbours and friends" from whom the majority of farmers seek information.

### **11.3.3.4. Late Majority: Skeptical**

The late majority adopt new ideas just after the average member of a social system. Adoption may be both an economic necessity and the answer to increasing social pressures. Innovations are approached with a skeptical and cautious air, and the late majority do not adopt until most other in their social system have done so. The weight of system norms must definitely favour the innovation before the late majorities are convinced. They can be persuaded of the utility of new ideas, but the pressure of peers is necessary to motivate adoption.

### **Characteristics**

- a. Those in this group have less education and are older than the early majority.
- b. They form the major part of formal organisational membership, although they participate less in such formal groups.
- c. They take fewer leadership roles than the early adopters.
- d. They take and read fewer papers, magazines and bulletins, than the early majority.
- e. They do not participate in as many activities outside the community as do people who adopt earlier.

#### **11.3.3.5. Laggards: Traditional**

Laggards are the lasts to adopt an innovation. They possess almost no opinion leadership. They are the most localite in their outlook of all adopter categories, many are near isolates. The point of reference for the laggard is the past. Decisions are usually made in term of what has been done in previous generations. This individual interacts primarily with others who have traditional values. When laggards finally adopt an innovation, it may already have been superseded by another more recent idea which the innovations are already using. Laggards tend to be frankly suspicious of innovations, innovators and change agents. Their tradition direction slows the innovation decision process to a crawl. Adoption lags far behind knowledge of the idea. Alienation from a too-fast moving world is apparent in such of the laggards outlook. While most individuals in a social system are looking to the road of change ahead, the laggard has his attention fixed on the rear-view mirror.

### **Characteristics**

- a. Least education
- b. Oldest.
- c. Participate least in formal oraginisations, cooperatives and government programmes.
- d. They hardly read farm magazines and bulletins.

A composite picture of the adopter categories given by Rogers is reproduced in Table 4.

## **12. SOCIAL SYSTEM**

A social system is defined as a collectivity of units which are functionally differentiated and engaged in the joint problem solving with respect to a common goal. The members or units of a social system may be individuals, informal groups, complex organizations or sub-system. The social system constitutes a set of boundaries within which innovations diffuse. It can be dealt with the following topics.

- a. The social structure that affects diffusion
- b. The effect of traditional and modern norms on diffusion
- c. The role of opinion leaders and change agents on diffusion.
- d. Types of innovation-decisions.

### **12.1. Social structure and diffusion**

To the extent that the members in a social system, social structures are differentiated, structure then exists within the system. Social structure develops through the arrangement (such as in a hierarchical fashion) of the statuses or positions in a system. A formal organization such as a government agency has a well developed formal social structure consisting of titled positions, giving those in a higher ranked status the right to give orders to those of lesser ranks and to expect the orders to be carried out. Even an informal grouping has some degree of structure inherent in the interpersonal relationships among its members, determining who interacts with whom and under what circumstances. Naturally, both formal and informal social structures have an effect on human behavior and it changes in response to communication stimuli.

### **12.2. System norms and diffusion**

Norms are the established behavior patterns for the members of a given social system. Sometimes the norms can be a barrier to change. Norms influence the adoption of innovations. The norms may be differentiated as (i) Traditional and (ii) Modern norms.

**i) Traditional social system.** It can be characterized by

- a. Lack of favourable orientation to change
- b. A less developed or simpler technology
- c. A relatively low level of literacy, education, and understanding of the scientific method.
- d. A social enforcement of the status quo in the social system, facilitated by affective personal relationships, such as friendliness and hospitality which are highly valued as ends in themselves.
- e. Little communication by members of the social system with outsiders. Lack of transportation facilities and communication with the larger society reinforce the tendency of individuals in a traditional system to remain relatively isolated.
- f. Lack of a ability to empathize or to see oneself in others roles, particularly the of outsiders to the system
- g. An individual members in a system with traditional norms is not likely to recognize or learn new social relationship involving himself.

**ii) Modern social system.** It is characterized by

- a. A generally positive attitude towards change
- b. A well developed technology with a complex-complex division of labour
- c. A high value on education and science
- d. Rational and business like social relationships rather than emotional and affective.
- e. cosmopolite perspectives, in that members of the system often interact with outsiders facilitating the entrance of new of ideas into the social system
- f. Empathic ability on the part of the system members, who are able to see themselves in roles quite different from their own.

Several investigations point out the importance of system influences. Van Den Ban (1960) studied the effects of traditional and modern norms on the innovativeness of farmers. Although such individual characterizes as a farmer's education, size of farm and net worth were positively related to his innovativeness Van Den Ban concluded that a

farmer with high level education, on a large farm, and with a high net worth but residing in a township with traditional norms adopted fewer farm innovation than if he a lower of education and a smaller farm in a township where the norms were modern.

### **12.3. Opinion leaders and change agents**

Opinion leadership is the degree to which an individual is able to informally influence other individuals attitudes or overt behaviour in a desired way with relative frequency. It is a type of informal leadership, rather than being a function of the individuals formal position or status in the system. Opinion leadership is earned acceptability, and conformity to the system's norms. Several references indicate that when the social system is modern, the opinion leaders are quite innovation; but when norms the are traditional, the leaders also reflect this norm in their behavior. By their close conformity to the system's norms, the opinion leaders serve as an opt model for the innovative behaviour of the followers. In general the opinion leaders when compared with their followers, they are

- a) More exposed to all forms of external communication
- b) More cosmopolite
- c) have higher social status
- d) More innovative.

A change agent is a professional who influences innovation decisions in a direction deemed desirable by a change agency. He usually seeks to obtain the adoption if new ideas, but he may also attempt to slow down diffusion and present the adoption of what he believes are undesirable innovations. Change agents often use opinion leaders within a given social system as lieutenants in their campaign's of planned social change.

### **12.4. Types of Innovation-Decisions**

The social system has yet another important kind of influence on the diffusion of new ideas. The relationships between on the diffusion of new the decisions to adopt innovations may be described in the following manner.

#### **12.4.1. Optional decisions**

These are made by an individual regardless of the decisions of other members of the system. Here the individual's decision is influenced by the norms of his social system and his need to conform to group pressures.

Eg. 1 : a) The decision of an individual to begin wearing contact lenses instead of eye glasses.

b) Farmers' decision to adopt hybrid corn

#### **12.4.2. Collective decisions**

Collective decisions are those which individuals in the social system agree to make consensus. All must conform to the system's decision once it is made. Eg. Fluoridation of a city's drinking water. Once the community decision is made, the individual has no practical choice, but to adopt fluoridated water.

#### **12.4.3. Authority decisions**

Authority decisions are those forced upon an individual by someone in a superordinate power position, such as a superior in a bureaucratic organization. Here the individual's attitude towards the innovation is not the prime factor in his adoption or rejection. He is simply told of and expected to comply with the innovation-decision, which was made by an authority. In all authority decisions we can distinguish between 1. The decision-maker, who is one (or more) individual, 2. And the adopter or adopters, who carry out the decision. In the case of optional and collective decisions these two roles of deciding and adopting are performed by the same individual.

These three types of innovation decision range on a continuum from optional decisions (where the adopting individual has almost complete responsibility for the decision), through collective decisions (where the adopter has some influence on the decision). Collective and authority decisions are probably much more common than optional decisions in formal organizations, such as factories, schools, labour unions etc. In comparison with other fields like agriculture and medicine where innovation is usually optional.



#### **12.4.4. Contingent decisions**

Contingent decisions are those where a choice to adopt or reject can be made only after a prior innovation-decision. An individual member of a social system is free to adopt or not to adopt a new idea only after his system's innovation-decision.

Eg,

- a. A teacher cannot adopt or reject the use of an over-head projector in his class room until the school has decided to purchase one.
- b. In Punjab hybrid corn adoption is a contingent decision because hybrid corn requires a growing season two weeks longer than open pollinated varieties, and villagers release their cattle to roam for forage across the unfenced fields once their corn is harvested. Here one can readily imagine the difficulty of making an optional decision to adopt hybrid corn in the Punjab without a prior collective decision by the entire village.

### **13. CONSEQUENCES OF INNOVATIONS**

#### **13.1. Definition**

Consequences were defined as the changes that occur within a social system as a result of the adoption or rejection of an innovation.

#### **13.2. Classification of Consequences**

Consequence may be classified as

- (1) Functional or dysfunctional,
- (2) Direct or indirect, and
- (3) Manifest or latent.

Functional consequences are desirable effects of an innovation in a social system, whereas dysfunctional consequences are undesirable effects. Direct consequences are those to an innovation; indirect consequences are results from the consequences. Manifest

consequences are changes that are recognized and intended by the members of a social system; latent consequences are neither intended nor recognized.

### **13.2.1. Functional Versus Dysfunctional Consequences**

Functional consequence are desirable effects of an innovation in a social system. On the contrary, dysfunctional consequence are undesirable effects of an innovation in a social system. The determination of whether consequences are functional or dysfunctional depends on how the innovations affect the adopters.

Any social system has certain qualities which should not be destroyed if the welfare of the system is not be maintained. These might include family bonds, respect for human life and property, maintenance of individuals respect and dignity, and appreciation for others, including appreciation for contributions made by ancestors. Other sociocultural elements are more trivial and can be modified, discontinued, or supplanted with little impact, either positive or negative.

An innovation may be functional for a system but not functional for certain individuals in the system. Consider the example of the adoption of "miracle" varieties of rice and wheat in India that led to what is called the "Green Revolution." These innovations provide higher crop yields and more income to the farmers who adopt. Yet it also leads to a smaller farm labour force, a hastened farm-city exodus to urban slums, higher unemployment rates in the nation, and political instability. So although certain individuals profits from the adoption of the new seeds, it causes important but unequal conditions for the system. Are the consequences functional or dysfunctional? The answer depends on whether one takes certain individuals or the entire system as his point of reference.

The functionality of the consequence also depends on time. Obviously, an innovation's short-range and long-range effects may be quite different. Television in the U.S. In its first years of adoption TV watching was a group activity in the home and it seemed to be contributing to the stability of family life. But in later years televisions has been blamed for emphasizing violent themes to children and contributing to the generation gap between parents and their offspring.

An innovation may be more functional for some individuals than for others; certain positive consequences may occur for certain members of a system at the expense of others. For instance, laggards are the last to adopt innovation; by time they adopt a new idea they are often forced to do so by economic pressures. But by being the first in the field innovators frequently secure a kind of economic gain called windfall profits.

### **13.2.2. Direct Versus Indirect Consequences**

Very often the consequence of an innovation are not terminated with the direct impact upon the individual who adopts. Shock waves may be set in motion which reach far beyond the immediate environment of the actual adopter, Ogburn and Gifflian (1963) list 150 effects of the radio in the U.S. These consequences spread out through primary, secondary, and tertiary levels; the most direct effects caused more ultimate consequences. Because of the intricate, often invisible web of interrelationships among cultural elements a change in one part of the system often initiates a chain reaction of consequence.

Direct consequences are those changes in a social system that occurs in immediate response to an innovation. Indirect consequences are those changes in a social system that occurs as results of direct consequence of an innovation. An illustration of the direct indirect consequence of a new idea is detailed in the anthropological study of the adoption of wet rice farming by a tribe in Madagascar (Linton and Kardiner, 1952). The tribe had been a nomadic group that cultivated rice by dry-land methods. After each harvest they would move to a different location. Many social changes resulted in the tribe's culture after the adoption of wet-land rice farming. A pattern of land ownership developed, social status differences appeared, the nuclear family replaced the extended clan, and tribal government changed. The consequence of the technological change were both direct and far-reaching, in that a second generation of consequences from wet rice growing spread from the more direct results. This point is illustrated Fig .

### **13.2.3. Manifest Versus Latent Consequences**

Manifest consequences are change that are recognized and intended by the members of a social system. An example of a manifest consequence is the development

of new occupational skills, such as that of tractor repairman necessitated by the mechanization of agriculture.

Although they are less discernible to casual observers, latent or "subsurface" consequence may be just as important as manifest consequences. Latent consequences are changes that are neither intended nor recognized by the members of a social system. The development of new attitudes about ideal family size because of the introduction of birth control techniques may have significant impact in less developed countries. Another example is the disintegration of respect for their elders among the Yir Yoront, in the case study that follows. This change in familial relations was of tremendous importance to that tribe, even though such a consequence was not readily apparent when steel axes were first introduced.

Almost no innovation comes without any stings attached. The more important, the advantaged, the more "modern" the innovation the more likely its introduction is to produce many consequences – some of them intended and manifest, others, unintended and latent. A system is a like bowl of marbles: Move any one of its elements and the positions of all the others are also changed

### **Steel Axes for Stone Age Aborigines**

The consequence of the adoption of steel axes a tribe of Australian aborigines vividly illustrates the need for consideration of the consequence of an innovation.

The tribe was Yir Yoront, who traveled in small nomadic groups over a vast territory in search of game and other food. The central tool in their culture was the stone ax, which the Yir Yoront found indispensable in producing food, constructing shelters, and obtaining warmth. It is hard to imagine a more complete revolution than that precipitated by the adoption of the steel ax as a replacement for the stone ax.

Because of their isolation, the natives were relatively unaffected by modern civilization until the establishment of a nearby missionary station in recent years. The missionaries distributed a great many steel axes among the Yir Yoront as gifts and as pay for work performed.

Before the days of the steel ax, the stone ax was a symbol of masculinity and of respect for elders. The men owned the stone axes, but the women and children were the principle users of these tools. The axes were borrowed from fathers, husbands, or uncles according to a system of social relationship prescribed by custom. The Yir Yoront obtained their stone ax heads in exchange for spears through bartering with other tribes, a process, which took place as of elaborate rituals at seasonally fiestas.

When the missionaries distributed the steel axes to the Yir Yoront, they hoped that a rapid improvement in living conditions would results. There was no improvement resistance to the shift from stone to steel axes, because the aborigines were accustomed to securing their tools through trade. Steel axes were more efficient for tasks, and the stone axes rapidly disappeared among the Yir Yoront.

However, the steel ax contributed little to process; to the disappointment of the missionaries, the Yir Yoront used their new-found leisure time for sleep, "an act they had thoroughly mastered." The missionaries distributed the steel axes to men, women, and children alike. In fact, the young were more likely to adopt the new tools than were the elders, who maintained a greater distrust for the missionaries. The results was a disruption of status relations among the Yir Yoront and a revolutionary confusion of age and sex roles Elders, once highly respected, now become dependent upon women and younger men and were often forces to borrow their steel axes.

The trading rituals of the tribe were also disorganized. Friendship ties among traders broke down, and interest in the fiestas, where the barter of stone axes for spears had formerly taken place, declined. The religious system and social structure of the Yir Yoront become disorganized as a result of inability to adjust to the innovation. Later the men began the practices of prostituting their daughters and wives in exchange for use of someone else's steel ax.

We see, then, that many of the consequence of the innovation among the Yir Yoront were latent, indirect, and dysfunctional (especially in the eyes of the well meaning missionaries).The case of the steel ax also illustrates a common error made by the change agents in regard to consequences. Agents are able to anticipate the form and functions of an innovation but its meaning for adopters.

The introduction of the steel ax among Australian aborigines brought many dysfunctional and indirect consequences, including breakdown of the family structure, the emergence of prostitution, and "misuse" of the innovation itself. The story of the steel ax illustrates three intrinsic elements of an innovation:

- (1) Form, which is the directly observable physical appearance and substance of an innovation.
- (2) Function, which is the contribution made by the innovation to the way of life of members of the social system, and
- (3) Meaning, which is the subjective and frequently subconscious perception of the innovation by members of the social system.

Change agents can more easily anticipate the form and function of an innovation for their clients than its meaning.

## **14. FACTORS RELATED TO ADOPTION OF PRACTICES**

**I. Social factors:** Community standards and social relationships provide the general framework where in the process of change occurs, and they account for the difference between one community (or group) and another.

- (1) **Social values:** In some groups and communities people place a higher value upon material gains and money than they do in others. In some other groups; changes in farming are encouraged and expected; prestige is placed on new ideas and techniques. In others, more value is placed upon tradition and little freedom is allowed for the individual to deviate from the group's pattern in adopting innovations.

If the adoption of new practices goes contrary to the established customs and traditions of the people, the innovator may be ridiculed or lose prestige.

The extent to which changes are adopted depends on the values and expectations of the group and upon the extent to which individual is expected to conform. Where there is greater emphasis on maintaining traditions and values rooted in the past, change occurs more slowly. On the other hand, where emphasis is upon individualism and personal success, change occurs more rapidly.

(2) **Local Leadership:** The acceptance of change is also influenced by the nature of the leadership and control in the group or community. In some communities, none would accept a new idea, unless and until one man (the leader) in the community is sold on the idea. Once sold, he would influence all farmers in the community to accept it. In such situations it is important to identify and uses such influential leaders. The influence of informal leaders is likely to be greater where neighbour, kindship and community ties are the strongest.

(3) **Social contacts:** The nature and extents of social contact within ,and outside the community is important in the diffusion of new ideas and techniques, as indicated below:

- a) **Nature of social contacts:** The presence of organisations whose objectives includes the promotion of changes will aid directly and indirectly in the diffusion process. On the other hand, where social contacts are primarily thought kindship,, visiting and informal activities, there may be greater resistance to change.
- b) **Extent of social contact:** The extent to which social contacts are confined to the immediate locality is a factor. The broader the social orientation of the people, the more likely they are, to accept new ideas. Only a few individuals may have such outside contacts, but they may be in a position to influence their neighbours. Local orientation on the part of the majority is not necessary a limiting factor in the diffusion of new ideas, so long as a few leaders have outside contacts.
- c) **Social distance:** The social distance associated with wide status differences are also a factor in the diffusion of farm information through inter-personal channels. For example, tenant farmers in some areas may not get ideas from the large farm owners because of their lack of contact. Also small-scale farmers may fail to communicate with large-scale farmers. Rigid class structure impairs inter-class communication of ideas.

**II Personal factors:** Why some people adopt new ideas and practices more quickly than others relates in part to the individual himself.

(1) **Age:** Elderly farmers seem to be somewhat less inclined to adopt new practices than younger ones.

(2) **Education:** More than eight years schooling is almost always associated with higher adoption rates than lesser amounts.

**(3) Psychological characteristics:**

a) Exposure to reliable sources of farm information may create a state of rationality, which in turn predisposes an individual to the adoption of new practices.

b) A mentally flexible person has higher adoption rates than one with mental rigidity.

c) Some people are found to be more prone to change than others.

**(4) Values and attitudes(cultural characteristics)**

a) Values found to be positively related to farm practices adoption rates are: a desire by farmers and their wives for a high school or college education for their children high emphasis on science and material comfort and also wide contacts within and beyond the community.

b) A high emphasis on traditionalism, isolationism, and security (e.g., owing farm of free of debt) has been found to be negatively associated with adoption of improved practices.

**III. Situational factors:** Reasons why farm practices more quickly at one time than another relate to the situation in which they find themselves when alternative courses of action become known.

1) **The Nature of the practice:** The speed with which take place is partly dependent on the nature of practice itself.

A) **Complexity:** Generally speaking, the more complex a practice and the more change it requires in the existing operations, the more slowly it will be adopted.

The following classification of practices in terms of their complexity roughly represents the decreasing order of speed with which acceptance may be expected to occur:



- a) **A simple change:** A change in materials and equipment only, without a change in techniques or operations (e.g., new variety of seed).
  - b) **Improved practice :** Change in existing operation with or without a change in materials or equipment (e.g., change in rotation of crops).
  - c) **Innovation:** Change involving new techniques or operations (e.g., contour cropping).
  - d) **Change in total enterprise:** e.g., from crop to livestock farming.
- B) Cost:** Those practices which cost little seem to be adopted more rapidly than those which are more expensive.
- C) Net Returns:** Those practices which yield, the greatest marginal returns per rupee invested, and in the shortest time seem to be adopted most readily.
- D) Compatibility :** Is the degree to which an innovation is consistent with existing values and past experiences of the adopters. An idea that is not compatible with the cultural norms of a social system will not be adopted so rapidly as an idea that is compatible. e.g., the lack of compatibility of the beef
- E) Divisibility:** (Trialability) : is the degree to which the results of an innovation may be tried on a limited basis. New ideas that can be tried on a small scale or on the installment plan will generally be adopted more rapidly innovations that are not divisible. e.g., new seeds or fertilizers can be tried on a small scale, but new machinery or a thing like cow-dung gas plant cannot be so tried.
- F) Communicability (Observability):** Is the degree to which the results of an innovation may be to others. The results of some practices are easily observed (e.g., application of nitrogenous fertilizer to plants), while the results of some innovations are not easily observed (e.g., pre-treatment of seeds, or soil conservation measures).
- 2) **Farm Income:** High farm income nearly always is associated with high adoption levels.
  - 3) **Size of farm:** Size of farm is nearly always positively related to the adoption of new farm practices.
  - 4) **Tenure status:** Adoption scores are usually higher for owner cultivators than for tenant cultivators.

**5) Sources of farm information used:**

- a) The number of sources used or the number of contacts with information sources is positively related to adoption rates
  - b) A high positive correlation is particularly evident with the use of such sources as Government agencies.
  - c) High dependence on relatives and friends as sources of information is usually negatively associated with the adoption of new farm practices.
- 6) Level of living:** Since successful farm practice adoption is instrumental in providing the means for supporting a higher level of living, a positive correlation between the two would be expected and is generally found.

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