EXTENSION METHODOLOGIES FOR TRANSFER OF AGRICULTURAL TECHNOLOGY

AEXT 392   **Credits 2(1+1)**

Theory

Communication – Meaning, Definition, Models, Elements and their Characteristics, Types and Barriers in communication.
Extension Programme Planning – Meaning, Definitions of Planning, Programme, Project, Importance, Principles and Steps in Programme Development Process, Monitoring and Evaluation of Extension Programmes
Extension Teaching methods – Meaning, Definition, Functions and Classification.
Individual contact methods – Farm and Home visit, Result Demonstration, Field trials – Meaning, Objectives, Steps, Merits and Demerits.
Group contact methods – Group discussion, Method demonstration, Field Trips – Meaning, Objectives, Steps, Merits and Demerits.
Small group discussion techniques – Lecture, Symposium, Panel, Debate, Forum, Buzz group, Workshop, Brain Storming, Seminar and Conference.
Mass contact Methods – Campaign, Exhibition, Kisan Mela, Radio & Television – Meaning, Importance, Steps, Merits & Demerits.
Factors influencing in selection of Extension Teaching Methods and Combination (Media Mix) of Teaching methods.
Innovative Information sources – Internet, Cyber Cafes, Video and Tele conferences, Kisan call centers, Consultancy clinics.
Agricultural Journalism – Meaning, Scope and Importance, Sources of news, Types, Merits and Limitations.
Diffusion and Adoption of Innovations – Meaning, Definition, Models of adoption Process, Innovation – Decision Process – Elements, Adopter categories and their characteristics, Factors influencing adoption process.
Capacity building of Extension Personnel and Farmers – Meaning, Definition, Types of training, Training to farmers, farm women and Rural youth – FTC and KVK.

COMMUNICATION

According to Leagans (1961), Communication is the process by which two or more people exchange ideas, facts, feelings or impressions in ways that each gains a common understanding of the meaning, intent and use of messages. The term 'communication' stems from the Latin word 'communis'-meaning' 'common'. Communication, then, is a conscious attempt to share information, ideas, attitudes and the like with others. In essence it is the act of getting a **sender** and *a receiver* tuned together for a particular message, or a series of message. "Communication means the movement of knowledge to people in such ways that they act on that knowledge to achieve some useful result. This result may range all the way from a small improvement in doing some productive task, to the generation of a sense of national unity and strength in a country. Communication in this sense includes the whole learning process. It encompasses the teacher- the message or material to be taught- the means or media used to carry the message -the treatment given by those media- the learning achieved by the audience or student- and the actions by which the learning is put into practice". (Winfield (1957).

Good communication does not consist merely of giving orders, but of creating understanding. It does not consist merely of imparting knowledge, but of helping people gain a clear view of the meaning of knowledge. Most of the progress in the future will stem from better technology and greater skill in communicating it to others. Too many people saying the wrong things at the wrong time, in the wrong way, to the wrong people, slows down progress. What is needed is more people saying the right things at the right time, in the right way, to the right people. This is the formula for good communication.

Importance of Communication
1. Communication establishes a favourable climate in which development can take place.
2. Communication has multiplier effect
3. Communication varies the aspirations of the people
4. Communication is essential for all human activities
5. Communication is essential for good leadership

Elements of Communication

1. The Communicator
This is the person who starts the process of communication in operation. He is the source or originator of messages. He is the sender of messages. He is the first to give expression to message intended to reach an audience in a manner that results in correct interpretation and desirable response. When a communicator does not hold the confidence of his audience, communication as conceived will not take place.

The following are **the good qualities of a good communicator**

1. The Communicator Knows -
    a) the specifically defined objectives.
    b) the needs, interests, abilities etc. of the audience.
    c) the content, validity, usefulness and importance of the message
    d) the channels that will reach the audience and their usefulness
    e) the tactics of organising and treating the message
    f) his/her professional abilities and limitations.

2. The communicator is interested in -
    a) the intended audience and their welfare
    b) the specific message and its effects in helping the people
    c) the entirety of communication process
    d) the proper use and limitation of communication channels.

3. The communicator prepares -
    a) a specific teaching plan for communication
    b) materials and equipments needed for communication
    c) a plan for evaluation of results.

4. The communicator has skill in
    a) selecting messages
    b) treating messages
    c) expressing messages in verbal and written forms
    d) the selection and use of channels
    e) understanding the audience
    f) collecting evidence of results.

In contrast to the above, the following are **the qualities of a poor communicator**

- Fail to have ideas to present that are really useful to the audience.
- Fail to give the complete story and show its relationship to people's problems
- Forget that time and energy are needed to absorb the material presented.
- Feel they are always clearly understood.
- Refuse to adjust to 'closed' minds.
- Talk while others are not listening.
- Get far too ahead of audience understanding.
- Fail to recognise others' view - point and develop presentation accordingly
- Fail to recognise that communication is a two-way process.
- Let their own biases over-influence the presentation.
- Fail to see that everyone understands questions brought up for discussion
- Fail to provide a permissive atmosphere.
- Disregard the values, customs, prejudices and habits of people with whom they attempt to communicate.
- Fail to start where people are, with respect to knowledge, skill, interest and need.

2. Message or content

A message is the information 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.

Features of a good message

A good message must be -

- in line with the objectives to be attained.
- clearly understandable by the audience
- in line with the mental, social, economic and physical capabilities of the audience
- Significant-economically, socially or aesthetically to the needs, interests and values of the audience.
- specific in terms of audience and locale
- accurate so as to be scientifically sound, factual and current in nature.
- appropriate to the channel selected.
- appealing and attractive to the audience signifying the utility values and immediacy of use.
- adequate in such a way to have effective proportionate combination of principle and practice manageable so as to be handled by the communicator within the resources availability.

In contrast, poor communicators often commit the following which mar the effectiveness of message sending

1. Fail to clearly separate the key message from the supporting content or subject-matter.
2. Fail to prepare and organise their message properly.
3. Use inaccurate of 'fuzzy' symbols-words, visuals, or real objects-to represent the message.
4. Fail to select messages that are sharply in line with the felt needs of the audience.
5. Fail to present the message objectively-present the material, often biased, to support only one side of the proposition.
6. Fail to view the message from the standpoint of the audience.
7. Fail to time the message properly within a presentation or within a total programme.

Selecting and 'packaging' messages so they have a good chance of being understood, accepted and acted upon when received is a crucial step in the communication process. It is one of the six keys to success in efforts to influence people to change their ways of thinking and of doing that lead to social and economic improvement.

3. Channels of Communication

The sender and the receiver of messages must be connected or 'tuned' with each other. For this purpose, channels of communication are necessary. They are the physical bridges between the sender and the receiver of messages-the avenues between a communicator and an audience on which messages travel to and fro. They are the transmission lines used for carrying messages to their destination. Thus, the channels serve as essential tools of the communicator.

A channel may be anything used by a sender of messages to connect him with intended receivers. The crucial point is that he must get in contact with his audience. The message must get through.

However, channels are no good without careful direction or use in the right way, at the right time, to do the right job, for the right purpose with the right audience, all in relation to the right message. So, proper selection and use of channels constitutes a third determinant of successful communication. Without proper use of channels, messages, no matter how important, will not get through to the intended audience.

Many obstructions can enter channels. These are often referred to as **'noise'** - that is, some obstruction that prevents the message from being heard by or carried over clearly to the audience. 'Noise' emerges from a wide range of sources and causes.

Sources and causes for noise:

1. *Failure of a channel to reach the intended audience*. Usually, no one channel will reach an entire audience. Some examples: Meetings-all people cannot or may not attend. Radio-all people do not have access to a receiving set or may not be tuned in if they did. **Written** *material*-many people cannot read, and others may not.

2. *Failure on the part of a communicator to handle channels skillfully*. If a meeting, tour, radio programme or any other channel is not used according to good procedure and technique, its potential for carrying a message is dissipated.

3. *Failure to select channels appropriates to the objective of a communicator*. All channels are not equally useful in attaining a specific objective.

4. *Failure to use channels in accordance with the abilities of the audience*. Written materials, for example, cannot serve as useful channels for communicating information to people who are unable to read or to understand the level of complexity or abstraction of the message.

5. *Failure to avoid physical distraction.* When using the channel of meetings, for example, distractions including people moving in and out, loud noises in or out of the group, heat, lighting, crowded condition and many other forms of distraction often obstruct successful message sending.

6. ***Failure of an audience to listen or look carefully***. The only messages that get through to an audience are those which are heard, seen or experienced. An unfortunate tendency of people is not to give undivided attention to the communicator. This is a powerful obstruction that prevents messages from reaching desired destination.

7. ***Failure to use enough channels in parallel***. The more channels a communicator uses in parallel or at about the same time,. the more chances he has for the message getting through and being properly received . No single channel will ordinarily reach all people who need to receive a message. Research indicates that up to five or six channels used in combination are often necessary to get a message through to large numbers of people with enough impact to influence significant changes in behaviour.

8. ***Use of too many channels in a series***. An important principle of communication is that the more channels used in a series the less chance a communicator has for getting his message through to the intended audience. In this context, the following principles are to be borne in mind : (1) The more steps by which the communicator is removed from his intended receiver, the greater are his chances of losing the proper message. (2) When lines of communication get too long for assured communication they can be improved in two primary ways : (a) by using additional channels in parallel, and (b) by eliminating some of the channels in the series.

4. Treatment of Messages

Treatment has to do with the way a message is handled to get the information across to an audience. It relates to the technique, or details of procedure, or manner of performance, essential to expertness in presenting messages. Hence, treatment deals with the design of methods for presenting messages. Designing the methods for treating messages does not relate to formulation of the message or to the selection of channels, but to the technique employed for presentation within the situation provided by a message and a channel.

The purpose of treatment is to make the message clear, understandable and realistic to the audience. Designing treatment usually requires original thinking, deep insight into the principles of human behaviour and skill in creating and using refined techniques of message presentation.

Treatment of messages can be varied in an almost infinite number of ways. The following are the three categories of bases useful for varying treatment

A. Matters of general organisation
1. Repetition of frequency of mention of ideas and concepts.
   Contrast of ideas.
2. Chronological-compared to logical, compared to psychological.
3. Presenting one side compared to two sides of an issue.

4. Emotional compared to logical appeals.
5. Starting with strong arguments compared to saving them until the end of presentation.
6. Inductive compared to deductive.
7. Proceeding from the general to the specific and *vice versa.*
8. Explicitly drawing conclusions compared to leaving conclusions implicit for the audience to draw.

B. Matters of speaking and acting
1. Limit the scope of presentation to a few basic ideas and to the time allotted. Too many ideas at one time are confusing.
2. Be yourself. You can't be anyone else. Strive to be clear, not clever.
3. Know the facts. Fuzziness means sure death to a message.
4. Don't read your speech. People have more respect for a communicator who is sure of his subject.
5. Know the audience. Each audience has its own personality. Be responsive to it.
6. Avoid being condescending. Do not talk or act *down* to people, or over their heads.
7. Decide on the dramatic effect desired. In addition to the content of messages, a communicator should be concerned with 'showmanship'. Effective treatment requires sincerity, smoothness, enthusiasm, warmth, flexibility and appropriateness of voice, gestures, movements and tempo.
8. Use alternative communicators when appropriate, as in group discussions, panels, interviews, etc. Remember that audience appeal is a psychological bridge to getting a message delivered.
9. Quit on time. Communicators who stop when they are 'finished' are rewarded by audience goodwill.

C. Matters of symbol variation and devices for representing ideas
To represent ideas by effective treatment with reference to the desired behavioural changes, a variety of audio-visual aids may be used. Communicators should be aware that teaching message to achieve maximum audience impact is a highly professional task. Treatment is a creative task that has to be 'tailor-made' for each instance of communication. Experience, thinking and planning, skill in verbalisation and writing, understanding of the principles of teaching and learning, knowledge of a) the subject b) the audience to be reached and c) skill in the use of channels etc will help the communicator to undertake the process of message treatment.

5. The Audience
An audience is the intended receiver of message. It is the consumer of messages. It is the intended respondent in message sending, and is assumed to be in a position to gain economically, socially or in other ways by responding to the message in particular ways. In good communication the communicator already identifies the audience aims.

The importance of clearly identifying an audience cannot be over-stressed. 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.

The following are some of the issues to clarify the nature of audience:
1. Communication channels established by the social organisation.
2. The system of values held by the audience-what they think is important.
3. Forces influencing group conformity-custom, tradition etc.
4. Individual personality factors-susceptibility to change etc.
5. Native and acquired abilities.
6. Educational, economic and social levels.
7. Pressure of occupational responsibility-how busy or concerned they are.
8. People's needs as they see them, and as the professional communicator sees them.
9. Why the audience is in need of changed ways of thinking, feeling and doing.
10. How the audience views the situation.

It is useful to a communicator to understand these and other traits of an audience in making his plan for communication.

6. Audience Response

This is the terminating element in communication applied to rural development programmes. Response by an audience to messages received is in the form of some kind of action of some degree, mentally or physically. Action, therefore, should be viewed as a product, not as a process; it should be dealt with as an end, not as a means. Consequently, the five elements hither to analysed *viz.,* communicator, message, channel, treatment and audience are intended to be viewed as an organised scheme (means) for attaining the desired action (end) on the part of an intended audience.

The number of possible kinds and degrees of response to 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 the intended audience:

1. **Understanding Vs knowledge**. Knowledge of facts alone does not constitute understanding. It is only the first step. Understanding is attained only when one is able to attach meaning to facts, see the relationship of facts to each other and to the whole of a proposition and the relationship of the total body of facts to the problem under consideration. Communicative efforts often fails because it stops simply with laying facts before people and does not continue in a systematic way to promote an understanding of the facts presented. People usually do not act on facts alone, but only when an understanding of facts is gained. Communication must promote understanding.

2. **Acceptance Vs rejection**. A free, alert and thinking human mind requires that understanding precede acceptance of facts and propositions. In turn, it insists on mental acceptance before resorting to action. For it is what human beings come to

believe, not what they merely know or even understand, that determines what they do when they are free to act as they choose

3. **Remembering vs. forgetting**. When opportunity for action is not immediately available or action is delayed, the factor of forgetting what was learned influences the kind and extent of action taken at any point of time in the future. This basic principle has extensive implications for timing in communication programmes. Transmitting the right message to the right people at the right time is often a crucial factor in successful communication.

4. **Mental Vs physical action.** Changes in the mind of man, must always precede changes in the actions of his hands. In short, man's mind controls his overt behaviour. Consequently, a message suggesting physical action could receive all the mental action required, except the final decision to act. This is sometimes referred to as 'lip service'.

5. **Right vs. wrong**. The intent of a communication is to promote desirable action by an audience as determined by the communicator and expressed in his objectives. Consequently, resulting action in line with the intended objectives is assumed to be 'right' action. But the problem is more complex. Unfortunately, 'noise' often plays mischief at this point. For a variety of reasons, people often fail to behave precisely according to instructions, even when they understand and accept them.

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http://www.youtube.com/watch?v=bo4hE2AjDjs&feature=player_detailpage

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COMMUNICATION MODELS

Models- Definitions

In social science research, a model is a tentative description of what a social process, say the communication process or a system might be like. It is a tool of explanation and analyses, very often in a diagrammatic form, to show how the various elements of a situation being studied relate to each other. Models are not statements of reality. Only after much further research and testing would the model is considered viable. It could then be developed into a theory. The term model can also refer to a particular process or object, which is used as a point of reference, when an attempt to explain the unknown is being made. It comprises involving an analogy to throw up the similarities between the phenomena to be explained and one, which is well known, i.e. the model.

Additionally the model can be a person whose behaviour others wish to emulate or who they wish to model themselves after.

The simplest definition of a model is that it is an analogue. A model is a relatively well-developed analogy. Given two objects or processes, which are dissimilar in many respects, one is an analogue of the other to the extent that the physical or logical structure of one re-presents the physical or logical structure of the other.

The advantage of models in communication research is that it allows the researcher to account for different variables in different communication situations. Models only represent systems or processes. Since they are not real, they are just symbolic ways of looking at systems to help us to think about them more lucidly. Again since models do not show every part of a system, they are usually incomplete in that sense. Even those that are shown are represented only in enough detail to help us look at the processes or features in which we are interested. Mo0dels give us an idea of complicated objects or events in a general way. They enable us to see how a particular communication event fits into the general pattern. They provide a classification for an orderly nature of events and suggest new ways of looking at old problems, and familiar events. They help us by providing a structure of reference for purposes of study. Theories are not models and the most fundamental difference between a theory and a model is that the former is an explanation whereas the latter is a representation.

Communication Models

1. Aristotle's Model of Communication

Fig.1. Aristotle Model
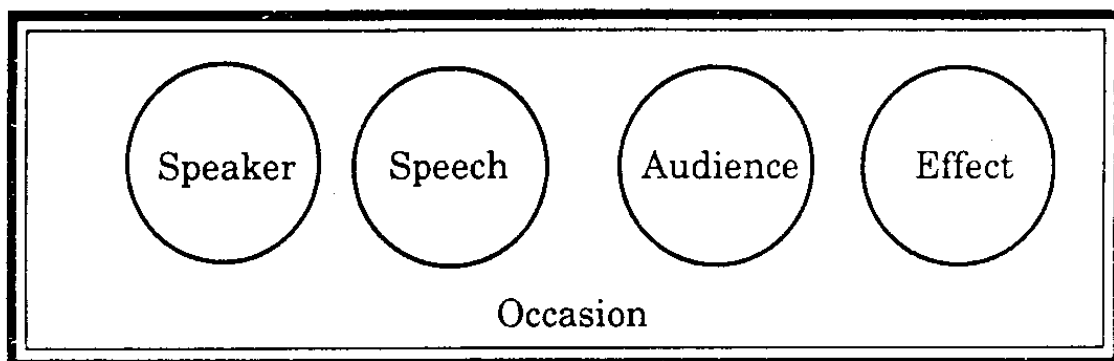
Aristotle's Model of Communication (Devito, 1978)

The earliest model of communication was the symmetrical and simple model developed by the great Greek philosopher Aristotle some 2000 years before. Aristotle in his model includes the five essential elements of communication, i.e., the speaker, the speech or message, the audience, the occasion, and the effect. In his rhetoric, Aristotle advises the speaker on constructing a speech for different audiences on different occasions for different effects. This model is most applicable to public speaking.

2. Lasswell's Model (1948)

Lasswell has given us another simple model. His model belongs specifically to the area of mass communication. He argued that to understand the process of mass communication one needs to study each of the stages in his mode. "Who says what, in which channel, to whom, and, with what effect."

Fig.2. Lasswell's Model
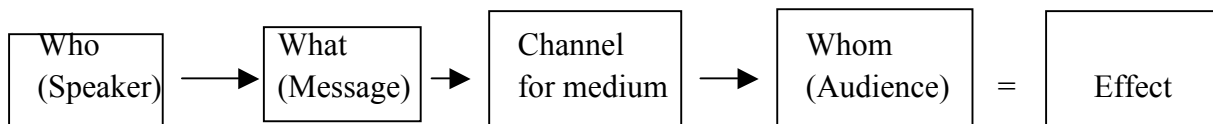
 (Source: Public Opinion and Propaganda by Harold Lasswell, 1948)

This is the verbal version of Shannon and Weaver's original model. It is linear. It sees communication as the transmission of message. It raises the issue of the effect rather than meaning. Effect implies an observable and measurable change in the receiver that is caused by identifiable elements in the process. A change in one of these elements will change the effect. We can change the encoder. We can change the message. We can change the channel, and each one of these changes would produce the appropriate change in the effect. Most mass communication research has implicitly followed this model.
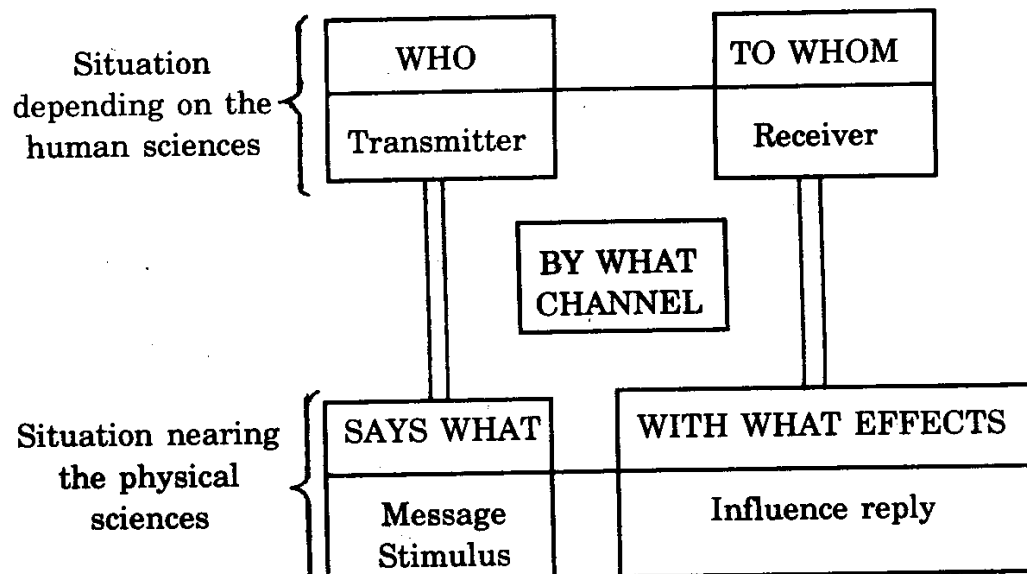
The work of institutions and their process on the producers of communication on the audience and how it is affected clearly derives from a process based linear model.

Lasswell's model - comments

Until the 1960s Lasswell's four questions (of who says what, by what channel, to whom and with what effect) dominated studies of the mass media in France. Not only his exemplary expression defines the different research areas for communication investigations, but also seemed to prescribe the appropriate concepts and methodological orientation to be followed. Thus, Lasswell's paradigm served the entire scientific community of communication scholars.

Fig.3.Lasswell's Communication Model

This Lasswell model was represented by Michael Buhler.

Situation depending on the human sciences {

WHO	TO WHOM
Transmitter	Receiver

BY WHAT CHANNEL

Situation nearing the physical sciences {

SAYS WHAT	WITH WHAT EFFECTS
Message Stimulus	Influence reply

It was Harold Lasswell who first precisely delineated the various elements, which constitute a "communication fact." According to him, one cannot suitably describe a "communication action" without answering the following questions: who said what, by what channel, to whom and with what effect?

Identification of transmitters, analysis of message content, study of transmission channels audience identification and evaluation of effects; these are the five parameters of communication studies. Michel Buhler represents the Lasswell model with the above diagram.

Along with other developments during this period were a number of writings that sought to provide description of the nature of the communication process. One of the most often cited political scientists Harold Lasswell advanced characterization communication in 1948 as an outgrowth of his work in the area of propaganda. Lasswell provided a general view of communication that extended well beyond the boundaries of political science. Lasswell's view of communication, as had Aristotle has some two thousand years earlier, focused primarily on verbal messages. It also emphasized the elements of speaker, messages, and audience, but used different terms. Both men viewed communication as a one way process in which one individual influenced others through messages. Lasswell offered a broadened of definition channel to include mass media along with verbal speech as a part of the communication process. His approach also provided a more generalized view of the goal or effect of communication than did the Aristotelian perspective. Lasswell's work suggested that there could be a variety of outcomes or effects of communication such as to inform, to entertain, to aggravate and to persuade (Brent, 1984).

3. Shannon and Weaver Model (1949)

The preconceptions of the academic field of mass communication were heavily influenced by the engineering model of Shannon and Weaver (1949) Communication was conceived as a linear act of transmission of a message from a source to a receiver via a signal producing transmitter. A component called 'noise' acknowledged the presence of context in the electrical engineering model.
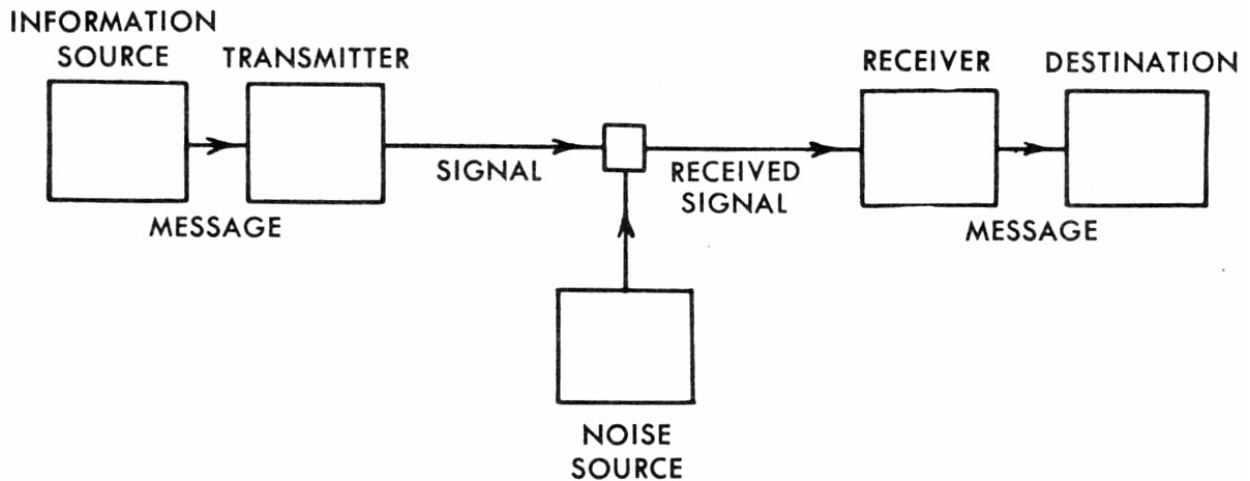
Fig. 4. Shannon and Weaver Model
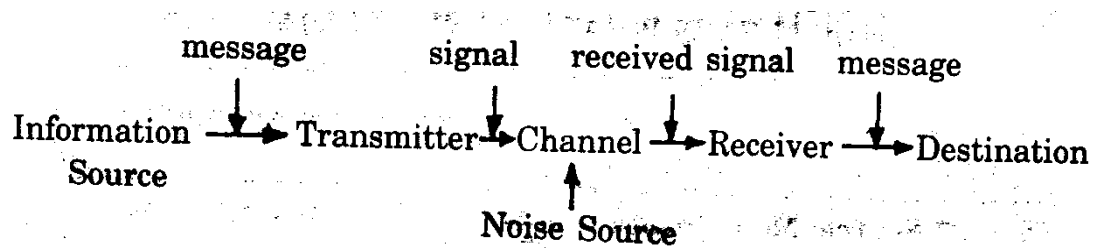
Source: The Mathematical Theory of Communication, Claude E. Shannon and Warren Weaver, 1949

Shannon and Weaver's mathematical theory of communication (1949) is widely accepted as one of the main seeds out of which communication studies have grown. It is a clear example of the process school, seeing communication as the transmissions of messages. The work developed during the Second World War in the Bell telephone laboratories in the US and their main concern was to work out ways in which channels of communication could be used most efficiently. For them, the main channels were the telephone, cable and the radio wave. They produced a theory that enabled them to approach the problem of how to send a maximum amount of information along a given channel to carry information. This concentration on the channel and its capacity is appropriate to their engineering and mathematical background, but they claim that their theory is widely applicable over the whole question of human communication.

Shannon and Weaver's model (1949) presents communication as a linear process. Its simplicity has attracted many derivatives, and its linear process centered nature has attracted many critics. It's obvious characteristics of simplicity and linearity standout clearly.

Fig.5. Shannon and Weaver Communication Model

(Source: The Mathematical theory of communication. Claude *E. Shannon* and Warren Weaver, 1949).

Claude Shannon and Warren Weaver gave this model. As the diagram above indicates, this communication model comprises four elements. A source of information, with a greater or lesser number of messages to communicate; a transmitter or sender with the capacity to transform a message into a signal; a receiver which decodes the signal in order to retrieve the initial message, and finally, the destination, a person or thing for whom the message is intended. Communication, according to this model, follows a simple left to right process. The information source (say speaker), selects a desired message from all the possible messages. The message is sent through a transmitter (microphone) and is changed into signals. A receiver (say earphone), changed back into a message and given to the destination, a listener, receives the signals. In the process of transmission, certain distortions are added to the signal which are not part of the message and these will be called noise.

The basis of all contemporary Western theories of Communication - Shannon- Weaver model stresses the idea of inside and outside and assumes that communication is a lineal matching rather than making. The information source changes the message into the signal, which is actually sent over the communication channel from the transmitter to the receiver. In the case of telephony the channel is a wire the signal a varying electrical current on this wire, the transmitter is the set of devices (telephone transmitter etc.) which change the sound pressure of the voice into the varying electric current. In oral speech, the information source is the brain, the transmitter is the voice mechanism producing the varying sound pressure (the signal) which is transmitted through the air (the channel). In radio, the channel is simply space, and the signal is the electromagnetic wave, which is transmitted. The receiver is an inverse transmitter, changing the transmitted signal back into a message and handing this message on to the destination.

In the process of being transmitted, usually certain things are added to the signal, which were not intended by the sender. These additions are distortion of sounds as in telephony, or static in radios, or errors in transmission in telegraphy or facsimile etc., Such changes in transmission signals are called noise.

**Shannon and Weaver's Model (1949) comments**

Both European and American scholars recognize that Shannon and Weaver's (1949) model provided the basic paradigm for effects-oriented communication research by setting forth the main elements (source, channel, messages, receiver) of a simple linear model of communication. This model became tremendously popular with communication researchers enabling the field of communication study to take off' about 30 years ago. It formed the main paradigm around which invisible college of communication researcher formed. Less well known is the contribution by Shannon and Weaver in defining the concept of information as a central notion for the field of Communication. Shannon and Weaver's model was used in the field of electronics for many purposes, form the design of telephone networks to matrices of computer memories. An eminent Finnish scholar between the two central concept (a) communication (b) informations has identified an important distinction. These two concepts trace from Aristotle to the Shannon and Weaver mathematical theory of a single transmission and to other models of information and communication. Although Shannon and Weaver's concept of the probabilistic model of communication has been fruitful in leading to further research, it was never intended to describe linguistic information and human communication. (Source: Everett Rogers and Francis Balle, 1985).

http://www.youtube.com/watch?v=2UzlE19Ui2s&feature=player_detailpage

4.C.E. Osgood - Schramm Model (1975)

To the circular model, we have added boxes and arrows showing the influence of noise and personality are a helix used as a model by Frank E.X. Dance. He felt that circular models were better than straight - lines ones like Shannon- Weaver, but that they had a built in error since they showed communication ending up where it started off. In fact as an act of communication goes on, the noise gets less (because the communicators get more used to handling the channel / model) and personality becomes more helpful (because, as communicators get to know each other and the subject, they adjust to each other and fill gaps in their knowledge).

Fig .6.C.E. Osgood-Schramm Communication model
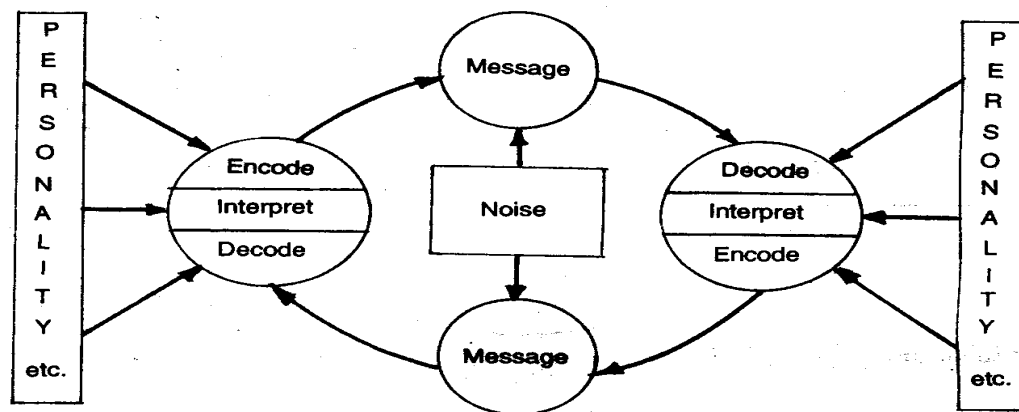
5. Katz and Lazarfeld's Model (1955)

The model of 1955 was based on earlier research in which they found that information presented on the mass media did not have the reach and impact upon the receivers as previous views of communication seemed to suggest it would. Specifically their research indicated that political radio and print messages seemed to have a negligible effect on individuals voting decisions.

Their research also indicated that some people were consistently more influential than others, leading them to conclude that ideas often seemed to flow from radio to print to opinion leaders and from them to the less active sections of the population - in a two-step flow.

Fig.7. Katz and Lazarfeld's Model

(Source: Personal influence by Eliha Katz and Paul Lazarfeld, 1955)

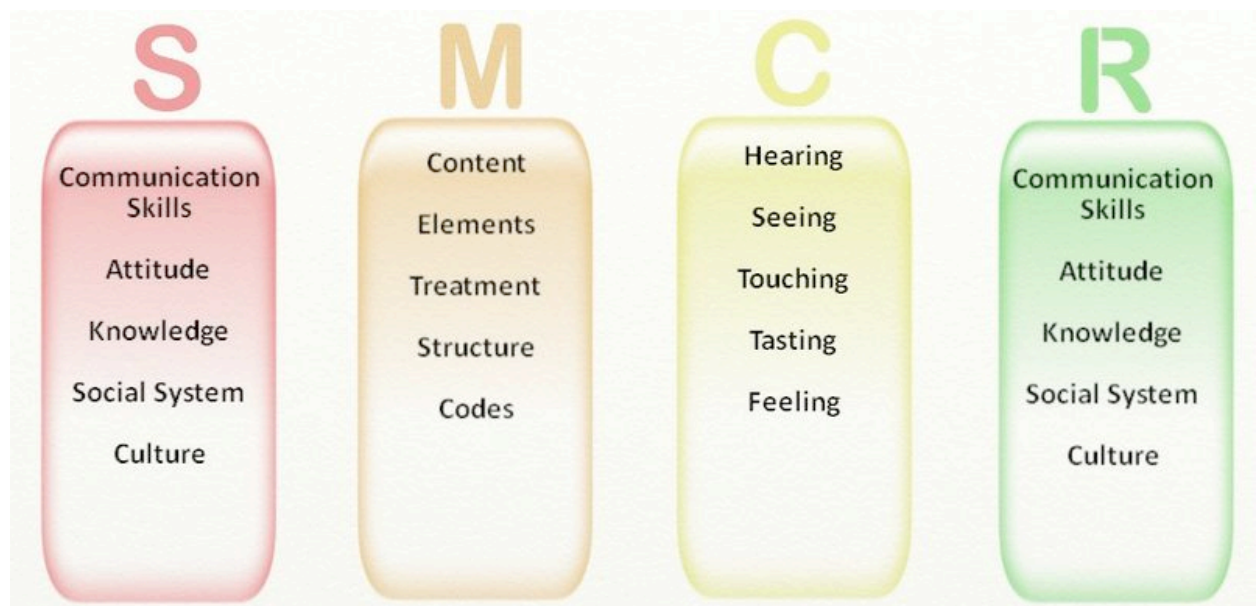## 6. David Berlo's Model (1960)

In the last twenty-five years, a number of models of communication have been developed by communicologists, each one expanding the earlier presentation. David Berlo's model is one among them, which has been profusely quoted and frequently mentioned in discussions. In his book, "The Process of Communication" written in 1960, he presented this model which has a close similarity to the earlier Aristotelian model, including the traditional elements of source, message, channel and receiver. Berlo's model attempts to explain the various components in the communication process. For each of these basic components, controlling factors were listed.

For each of these four components there are five elements that need to be considered. The source and receiver are treated in essentially the same way. To study either we need to consider their communication skills (speaking and writing for the source and listening and reading for the receiver) their attitudes, their knowledge, the social system of which they are a part and the culture in which they operate. The message consists of both elements and structure, each of

which may be broken down into content, treatment and code. For the channel, Berlo lists the five senses, emphasizing that the messages may be sent and received by any and all of the senses.

Fig. 8. David Berlo's Model

Berlo more than the others emphasized the idea that communication was a process, and the idea that "meanings are in people, not in words…."

(Source: "The process of communication - An Introduction to Theory and Practice" by David Berlo, 1960).

His model reinforced a shift away from views of communication that emphasized the transmission of information to perspectives that focused on the interpretation of information. Berlo writes, "People can have similar meanings only to the extent that they have had similar experiences". Berlo also felt that human communication always had a purpose "our basic purpose in communication is to become an affecting agent, to affect others, our physical environment, and ourselves. We communicate to influence to affect with intent".

7. Rogers and Kincaid Model (1981)

One of the more recent models of the communication process is provided by Everett Rogers and D. Lawrence Kincaid (1981). The authors described what they termed a convergence model of communication that stressed the importance of information and the manner in which

information links individuals together in social networks. They described communication as a process in which individuals create and share information with one another in order to reach mutual understanding. This cyclical process involves giving meaning to information that was exchanged between two or more individuals as they move towards one another, and to unite in a common interest or focus. In explaining the matter in which the convergence process was thought to operate, they indicated that communication always begins with "and then---" to remind us that something has occurred before we begin to observe the process. Participant A may or may not consider the past before he shares information (I_1) with participant B. This individual must perceive and then interpret the information which A creates to express his/her thoughts, and then B may respond by creating information (I_2) to share with A Individual. A interprets this new information and then may express himself again with more information (I_3) about the same topic. Individual B interprets this information, and they continue the process (I_4......I_n) until one or both become satisfied that they have reached a sufficient mutual understanding of one another about the topic for the purpose at hand. As in a number of early views, the convergence model explained communication in terms of a progressive sending and receiving messages between tow individuals in which the goal and predicted outcome are mutual understanding of a topic. Although acknowledging the role of interpretive process that occur within individuals, the Rogers and Kincaid view emphasised the information exchanges and networks them. Their perspective also carried forth the view of communication as a process rather than a single event, a point of view emphasized in nearly all models in recent years.

Fig.9. Rogers and Kincaid Communication Model
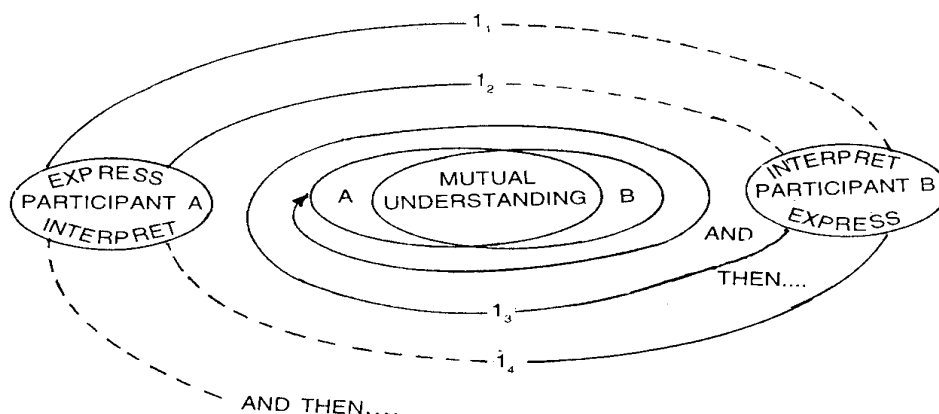
(Source: Communication networks by Everett M. Rogers and D. Lawrence Kinacid, 1981).

Feed Back in Communication

Feedback as a concept was developed in the 1940s and 1950's, when scientists began looking at the world in terms of systems model. They were interested in the nature of the systems, the applicability of system model to both the physical and social world.

Feedback is thus defined as information regarding actual performance or the result of the activities of a system. Not all information is feedback; only information which is used to control the future functioning of the system is considered feedback.

A system is a mechanism which obtains inputs from a larger environment, subjects the input to a transformation process, and then produces output. In this model, feedback is controlling information channel which connects the system's output with its input.

Importance of feedback

1. Feedback is a basic component of self regulating system
2. Feedback is information about the output of a system which controls the system input or transformation processes
3. Feedback is any information about the system functioning which has the potential of being used to change the operation of the system.
4. Viewing organizations as open systems, feedback is a necessary component, enabling the correction of errors, the adaptation to environmental change and learning.
5. Since in social systems such as work organizations, feedback does not automatically create change in the system operation, the process of obtaining, interpreting and using feedback information is important.
6. Since organizations often ignore feedback or do not make an effort to use feedback effectively, organizational development activities serve an important function of facilitating feedback processes, thus helping organizations to correct errors, adapt, learn and grow.

http://www.youtube.com/watch?v=Fpkm7D4Bn6I&feature=player_detailpage

Forms of Communication

The oral and written communication may take a number of shapes or forms depending upon the situation. The following list presents some possible and commonly used ones in communication in different directions.

Forms of communication

1. Downward Communication

	Oral		Written
1.	Personal instructions	1.	Orders and instructions
2.	Lectures, conferences and meetings	2.	Letters, memos, circulars
3.	Interviews, counseling	3.	Bulletin and notice boards
4.	Social and cultural affairs	4.	Posters
5.	Grapevine; rumors	5.	Hand books and manuals
		6.	Annual reports
		7.	House organs
		8.	Union publications

2. Upward Communication

	Oral		Written
1.	Face-to-face conversation	1.	Reports
2.	Interviews	2.	Personal letters
3.	Meetings and conferences	3.	Grievances
4.	Social and cultural affairs	4..	Suggestions system
5.	Grapevine, rumors	5.	Complaints system
6.	Union channels	6.	Attitude and moral surveys
7.	Telephone and other devices	7.	Union publications

3. Horizontal Communication

	Oral		Written
1.	Lectures, conferences, meetings	1.	Letters, memos, reports
2.	Telephone and other devices	2.	House organ
3.	Social and cultural affairs	3.	Handbooks and manuals
4.	Grapevine, rumors	4.	Annual reports
5.	Grapevine, rumors	5.	Union publications

Of these, it is not necessary that all of these would be used in a particular organisation, but it will be determined by the organisational needs, its size and resources, management attitude towards these forms, etc.

Direction of Communication

Communication requires two parties, the sender and the receiver, their juxtaposition vis-a-vis each other determining in the organisation context, the particular dimension of the

communication flow. Thus, the communication flow within the organisation may be inter-scalar when two parties are at the different managerial levels or inter-scalar when they are at the same hierarchical level - this is also known as horizontal communication. The inter-scalar communication may again be classified as downward, when the message flows from the higher to lower level, or upward when it is the other way round.

i). Downward Communication

Downward Communication within the organization flows from a superior either in the same line of command or in the different one It stands out as a great force for controlling influencing and indicating activities of organization members. Communication in this category includes (1) orders and instructions about job, (2) directions about understanding of job and its relationships with other jobs, (3) organisational policies and procedures, (4) feedback of subordinates' performance, (5) reprimands, criticisms, etc., and (6) questions inviting upward communication. In the organisation, people at lower levels, have a high degree of fear and respect towards such communication, which leads to high degree of acceptance of such communication. Coordination, distortion and resistance are three important problems that characterize the downward communication process.

ii). Upward Communication

Upward communication flows from a subordinate position to a superior position. It includes information about (i) subordinates' work performance (ii) problems relating to work, (iii) performance appraisal of their subordinates, (iv)feedback of understanding of orders, instructions, etc., (v) clarifications of orders, etc., (vi) opinions, attitude, feeling, etc., (vii) procedures, methods, practices followed in doing the work, (viii) criticisms, (ix) new ideas and suggestions, and (x) personal and family problems, Upward communication is more susceptible to various obstructions and bottlenecks discussed later on, because of its special nature. Managers, often times, fail to realise that upward communication cannot be taken for granted, as is the case with downward communication. This is so because, unlike downward communication, upward communication is devoid of any support of managerial hierarchy. On the contrary, it has to flow in a direction directly opposite to the flow of official authority, from the dependent subordinates to the superiors or whom they (subordinates) are directly or indirectly dependent for the satisfaction for their needs. As such, there is a strong possibility of upward information being distorted or coloured. It is interesting to note that colouring takes place primarily in upward communication, because this direction of flow carries managerial control information.

iii). Horizontal Communication

It is the flow of information between persons of the same hierarchical level. Formal organisation provides for horizontal communication by means of right of persons at any level to consult or work with others at the same level. Communication among peers, in addition to providing task coordination, also furnishes emotional and social support to the individual. Horizontal communication is impeded in the organisation that overstresses functional departmentalization. The creation of functional departments of units creates problems of coordination and communication between members of such units. Some companies develop committee structure near the top level of the organisation to assist the chief executive in achieving coordination and better horizontal communication in terms of control function in the organisation. Horizontal communication, if in operation at various levels in an organisation, is a real check on the power of the top leaders.

BARRIERS TO COMMUNICATION

In between the communicator and the receiver, certain barriers considerably affect the quality of information transmission. Some of the major barriers are discussed below.

1) Expression
2) Interpretation
3) 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 to communicate will not succeed. In other words, if the source does not have adequate or clear information if the message is not encoded fully, accurately, effectively in transmittable signs; if these are not transmitted fast enough and accurately enough, despite interference and competition, to the desired receiver; if the message is not decoded in a pattern that corresponds to the encoding; and finally if the destination is unable to handle the decoded message so as to produce the desired response, then, obviously, the system is working at less than top efficiency.

Other barriers in Communication

1. **Filtering**

Because of the many other concerns which constantly influence our ability to concentrate on what we hear, the average listener will normally "filter out" certain things that he hears. They will simply ignore a point made by the speaker, as though it had never been presented. This can be deliberate or unintended.

2. **Distortion**

For the same reason, the human mind can also distort what it hears. It is an unconscious process. Every person tends to remember best what agrees with his own values.

3. **Communication Overload**

Our minds can receive and retain only a limited amount of information without showing strain. This is called channel capacity. This ability can vary with different audiences. Overloading the system will in effect below the mental fuse and defensively shut down the communication process.

4. **Absence of Redundancy**

It is the use of repetition. Even under the best condition an audience can have problems grasping or fully appreciating the significance of something new which has been presented to them. By repeating it, or by illustrating it or by restating the same point in different ways a speaker can make it easier for an audience to understand and retain the information passed on by the speaker.

Barriers to Communication in an organization
  ❖ Lack of communication policy

- ❖ Past attitude and lapses on the part of the management to keep promises. This gives rise to credibility gap.
- ❖ Legal limitations
- ❖ Unfavourable climate
- ❖ Poor listening
- ❖ Poor strategy of communication
- ❖ Allowing the 'grape vine' to go wild
- ❖ Over confidence in one's ability to know what others are thinking
- ❖ Underestimating the intelligence and overestimating the fund of knowledge of the listeners
- ❖ Lack of clarity
- ❖ Too many items in the same message
- ❖ Too many links in the circulation chain resulting in loss of details and in distortion.
- ❖ Lack of motivation
- ❖ Failure to seek an instant response and lack of follow up
- ❖ Neglect in the use or misuse of available media.

http://www.youtube.com/watch?v=AL3iRmVAiiE&feature=player_detailpage

EXTENSION PROGRAMME PLANNING

To understand the extension programme planning process, certain basic concepts of an extension programme, planning and extension planning need to be understood.

Extension programme

The word 'programme' has several distinct meanings in the dictionary. It means a proclamation, a prospectus, a list of events, a plan of procedure, a course of action prepared or announced before hand, a logical sequence of operations to be performed in solving a problem. When used by an organization, it means a prospectus or a statement issued to promote understanding and interest in an enterprise.

According to Kelsey and Hearne (1949), an "extension programme" is a statement of situation, objectives, problems and solutions'.

According to the USDA (1956), an "extension programme" is arrived at co–operatively by the local people and the extension staff and includes a statement of:

1. The situation in which the people are located;
2. The problems that are a part of the local situation;
3. The objectives and goals of the local people in relation to these problems; and
4. The recommendations or solutions to reach these objectives on a long–time basis (may be several years) or on a short–time basis (may be one year or less).

Leagans (1961) says that an "extension programme" is a set of clearly defined, consciously conceived objectives or ends, derived from an adequate analysis of the situation, which are to be achieved through extension teaching activity'.

Lawrence (1962) says that an "extension programme" is the sum total of all the activities and undertakings of a county extension services. It includes: (i) programme planning process; (ii) written programme statement; (iii) plan of work; (iv) programme execution; (v) results; and (vi) evaluation.

❖ From the above definitions, it is clear that an extension programme:
❖ Is a written statement;
❖ Is the end product of extension programme planning;
❖ Includes a statement of situation, objectives, problems and solutions;
❖ Is relatively permanent but requires constant revision;
❖ May include long–term as well as short–term programme objectives;
❖ Forms the basis of extension teaching plans;
❖ Has been drawn up in advance; and
❖ Has been built on the basis of content.

So, we can define an **extension programme** as a written statement of situation, objectives, problems and solutions which has been prepared on the basis of an adequate and systematic planning effort and which forms the basis of extension teaching activities in a specific area, for a given period.

Definitions for a set of important terminologies in this regard would provide the needed clarity:

Programme is a written statement containing a more pertinent factual data used in decision-making, the problems agreed upon with priority assignment and the possible solutions to the problems'.

Plan or Plan of work is an outline of activities so arranged as to enable efficient execution of the entire programme. It answers the questions of what, why, how, when, where and by whom the work is to be done.

Project is a single item of the annual plant containing the method of solution of a single selected problem

Calendar of work is a plan of work arranged chronologically, according to the time when step of work is to be done. It is a time schedule of work.

Aim is a broad objective. It is a generalised statement of direction and may have several objectives. It is also said to be an end in view to give direction to the creative process.

Objective is a direction of movement. A well stated objective is always measurable. It is also said to be a goal of growth.

Goal is a distance in any given direction, proposed to be covered in a given time.

Planning

The basic concept of planing appears to be well accepted in our culture. It is regarded as an integral and important dimension of our culture's rational value orientation. Rational value orientation assumes a conscious systematic approach to problem solving, i.e., problem definition, data gathering and choosing between alternative ends and means on the basis of predetermined criteria. Almost everyone accepts the premise that planning is important and necessary for individuals, for families and for business organizations. The most effective planning effort would be that 'which achieves the greatest degree of performance of the actions, motions or operations implied by a set of planning concepts which depict the ideal process (Boyle, 1965).

Assumptions on Extension Planning

The concept of extension planning is based on a number of assumptions. Boyle (1965) has listed the following assumptions in this regard:

1. Planning change is a necessary prerequisite to effective social progress for people and communities.
2. The most desirable change is predetermined and democratically achieved.
3. Extension education programmes, if properly planned and implemented, can make a significant contribution to planned change.
4. It is possible to select, organize and administer a programme that will contribute to the social and economic progress of people.
5. People and communities need the guidance, leadership and help of extension educators to solve their problems in a planned and systematic way.

Extension Programme Planning

Having described the concepts of planning and extension programme, now the stage is set to examine the concept of extension programme planning. A few points need to be explicated before attempting a definition.

1. Extension programme planning is a process

The dictionary meaning of 'process' is 'any phenomenon which shows a continuous change in time' or 'any continuous operation or treatment'. If we accept this concept of process, we view events and relationships as dynamic, ongoing, ever–changing and continuous. When we label something as a process, we also mean that it does not have a beginning, an end, a fixed sequence of events. It is not static, at rest. The basis for the concept of process is the belief that man cannot discover the structure of physically reality; man must create it.

This definition of process suggests that 'a process is involved in which a series of actions culminates in the accomplishment of a goal' (Boyle, 1965). Viewed in this way, the concept of process involves a method, i.e., a process should be viewed as a sequential set of steps or several systematically ordered steps of planning, the performance of which leads to the accomplishment of a goal. In extension programme planning, the immediate goal would be the development of a programme document.

The concept a person has of the extension programme planning process will affect actions and mode of researching the process. Many programme-planning processes take place at any particular time at different levels of the extension organization. For example, programme planning occurs at the national level (five–year plans), at the state level (state plans, annual plans of work) and at the block level. In fact, planning at the block level is taking place when:
- ❖ The long–time plan or projected plan is being developed;
- ❖ The schematic budget is being planned;
- ❖ The annual plan of work is being developed;
- ❖ Detailed plans for individual learning experiences are developed with a major project.

2.Extension programme planning is a decision–making process

Planning is basically a decision–making process– and so is extension programme planning. In extension programme planning, scientific facts are put to value judgements of the people through the implementation of a rational planning model in order to decide a programme which will be carried out through the extension teaching activities.

3.Extension programme planning requires advance thinking

If we could know 'where we are' and 'where we are to go' we could better judge 'what to do' and 'how to do'. This statement lies at the heart of the nature of planning. Panning does not take place in a vacuum or automatically. It has to be made to happen.The most basic fact giving rise to planning is that effective rural development result from choice, not from chance; it results from design, not from drift. Good extension programme planning is an intellectual activity since it usually involves a study and use of facts and principles. It requires knowledge, imagination and reasoning ability. It is a complex exercise as it involves people their needs, their interests, useful technology, educational process, analyzing a situation and making decision about what should be done, determining useful actions, projecting the desired shape of things in future and several other components, which are rarely simple.

4. Extension programme planning requires kill and ability on the part of planners:

Planning effective extension education programmes requires a number of high–level professional skills. Needed abilities include understanding and skill in the following broad areas:

- ❖ Understanding the nature and role of extension education organization.
- ❖ Knowledge and understanding of the technology related to the subject with which the programme is concerned.
- ❖ Ability to clarify the objectives of a programme and to so state them that they are useful in guiding its execution.
- ❖ Skill at seeing the relationship between principles and practice.
- ❖ Skill at inquiry and human relationships.

5. Extension programme planning is built round content

A programme regarding any extension activity can only be built on the basis of content. Without some express purpose, there can be no planning. Extension programme planning is build around available improved technology, the people, their resources, problems, needs and interests.

6. Extension programme planning is a social action process

Extension programme planning involves interaction and the decisions so taken in the form of a programme affect others. Interaction assumes some type of communication between two or more people in the planning process. So when the extension staff involving specialists and people's representatives decides on the programme content for extension teaching for the coming year, it is involved in social planning. In this process, the scientific data is put to value judgements so as to decide the intended direction of change and also the appropriate methods to be used to reach these goals. Further, the resultant programme has many social consequences in terms of interaction with other people, e.g., to inform them, educate them, persuade them, in order to introduce improved technology into their minds and actions.

7. Extension programme planning is a collaborative effort

Extension programme planning is a collaborative effort involving identification, assessment, evaluation of needs, problems, resources, priorities and solutions.

8. Extension programme planning is a system

Extension programme planning is a system as its procedures and processes are interrelated, ordered and linked progressively to form a collective whole. It includes several subprocesses, such as planning, designing, implementing, evaluation etc.

9. The end–product of extension programme planning is an extension programme

The first consideration for anyone who is to concern himself with a process or set of procedures for planning is to clearly identify the primary purpose of the planning process to be developed. Many have suggested that the purpose of planning is for educating those who participate. According to Vanderberg (1965), 'the primary purpose of any planning, first and foremost is that of developing a sound, defensible and progressive course of action or plan. In the process followed, many other benefits might accrue, such as the education of participants, but we want a plan which can and will be used'.

Extension programme planning defined

Having said that extension programme planning is a social action, decision– making, inter actional process in which advance thinking is needed for identifying the needs, interests and resources of the people through educational means to prepare a blueprint for action we are now ready to formally define this concept. However, it appears appropriate here to first list some of the definitions of **extension programme planning** as given in the literature.

1. Programme planing is viewed as a process through which representatives of the people are intensively involved with extension personnel and other professional people in four activities (Boyle, 1965)
   ❖ Studying facts and trends;
   ❖ Identifying problems and opportunities based on these facts and trends;
   ❖ Making decisions about problems and opportunities that should be given priority; and
   ❖ Establishing objectives or recommendations for future economic and social development of a community through educational programmes.

2. This are the process whereby the people in the country, through their leaders, plan their extension programme. Country and state professional extension staff members assist in this process. The end–result of this process is a written programme statement (Lawrence, 1962).

3. Extension programme planning is the process of determining, developing and executing programmes. It is a continuous process, whereby farm people, with the guidance and leadership of extension personnel, attempt to determine, analyse and solve local problems. In this, there are three characteristics:
   ❖ What needs to be done
   ❖ When it should be done and
   ❖ How it should be done (Musgraw, 1962).

4. An organized and purposeful process initiated and guided by the agent, to involve a particular group of people in the process of studying their interests, needs and problems, deciding upon and planning education and other actions to change their situation in desired ways and making commitments regarding the role and responsibilities of the participants (Olson, 1962).

An analysis of these and other definitions of extension programme planning implies that it:
   ❖ Is a decision-making, social process;
   ❖ Involves advance thinking;
   ❖ Is a progressive step–by–step process;
   ❖ Uses educational means in defining the goals and situations;
   ❖ Is built around improved technology, people, their needs, interests, resources, values, attitudes and skills; and
   ❖ The end–product is a written statement of situation, problems, objectives and solutions.

❖ Thus extension programme planning may be defined as:
❖ A decision–making, social–action process in which extension educationists involve people's representatives,
❖ To determine their needs, problems, resources and priorities,
❖ In order to decide on an extension programme consisting of situation analysis, problems, objectives and solutions,
❖ This will form the basis of extension teaching plans for a given period.

Rationale of programme planning

1. **Progress requires a design**: Effective education is results of design not drift; it results from a plan–not from trial and error. The experience of workers in education and in other educational agencies has been that progress is made most effectively when a plan of action is set forth and followed. The pay–off for educational effort comes when people change their behaviour to improve their situation. These results come most rapidly when careful planning is done and when effective teaching methods are used.

2. **Planning gives direction:** There are no tests for directing the people's learning in extension. This arguments the difficulty of designing a plan and underscores the fact that planning is one of the most important jobs of extension workers.

In planning or constructing a course of study, the teacher should be guided by five major factors: (1) the purpose for which the course is offered, its aims; (2) the characteristics and needs of those who are to take the course; (3) the educational environment of these persons; (4) the sources of information available; and (5) the requirements or demands of the vocation or other uses to which the learning is to be put. These factors apply to the development of extension programmes as well as to the curriculum of the public schools. The factors that apply to the study of a situation will be considered more closely a little later.

3. **Effective learning requires a plan:** There must be consciously directed effort on the part of the teacher to give guidance to the learning process. The direction of this teaching effort can best be stated in terms of objectives. They must be developed with the people to be taught and must be capable of attainment by and with the people concerned.

4. **Planning precedes action:** The results of an action are dependent on the following: adequacy of analysis of the problems, situation of objectives and involvement of the people. Through the planning process, questions such as these are posed:

i. What information do farm men and women need most?
ii. Which kind of information shall be extended?
iii. What information shall be extended first?
iv. How much time shall be devoted to this line of work?
v. How much effort shall be devoted to this line of work?
The answers to these questions lie in the programme planning process.

Kelsey and Hearne (1949) have given the following rationale for a planned extension programme .According to them, sound extension programme planning:

1. Is based on analysis of the facts in the situation
2. selects problems based on needs
3. determines objectives and solutions which offer satisfaction
4. reflects performance with flexibility
5. incorporate balance with emphasis
6. envisages a definite plan of work
7. is a continuous process
8. is a teaching process
9. is a coordinating process
10. involves local people and their institutions; and
11. provides for evaluation of results

Thus it could be said that planning programmes is an integral part of the development process and ensures better and efficient utilization of resources, accountability and human development.

Principles of Programme Planning

After a critical analysis of the programme planning principles available in extension literature, Sandhu (1965) identified a set of principles that may be applicable in developing countries.

I. Programme

1. Extension programme planning is based on analysis of the facts in a situation

It is important to take into account the conditions that exist at a particular time. This implies that factors such as land, crops, economic trends, social structure, economic status of the people, their habits, traditions and culture, in fact, everything about the area in which the job is to be done and its people, may be considered while planning an extension programme for an area. These factors may be viewed in terms of established long–term objectives and rural policy. The outcome of previous plans should also be reviewed and results utilized.

Brunner and Yang (1949) argue that there is no greater mistake than to assume that technical know–how alone will solve the problems of the farmers. They say that no programme or even technique can achieve the desired results when not in harmony with the culture of the people. 'Extension knows, if need be, the surer way is to effect cultural change by the slow but certain process of education'.

2. Extension programme planning selects problems based on people's interests and needs

Sound programme building selects problems based on people's needs. I t is necessary to select these problems which are most urgent and of widest concern. Choice of problems must be from among those highlighted by an analysis of the facts regarding what are felt as unfelt needs. To be effective, extension work must begin with the interests of the families. It must meet interest and use them as a spring–board for developing further interests. It is common knowledge that people join together because of mutual interests and needs.

Brunner (1945) said that an extension programme must meet the felt needs of the people. Leagans (1961) has recommended that the extension workers adopt the subject matter and teaching procedure to the educational level of the people, to their needs and interests, and to their resources.

3. Extension programme planning determines definite objectives and solutions which offer satisfaction

In order to hold interest, we must set working objectives and offer solutions which are within reach and which will give satisfaction on achievement. This is related to motivation for action. People must see how they or their communities are going to benefit from the proposed solutions. Very often the simplicity or dramatic effect of the practice recommended is the most potent factor in its wide adoption. Further, if there is to be progress and not more evolution in the development of man, the objectives must be periodically revised in view of the progress made. In other words, as changes occur, objectives need to be re determined to allow for even further progress to be realized.

4. Extension programme planning has permanence with flexibility

Any good programme must be forward looking and permanent. Permanence means anticipating years of related and well organized effort. Along with this lower process, which both follow and makes a long–term trend, experience has shown that particular items will need to be changed to meet unforeseen contingencies or emergencies. Without flexibility, the programme may not, in fact, meet the needs of the people. A programme should be prepared well in advance of its execution but not too far ahead of time. Ordinary events may subject it to change in part though not in total. It is obvious that an extension programme must be kept flexible to meet the changing needs and interests of the people.

5. Extension programme planing has balance with emphasis

A good programme should cover the majority of people's important interests. It must be comprehensive enough to embrace all groups, creeds and races at all levels and community, block, state, national and international problems. It is futile to deal with only one phase of life in a community as an end in itself. At the same time, a few of the most important or timely problems should be chosen for emphasis. To avoid scattered effort, something must stand out. Decisions must be made as to which of the needs are most urgent. The next consideration in choosing items for emphasis is to promote efficiency by permitting a good distribution of time and effort throughout the year. Too many things carried out simultaneously will divide either the worker's or the people's attention.

II. Planning process

6. Extension programme planning has a definite plan of work

No matter how well a programme is thought through, it is of no use unless carried out. This implies good organization and careful planning for action. A plan of work is an outline of procedure so arranged as to enable efficient execution of the entire programme. It is the answer to what, where, when and how the job will be done. In carrying out programme plans, different leaders and groups may work on various phases, i.e., the women in the community may work on one segment, the men on a second segment and youth–club members on a third. Organization should be used as a tool to accomplish these purposes, never as an end in itself.

7. Extension programme planning is an educational process

The people who do the planning may participate in local surveys and neighbourhood observations. This provides an opportunity for them to learn more about their own community and area and increases their interest. The extension worker has the responsibilities of providing local leaders with the knowledge, skills and attitudes they must have if they are to help in educationally serving the people. Essentially, learning takes place through the experiences the learner has and the responses he makes to the stimuli of his environment. The experience gained in finding facts, analyzing situations, recognizing problems, stating objectives and thinking of possible solutions and alternatives should make for a better and more effective learning

environment. The extension personnel should remember this fact and provide opportunities for the effective participation of local people in programme planning.

8. Extension programme planning is a continuous process

Since programme planning is viewed as an educational process and since education is seen as a continuous process, therefore it logically holds that extension programme planning is a continuous process. There is no question of exhausting new knowledge, either in the subject matter with which we deal or in the methods of teaching. With the constant flux of agricultural technology, extension education is faced with an increasingly more difficult job as it tries to serve the needs and interests of the people. Sutton (1961) said that extension in a changing society must adjust and plan for the future to serve the needs of people. He set forth five steps within might be useful in making necessary adjustments:

i. Keep choice to the people
ii. Be flexible and ready to grasp with firmness new problems as they arise.
iii. Work with people in seeking practical solutions to their problems.
iv. Keep abreast of technological and social change.
v. Close the gap between research discovery and practical application.

It is obvious that tomorrow's problem will not be the same as today's. So extension must make periodic adjustments in its plans to meet the changing problems. Extension must also be alert to the change that is going on in Science and Technology. With new technology, solutions to problems change. It is therefore necessary to view extension programme planning as a continuous process though its recurrence is cyclic.

9. Extension programme planning is a co−ordinating process

Extension programme planning finds the most important problems and seeks agreement on definite objectives. It coordinates the efforts of all interested leaders, groups and agencies and considers the use of resources. It obtains the interest and co−operation of many people by showing them why things need to be done. This is important in working with people. Within the extension organization, the block staff may work together on an integrated programme, each member devoting part of his energy to appropriate phases.

10. Extension programme planning involves local people and their institutions

Involvement of local people and their institutions is very essential for the success of any programme for their development. People become interested and give better support to the programme when they are involved in the planning process. So, extension programmes should be planned with the people and not for them.

11. Extension programme planning provides for evaluation of results

Since extension programme planning involves decision−making procedures, so evaluation is important in order to make intelligent decisions aimed at achieving the stated objectives. Matthews (1962) pointed out that extension progarmme planning and evaluation go together. Kelsey and Hearne (1949) have said that all other principles of programme building are related to evaluation.

Effective evaluation will, of course, depend on clear objectives, knowing which people we are trying to teach and having records of the results in terms that reflect changes in their action. Starting a programme with the intention of engaging in a careful evaluation at the close of a specific period has a salutary effect on all the intermediate processes. However, provision has to be made both for concurrent and ex–post facto types of evaluation.

EXTENSION PROGRAMME PLANNING MODEL

Sandhu (1965) developed a model for planning extension and rural development programmes. This model has six phases with a number or steps to be followed under each phase.

Fig.30. Extension Programme Planning Model

<u>**Planning Process Involves**</u>
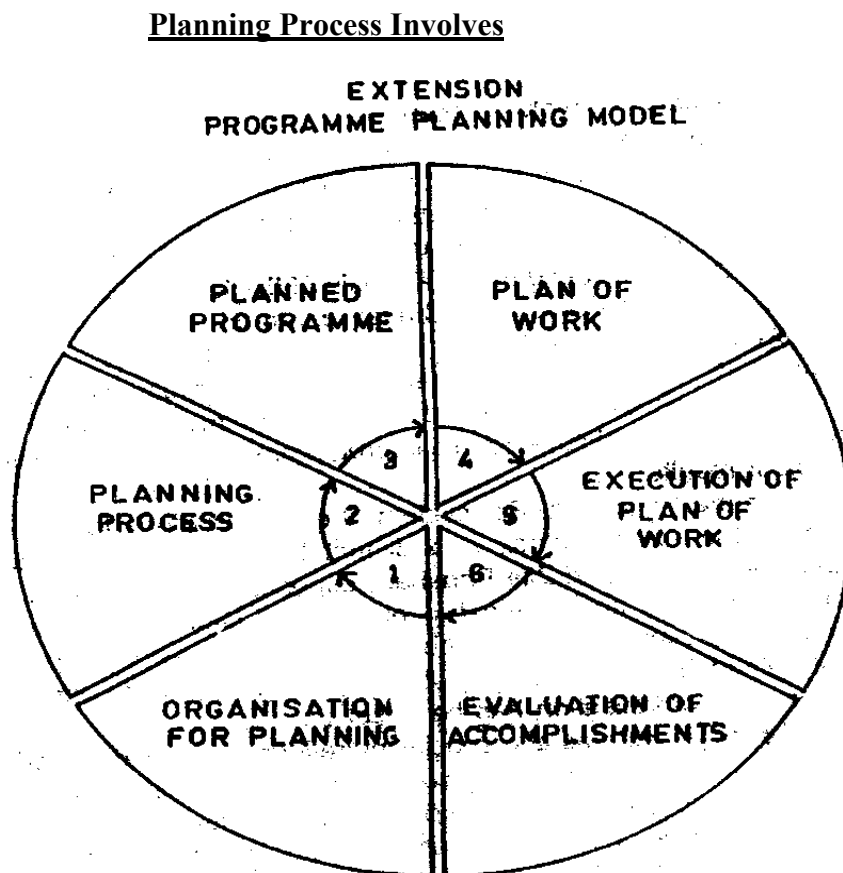
1. **Reaching, Understanding regarding principles, procedures, roles and time schedules**
2. **Analysis situation**
3. **Determining programme objective**
4. **Selection problems**
5. **Finding solution**

The various phases and steps involved in this model are:

Organisation for Planning
I. Planning Process
      1. Reach understanding regarding principles, procedures, roles and time schedule
      2. Analyse situation
      3. Determine objectives
      4. Select problems with due regard to priorities
      5. Find solutions
II. Planned Programme
      Prepare a written statement of
      i) situation
      ii) objectives
      iii) problems and
      iv) solutions
III. Plan of work
      Prepare a plan of work containing information regarding:
      i) people to be reached
      ii) goals, dates and places
      iii) teaching procedures to be followed
      iv) duties, training and recognition of leaders
      v) roles to be played by extension personnel and
      vi) roles to be played by other agencies.
IV. Execution of plan of work
      i) Make advance arrangement for inputs and teaching aids
      ii) Interpret the approved programme to the staff and people's representatives.
      iii) Carry out the planned programme, phase by phase, in a co-ordinated manner.
V. Evaluation of accomplishments
      i) Do concurrent evaluation.
      ii) Do *ex-post facto* evaluation.

Organisation for Planning
      The concept of involving potential clientele in the planning of extension programmes has received widespread acceptance. Involvement of people in making decisions about educational objectives not only results in better decisions about educational objectives, but also speeds up the process of educational change. By participating in the analysis of the local situation, the people's representatives are better informed and are better prepared for positive action.

      The following conditions should be met in order to ensure that a good organisation has been set up

1. All social systems and special interest groups are identified.

2. Members of the planning committee represent all major interest groups, various economic and social levels of people, major vocations of the locality and other important elements in the area.

3. Each member of the planning committee clearly understands

        a) the purpose of the group;

        b) how the group should function in attaining its purpose; and

        c) his individual role as a member.

4. Members of the planning committee have been elected, nominated or co-opted by appropriate democratic procedures.

I. Planning process

1.   Reaching understanding regarding principles, procedures, roles and time schedule

It is necessary that all staff and the people's representatives are familiar with the principles and procedures of programme planning for the purposes of clarity and uniformity of action.

The following conditions should be met in order in fulfil the spirit of this step:

i).   A clearly defined statement of purpose and roles of each member is given by the planning committee.

ii).   The block, district and state level extension workers and programme planning committee members have understood:

a)   the roles of extension workers in programme planning

b)   the role of programme planning committee members

c)   the purpose of programme planning

d)   the scope of extension's educational responsibilities

e)   the procedures to be followed

f)   the principles to be kept in view and

g)   the time schedule to be followed.

2. Analyse situation

Situation analysis involves collection, analysis and interpretation of the existing facts. Good planning depends on the availability of adequate and reliable data and scientific elaboration and interpretation of the same.

The following criteria should be met in order to ensure that this step has been adequately followed.

    i)   Facts needed to evaluate the accomplishment of the previous year's programme are collected.

    ii)   Local facts needed to define correct and projected needs and interests and problems of the area are assembled

    iii)   The basic facts assembled and collected about background information are analysed and interpreted.

iv)   The major needs and problems of the area, which are within the scope of extension's educational responsibility, are identified.

3. Determine objectives

It is essential in the programme planning process that before deciding on the projects to be undertaken, basic objectives of the programme are determined by the villagers in consultation with the extension staff.

The following conditions or qualities will exist when objectives have been determined adequately and properly

i)   Objectives have been determined relating to major problems, need and/or interests as determined by the programme planning committee.

ii)   Both immediate and long-term objectives have been determined.

4. Select problems with due regard to priorities

Selection of problems to be tackled will involve identification, classification and selection with due regard to priorities. Identification of problems will be done on the basis of situation analysis. Once the problems have been identified, it is desirable that they be properly classified into the following categories:

a)   Problems which can be solved by the people themselves with no outside financial aid.

b)   Problems which can be solved by the people with the aid of the Panchayat Samiti

c)   Problems which can only be solved with the help of Government funds

The following conditions will exist when the requirements of this step have been adequately met:

i)   Of the identified problems, the most felt and of widest concern are selected by the extension agents and people's representatives.

ii)   Selected problems are related to the family, community block and situation.

iii)   For tackling the selected problems, the time is scheduled on greatest priority basis

5. Find solutions to problems

The Village Level Workers at the village level and the concerned Extension Officer at the block level are two most important functionaries who advise the village families and the village institutions regarding solutions to their problems. The other Extension officials at various levels may join with the team in finding solutions to problems. Experiences of the farmers and suggestions of the specialists will help in arriving at a joint decision.

The following conditions will exist when this step has been properly carried out

i)   All the available research findings in the State are collected and projected.

ii)   Block level and district level specialists make suitable solution to the problems according to the research findings.

II. Planned Programme

As Leagans (1961) pointed out, it is of utmost importance that the staff and the people in each area not only develop an extension programme, but also prepare the programme in a written form that is readily understood and is suitable for obtaining approval and use as a guide for officials and non-officials.

The problems should be stated from the viewpoint of the farm, the home and the community. They should not be stated in terms of solutions. The objectives should also be stated at a lower level in specific and measurable terms. They should include details about the learners to be reached subject matter to be taught and the behavioral changes to be effected. The objectives may also be stated from the point of view of the extension organisations and the extension public.

The following conditions will be met in order to have a good programme statement:

i) The written programme should be suitable for use by the staff, planning groups and other individuals or groups concerned with the programme.

ii) It should clearly state the important problems or needs identified by the staff and the people in the programming process.

iii) It should specify the subject matter related to each objective that is highly significant to the people, socially or economically or both.

iv) It should be used as the basis for developing annual plans of work.

III. Plan of Work

Preparing a plan of activities directed towards solving selected problems is an important step. A plan of work is the listing of activities by which the objectives already decided upon are to be achieved.

The following conditions should exist in a good plan

i) The plan of work is in written form.

ii) It has been developed co-operatively by the extension workers and people's representatives.

iii) It identifies the specific educational job to be done.

iv) The plan indicates for each educational job.

    a) How it will be done

    b) When it will be done

    c) Where it will be done

    d) Who will do it

    e) What people are to be reached

v) The subject matter is appropriate considering the people's level of interests, knowledge, attitude and available time and technology.

vi) The plan provides for the needed training of extension workers and leaders.

vii) Specific changes to be achieved or evidence of accomplishment are indicated clearly.

IV. Implementation Phase

1. Make advance arrangement for inputs and teaching aids

The conditions to meet the requirements of this step are

i)   Realistic needs of inputs such as fertilizer, seeds, credit facilities etc. have been worked out jointly by the areas extension staff and the Panchayat Raj institutions.

ii)   Needed inputs have been procured well in time and stocked at proper places.

iii) Teaching aids to be used by the extension workers have been prepared and/or procured in sufficient quantity, well in time.

2. Interpret the approved programme to the staff and the people's representatives.

The following criteria will be met to ensure that this step has been adequately undertaken

i)   The approved programme has been explained adequately.

ii)   The plan of work has also been explained adequately.

i)   They have been explained to all the block staff, all the people's representatives and other important leaders.

3. Carry out the plan of work

The approved programme should be carried out, step by step, according to the plan of work and in a co-ordinated manner. The success of a programme depends on the methods used to implement it.

It should be ensured that -

i)   the plans for coordination including calendar of activities within and outside extension agency system

ii)   the techniques, methods and materials vary appropriate to the situation and clientele

iii) the subject matter used was appropriate considering the people and their objectives

iv)   the plans for shared responsibilities were followed.

V. Evaluation of Accomplishments

Concurrent and *ex-post facto* review of progress towards the objectives is an essential phase of extension programme planning. This keeps the extension agency on the right track and helps in differentiating means from ends. Evaluation of the activities should be undertaken jointly by the extension staff and the people's representative organisations at different levels.

Conditions that will exist when this guideline is met are as under

i)   Evaluation plans were developed for each of the phases of the programme to be evaluated as indicated in the annual plan of work.

ii)   A report of accomplishments and implications was made to the extension governing group. The governing group in projecting their plans for extension activities gave the findings from the report of accomplishments and implications.

Monitoring and Evaluation of Extension Programme

Extension programmes are mostly funded with public money and are planned and implemented by an organization, which in most cases is a department of a government. In order to justify the appropriation of public funds and continuing support from the people, it is necessary that their management as well as impact be properly and adequately evaluated from time to time. How, to evaluate management, achievements and failures of these programmes has been a challenge to extension workers right from the time when planned extension programmes were introduced. However, 'it was when Tyler's (1950) philosophy of educational evaluation became a part of extension education that educational evaluation became a part of extension education that the pattern of extension educational evaluation took a more usable, understandable form' (Sabrosky, 1966).

The word 'evaluation' has its origin in the Latin word "valere" meaning to be strong or valiant. Its dictionary meanings are the determination of the value, the strength or worth of something, an appraisal, an estimates of the force of or making a judgement of something.

Evaluation as applied to the field of extension education, may be defined as "a process of systematic appraisal by which we determine the value, worth or meaning of an activity or an enterprise". It is a method for determining how far an activity has progressed and how much further it should be carried to accomplish objectives'. Thus to an extension worker evaluation means determining the results of his extension programmes in order to know the extent to which objectives have been achieved and why and what changes would be needed in case the programme is planned again, or in its implementation.

Tyler (1950) developed two basic notions regarding educational evaluation, which equally apply to extension evaluation. These notions are that the process of evaluation (i) is essentially a process of determining behaviour of the people covered under the programme and (ii) the process of determining the degree to which these behavioural changes are actually taking place. Thus extension evaluation may be said to be a process for determining behavioural changes of people resulting from extension programmes. Once evaluation became an integral part of the extension education process, extension managers started applying this process to evaluate programme planning, management and implementation aspects of extension programme.

Definitions of evaluation

More specific definitions of evaluation are given by persons involved in rural development programmes. While most of these definitions refer specifically to the assessment of the results of programmes of extension education, they can also be applied to the training aspect of such programmes. Some definitions of evaluation are:

1. It is a process, which enables the administrator to describe the effects of his programme and thereby make progressive adjustments in order to reach his goal more effectively (Jahoda and Barnit, 1955).
2. Programme evaluation is the determination of the extent to which the desired objectives have been attained or the amount of movement that has been made in the desired direction (Boyle and Johns, 1970).
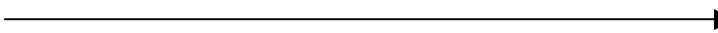
3. Programme evaluation is the process of judging the worth or value of a programme. The judgement is formed by comparing the programme should be (Steele, 1970).
4. Evaluation is the process of delineating, obtaining and providing useful information for judging decision alternative (Stufflebeam, 1971).
5. Evaluation is a co−ordinated process carried on by the total system and its individual subsystem. It consists of making judgements about a planned programme based on established criteria and known, observable evidence (Boone, 1985).

Nature of evaluation

1.Evaluation is not measurement: Evaluation is an integral part of extension education. All aspects of extension work need evaluation. Evaluation does not mean mere measuring of achievements, which is usually done after the programme is executed. Extension being an educational process, it is necessary to evaluate management of the programme and methods used, achievements accomplished in line with the objectives and also to determine the reasons for success or failure.

2.Evaluation is not exactly scientific research: When we think of evaluation as a process of collecting information as a basis for making decisions, forming judgements and drawing conclusions, we realise it has much in common with scientific research. But there is a great difference between our casual everyday evaluation and scientific research. However, the difference is a matter of degree rather than kind. Casual everyday evaluation can be placed at one end of the scale and scientific research at the other end. There are five locations on the scale with no sharp lines of distinction, i.e., casual everyday evaluation, self−checking evaluation, do−it yourself evaluation, extension evaluation studies and scientific research.

1	2	3	4	5
Casual everyday evaluation	Self−checking evaluation	Do−it yourself evaluation	Extension evaluation studies	Scientific research

Informal ⟶ Formal

Types of evaluation

1. Self−evaluation: This is to be carried out by every worker as a matter of routine. This requires the self−critical attitude which is so essential for extension work. By this self−critical attitude, the chances of an extension worker growing and continuously improving his professional competency become greater.
2. Internal evaluation: Evaluation carried to by the agency responsible for the planning and implementation of the programme. Some of the other methods for internal evaluation are: systematic use of diaries and reports of workers, planned visits of staff members to work spot, use of special questionnaires and proforma for observation and inquiry etc.

3. External evaluation: Evaluation conducted by a person or a committee outside the area of operation. One of the strong features of the Indian Community Development Programme is that simultaneous with its start an independent agency, namely the Programme Evaluation Organization, was established.

Evaluation can also be classified into (i) concurrent and (ii) ex–post facto evaluation.

Evaluate programme planning

As a result of experience, theory, research and experimentation, much information has been accumulated about how an extension programme should be planned. Progress in science and technology and the broadening of extension's clientele with the accompanying great variation in needs and interests have made the scientific planning of extension education programmes more important than ever before. There is considerable agreement on certain criteria which, if followed, make for successful extension programme planning at different levels. These criteria represent the ideal with which to compare our practices and procedures or programme planning. Some of the steps needed top evaluate or programming function in view of these criteria include:

i.   Identify the evidence needed to form a judgement about each criterion.

ii.   Specify the methods that will be used to obtain the evidence, such as personal observation, personal interview or through a systematic survey.

iii.   On the basis of the evidence gathered, judge whether or not each criterion is being adequately satisfied in the programme planning activities.

Extension evaluation process

There are several models of evaluation available in the literature. However, a very simplified version of most of these models may be quite workable for evaluating extension programmes since, as Bhatnagar (1987) has pointed out, any extension evaluation process has to be based on certain assumptions. For example, if some inputs are provided in the form of a programme, specific outputs can be expected and if these outputs happen, then the purpose of the programme can be achieved; if the purpose is achieved, then the development goal is realised. This means that evaluation has to be so designed that the quality types and adequacy of the input measures, outputs and their impact in achieving the programme objectives have to be evaluated systematically.

Steps involved in an extension programme evaluative process may be as follows:

i) Formulate evaluation objectives

Specific objectives to be achieved through the evaluative process must be clearly and adequately identified and started. All further efforts should be knit around these objectives.

ii) Classify programme objectives

It is assumed that each extension programme, when formulated and implemented, will have specific well–defined objectives. Since evaluation is basically a process of determining the extent to which various extension teaching activities were organized and managed and the extent to which they contributed to achieving the goals, programme objectives must be clearly understood and if necessary, further broke down into measurable terms. This is a

crucial step as all further efforts will be directed towards collecting evidence related to these objectives.

iii) Identify indicators

To identify indicators or the kind of evidence necessary to evaluate achievement in relation to specified programme objectives, it is necessary that specific beneficiaries of the programme be identified, the kind of behavioural changes expected in them be clearly stated, and the kin of learning experiences expected to be provided to them spelled out, together with the level of management to be achieved for provided those learning experiences are specified. Once this is done, identification of specific indicators to measures the achievements will not be difficult.

iv) Decide the kind of information needed

Once the indicators for evaluating the management and performance of a programme have been indicated, specific information to be collected may be worked out. Since there is usually more information than an extension worker can collect, he has to be very discriminating about the kind and amount of information that should be collected. Timing for collection of information may also need to be specified.

v) Sampling

The purpose of sampling is to take a relatively small number of units from a population in such a way that the evidence collected from them becomes representative evidence of the entire population. Although there are several sampling methods, perhaps stratified sampling procedures may be most suitable for extension evaluation studies a they allow inclusion of all interested groups and ensure enough heterogeneity in the sample.

vi) Decide the design of evaluation

An ideal design of evaluation may be an experimental one. This would allow separating the effect of the programme from other factors, by setting control and treatment groups. Several experimental designs, such as one–group pre–test–post–test design, static groups comparison, pre–test, post–test control group design, Solomon four–group design, longitudinal study design, etc. are available in literature and can be used. However, in actual practice, extension progammes are seldom run in a way that allows an experimental design of evaluation. In Pilot Projects, it might be possible to use an experimental design of evaluation. By and large, a survey method is use. This method can be used for evaluating ongoing progress or as an ex–post facto evaluation of the programme after it has completed its tenure.

vii) Collection and analysis of evaluation evidence

There are many methods for collecting information for evaluative purposes, such as the mail questionnaire, personal interview, distributed questionnaires, group interviews, case studies, systematic field observations, systematic study of secondary data etc. Selection of the right kind of data collection method will depend on the objectives of the evaluation, kind of information needed, time and resources available and the type of respondents from whom information is to be collected.

However, whatever the method used, a specific questionnaire or interview schedule or data recording sheet must be developed with care.

Once the data is collected, it must be tabulated, summarized and analyzed with adequate care. This step should not be rushed. To avoid delay, however, analysis may be done with the help of a computer.

viii)   Interpretation of the results in a proper way

It is a very crucial as evaluation results can be missed also. Once tentative generalizations are arrived at, it may be appropriate and they are informally discussed among the interpreters as well as with programme planning and implementation officials, so that the results of evaluation are put in a proper perspective.

The evaluation results must clearly state the achievements, failures and future adjustments needed. A written report of the evaluation findings should be prepared and made available to all concerned.

EXTENSION TEACHING METHODS

Extension is an educational process for bringing about the maximum number of desirable changes among the people, which involves both learning, & teaching and needs some tools or methods commonly known as extension-teaching methods. It is, therefore, necessary here to understand what is meant by learning, teaching & extension methods. 'Learning' is the process by which an individual, through his own activity, attains a change in his behaviour. It is an active process on the part of the learner. The essential role of an extension worker is to create effective 'learning situations'. An effective learning situation requires the following essential elements:

1) An instructor (an extension worker, e.g. an extension officer or a village-level worker).
2) Learners (the farmers, the farm women & the youth).
3) Subject-matter (the recommended improved practices, such as the seeds of high-yielding varieties,fertilisers, balanced diet, etc.)
4) Teaching material, such as a flannel-board, a black-board, charts, models, samples, slides, film strips, etc.
5) Physical facilities, such as sitting accomodation, good visibility, etc.

The extension worker should skillfully manipulate the elements of the learning situation & provide satisfactory learning experiences for the people. The farmer, the farmer women or the farm youth are the focal points in the learning situation. The main aim of an extension worker is to bring about a change in this behaviour of the people with the help of a judicious combination & use of different elements. all the teaching should be carried out according to the needs & resources of the local community or group.

'Teaching' is the process of arranging situations in which the things to be learnt are brought to the notice of the learners, their interest is developed & desire aroused, i.e. they are stimulated to action.for example, if we want to teach the farmers the use & advantages of chemical fertilisers, we do this by conducting demonstrations on their fields, showing them how the fertilisers are applied, & compare the yield of the fertilised crop with that of the crop to which no fertilisers has ben applied. After seeing the beneficial effect of a fertilisers, the farmer is convinced & motivated to action & starts using fertilisers regularly.

Extension-teaching methods

The extension-teaching methods are the tools & techniques used to create situations in which communication can take place between the rural people & the extension workers. They are the methods of extending new knowledge & skills to the rural people by drawing their attention towards them, arousing their interest & helping them to have a sucessful experience of the new practice. A proper understanding of these methods & their selection for a particular type of work are necessary.

Classification of extension teaching methods
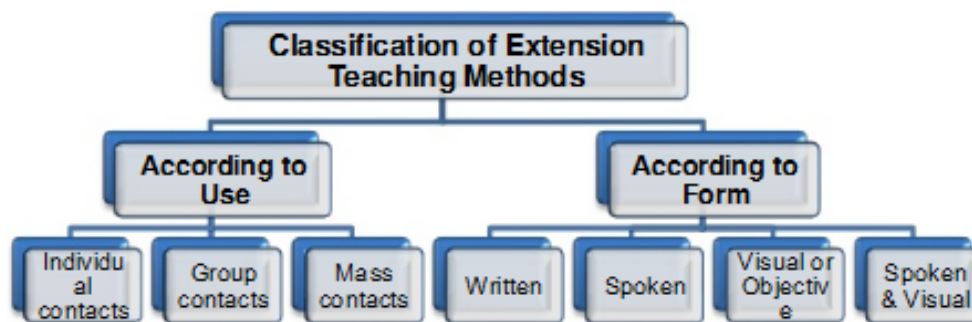
(A) **According to Use**

One way of classifying the extension methods is according to their use & nature of contact. In other words, whether they are used for contacting people individually, in groups or *in masses*. Based upon the nature of contact, they are divided into individual, group & mass-contact methods.

Individual-contact methods. Extension methods under this category provide opportunities for face-to-face or person-to-person contact between the rural people & the extension workers. These methods are very effective in teaching new skills & creating goodwill between farmers & the extension workers.

Group-contact methods. Under this category, the rural people or farmers are contacted in a group which usually consists of 20 to 25 persons. These groups are usually formed around a common interest. These methods also involve a face-to-face contact with the people & provide an opportunity for the exchange of ideas, for discussions on problems & technical recommendations & finally for deciding the future course of action.

Mass or community-contact methods. An extension worker has to approach a large number of people for disseminating a new informaton & helping them to use it. this can be done through mass-contact methods conveniently. These methods are more useful for making people aware of the new agricultural technology quickly.

Important extension-teaching methods under these 3 categories are listed in the following chart.

Chart 1. Classification of extension-teaching methods according to their use

Individual contacts	Group contacts	Mass contacts
Farm & home visits	Method demonstration & result demonstration	Bulletins
Office calls	National demonstration leader-training meetings	Leaflets
Telephone calls	Conferences & discussion meetings & workshops	Circular letters & radio
Personal letters	Field trips	Television,exhibitions,fairs,posters

(B) **According To Form** Extension-teaching methods are also classified according to their forms, such as written, spoken & audio-visual. Some of the important methods under each of these 3 categories are given in Chart 2.

Chart 2. Classification of extension-teaching methods according to their form

Written	Spoken	Objective or visual
Bulletins	General & special meetings	Result demonstration
Leaflets,folders,News articles	Farm & home visits	Demonstration posters
Personal letters	Official calls	Motion-picture or movies, charts
Circular letters	Telephone calls, radio	Slides & film-strips,models,exhibits

INDIVIDUAL CONTACT METHODS

1. Farm and Home visit

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 purposes connected with extension.

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.
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 organization or facilitate extension programme.

Principles or procedure to be followed

1. 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.
2. Clarify the purpose of the visit – Which of the purposes mentioned above are expected to be achieved by the visit?
3. 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. Workout 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.
4. 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.

1. Using natural and easy language with appropriate local dialects
2. Visiting the remote areas and people hitherto untouched
3. Reminding the farmers about the recommendation by different ways of repetitions as a reinforcement technique.
4. Be prepared to have some specimens, literature, seed samples etc., so that it can be supplied to the farmers, if need be.
5. Review previous contacts
6. Visit a cross section of farmers so that the favoritism may be avoided.

2. Field Trial

This is the first stage which any new improved variety of seed, fertilizer, 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 of sort of adaptive research as a prerequisite for successful extension work has been widely recognized. So, it is essential for extension workers to understand the important features of this method. It must be remembered that unlike 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, reliableindications 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 ofseveral agro climatic zones.

Field Trial: It is a method by which the suitability or other wise of a new practice to a given locality under farmer's conditions, is determined.

The 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., replacing cultivation of open pollinated maize with hybrid maize, or (iii) replacing an already established improved practice with a more improved new practice; e. g., Adonicum cotton replacing Laxmi cotton which had replaced H1 cotton earlier. The new practice may be a varietal, manurial or cultural improvement, or a combination oftwo or more of these types of improvement.

Objectives or purposes

1. To test the performance under ryots' conditions, of a new practice, this 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 the farmer in the utility as well as feasibility of a new practice.

Principles or Procedure to be followed

1. Determine the need for arranging the observation plot i.e., whether there is a prima facie case for undertaking the trial, taking local conditions into consideration.

2. Be clear about the specific purpose of the trial.

3. Select about six representative centres in your jurisdiction for conducting the trial.

4. In these centres, select the co-operators in consultation with the local farmers.

5. It is desirable to select as co-operators for this purpose; such farmers who have confidence in extension and who also can afford to take the risk of possible failures (in rare instances).

6. Select in the co-operator's holding an average field, representative of the tract (i.e.neither neither too rich nor too poor) and also easily accessible.

7. 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.

8. 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.

9. Restrict the size of the "control" and "treated" strips to the minimum possible, so as to have a large number of replications.

10. 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.)

11. 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.

12. 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 minimized in the case of minikit Trial.)

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 thorough testing.
3. Obviates the technicalities, difficulties, and delays involved in laying out regular trial plots, and analyzing 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.

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. Result Demonstration

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 trials 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 (i) deal with a Single practice, such as the use of improvedstrains of paddy seed; or (ii) it may be concerned with a *series of related practices* as in the case of Japanese method of paddy cultivation; or (iii) in some instances it may include the entire farm, as in the case of balanced farming. (i.e. *Whole Farm Demonstration*). 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.

Principles of result demonstrations

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 to others (under similar conditions).

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.

Procedure

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 (calender 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 for the successful completion of the demonstration and its effect upon the community.
(d) The demonstrator should be willing for the demonstration to be used for teaching purposes such as publicity; pictures, meetings, tours and personal enquiries.
(e) The demonstrator should have to secure the necessary physical equipment, supplies and materials to carry the demonstration to a successful conclusion.
(f) Explain and agree upon procedure with demonstrator and leave written instructions preferably.

5. Select the plot
(a) The plot should be located preferably in a roadside field for 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 fruitless.
(e) Arrange for a method demonstration meeting where a skill may be involved in the beginning stage of demonstration, or later.
(f) Make the demonstration plots with large signs, so that all can see.

7. Supervise the demonstration
(a) Visit the demonstration plot with sufficient frequency to maintain demonstrator's interest, check on progress, and see that succeeding 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 stories, 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.

Advantages

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.

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. Teachings value frequently destroyed by unfavorable 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.

4. Office calls

1. Office room should have a mini-information centre
2. An alternative technical person must be made available in the absence of the extension worker
3. Sincere interest must be shown in the visitor's problem.
4. Direction sign to extension office must be visible to the farmers.

GROUP CONTACT METHODS

Group Discussion

Definition: It is that form of discourse which occurs when two or more persons, recognizing 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.

Purposes

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 form attitudes.
9. To release tensions.
10. To train individuals.

Procedure

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

a. Recognition of the problem as such by the group.
b. Definition of the problem, its situation and diagnosis.
c. Listing of as many solutions as possible.
d. Critical thinking and testing of these hypotheses to find the most appropriate and feasible solution or solutions.
e. Acceptance or rejection of the solution or solutions by the group.
f. Lastly, considering how to put the accepted solution into practice.

2. See that one of the group members takes up the 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.

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 judgment 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 recognize this when they appoint adhoc 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 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.

Limitations

1. Factions in villages may hinder the successful use of this method
2. The ideal discussants with self-discipline (open mind and suspended judgment) 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 he 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 conversational style, the scope for orderly or coherent arrangement of ideas is limited.

Group meetings

1. Avoid use of too many technical terms
2. Illustrate the ideas through visual aids
3. Be convincing
4. Avoid contradictory ideas

5. Quote authority to support the statements
6. Always remember the heterogeneous nature of audience
7. Identify all potential persons among the group and entrust him the responsibility of leading the discussions
8. Involve al people in the deliberations
9. At the end of the discussion, chart out the action steps to be taken with the involvement of people.

Method demonstration

Meaning: 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, seed treatment. It is definitely not an experiment or trial but a teaching effort. A result demonstration is conducted by the farmer (demonstrator) under the supervision of the extension worker to prove that the recommended practice will work locally whereas 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 succeeding step as he proceeds. The learners watch the process, listen to the oral explanation, and ask questions during, or at the close of the demonstration to clear up points about which there is uncertainty. The members of the group 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.

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.

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 farmers 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. Familiarize 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 emphasized 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, no odours, and 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 a 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 time.

b) Be at the spot early to check up equipment and material.

c) Make physical arrangements so that all participants can have a 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 demonstration.

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.

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 and 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 low cost.

8. Provides publicity material.

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 be transported to the work place.

4. Requires a certain amount of showmanship **not** possessed by some extension workers.

Field trips

It is a method in which a group of interested farmers accompanied and guided by an extension worker, goes on a tour to see and gain first-hand knowledge of improved practices in their natural setting (whether on research farms, demonstration farms, institutions or farmers fields). It is a series of field and demonstration meetings arranged in a sequence. It is very difficult to convince the farmers with oral explanation and they will not believe unless they see and interact with the farmers those who have adopted the recommended practices. It is well said that SEEING IS BELIEVING. This method satisfies and motivates the farmers who are not convinced and believe in the said concept.

Purposes

1. To stimulate interest, conviction and action in respect of a 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,eg. proper preservation of farm yard manure, rural composting, urban composting and 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 recognize problems, to develop interest, generate discussion and to promote action

5. Identify right type of participants who wish to derive benefits out of the field trip.

6. List out right type of places to be visited, which have direct relevance to the farmers' needs.

7. Arrange the visit at opportune time.

8. The audience must be prepared before the visit

9. Proper labeling must be done in the fields and the researcher/farmer must be able to explain with clarity to the visitors.

10. Arrangements must be made in advance to exhibit posters depicting the innovation on the way leading to the fields.

Circular letter

1. Specific needs and interests must be highlighted
2. Thought provoking beginning is advisable
3. Printing/cyclostyling must be neat
4. Personal touch- personal references adds value to the contents
5. Single purpose-for each subject matter/ problem and separate circular letters must be prepared on a series basis.
6. Highlight the seriousness of the problem. It should answer all possible doubts.
7. Enumerate what the audience can contribute to alleviate the problem
8. Use a courteous conclusion
9. At the end of the circular, the contact address may be furnished to clarify further on the subject.

SMALL GROUP TECHNIQUES

Small group techniques are the means or methods used ingroup situation to bring about group act. There are time-tested techniques like lecture, debate, forum, dialogue, symposium, brain storming, etc through which group actions may be accomplished.

I. Lecture

It is normally used in formal situations. It requires thorough preparation on the part of the person who delivers the lecture.

Dynamic characteristics of lecture method

1. As an extremely formal technique, the lecture permits only one-way communication.
2. It allows for complete and detailed communication without any interruptions.
3. It is a very rapid method of conveying information to a group.
4. Control of audience is rigid since it is entirely in the hands of the speaker.
5. It is an abstract form of group interaction and hence calls for a high degree of competence from speakers and high level of audience co-operation.
6. Group members and leaders can put little control over content and approach.
7. It is difficult to measure the effect of speech on the group in an objective way.

Purposes

1. To present information in a formal and direct manner.
2. To supply expert information on a particular topic.
3. To identify the problems / problem areas in a given situation.
4. To explore the facts of the problem.
5. To explore one or several solutions to a problem
6. To have additional reading.
7. To inspire the group.
8. To direct/entertain the group by using skilled/experienced people
9. To share the experience of another person.

How to use this method

1. Have clearly in mind the objectives of the meeting and prepare the lecture accordingly.
2. Consider the other alternative means that may be used to accomplish the objective. It also depends on audience nature.
3. Provide a situation in which group members are physically comfortable.
4. Inform the speaker of the topic and make him to feel at ease in the speaking situation.

How to organise subject matter

1. **Chronological arrangement -** Introductory lectures are amenable for this type of arrangement.
2. **Logical arrangement -** Step by step approach. The abstract subject may consist concepts and principles. The lecturer should process the information from simple ideas to complex ones.
3. **Structural arrangement -** The lecturer may start either from lower unit or higher unit in the approved hierarchy.
4. **Arrangement according to importance:** This is called psychological approach. The information may be presented by arranging the points according to their importance.
5. **Arrangement according to contrast:** Contrasting facts can be an effective way of learning and it leaves a strong impression about the good effects of particular information.

How a lecture should be delivered

1. Don't write the entire lecture and read out the contents.
2. Look at your audience from time to time to get a personal approach.
3. Don't follow a rigid type of lecture.
4. Avoid nervous type of lecturing.

Cautions

1. Do not overuse this method.
2. The lecture is inferior to symposium for bringing out the divergent views up on the subject.
3. It is not so effective in moving a group towards consensus or action.
4. It is inferior to panel discussion in order to bring about a resolution of differences of opinion among groups.
5. It is inferior to role play in getting group members to get the point of view of others in a controversial situation.
6. The major defect is that it is the easiest way out for the speaker who has formal responsibility for group meeting.
7. The technique demands high level of competence on the part of speakers.
8. The group should be a responsive one and should have urge to learn from the lecture

II. Symposium

Symposium is a group of talks, speeches or lectures presented by several individuals on various phases of a single subject problem. The identified problem must have effective components amenable for the sessions.

A moderator often controls time and subject matter. Properly used, the talk should not exceed 20 minutes and the total time should not exceed one hour. In a symposium, the audience may or may not participate.

Dynamic characteristics of symposium:

1. Symposium is relatively a formal method and comparatively easy to organise.
2. It allows for systematic and relatively complete expression of ideas in an uninterrupted fashion.
3. Complex subject problems may readily be divided into logical component parts.
4. Structuring of presentation is obtained by pre-symposium agreement among participants.
5. There should be a minimum of duplication and time allotment should lead to precise and logical presentation
6. Control of subject and time can be done by pre-agreement
7. There is a minimum interaction between the participants.

Purposes: This method may be chosen

1. To present basic information i.e., facts or points of view of a particular subject problem
2. To present a relatively complete and systematic expression of ideas without interruption.
3. To bring together and focus different points of view within a logical, more generalised framework or content.

Symposium has a moderator/chairman

Duties of Moderator / Chairman: -

1. He should meet the symposium speakers well before the meeting and secure agreement on logical arrangement
2. Outline the areas to be covered and get an agreement on sequence and time allowances
3. He should meet them immediately before the meeting to review the above points
4. At the meeting, he should give the general setting of the problem and point out its significance, describe the sequence of each speaker and set out the atmosphere for listening and thinking by the group.
5. Inform the group of the procedure to be followed including the role of speakers and role of the group during and after the symposium.
6. Introduce each speaker in detail as his turn comes and establish the qualification of speakers to speak on the subject. This makes an impression over the audience.

7. Perform additional functions depending on what procedure has been set up to follow including summarising or follow up techniques such as
    a) Give each speaker a specific time for a short statement of clarification
    b) Allow each speaker to ask a few questions of any of the other speakers.
    c) Involve the audience in direct questioning from the floor.

Duties of speakers:

1. They should attend the "planning meetings" organized by the moderator.
2. They should prepare concise well organised presentations that can be given within the time allotted.
3. Present the prepared material clearly and concisely in the allotted time.

Cautions

1. Care must be taken in choosing the subject and breaking it into meaningful and manageable component parts.
2. Careful selection is important in naming the moderator and the speakers.
3. Unbiased members who can approach the subject logically and present it without over emotional involvement should be selected.
4. The moderator is just not a speech maker but interpreter of speeches in the right time. He should be able to treat it properly.
5. In planning, limit the time of speeches and set a method for enforcing the time limitations.

While logical, precise presentations are the key to good symposium, the intent of the larger group must be stimulated and maintained if the symposium is to fulfill it objective.

III. Panel discussion

A group of speaker's usually 2-8 participants as panelist in a supposedly informal conversation on a topic for the benefit of listeners constitute the panel discussion.

It may be described as an informal committee discussion overheard by an audience. The form of discussion is conversational (i.e.) no speeches by members or by moderator should be permitted. A leader as a moderator or chairman introduces the speakers to the audience and encourages less talkative by administering effective questions.

Types of panel discussion

i) Chairman - member panel

This is also otherwise called Question - Answer panel. The presentation of the panel is actually a series of questions by the chairman and answers by the members of the panel.

ii) Set - speech panel

This is the pre-arranged panel. After the chairman introduces the topic, each one makes a prepared speech. When the last member made the speech, the panel is turned into a forum.

iii) Conversational Panel

After the members are introduced and topics communicated, the panel members hold a conversation on the topic with the questions and comments going from one member to another. From time to time, the chairman may throw out the questions or remarks to help the conversation.

Dynamic characteristics

1. The atmosphere of the panel discussion may be informal or at times formal also.
2. It can expose and focus on different points of view, facts, attitudes and a subject problem.
3. It allows for maximum interaction and inter-stimulation between panel members.
4. It often increases the interest of the audience with the specific subject because of active and dramatic presentation of subject matter.
5. It is a useful method of defining points of agreement, areas of disagreement and of approaching consensus.
6. It divides responsibility among the panel members by arranging prior meetings

Purposes: This method might be chosen

1. To increase an informal atmosphere for communication in the group
2. To identify the problems and issues to be considered and to explore them
3. To give the audience an understanding of the component parts of the problem
4. To get different facts and points of view brought into a discussion framework
5. To weight the advantages and disadvantages of the course of action
6. To motivate the larger group for the constructive thought and the action
7. To determine the areas of agreement and discuss the issue - bases and strive for consensus
8. To force a group for enabling them to join in the problem- sowing process

Components of panel discussion

1. Chairman / Moderator
2. Panel members
3. Audience/Group members

Role Expectations of

a. Chairman

1. The chairman should select the panel members with utmost care.
2. The chairman should identify the people who are interested in the problem, have facts and opinions, represent different views and he/she must have had the required experiences.
3. The chairman should plan the meeting and should do the required physical arrangements.
4. The chairman should introduce the panel members to the audience.
5. The chairman should open the discussion with a relevant statement that will immediately focus the attention of the audience.
6. The chairman should ask the reflective thought provoking questions.
7. The chairman should probe for points of disagreement for leading the discussion.
8. The Chairman should present an effective summary that may lead for action.

b. Panel members

1. The panel members should prepare material and organise thoughts so cogently
2. The panel member should set an example of careful, reflective and rational thinking.
3. They should listen thoughtfully to the comments of other members and strive to get new points.
4. The panel members should watch for a right moment or occasion to present his/her view points.
5. The panel members should keep the atmosphere informal and conversational.
6. The panel members should contribute to the discussion by respecting other's views.

c. Group members

1. The group should have clear in mind the objectives of the meeting
2. The group should make sure that the topic selected be timely and significant.
3. The group can also play an effective role by selecting the chairman moderator who is unbiased, who can think rapidly and who effect reflective questions and finally summarise well.

Cautions

1. The success of this technique depends on the moderator and the panel members.
2. The discussion must not be monopolised and by one or two members.
3. The planning is an absolute necessity for the successful performance of this technique.
4. Allow enough time. Panels shorter than 30 minutes may not be a successful one.
5. The panel discussion should be concluded while the general interest of the group is high.

IV. Debate

Debate is a series of lectures for and against on a given topic by knowledgeable persons. The normal pattern is to have two teams on affirmative and negative side of the issue. The number of persons on both the sides should be equal. Each team will have a leader supported by his team members and there will be a chair or moderator who presides over the discussion.

Dynamic characteristics of Debate:

1. It can be easily organised at short notice.
2. It helps to attract the attention of audience and hold it to the end.
3. Topics with reference to felt needs may be identified so as to enthuse the audience throughout the debate.
4. Audiences are instigated to think seriously and analyse by the proceedings of the debate.
5. The range of the topic as well as the time can be prefixed on agreement.
6. It enables the participants to have a complete and unreserved expression of their ideas.

Purposes: This method is useful when

1. Topics of controversial nature are dealt with.
2. Formality of presentation is not an impediment to the group's listening and understanding.
3. When the group needs to be exposed to the pros and cons of the topic or decision.
4. When the participants have the capacity to present their side in a meaningful and interesting manner.
5. When there is a necessity to communicate different points of view in a larger group where total involvement is not possible.
6. Group members have only low level participation so as to stimulate their thought and action.
7. There is favourable atmosphere in the group to accept ideas presented by logical arguments of the participants.

Duties of the Moderator / Chairman

1. The chairman should meet the participants and get the sequence of appearance and time allowances.
2. Inform the group of the procedure to be followed including the role of the participants and the group.
3. The chairman should introduce the leaders and participants to establish their competence on the topic identified.
4. After the delivery of speech by each participant, the chairman should give a summary drawing the attention of people on salient features covered.

5. Chairman should throw a friendly challenge to the next speaker to disprove the previous speaker's points thereby increasing the anxiety of group to listen more carefully over the issues to be covered.
6. He should make arrangements by intimating the time prescribed for each participant without exceeding the limit.
7. The chairman should deliver an unbiased judgment, which should be logically acceptable, however, appreciating the laudable points of the conquered side also.

Tips for preparation of a good Debate

1. A good and interesting introduction. It may start with a story, good joke, a striking statement or citation, strong questions, etc relevant to the topic.
2. Give live examples to make the speech interesting
3. Include the details which are specific, familiar, unusual, humorous and controversial so that the debate is charged with vitality.
4. Initiate efforts to refer to the negative sides of the previous speaker and assist your points of view with reliable facts and examples.
5. Be sincere, courageous and express your views on support of your side without hesitation in a strong and persuasive manner
6. End up with impressive conclusion made up of the formal summary and a direct appeal to look the audience to your side within the allotted time.

Cautions

1. The range of subject should not be out of the purview of and interest of the group.
2. Emotional debate may become highly antagonistic and lead to conflict between groups.
3. Motive to win a debate may lead to distortion of information leading to ignoring the primary need of the audience.
4. It is useful only under certain purposes and under certain conditions.
5. The moderator and participants should be knowledgeable and should not be over enthusiastic and carried away by emotions.

V Forum

Question – answer period - 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.

VI 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.

VII 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 summarizing and evaluation sessions at the close. In the workshop method, the participants share their ideas, experiences and skills and on this basis produce something in the end a report or a programme for future action, a publication, a visual or any other material objects.

VIII Brainstorming

Brainstorming is a specialised form of discussion method that can be used in a training situation. It is potentially an active teaching mode but its efficiency depends on what we do and skill of the participants in arranging and conducting it. Brainstorming refers to the rapid generation of ideas, initially not critical and evaluated about a topic or concern in a given period. The poured in information is later sorted, synthesised and discussed. It helps to identify problems.

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.

Many trainers believe that brainstorming means a random and unstructured way of generating ideas and solutions. This is far from the truth. Brainstorming is certainly not a straightforward method of decision - making or problem solving. At the heart of this method is the principle that as ideas or solutions are proposed, comments and evaluation are suspended until the time this step is completed and the group is ready to move on to the next step of analysis. It is also based on the premise that it is not good to shoot down an idea or proposal without properly considering its merits and demerits in an unbiased manner. Another posit on which this method is based is the principle of synergy. It is possible to

generate more ideas collectively than the sum of the ideas that would be produced individually

i) Objectives of the method

In the context of a training programme, this method may have any of the following objectives:

1) Generating a wide range of solutions or options in solving a problem, addressing an issue/situation or in taking a decision, thus stimulating creativity in the group.
2) Developing a positive attitude among the participants by encouraging them to listen carefully to others, suspend judgement and outright rejection of their ideas, and refrain from negative comments without going into their merits and demerits.
3) Encouraging shy and reluctant participants to share their ideas and views without the fear of getting an immediate negative reaction from other colleagues. The members can become open about their thoughts and viewpoints.
4) Promoting attitudes that will help the participants work more effectively ingroups.

ii) Steps in Organising a Brainstorming Session

Learning in this exercise occurs because participants discipline their inputs to the discussion. Control occurs through instructions and through the discussion leader. The following are the steps in organising the session:

a) Generation of ideas

The starting point is to generate a large number of ideas within a short span of time. Thus, there is a comparatively greater emphasis on quantity and encouraging members to think and be creative in generating new ideas, proposals or options. Quality or merit is assessed later lest it should inhibit or even stifle the process of generation of ideas. It is the task of the discussion leader to ensure that this basic principle is not violated. No discussion should be permitted, except to clarify a thought or statement. It is likely that some of the ideas put forward by the members may be totally outlandish. However, sometimes a sound solution may emerge from proposals that, at the outset, may appear to be impractical or inappropriate. These ideas may be further worked upon by the group and refined to make them more relevant, in line with the criteria set out by the group and acceptable to it.

b) Amending ideas

The discussion leader can intervene if the ideas expressed need to be amended through elaboration, editing or consolidation. He / She also has the task to assist those who are not in a position to appropriately articulate their views. If certain ideas are repeated, the discussion leader can bring this to the attention of the participant and ask for another option. The leader should, however, avoid any analysis at this stage. The leader should also ensure that ideas expressed earlier should not be opposed or repudiated.

c) Posting all the ideas on a Flip chart

It will be helpful to post all the ideas generated through this exercise on a flip chart. This will reinforce the contributions of those that have contributed earlier and serve as a point of reference and an encouragement for those who follow.

d) Analysing ideas

Once all the ideas are posted, the discussion leader should proceed to analyse them, going in chronological order. It is necessary that until this step, the discussion leader should make it clear that judgement is suspended and the merits and demerits are not expressed. The analysis takes place in light of the objectives of the exercise and the criteria set by the group. All factors, which could have any bearing on the final decision of the group, should be duly considered.

e) Action Planning

The group is now ready to plan action on the basis of the decision arrived at through consensus and at this stage it outlines steps to implement the decision.

VII Seminar   It is one of the most important forms of group discussion and is more formal in nature. The seminar enables a study in depth to be made in specific areas under the guidance of experts. The discussion leader introduces the topic to be discussed. In seminar, the discussion papers prepared by the participants on the basis of their study and research are presented. 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. At the end some conclusions and recommendations are arrived at, for future action.

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

IX Dialogue

Dialogue is a discussion carried on in front of a group by two knowledgeable persons capable of thoughtful communicative discourse on specific subjects.

It is less formal than lecture or panel discussion and has many unique dynamics or advantages of its own.

Dynamic characteristics of dialogue:

1. It can be very informal and conversational.

2. It allows direct and easy communication of information and points of view.
3. It allows for mutual support and sharing of responsibility between two persons.
4. It allows for interpersonal stimulation.
5. It aids unskilled speakers in presenting their ideas.
6. It usually create great interest among other persons in the group.
7. It is simple in form and easy to plan and carry out.
8. It allows for clarification, logic validation and consistency as the discussion develops and permits expression of two points of views.

Purposes: This method may be chosen -

1. To present facts, opinions, views in an informal conversational manner.
2. To create interest in a subject.
3. To focus attention on an issue or problem.
4. To explore in detail different points of view or obtain agreement on different points of view.
5. To create a desire and motivation for reflective thinking.
6. To rapidly set a frame works for thought and discussion and give basic facts preparatory to general group discussion.

How to use this method

Select a timely and significant topic with which at least two group members are familiar.

1. Select dialogue team members. They should be able to work in team, share leadership, guide conversation, interact, summarise and provide needed transition.
2. Decide on the person to introduce the dialogue and to take responsibility for answering questions after the dialogue and to lead the discussion.

Responsibilities of the participants in a dialogue

The participants should

1. Arrange a meeting before the presentation at which an agreement should be reached on
2. The frame work for discussion
3. How the subject will be introduced and how the framework for discussion is set.
4. Tentative timing for major points
5. Responsibilities for summarising and integrating the points.
6. Arrange the physical setting so that all members can see, hear and feel the dialogue situation.
7. Fulfill the designated roles objectively and without over emotional involvement
8.
9. Assist the chairman in clarifying questions and summarisation.

Cautions

1. The topic should be one in which the group is interested.
2. Keep the discussion at a level that can be understood by the group.
3. Do not develop the discussion too rapidly.
4. Avoid making speeches; and reading written materials.
5. Share the responsibility; if not the dialogue may end up as interview or a series of lengthy speeches.
6. Although the major interaction is between the dialogue participants, they should not get so enamoured with each other and their ideas that they may forget they must communicate to the other group members.

Role play

Learner involvement is a critical factor in successful teaching. People learn more effectively not by being taught in conventional way but a in participating mode. Role-play encourages active involvement of learners. It combines effective learning with an enjoyable experience.

Basic descriptions

1. Participants act out a situation involving human interaction
2. Participants act freely rather than from a script.
3. There will be observers who do not portray any roles.
4. Feedback is provided through follow - up discussion.

Steps in conducting role play

1. Prepare the class/settings for the experience by familiarising them with a problem situation they can relate to.
2. Discuss the situation and help the class to see the nature of the problem.
3. Orient the class on role playing technique and define their roles.
4. Request for voluntary participation and select persons for the roles.
5. Give the participants a short preparation time.
6. Prepare the observers to the subject area, nature of problem/issue and the current happenings.
7. Execute the role play in the identified place
8. Conduct a follow up discussion involving both participants and observers.
9. Repeat the role-play if class is still interesting.

Outcomes of role-play

1. It provides opportunity to examine various roles in situations that speaks of reality
2. It gives insight into the roles a person who plays in real life and how effectively one play those roles.

3. It illustrates principles related to the subject matter.
4. It expands participants empathy
5. It demonstrates in advance how students trainees would probably react under some real situations.

MASS CONTACT METHODS

Campaigns

It is an intensive teaching activity undertaken at an opportune time for a brief period focusing 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. Co-ordinated communication and educational efforts are often called as campaigns. A campaign may take many forms (sales campaign, political campaign or image type campaign) but the kind used most widely in extension is the self help campaign. It is intended to provide information and education which people can use to improve their lives.

The duration of a campaign may be for a single day on a theme like "water for life", for a few weeks as in Rat control or family planning, for a few months as in Vanamahotsava (tree planting) and for a few years as in "Grow More Food Campaign". A campaign may be held by involving a small number of people in a few villages, or by involving an entire community or the entire nation over the whole country as in "Pulse Polio" campaign. Campaign on certain themes (say, environment, disease control etc) may be organized over the whole world. Campaign around a theme may be organized only once, or may be repeated year after year, till the goal is satisfactorily reached.

Objectives

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.

1. Enlist the cooperation of local leaders, contact farmers and local officials. Arrange a meeting involving them and assess the felt need of the local people to identify the suitable topic for the campaign.
2. Adequate publicity about venue, time and topic must be given.
3. Arrange for skill demonstrations on such of those topics so that the 'how' aspects can be imparted.
4. A diagnostic skill team may be organised to offer appropriate remedy measures for the farmers' immediate problem.
5. A mass programme may be organised so that all the farmers can understand the practicability of the recommendations
6. Arrange a slide or film show on the important theme of the campaign in the evening.
7. Arrange an exhibition with much emphasis on local problems and practicable solutions that can easily be followed by all categories of farmers.

Advantages

a) Specially suited to stimulate mass scale adoption of an improved practice in the shortest time possible. Eg: Rat control, organizing Vanamahotsava

b) Facilitates exploitation of group psychology for introducing new practices.

c) Successful campaigns create conducive atmosphere for popularizing other methods.

d) Builds up community confidence.

e) This method is of special advantage in the case of certain practice which is effective only when the entire community adopts them.

Limitations

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

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

c) Not useful when advocated practice involves complicated technicalities.

d) Required adequate preparation and close association of officials and non-officials, concerted efforts and propaganda techniques.

Exhibitions

Exhibitions are the mass communication media. These inform, educate and entertain the masses. They are of educational value but the maintenance of the exhibition is relatively a costly and difficult venture. However, careful planning and execution can achieve the objectives of educating the viewers who learn a lot from these exhibitions.

Meaning: Exhibition is a planned display of models, specimens, charts, posters etc. presented to public view for instruction, judging in a competition, advertising or entertainment.

An Exhibition is a systematic display of models, charts, photographs, pictures, posters, information etc. in a sequence around a theme to create awareness and interest in the commu nity. Exhibition method is suitable for reaching all types of people Exhibitions may be held in the village, block, sub-division, district, state, national and international levels. Though an exhibition is organsed around a major theme, other related themes and unrelated items like entertainment may also be included. Field days, farmers' fairs, kisan melas, held by

the agricultural universities, institutions and other various organizations in which field visit, training programmes etc are combined with exhibition are effective and popular. Exhibitions may also be organised by taking advantage of local fairs and festivals. In fixing dates for exhibition, the weather condition and farm operations may be kept in view.

1. Consider the time, audience and immediate purpose.
2. Limit to one idea per exhibit
3. Develop a plan or model for exhibition
4. Each exhibit must be an attention getting device
5. Issue literature to the audience on the exhibits.
6. Exhibits must be properly labelled and self-explanatory.
7. Watch public (farmers) reactions and accordingly redesign the exhibits.
8. Use local materials (specimens, photographs depicting the local happenings etc.) since such materials will have a greater significance to lay people.

Advantages

1. Best suited to teach even illiterates.

2. Promotes public relations.

3. It serves recreational purpose.

4. It develops competitive spirit.

5. Can create market for certain products.

Limitations

1. Requires much preparation and investment.

2. Cannot be used widely.

3. Cannot be used frequently.

4. Sometimes most – visitors seek amusement in events rather than education.

Kisan Melas

Kisan mela is an organized educational activity for involving and educating farmers by bringing together the farmers, scientists, extension workers, input agencies, developmental

departments and non-governmental agencies on agriculture or allied aspects at a Research Station or an agriculturally important educational center, where the farmers can see, interact and gain firsthand knowledge about the latest technologies and developments in agriculture

and allied aspects. It integrates several educational activities specifically directed to the farmers of a region, state or country.

Objectives

1. To provide an opportunity for the farmers to practically witness the new production technologies demonstrated on the Agricultural Research Station and also to inform them about the on-going research in different aspects.

2. To enable the farmers to discuss with the University Scientists about the problems relating to agriculture and allied aspects directly.

3. To provide an opportunity for the farmers to directly come in contact with input manufacturers, dealer in agricultural machinery and implements to help the farmers know about the latest agricultural inputs, machinery, equipment etc. available in the market.

4. To help scientists to get feed back on recommended technologies as well as to sensitize them about the farmer's current problems on agriculture and allied aspects.

5. To develop a habit among farmers to visit Research Stations frequently to learn about latest

technologies.

6. To convince the participants about the applicability of the practice in their own situation

7. To motivate them to adopt the practice by showing its performance and profitability under

field conditions.

8. To remove doubts, superstitions and unfavourable attitude about the new practices

9. To reinforce previous learning about the practice**.**

Steps in Organization of Kisan Mela

Kisan Mela involves considerable expenditure on the part of organizing institution. It needs a meticulous planning and involvement of State Extension agency, input firms and the research organizations.

a) Deciding the theme.

b) Fixing the Mela date based on convenience of farmers, facilities, climatic conditions and a good standing crop.

c) Setting up steering / planning committee with head of the institution / Research station as Chairman.

d) Appointing Mela Officer i/c of all activities.

e) Venue for Mela – decide well in advance to grow trial plots, to erect structures etc. on the spot. As far as possible better decide a permanent spot for each Station.

f) Constitution of Sub-Committees:

i. Reception Committee

ii. Publicity Committee

iii. Guided visit committee

iv. Competition committee

v. Programme committee

vi. Exhibition committee

vii. Conference committee

viii. Control room committee

ix. Accommodation and transport committee

x. Health care committee

xi. Security and service committee

g) Providing finances to various sub-committees

h) Publicity

i) Inviting dignitaries, if any

j) Exhibitions

k) Mailing list.

Limitations

1. Cannot be held frequently

2. Does not facilitate in depth learning

Radio

A Popular Communication Medium

Historic features

The Madras Presidency Club pioneered ratio broadcasting in India in 1924. The club worked a broadcasting service for three years, but owing to the financial difficulties, gave it up in 1927. In the same year, some enterprising businessmen in Bombay started the Indian broadcasting Company with stations at Bombay and Calcutta. This company failed in 1930. In 1932 the government of India, took over the broadcasting. A separate department of known as Indian Broadcasting service was opened. Later it was designated as 'All India Radio' and was placed under a separate Ministry - the Ministry of Information and Broadcasting.

Broadcasting in India is a national service, developed and operated by the Government of India. All India Radio (also known as Akashvani) operates this service, over a network of broadcasting stations located all over the country.Starting with six broadcasting stations in 1947, the AIR today has a network of 195 broadcasting stations and 183 full-fledged stations. These stations grouped into five zones, are the following.

Radio network

North Zone

Ajmer, Allahabad, Aligarh, Bikaner, Delhi, Gorakhpur, Jaipur, Jodhpur, Jullundar, Lucknow, Mathura, Rampur, Simla, Udaipur and Varnasi.

East Zone

Agarthala, Aizawl, Bhagalpur, Calcutta, Cuttack, Dibrugarh, Guwahati, Imphal, Kohima, Siliguri, Tawang and Tezu.

West Zone

Ahmedabad, Bhopal, Bhuj, Mumbai, Gwalior, Indore, Jabalpur, Nagpur, Panaji, Parbani, Pune, Raipur, Rajkot and Sangli.

South Zone

Alleppey, Bangalore, Bhadravati, Calicut, Coimbatore, Cuddapa, Dharwar, Gulbarga, Hyderabad, Chennai, Mysore, Pondicherry, Port Blair, Trichy, Tirunelveli, Thoothkudi, Madurai, Trichur, Trivandrum, Vijayawada and Vishakhapatnam.

Kashmir zone

Jammu, Leh and Srinagar

There are three auxiliary studio centres at Vadodara, Darbhanga and Shantineketan and two Vividh Bharathi/commercial centers, one at Chandigarh and the other at Kanpur. These cover all the important cultural and linguistic regions of the country.

AIR's programme pattern combines three main elements

♦ a national channel providing programmes of countrywide interest and significance.
♦ a zonal service from each of the four metropolitan centers (Delhi, Bombay, Calcutta and Chennai)
♦ regional services from individual stations each catering to the needs and interests of its respective area.

To enable AIR to reach all sections of the Indian people, its programmes in the Home Service are broadcast in 20 principal languages. In addition, the External services of AIR beam their programmes to listeners all over the world in 24 languages.

AIR now broadcasts a total of 239 new bulletins a day, with duration of 32 hours and 17 minutes. Of these 67 are central bulletins broadcast from Delhi in 19 languages, with daily duration of 10 hours and 3 minutes; 57 external bulletin (from Delhi) broadcasts in 24 languages for a duration of 7 hours 14 minutes and 15 regional bulletins from 34 regional centers broadcast in 22 languages and 34 tribal dialects with total duration of 15 hours every day.

The major source of news for AIR is its correspondents at home and abroad, the news agencies and the monitoring services. AIR has a total of 206 correspondents. Of these 111 are part time correspondents.

❖ From Feb. 28, 1998, 'AIR on Phone' service is available.
❖ AIR is now hooked to INTERNET for on line information service.
❖ The present national coverage of AIR is 90.6% by area and 97.3% by population.

Advantages

1. Can reach more people more quickly than any other means of communication

2. Specially suited ot give emergency and timely information (e.g. weather, pest out – break etc.)

3. Relatively cheap

4. Reaches many who read little or none at all

5. Reaches people who are unable to attend extension meetings

6. A means of informing non-farm people (tax payers, about agricultural matters

7. Builds interest in other extension media

8. Possible to do other things while listening

Limitations

1. Limited number of broadcast stations

2. Not within reach of all farmers

3. Time assigned to agriculture extension is limited

4. Recommendations may not apply to individual needs

5. No turning back if not understood

6. Frequently loses out in competition with entertainment

7. Requires special techniques

8. Difficult to check on results

9. Influence limited to people who can listen intelligently

Television

 A Powerful Communication Medium

Television is one of the most powerful audio-visual media of mass communication, which combines all the benefits of other mass media such as radio, newspaper and film. It is an effective medium of dissemination and diffusion of information, entertaining, educating and influencing the thought and attitude of rural viewers. Television being an audio-visual medium, the message reaches to an individual with the help of ears and eyes and hence gets a lasting impact. The word television comes from Greek word meaning "seen from a far". In most of the developing countries, it is used as an instructional tool for distance education, supplementing formal education, developing psychomotor skills, adult education, and eradicating illiteracy. Television is used as a medium of mass communication for dissemination of agro-information and technical know-how to "have-nots".

Historic features

Television started as a modest affair in India on September 15, 1969 when All India Radio set upon experimental Television service in Delhi. It was soon converted into full - fledged telecasting station. Television set up was delinked from All India Radio and under the name

'Doordarshan' given the status of full-fledged Directorate with effect from April 1, 1976. Doordarshan has at present seven Kendras located at Delhi, Bombay, Chennai, Calcutta, Srinagar, Amritsar and Lucknow besides three base production centers at Delhi, Cuttack and Hyderabad.

The most momentous development in television in India is the Satellite Instructional Television Experiment (SITE) which was inaugurated on August 1, 1975. It is the result of an agreement between India and the United States concluded in 1969. Under this agreement, ATS-6 satellite was made available to India for a period of one year.

Following the successful completion of the one year of Satellite Instructional Television Experiment on July 31, 1976 it was decided to continue terrestrial programmes for at least 40 per cent of the SITE villages. Terrestrial transmitters were set up at six locations. *viz*. Jaipur, Raipur, Muzaffapur, Sambalpur, Hyderabad and Gulbarga.

In 1984, a second channel was added to Delhi to provide an alternative viewing options. 1993 marked the linking of four terrestrial transmitters through satellite to provide DD - 2 Metro Entertainment channel for urban audience .

In 1997-98, Doordarshan reached 87% of the population and 70% of the area of the country through a network of 897 terrestrial transmitters. It has production studios at 42 cities. There are 53 other transmitters giving terrestrial support to the other channels and Doordarshan uses a large no of transponders on the Indian National Satellite(INSAT).

Doodarshan's primary viewership is of the order of 350 million. Doordarshan telecasts programmes more than 1021 hours every week on its primary service.

Steps in developing a television programme from topic to televised presentation

The following method of developing a television programme is not the only way, but offers briefly a logical systematic procedure.

Prepare your TV programme the way that is easiest for you and yet gives you an effective television programme.

1. Select a subject matter field, which is, felt-need based from rural audience point of view.
2. Choose a phase of that subject matter field. This may be called topic. It may also need further limitation.
3. Determine the main point to be made in the programme. List all the items that you will make to support this point.

4. Get a picture of the overall programme in your mind before you proceed further.
5. Divide the programme into important steps, and list these steps in logical order.
6. Consult resource material or a resource person if you need more information or if you need to check the information for accuracy.
7. Select a format, or a method of presenting the television programme. This may be a demonstration; an illustrated report; a dramatic presentation; an interview; a forum or a variety formats; using several of these methods combined.
8. Determine the need for other participants and contact possible participants
9. Determine the audio and visual aids, equipment, materials and properties that best show the points to be made. Make a list of all the visuals.
10. Make an outline of the programme. Divide a sheet of paper into two columns. In the left column, write the things you want to show, in the right column put the things you want to say or talk about. Label the left column 'Video' and the right column 'Audio'. Much of the audio column for the demonstration type of programme and for the illustrated report will be taken from the steps listed earlier in the planning (point 5). The visuals will be fitted to this and will be indicated in the video column. The things you want to show and the things you want to say about them should be written opposite each other on the page.

It is often necessary to use a special device to get from one segment of the programme to another. This is called a transition. It may be done visually, orally, or both. It ties the whole programme together, giving it the polished, professional touch, and results in a programme that flows smoothly. Transitions must be indicated in the script if used.

With the opening and the closing of the programme including the action and talk that will take place, put an attention getter in the opening and make the end equally strong.

1. At the extreme left of the page indicate the amount of time in minutes and seconds you think it will take to do each important step of the programme.
2. Correct the outline script in view of the programme producer's suggestions. Provide a copy of the script to programme producer, the participants and others as needed.
3. If give-away material (a publication) is to be offered, check to make sure that enough copies are available to meet the expected requests.
4. Accumulate the audio aids; visual aids, materials properties and equipment, and lay all out in the order each will be used. Check again to make sure all of the visuals are at hand.
5. Rehearse the programme at home, office or some other convenient place. Time the rehearsal for the total length and for each important segment. Add or subtract material to fit the script into the desired time. Rehearse the programme as it will be done at the station.
6. Arrive at the Doordarshan Kendra well ahead of telecast. Acquaint the participants with the TV equipment and set, and introduce them to the programme producer. Set up your equipment and rehearse the programme without cameras. If time permits and facilities are available, rehearse the programme with cameras.

7. Make any last-minute changes that are necessary and relax until the programme is to be telecast.
8. While the programme is being 'telecast', concentrate on the subject, not on the way you are or are not looking at the camera, moving your hands, and the like. This should be taken care of in rehearsal. Attempt to get an informal approach and to treat your audience as one individual, not as a group of thousands.
9. Present the programme as it was outlined and as the programme producer expects it. Trust the programme producer and the technical crew to produce as good a show as they possibly can.
10. If something unexpected happens or you make a mistake, or drop something, do not let it bother you. Recognize the mistake and continue your programme as planned.

Points to be remembered while recording television programme

1. Facial expressions are very important. A smile on the face makes a lot of difference.
2. Gestures should be used effectively in the communication process.
3. Unnecessary movements should be avoided as these distract the attention of the viewers. Check the habits of playing with a paperweight, pen, chalk or scratching your head or cleaning your eyes or nose. Avoid those movements also, which will express your nervousness.
4. Face the camera while talking to the viewers. Look into the lens of the camera for having an eye to eye contact with the viewers. Eye contact binds the attention of the viewers. However, this does not mean that one should continuously stare at the camera. Acknowledge the presence of the other participants of the programme by looking at them from time to time.
5. Neat physical appearance is very important. Come to the programme well dressed.
6. Visual aids, samples, models, working models, specimens etc. make your programme interesting. Visual aids should be precise and drawn with sharp colours. Graphic material, charts, slides, filmstrip etc. should also be used to make the programme more interesting.
7. Pronunciation should be very clear and be audible. Proper speed should be maintained while speaking. Proper word should be selected to communicate the message. Avoid fad words and slangs, metaphors, phrases, jargon and flowery language should not be used.
8. Do not have apologetic opening tone. Let your voice show emotions. Do not sound weary and depressed. Let your voice have vitality, vigor, energy and enthusiasm.

Advantages

1. Reaches largest number of people at the shortest time possible
2. People learn through eye and will remember things better if they see them.

3. Television viewing does not demand strain and discipline needed to read the printed medium.

4. Messages are presented in a simplest manner.

5. Ideas are presented in compelling way.

Limitations

1. Requires a lot of planning, preparation, trained personnel and availability of equipments

2. Audience participation depends on costly receiving sets and availability of electricity.

3. Rarely, it goes beyond creating general awareness of the audience.

Flash card

1. One massage in each card
2. Invariably all cards must possess pictorial /symbolic representation of message
3. The letters / pictorial representation etc. in each card must be visible to all.
4. Organise the cards in proper sequence and number them
5. Rehearse the presentation
6. Give local examples
7. Be enthusiastic and develop a story
8. Summarise

Posters

Each letter in the word 'POSTER' must carry the following meaning

P - Part of the programme

O – Objective

S – Single idea, simple words/pictures

T – Tells the story at a glance

E – Effect on Audience

R – Results and Evaluation

1. It should have a definite, significant message.
2. It should follow ABC principles
3. Suitable colour combination must be followed
4. Title and content must be related

5. Symbolic representation of the message is preferred
6. Posters must be placed at a stretch so that viewer can remember the message
7. Criss-cross display of posters 1-2 weeks prior to the probable use of message will remind the passer- by about the recommendation.

Hoardings

1. There must be only one single and significant idea.
2. The key point must be appealing to all farmers.
3. It should be placed in such a way that viewers from two sides can look and observe.
4. The hoarding must be installed at the point where the block/division limit starts so that the major crop/recommendation to be covered in the area by the extension agency may be highlighted in the hoarding.

Film show

1. Preview the film
2. Note the main teaching points, difficult words etc. that are to be clarified to the audience.
3. Relate the lesson to their own self-interest.
4. Write questions on the chalkboard if possible, and explain that these questions will be answered in the film.
5. Obsolete information should be avoided by supplementing with latest information
6. Select the film, which is relevant to the area/people.

Art of Public Speaking

"If all my possessions were taken from me, with one exception, I would choose to keep the power of speech; for by it, I would soon regain all the rest". Daniel Tebster

Almost every man longs for the power of speech. He knows that is one of the very few tools for personal success. It is the only accomplishment which can gain him quick and secure recognition. As an extension worker the power of speech, an effective way of communicating ideas to the clientele system, is an indispensable mechanism. The art of addressing the gathering provides him the following benefits.

1. Develop a capacity for human relations
2. Become socially welcome
3. Bring individual qualities to the fore front
4. It makes the mind methodical and ensure
5. Helps him to make decisions confidently
6. Participate in an organisation

7. Acquires qualities like enthusiasm, sincerity and courage of one's conviction.

As an Extension worker, we are more concerned in the Transfer of Technology. In other words, we have to communicate effectively to the audience, to ensure the fullest adoption f the latest technology. The three vital elements in the speech are (1) audience (2) content of message, (3) expression.

Our audiences are heterogeneous in nature having varied characters in respect of age, education, income, social status etc. Their socio-psychological perceptions also significantly from one another. It is the prime duty of an extension worker to satisfy every-one without causing concern to any one sector or group.

Secondly, the message is important. The message should be simple, acceptable, understandable and within the reach of the people. Authenticity of the message is vital in order to create confidence on the part of the audience 'thirdly the expression of the speaker. It has got many factors to be discussed. The different manners involved in the art of addressing should be considered. The following paragraph highlights the different points in the art of public speaking.

a. Dress

Dress should be appropriate to the occasion. Let the dress be acceptable to the audience.

b. Stage Mannerism

1. Sit calmly at the stage
2. Be relaxed and cool
3. Acknowledge the chair person when you are called to speak
4. Acknowledge the audience.
5. Don't talk among your friends in the stage. That will distract the attention of the audience from the speaker.

c. Mike Mannerism

There are three types of mike namely (1) Unidimensional, (2) Dimensional, (3) Omni dimensional. In the Rural situation, we always used to get the unidimensional mike.

1. Don't hold the mike with your hand.
2. Let your head be in line with the head of the mike.
3. Tilt your head gently while you want to see the audience seating in the side rows.
4. Don't talk too loudly to the mike.
5. Check the audibility of the mike before commencing the talk.
6. Don't yawn in front of the mike.

d. Gestures

They are movements of some parts of the body. The movement of the hand, a wave of the arm, raising of the eyebrows, a wink, turning of the head etc., is all gestures. Gestures are spontaneous and give it to the talk. They are the physical and mental tonic to the audience. A speaker without gestures is equivalent to an unfurled flag pole. There are different types of gestures which gives the purpose of using it.

a) Gestures of direction
b) Gestures of size, shape and description
c) Gestures of feeling and intensity
d) Facial expressions

Gestures and expressions should synchronize with each other, otherwise it will be a mockery in front of the audience.

Don't over do gestures. Gestures, which go beyond certain limit, are called gesticulation. Gesticulations tend to show the nervousness of the speaker.

e. Postures:

A good posture suggests that the speaker is alert and poised. A good standing pose is sufficient.

f. Eye Contact

It is looking squarely at 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 makes them fee] 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.

g. Voice

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

h. Pause

It is the interval between the words, phrases, sentences, paragraphs, ideas and section. It is not possible to speak without a pause.

Types of Pauses

1. Breathe pause - It is for the purpose of taking breathe.
2. Sense pause - It is for the purpose of making the meaning clear.

General hints for good speech

1. Be alert and attentive
2. Be thoughtful to another speaker
3. Attitude of good will
4. Begin with a good and attractive lead
5. Arrange your thoughts in logical order
6. Give local and suitable example
7. Support your talk with adequate evidences
8. Use simple, local languages
9. Be time conscious
10. Acknowledge the chairman and the audience
11. Summarise at the end
12. If possible use appropriate visual aids
13. Quote relevant proverbs or quotable quotes
14. Conclude with grace

FACTORS INFLUENCING IN SELECTION OF EXTENSION TEACHING METHODS

A. Selection of Methods

1. The Audience

   (a) *Individual and collective differences:* People vary greatly in their knowledge, attitudes, skills,their position in the "diffusion process", and in the "adoption categories", their educational training, age, income level, social status, religious beliefs etc. Some are progressively seeking change, others are slow to change. Some are "eye-minded" while others are "ear-minded".

   These individual and collective differences influence the teaching approach.For instance, people with little or no education, and low incomes may respond to personal visits and result demonstrations. The better educated and the more progressive elements of the population usually respond well to methods like group meetings and discussions, exhibits and written materials.

   A man in "awareness stage" cannot straight away jump to "adoption stage" but can be gradually brought to the adoption stage by using suitable methods. For "late adopters" (conservatives), direct approach may not yield so good results as approaching through the "early adopters" and "informal leaders".

   (b) *Size of Audience:* It is also a factor influencing the choice of extension methods. For instance, group discussion cannot be used effectively when the number of participants exceeds thirty; method demonstration can be used for a relatively small audience, while lecture meetings can be used for large audiences.

2. The Teaching Objective (or nature of change aimed at). Do you want to bring about a change (i) in thinking or knowledge? (ii) In attitude or feeling? (iii) In action or skill? If you want merely to inform or influence a large number of people slightly, you should use mass media. If you want to influence a relatively small number of people to make maximum improvements resort to individual contact methods. If you want to change attitudes or arrive at a consensus of opinion, arrange group discussion or work through village leaders. If you want to teach a skill, use the method demonstration.

3. The Subject Matter Where the new practice is simple or familiar (i.e., similar to those already being followed) the news article, radio or circular letter will be effective, whereas complex or unfamiliar practices will require face-to-face contacts, written materials and audio-visual aids.

4. The Stage of Development of Extension Organisation in the initial stages of extension, result demonstrations will be necessary to gain confidence of farmers. But if extension work is already well established and the farmers have confidence in extension services, result

demonstrations may not be necessary and local illustrations of adoption by village leaders will suffice.

5. Size of Extension Staff In relation to the size of extension clientele: The larger the number of extension workers, the greater is the scope for direct or personal contact method.

6. The Availability of Certain Communication Media Such as newspapers, telephones, radio, internet etc., will also have a direct bearing on the extent to which these methods can be used.

7. The Relative Cost of the Method (i.e., the amount expended on extension teaching in relation to the extent of practices changed) is also an important consideration in their selection and use.

8. **An Extension Worker's Familiarity** with, and skill in the use of the several extension methods will also influence his choice and use of the methods.

B. 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. (i.e., repetition but in a variety of ways).

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.

C. Using the Methods in Proper Sequence

To 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 learnt
 (b) enable 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 organized 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. Organized, followed-up teaching activity means more improvement in farm and home conditions.

Combination of (Media mix) teaching Methods

Use of Audio-Visual Aids

There are numerous audio-visual aids that you could use in your lessons. This unit will focus will on selected audio-visual aids that are normally available in your school. Some of these aids could be made by you. However, the focus of this unit will not be on how to make these aids but on their use.

Need to use audio-visual aids in lessons

a. To maintain a high level of interest in the lesson

b. To get students to use the language, especially at the beginning stages

c. To promote greater student participation

d. They can be used at all levels of learning

Guidelines for using AV aids

1. **Planning AV aids**

Audiovisual aids--including overhead transparencies, flip charts, slides, chalkboards (and occasionally film and video)--can supply added impact and clarity to your, presentation. You can use A/-V to visually reinforce the points made verbally in your presentation, to summarize the points you will make, as well as those you have already made, and to visually clarify important concepts and analogies. Audiovisual aids not only help your target group follow your presentation, but they provide support to the presenter by helping to keep, you on track.

The key to preparing effective audiovisual aids is to remember that they are only aids. Their role is to add a visual dimension to the points that you made orally. They cannot make those points for you; they can only reinforce them. When you plan for audiovisual aids, follow these simple guidelines:

1. DO use them to summarize or show the sequence of content.
2. DO use them to visually interpret statistics by preparing charts and graphs that illustrate what you will say.
3. DO use them to illustrate and reinforce your support statements.
4. DO use them to add visual clarity to your concepts and ideas.
5. DO use them to focus the attention of the target group on key points.

6. DON'T project copies of printed or written text. Instead, summarize the information and show only the key points on the visual aids. If the group must read every word, use handouts for reading, either before or after your presentation.
7. DON'T put yourself in the role of aiding your visuals: A presentation is primarily an oral form of communication. If your only function is to read the information on your overheads or slides, the target group will become easily bored.
8. DON'T use copies of your transparencies as handouts. They reinforce what you are saying-- they don't say it for you. If you want your target group to remember what you meant, you'll need to provide written text in addition to any key point summaries or charts that you need for your transparencies.
9. DON'T use charts, graphs, or tables that contain more information than you want to provide. The group will have difficulty focusing on the point that you're tying to make.

2. Choosing appropriate media

You may wish to combine different types of media in a single presentation. The media used most often are overhead projection transparencies, flip charts, slides, blackboards, and handouts. You may occasionally use videotapes and/or films.

Plan to practice using several different media in this course. You will find that practicing will increase your comfort level, and therefore afford you the flexibility of choosing the most appropriate medium. In the future, use the following guidelines to help you choose the media best suited to your presentation

In selecting aids, take into account the following

· Practicability
· Attractiveness and interest; vividness
· Suitability
· Complexity
· Clarity
· Portability
· Serviceability
· Availability
· Location
· Preparation and presentation
· Time factor

3. Types of media and their uses

a. Overhead Transparencies
    Used for displaying charts and graphs. High visibility for large groups. Showing summaries, sequences, relationships, and process steps.

b. Flip Charts
    Used for small groups (under 20). Ad lib charting and graphing. Showing summaries and

sequences. Listing, recording, outlining. Developing charts. Instructions. Reinforcing group contributions.

c. Blackboards/Whiteboards

   Spontaneous presentations. Listing/recording. When no other media is available.

d. Slides

   Displaying high quality artwork. Displaying a series of photos. Demonstrating- a "hands-on" process. Creating a mood, or inspiring.

e. Videotapes and Films

   Demonstrating a process. Creating a mood, or inspiring. Presenting* testimonials. Supplementing presentation ideas.

f. Written Handouts

   Providing background information. "Sending home" your ideas. Reminder of follow-up activities. Providing a record of presentation. Weighting a variety of alternatives. Clarifying abstract or complex topics.

Over Head Transparencies

   Overhead transparencies are inexpensive, easily prepared, and highly effective visual aids for target groups of five or more people. With smaller target groups, choose overhead transparencies as your primary A/V medium if the target group prefers a somewhat formal mode of communication. With small groups, overhead projection may tend to distance you from the target group and limit personal interaction. If you are presenting to a relatively informal group of less than five people, you may wish to use transparencies only to display charts and graphs.

   If costs very little to add color to your charts and graphs, using special transparency markers and adhesive color film. If fact, some ordinary markers will work perfectly we on transparency film.

   You can use overhead projections in full light in any size room. There are three simple guidelines for preparing effective transparencies: Visibility, clarity, and simplicity

Visibility

   Lettering should be neat and at least a quarter inch high. You should be able to read the original at a distance of seven feet. Computers make very effective, highly visible transparencies. If a computer is not available, use a typewriter equipped with a special "Orator" typeface, or a special lettering system designed for overhead transparencies, or "rub-off" lettering (available at any art supply store) to provide readable lettering. If you must hand-print, be sure that your printing is neat and even. Use all capital letters, and write with a black, felt-tipped pen.

Clarity

Everything displayed on an overhead transparency should be instantly recognized by the target group. Label all elements of your charts and graphs. Use color or shading Ito emphasize and clarify key elements. Be sure to title every transparency.

Simplicity

Try to limit each original to one point or comparison. Use a maximum of six or seven words per line. No more than six lines should be included in a single transparency. Use a horizontal format whenever possible so that the projected image will fit the shape of most standard screens.

Flip charts and boards

Flip charts are often the ideal visual aid for small target groups. You can prepare your chart pages in advance for maximum clarity and impact. The flip chart can also be used to "ad lib," or give the appearance of spontaneity. Prepared flip charts can be used to show pre-drawn charts, graphs, and diagrams, or you can draw them "on the spot."

Chalkboards may be used in the same ways as flip charts. But the space they provide is more limited and the medium is less permanent.

If possible, draw important charts on chalkboards before the presentation and mask them with paper. Be sure to consider what information you will be able to erase during the presentation and what you will save for reference at a later point.

The guidelines for preparing effective flip charts and boards include the following:

1. Always title each page (or diagram).
2. Print clearly. For maximum visibility, letters should be at least one inch high for each ten feet of distance from viewers.
3. Use pictures, diagrams, and symbols whenever possible.
4. Skip a sheet between prepared flip pages to avoid "bleed through."
5. Leave room for "ad lib" flip pages (plan when you'll ad lib).
6. If you plan to ad lib, make sure you have at least two markers with you--one will always run out of ink.

Slides, Video and Films

Slides, videotapes, and films are included in the same category because they all require professional preparation. These media can have a very dramatic effect if properly selected. However, unless you are using media that is available through the company library or training center (or your public library), all three of these media types are expensive. Slides may occasionally be in your budget, but very few people have the budget to produce quality videotapes or, even more expensive, films to supplement a presentation. If you can afford to use slides, video, or film in your presentation, be sure the media you select reinforce and enhance

what you have to say, and that the media do not contradict your presentation points. The guidelines for using slides, tapes, and films include the following:

1. Check the room layout and locate light switches and dimmers. Films and slides must be shown in a darkened room.
2. Make sure the media are up to date, unless you intend to contrast old and new.
3. Make sure that the images (and sound) are clear--free of static and other interference.
4. Know how to use the equipment--or enlist the aid of a projection assistant for your rehearsal and delivery.
5. Make sure that the media are compelling and interesting to the target group.
6. If you are using slides, check to make sure that they are all in order and facing in the right direction (not upside down).
7. Check your equipment. Make sure it can project the media you want to use, in the manner that you want to use it. Verify that it is in good working condition and that all cables, wires, plugs, etc., are in place and ready to go.
8. Load and advance the tape or film to the starting point before the meeting begins. Check sound levels and image clarity.
9. Plan what you will do if the equipment breaks down.

Written Handouts

When providing written text, remember that you won't be there to explain or remind the target group of what you mean. Written communications should be as brief as possible, but they must also be meaningful to the reader, whether they are read a week before your presentation or a year after. They should always be:

Clear
Written in language that the target group can easily understand and follow.

Relevant
Do not simply provide data. Explain why the information should be read and what it means. Explanations should not repeat your entire presentation, but should capsulate it.

Specific
Do not give your target group a mass of reading material that they do not need. Make sure that all documentation is absolutely necessary.

CYBER EXTENSION IN RURAL DEVELOPMENT

Information is an important resource in modern agriculture. The development of computers and improvements in telecommunications offers farmers and extension workers, many new opportunities to obtain technical and economic information quickly and use it effectively for their decision-making. The modern farmer is an entrepreneur 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 generalized 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 flows.

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 database. He can request the computer to make certain calculation by combining information from the database with information from his own farm.

2. Tele text

It is a system somewhat like view data in which printed information is telecast through television rather than transmitted through a telephone line. It has no interactive capacity and it has a very much smaller database.

3. Micro Computer

Through a microcomputer on the farm, the farmers can process accounts and data from their farm production. Many extension agents in industrialized countries now have microcomputers and can make similar calculations for farmers.

4. Net work system

Net work system in which view data is connected with the microcomputer of the farmers or extension agents. This makes it possible to use data or computer programmes from view data in the microcomputer or to process data from the farm in the view data mainframe computer, which can accommodate more complicated models than a microcomputer. These network systems become important between farmers and their suppliers and customers. They can also be used for extension information when they have been installed for that reason.

5. E-Mail

E-mail is the short form for electronic mail, which is based on the use of computers for the transmission of messages rather than through the postal system. The E-mail system connects a network of personal computer (PC) spread over the globe. A PC is set up as a message server

in the system. The users at other PCs can link up with the server at any time to receive and transmit messages.

Each user to the E-mail system is allocated a look number or address in the E-mail directory. To send a message, a user has to "key-in" the message in his PC along with the directory numbers allotted to him and the receiver of the message. The sender can indicate if the message is confidential or universal and set a time limit for its retention. The receiver on receiving the message is his/her computer terminal can get it printed on paper.

The main advantages of E-mail are that it cuts down the delay involved in postal transmission of messages. Moreover, messages can be sent at any time of day or night which are stored and can be retrieved by the recipient at his or her convenience. Besides, once the contact between the transmitter and receiver PCs is established E-mail requires only a few minutes time to transmit even if it is a bulky message.

6. Fax (Or) Facsimile

It is a device used for transmission of a written document, photograph, map or any other graphic, material electronically. It is one of the variants of E-mail. For transmission, the original documents placed in the facsimile or fax machine which scans the document and converts the written or graphic information into electronic signals and establishes a link up with a similar receiving fax machine at the receiving end. The receiving fax reconverts the electronic signals into written or graphic form. As the sending machine scans the documents, the receiving machine reproduces the scanned image, which is an exact duplicate of the originals.

A typical fax machine can transmit a document of A4 size in less than a minute over thousands of kilometers. Since fax operates through the normal telephone lines the fax number is usually a telephone number. In addition, the same STD and ISD codes are used for sending a fax to another city or another country. The document is scanned page by page in the fax machine. Like the E-mail, fax communication eliminates the postal delay and is very convenient for communication between persons located in different time zones, but it costs more than the E-mail.

7. Internet

The Internet is a network of networks, the international linking of tens of thousands of business, universities, and research organisations with millions of individual users. The Internet is a global electronic community of over 50,000 interconnected computer network, which means more than 50 million people are linked together, computing on what has been aptly termed as the "information super highway". Internet has added a new dimension to our existence by placing within easy reach an overwhelming range of information. It gives each of us the option to be a publisher of our information and views.

The Internet offers a wealth of business opportunities. More and more business firms are advertising their services to customers on the Internet. The Internet is a source of up-to-date information and assistance too, related to business, stock market, education, research, medical

advances etc., Many organisations also set up an "Internet". This is a network used on the Internet to communicate and share information across the organisation.

Purposes of Internet

1. **Education:** Can get additional Information by the students, teachers and scientists. It is a medium for interactive and collaborative learning. Useful for distance education

2. **Publishing:** All newspapers and newsletters are available on internet.

3. **Shopping:** E-commerce is possible

4. **Advertising:** Useful for advertising the products with text, graphics and pictures and video clippings.

5. **Financial services:** Stock broking and research reports on stocks are available and can be downloaded. The transactions like tele credit card checking, tele banking, tele insurance are taking place

6. **The business of governance:** Public information useful for every citizen can be kept on the net. Government services can be made available and can provide fast, transparent services through this. E.g., E –seva in AP

7. **Career:** Career opportunities can be known with the help of net

8. **Internet communication:** Provides access to all kinds of information available on the latest technology in any field.

9. **E-mail:** Is the primary communication tool on internet. One can send and receive mails without any geographical barriers. We can send e-mail through websites like rediffmail.com, hotmail.com etc.

10. **Lister:** It allows group of people with common interest to send messages to each other at no cost.

11. **Usenet News group:** A newsgroup is worldwide platform for exchanging ideas and information by common minded people. The mail programme is loaded with windows is Outlook Express. It helps use to send, receive and store e mails.

World Wide Web (www) is a network of information resources. The digital pages on www are called web sites. The first page of website is called Home page

Limitations of internet

1. Requirement of continuous power supply

2. Failure in network

3. Lack of knowledge for the people on use of internet

4. Selecting the required information in the net is difficult from the volumes of information

5. Sometimes it misleads the individual for wrong selection of information

6. Internet services are not available in rural areas hence farmers needs to travel to the urban areas to utilize the facility

8. Optical Communication Technology

Use of light waves for communication purposes gave rise to the modern technology of optical communication. In this new method, optical fibers that are very thin, long stands of ultra purity glass are being used to link the transmitter and the receiver. Information in the form of a series of light pulses produced by small semiconductor lasers is passed through such fibers. At the receiving end these light pulses are converted back into original information using appropriate detectors and decoders. Human voice, TV pictures and computer data can be transmitted and received with great ease and convenience using optical fiber communication techniques.

9. Cellular Mobile

It is popularly known as car telephone, and this service allows two-way communication between a mobile or fixed telephone and another mobile or fixed telephone. All standard facilities like STD, ISD, Fax etc., are available with mobile phones. The mobile phones need not be fixed to an ear but if the set is portable, one can carry it wherever he moves.

10. Radio paging

It is called as poor man's cellular telephone, facilitating one way mobile communication to users. A person carrying a pager can be contacted while he or she is on the move, by his office or even others. If one gets a message on his pager that he was required and should call up the number, which flashes, on his pager, all one needs to do is to go the nearest public call office and establish contact with his office. In fact an extensive page-phone networks, in conjunction with radio paging, is a good substitute for cellular network. The pagers are particularly useful for professionals on the move.

11. Very Small Aperture Terminal Technology (VSAT) service

This service provides satellite-based network for business communication using the cost effective VSAT technology. All it does is to link head office of company or a corporate house to its various locations like factories, service units and other offices particularly those located in remote areas, using satellite network. Such networks are called Closed User Group (CUG) network. Besides high-speed data transmission from one location to another, people can even talk on the network.

12. Electronic Data Interchange (EDI)

It enables two organisations usually a customer and supplier to exchange routine documents such as purchase orders and invoices using standard electronic forms and their own computers linked through a service provider. It is faster. Cheaper and reliable means of exchanging export documents. It works on internationally accepted protocols and facilitates quicker exchange of documents.

13. Voice mail

If one wants to enjoy the benefits of telephone, without actually owing one, he should subscribe to voice mail. Get a voice mail address (similar to a telephone number) and he can get all his calls on that number. In the evening or any given point of time he can access his mailbox,

from any telephone to see (or listen) if there is any mail waiting for him. It is just like owing a postbox in the post office.

14. Cybercafes / Information kiosks

Computer multimedia system facilitates interactivity and better understanding between individual learners and the subject matter. These combine a variety of information sources into a variety of applications like electronic books, electronic magazines, information kiosks / cybercafés and interactive multimedia.

Kiosk is a small enclosed structure, often freestanding, open on one side or with a window, used as a booth to access to information in agriculture and allied areas.

Information kiosks are the public installations wherein computers are installed to make agricultural extension services accessible to people These are information access system for public use.

Information kiosk is the hub of information as per the need of the area or the best source of information. For e. g., in Acharya N. G. Ranga Agricultural University, the information kiosks were installed at modern agricultural information center and at Agricultural Technology Information Center (ATIC) with touch screen operation. Any visitor to university can have access to any kind of information regarding package of practices, plant protection, nutritional deficiencies, symptoms of various pests and diseases of variety of crops and problems he encounters in the field. Just like ATMs they are developed and the information is made available to the farmers. Even video clippings along with voice can also be glanced and listened to the technological applications in local language. He can see the visuals and interact with kiosk to get the desired information. He can elicit the expert information by pressing keys till his doubt is answered. He can also follow the method of application of any technology through seeing of clippings in kiosk. In kiosk images were given, explanation of methods in voice, textual information is available in vernacular language.

15. Teleconferencing

It is interactive group communication (2 or more people in 2 or more locations) through an electronic medium. It brings people together under one roof even though they are separated by hundreds of miles. It was first introduced in 1960's with American Telephone
Basic types: 3 basic types are
1. Video conferencing – television – like communication augmented with sound.
2. Computer conferencing – Printed communication through key board terminals.
3. Audio conferencing – Verbal communication via the telephone.

Video Conferencing

Holding a conference with one's foreign partners or addressing a press conference in four different cities without travelling long distances has become a reality with the advent of video conferencing. All one has to do is to go to the studio of the service provider at the appointed

hour and hold a videoconference, through satellite links, within India or abroad. Such a system cuts travel costs and time for executives of top companies.

Components of Video teleconference

1. Video input – Video camera or webcam
2. Video output – Television / Computer monitor
3. Audio input – Microphones
4. Audio output – Usually loud speakers associated with display device or telephone
5. Data transfer – Analog or digital telephone network LAN or internet.

Advantages of Video conferencing

1. A live conversation between two partners from different locations is possible with the visibility
2. The experts (scientists) can have virtual contact with the farmers and solve the field problems
3. Useful in giving training sessions for guest lectures.
4. Useful in monitoring the progress of various activities
5. Reduces the cost of travel and time.
6. Researcher collaborates with colleagues at other institutions on a regular basis without loss of time due to travel
7. Problem solving information can be exchanged and procedural tasks can be discussed
8. Follow-up for earlier meetings can be done with relative ease and little expense

Limitations

1. Technical failures
2. Impersonal
3. Acoustical problems with conference rooms
4. Greater participant preparation and preparation time needed
5. Lack of participant familiarity with the equipment

KISAN CALL CENTRE (1800-180-1551)

The country today has an impressive telecom network both in the private and Government sector. Over 5 lakh villages have a public telephone in the country. It has been felt for long that this impressive telecom network could be put to effective use for delivering knowledge and information to the farming community. A call centre based extension service will be delivering knowledge and information exactly as per the requirements of the farming community. This system would also help to keep a record of what is being delivered to the farmers in terms of knowledgeandinformation. The Kisan Call Centre scheme is available throughout the country. The Kisan Call Centrescheme has been functioning from 21.1.04.The Call Centres can be accessed by farmers all over the country on common Toll Free Number 1800-180-1551. Since 10th June, 2004, the Call Centres service has been made available right from 6 A.M. to 10 P.M.

except on Sundays and gazetted holidays, beyond these hours the calls are attended in the voice recording mode.

KISAN CALL CENTRE - Concept

The challenges before Indian Agriculture are immense. This sector needs to grow at a faster rate than in the past to allow for higher per capita income and consumption.   About two thirds of workforce directly or indirectly dependent on agriculture. This sector generates about 28 percent of its GDP and over 15 percent of exports. Rising consumer prosperity and the search by farmers for higher incomes will simultaneously drive crop diversification. Export opportunities for agricultural products are also expected to continue to grow, provided India could meet the stability, quality and presentation standards demanded by foreign trade and consumers and maintain its comparative advantage as a relatively low cost producer. Given its range of agro-ecological setting and producers, Indian Agriculture is faced with a great diversity of needs, opportunities and prospects.   The well endowed irrigated areas which account for 37 percent of the country's cultivated land currently contribute about 55 percent of agricultural production, whereas, rainfed agriculture which covers 63 percent accounts for only 45 percent of agricultural production.   In these less favorable areas, yields are not only low but also highly unstable and technology gaps are much wider as compared to those in irrigated areas. If it is to respond successfully to these challenges, greater attention will have to be paid to information-based technologies. Both technology generation and transfer will have to focus more strongly than ever before on the themes of optimization in the management of their available resources by producers. In order to make information transfer more effective, greater use will need to be made of modern information technology and communication among researchers, extensionists and farmers have to be utilized.

Public extension system requires a paradigm shift from top-down, blanket dissemination of technological packages, towards providing producers with the knowledge and understanding with which they solve their own location - specific problems. Continuous two-way interaction among the farmers and agricultural scientists is the most critical component of Agricultural Extension.

At present, the issues have been addressed by the Extension Systems of State Departments of Agriculture, State Agricultural Universities (SAUs), KVKs, NGOs, Private Extension Services through various extension approaches in transfer of technology. With the availability of telephone and Internet, it is now possible to bridge this gap to quite a large extent by using an appropriate mix of technologies.

The Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. of India has launched Kisan Call Centers with a view to leverage the extensive telecom infrastructure in the country to deliver extension services to the farming community. The purpose

of these Call Centers is mainly to respond to issues raised by farmers instantly in the local language, on continuous basis.

Details of the Scheme

1. The Indian Agriculture is on the threshold of a second revolution. It is becoming increasingly clear that the next leap will come from the information and the knowledge transfer to the agriculture sector, together with the other traditional inputs and interventions. The real challenge before the policy makers is to overcome the information asymmetry between farmer and farmer, village and village, region and region and the country as a whole versus other countries. Fortunately, the developments in the field of communication and information technology in India make it possible to attempt this task.

2. The country today has an impressive telecom network both in the private and Government sector. Over 5 lakh villages have a public telephone in the country. It has been felt for long that this impressive telecom network could be put to effective use for delivering knowledge and information to the farming community. With the limited number of extension workers, there is a need to use the latest technologies for delivering extension services. Towards this, the Department of Agriculture and Cooperation has been working on schemes to use both Mass-Media and telecom network for the delivery of extension services.

3. One of the draw-backs experienced in the current human resource based extension service has been that the monitoring authorities are not able to get a clear feed back on the quality of extension services being delivered in the villages. On the other hand a call centre based extension service will be delivering knowledge and information exactly as per the requirements of the farming community. This system would also help keep a record of what is being delivered to the farmers in terms of knowledge and information.

4. The objective of the scheme has been to make agriculture knowledge available at free of cost to the farmers as and when desired.

5. This scheme has an in-built system of monitoring and continuous evaluation for modifications and improvements. The services are also of a foundational nature. Many more exciting tiers will be built on this infrastructure.

6. The Kisan Call Centre scheme is available all over the country. At present the Call Centre services are available at a common toll free telephone number which can be dialed from anywhere in the country. The location is immaterial as the calls can originate from any village to land at a specific call centre and a specific seat which would be answered by an agriculture graduate knowing the local language and having an understanding of the local agricultural issues.

7. The call centres as operational today have been selected on the basis of a tender document which was floated by TCIL, a Govt. of India Company which was appointed by Department of Agriculture & Cooperation as the consultant.
8. The Kisan Call Centre scheme has been functioning from 21.1.04. The Call Centres can be accessed by farmers all over the country on common Toll Free Number 1551.

The calls are received at 13 Call Centres wherein 116 Agriculture Graduates attend to answer the queries of the farmer in the local language. 123 experts located in different parts of the country at State Agriculture Universities, ICAR institutes, State Department of Agriculture, Horticulture and other developments are answering the calls at Level –II.

New Initiatives

1. Since 10th June, 2004 the Call Centres service has been made available right from 6 A.M. to 10 P.M. except on Sundays and gazetted holidays, beyond these hours the calls are attended in the IVRS mode.

Operational Mechanism

The Kisan Call Center is a synthesis of two hitherto separate technologies namely, the Information & Communication Technology (ICT) and the Agricultural Technology. To optimally utilize the strengths of both these systems, it was proposed to take full advantage of professionally managed Call Centre mechanism and dovetail it with the specialized knowledge of Agricultural Scientists and Extension Officers, so as to facilitate its reach to the farming community. Accordingly existing specialized infrastructure of Call Centers (which are normally industry-driven and serve to high-end and many a times, mission critical service sector) are made available to the Subject Matter Specialists of Agriculture, Horticulture, Animal Husbandry, Marketing and other related areas. The Kisan Call Center, consists of three levels – namely **Level-I** (the basic Call Center interface, with high quality bandwidth and local language proficient Agriculture graduate), **Level-II** (Subject Matter Specialists on concerned important crops and enterprises, connected through good bandwidth telecom and computer connectivity) and **Level-III** (the Management Group to ensure ultimate answering and resolution of all the farmers' queries which are not resolved at Level-II, connected on off line mode).

Level –I The call coming to the call center is picked up by an operator (level –I functionary) who after a short welcome message takes down the basic information and the query of the caller. These details are fed into a computer located next to the operator by the operator himself. At the first level, receiver of the call would also feeds into the computer the question being asked by the farmer.

The first level operators preferably would be an agricultural graduate with rural background knowing local language. They should also posses' good communication skills. They would be in a position to answer a majority of the questions likely to be asked by the farmers.

Level-II The level –II consists of Subject Matter Specialists (SMS) who are located at their respective place (Research Stations, ATICs, KVKs, Agricultural colleges), of work. In case the first level operator is not able to answer the question, the operator forwards (in call sharing mode) the call to the concerned Subject Matter Specialist. The data relating to the caller including the question asked is also be transferred to the Level-II functionary on his computer along with the call. Hence, when the specialist takes the forwarded call, his computer also shows the data and question asked so that there is no repetition. It is envisaged that in normal cases, the entire spill over questions from the first level get answered at this level. In case, it is not possible to answer, there is a system to revert back to the caller by post / fax / e-mail or by telephone in 72 hours.

While selecting the specialists, it would be important to first identify the major crops in that state and the issues on which the questions are likely to be asked. These specialists should be such that they will answer most of the questions that are likely to be asked. There could be two options available on the selections of the specialists.

One option could be to select commodity wise specialist, that is, every question related to a particular crop or commodity would be directed to that specialist, who would in turn answer that question. Other option could be to select general specialists who would deal with various subjects likely to arise. The specialists should ideally be located within a city. They should have good communication skills and should know the local language. These specialists should have at least a minimum of 10-15 years of field experience in their respective specialization.
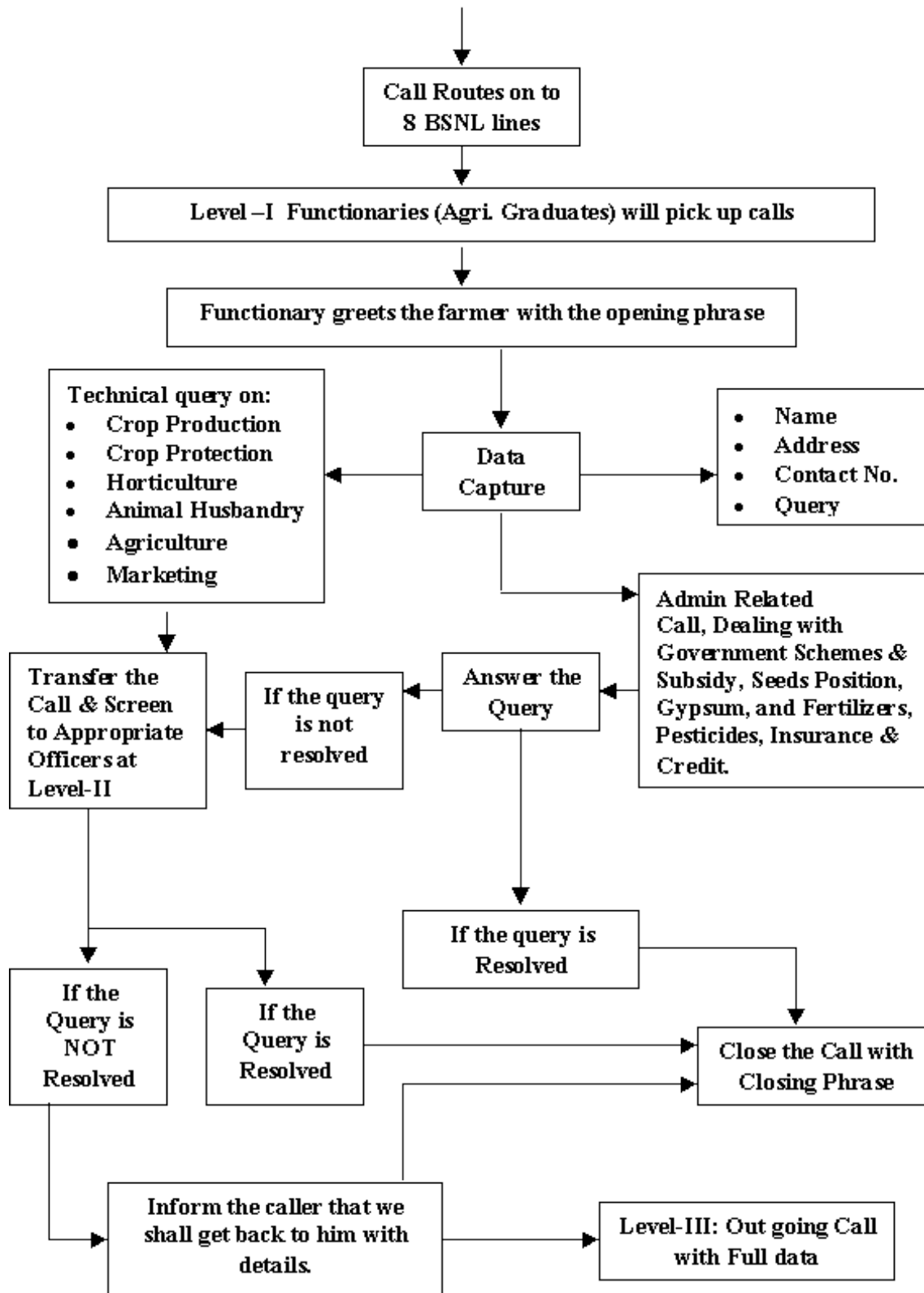
Level – III The level –III consists of a dedicated cell located at the Nodal Office. This would receive the questions that have not been answered at the first and the second levels. Appropriate replies to these questions whould be then framed in consultation with the concerned specialists available within or outside the State, by the nodal cell. The replies would be sent to the farmers promptly by post/e-mail/fax/ telephone etc. within 72 hours of receipt of the question.

Knowledge Management System

1. The Knowledge Management System is a software tool which has been developed by the Telecommunications Consultants India Ltd. (TCIL) a Government of India enterprise. The Kisan Call Centre shall be accessible on identified telephone number will provide all technical assistance to the caller and will record the queries along with the personal details.

2. The Knowledge Management System shall be supported by the data base built up using the asked questions and their answers. The Kisan Call Centre report generation software will be provided the user interface forms in which the call Centre Agents has to put the parameter according to which he want the report to get generated. The report/data generated like date wise, crop wise, location wise, district wise, state wise, problem wise, level wise, call type wise, All India level wise will be available at the users end. The data generated through this Knowledge Management System will be available on internet after hosting.

Flowchart of Kisan Call Centre operation

Call Routes on to
8 BSNL lines

Level –I Functionaries (Agri. Graduates) will pick up calls

Functionary greets the farmer with the opening phrase

Data Capture

Technical query on:
- Crop Production
- Crop Protection
- Horticulture
- Animal Husbandry
- Agriculture
- Marketing

- Name
- Address
- Contact No.
- Query

Admin Related Call, Dealing with Government Schemes & Subsidy, Seeds Position, Gypsum, and Fertilizers, Pesticides, Insurance & Credit.

Answer the Query

If the query is not resolved

Transfer the Call & Screen to Appropriate Officers at Level-II

If the query is Resolved

If the Query is NOT Resolved

If the Query is Resolved

Close the Call with Closing Phrase

Inform the caller that we shall get back to him with details.

Level-III: Out going Call with Full data

List of Kisan Call Centers

State / UT	KCC Location
Uttar Pradesh	Kanpur
Rajasthan	Jaipur
Jammu Kashmir	Jammu
Haryana	Chandigarh
Punjab	
Himachal Pradesh	Shimla
Jharkhand	Ranchi
Bihar	Samstipur
Orissa	Bhubneswar (Kolkata)
Karnataka	Bangalore
Tamilnadu	Madras
Andaman Nicobar	
Uttrakhand	Dehradun
Assam	Guwahati
Andhra pradesh	Hyderabad
West Bangal	Kolkata
Chattisgarh	Raipur
Kerala	Trichur
Lakshadeep	
Goa Daman Deu	Vanamati Nagapur
Maharashtra, Goa and Daman Diu	

Recent Developments

Access to information and improved communication is a crucial requirement for sustainable agricultural development. Modern communication technologies when applied to conditions in rural areas can help improve communication, increase participation, disseminate information and share knowledge and skills. It is being said that "Cyber Extension" would be the major form of technology dissemination in the near future.

However, it is observed that the rural population still has difficulty in accessing crucial information in order to make timely decisions. It is essential that information availability is demand driven rather than supply driven. The challenge is not only to improve the accessibility

of communication technology to the rural population but also to improve its relevance to local development.

Considering the critical need for access to timely information and improved communication, this issue focuses on attempts made in different countries to transfer information to the rural population and success stories of such attempts. Bridging the '"last mile" between the haves and have nots will ensure that remote rural communities are better informed.

Bridging the "last mile"

Improved communication and information access is directly related to social and economic development. However it is observed that the rural population still have difficulty in accessing crucial information in forms they can understand in order to make timely decisions. There is a concern that the gap between the information rich and information poor is getting wider.

New information and communication technologies are generating possibilities to solve problems of rural poverty, inequality, and giving an opportunity to bridge the gap between information-rich and information-poor and support sustainable development in rural and agricultural communities. However remote rural communities still lack basic communication infrastructure.

The challenge is not only to improve the accessibility of communication technology to the rural population but also to improve the relevance of information to local development.

Technology in rural communication

A range of communication technologies have been used to meet the information needs of the rural population. These include rural radio, participatory video using a methodology called Rural Audiovisual pedagogy which uses participatory video as a communication tool for mediating between rural people needs and possible sources of information and expertise to respond to these needs.

The Internet is emerging as a tool with potential to contribute to rural development. Internet enables rural communities to receive information and assistance from other development organizations; offers opportunities for two-way communication. It can also support bottom-up articulation of development needs and perceptions, and thus help in reducing the isolation of rural communities. It can facilitate dialogue among communities and with government planners, development agencies, researchers, and technical experts; encourage community participation in decision making; and help agricultural researchers, technicians, farmers and others in sharing information.

A survey of Internet use in rural areas was conducted by Dr. Don Richardson and others in 1996. Rural Internet users indicate that the Internet provides them with a very convenient method for quickly accessing a large volume of information without being impeded by geographic barriers.

They also report finding information of value from the Internet in the form of new ideas, discussion groups, and access to expert advice, continuing education resources, increased global understanding and cultural awareness. Social benefits include new opportunities to overcome geographic isolation, increased social interaction, opportunities to organize and advocate for social change, equalization of urban/rural disparities and new links between urban and rural communities.

http://tdg.uoguelph.ca/www/rural/index.html

Telecentres

An approach that is being explored for providing rural access to modern information and communication technologies is through "telecentres" or "telecottages". The concept was first implemented in Sweden. Telecentres are centers located in isolated rural communities and have personal computers, printers, a modem, a fax machine, and a consultant. According to the Telecottage Association of UK, there are 120 telecottages in the United Kingdom, 49 in Finland, 40 in Australia, and 23 in Sweden and in Germany, Portugal, Ireland, Denmark, Canada, Norway, and Brazil. Some of their services include telephone and fax facilities, e-mail, Internet and electronic networks, access to databases and libraries. They can also link the Internet to local media such as radio and television and thus make information accessible to a wider audience. Telecentres not only facilitate single-point access to external information services (e.g. Government marketing and price information) or to global information through the WWW, but also help in organization of virtual village-to-village meetings and tele-training events thus facilitating local sharing of information.
(Comm for development group, SDRE, FAO Research, Extension and Training Division. at http://www.fao.org*).*

Many efforts are taking place throughout the developing world to give the rural population a sense of conceitedness by providing innovative methods to access information and to communicate/facilitate exchange of information among themselves and with other agencies. These are documented in the following pages.
Harnessing IT: Indian Scenario

There are cases of application of information and communication technologies that have made a difference in the delivery of services in rural India. Some of these include the Warana Wired village Project in Maharashtra; Milk collection in dairy co-operatives (National dairy Development Board); Information Villages Project (MS Swaminathan Research Foundation-International Development Research Centre); Information Technology application for Indian Rural Postal System (CMC Limited, Hyderabad); Knowledge Network for grassroots innovations (IIM, Ahmedabad); Application of Satellite Communication for Training Field Workers and Extension Workers in Rural Areas(ISRO); Computerisation of Mandal Revenue Offices (MROs) and computer aided administration of revenue department in Andhra Pradesh (Government of Andhra Pradesh.

In the Warana Wired Village Project covering 70 villages in Maharashtra the existing cooperative structure has been used with state of the art infrastructure to allow Internet access to existing cooperative societies. The aim is to provide information to villagers by establishing networked booths in the villages.

The Information Villages Project of the MS Swaminathan Research Foundation is aimed at bringing the benefits of modern information and communication technologies to rural families in Pondicherry. A Value Addition Centre which is the hub of the information network has been established in Villianur village and four information shops have been established in different villages.

National Dairy Development Board. IT-based machines are being used at milk collection centres, and in cooperatives to measure butterfat content of milk, test the quality of milk, and promptly make payment to the farmers. It has resulted in the removal of incentives to cut the milk by adding water, reduced time for payments from 10 days to less than five minutes, and instilled confidence in farmers in the cooperative set up. All of these factors have helped the milk market to expand.

ACMC pilot project has installed a Computerized Universal Postal System and a Centralised Accounting and Reporting System in three post offices in Andhra Pradesh. The technology is designed for rural environments. The systems handle multifunctions within a postal office, reduce errors and waiting time, and provide transparent transactions.

ICT can help empower the knowledge rich but economically poor people. Under the "Honey-Bee" knowledge network (of the IIM, Ahmedabad) used to augment grassroots inventors and overcome language, literacy and localism a large number of grass root inventions have been identified and documented as short multimedia presentations. Future plans include creating a database of such innovations and making them accessible via a wide area network.

One way video, two way audio teleconferencing interactive networks have been used for education and training by Indian Space Research Organisation. The major application of the network in rural development was for training extension staff from various departments of the state governments. In addition, a large number of women, Panchayati Raj elected officials, primary school teachers, and child development workers spread over large distances have been trained.

Information and communication technologies are an important part of the Government of Andhra Pradesh's efforts to improve the efficiency of its administrative offices. AP is the first state in India to design a statewide computerization program that will be used in rural areas, at the mandal-level (the administrative unit above the village-level panchayat). There are 1124 mandals in the state. The first software application, is the issuance of certificates pertaining to land holdings, caste, nativity and income across a common counter, without the current delay of 15 to 20-days.

The AP State Wide Area Network (APSWAN), aims to link the state government's Secretariat with 23 District Headquarters, serving as the backbone for "multi-services" (voice, video, and data) that would be used for improved co-ordination between state headquarters and

district offices in managing various regulatory, developmental, and hazard mitigation programs of the state government. Mandals will be served by this two-way communication, and electronic commerce applications will be developed. The AP Value Added Network Services project hopes to deliver a variety of public services through a large network of information kiosks.

The Computer-aided Administration of Registration Department (CARD), a project of A.P. aims to introduce a transparent system of property valuation, which is easily accessible to citizens.

Consultancy Clinics

Agriclinics

Introduction

The National Agricultural Policy announced by the Government accords a very high priority to application of frontier sciences like bio-technology, pre & post harvest technologies, adequate and timely supply of quality inputs, such as seeds, fertilisers, plant protection chemicals, bio-pesticides & control agents & agricultural machinery, strengthening of research and extension linkages and broad basing extension system.

To accelerate the diffusion of agricultural technology to the farmers and develop models of cropping systems research in association with the ICAR, National Agricultural Technology Project with World Bank assistance has already started functioning. Lack of adequate manpower and equipment, the declining utility & effectiveness of Training and Visit (T & V) System and lack of professionalism have, however, affected extension services in the country.

The 9th Five Year Plan had programmes for quality improvement and skill upgradation of extension personnel so that they could meet emerging challenges due to globalisation and commercialisation of agriculture. However, need was felt for supplementing the efforts of Government extension system to accelerate the process of technology transfer in agriculture. Apart from extension support, the farmers are also in need of supplementary sources of input supply and services for which, by and large, they presently depend upon public sector ageSncies and are getting less than satisfactory services.

Since Independence strong academic centres have been built up for imparting education in 11 disciplines related to agriculture at under-graduate level viz. Agriculture, Veterinary Science, Horticulture, Sericulture, Forestry, Fisheries, Dairy Technology, Agricultural Engineering, Agricultural Marketing, Food Technology and Home Science. Annually around 10,000 students are admitted at U.G. level in State Agriculture Universities (SAU) alone. It is estimated that the turn-out of agricultural graduates is around 17,000 per annum if agricultural colleges in general universities and other educational institutions are also taken into account. Still, only about 7000 to 8000 such graduates can be absorbed in employment avenues presently available in the Agriculture related jobs in both public / private sectors.

There is a large reservoir of graduates in new and emerging areas in agricultural sector which awaits to be tapped for providing support services to farmers through Agri - Clinics and or Agri-Business Centres, supplementing the efforts of Government and public sector agencies, and filling critical gaps therein. It was felt that, around 10,000 fresh graduates, besides other graduates, who are already working, might prefer to make it their profession to provide paid services to the farmers, if opportunities are available for providing technical services support in agriculture related ventures.

Thus, a need was felt for designing a programme for promoting such ventures as agri-clinics & agribusiness centres which could gainfully utilise the services and skills of agricultural graduates for supporting agriculture and allied activities, to complement Governmental efforts & to bring up the SPS standards of Indian agriculture. It was felt that, such deployment of trained and educated professionals would supplement and enhance the quality of the government development efforts.

The Ministry of Agriculture, Government of India, in association with NABARD has launched a unique programme to take better methods of farming to each and every farmer across the country. The Government is now also providing start-up training to graduates in Agriculture, or any subject allied to Agriculture like Horticulture, Sericulture, Veterinary Sciences, Forestry, Dairy, Poultry Farming, and Fisheries, etc. Those completing the training can apply for special start-up loans for venture.

Objectives

a. To supplement the efforts of Government extension system.
b. To make available the supplementary sources of input supply and services to needy farmers
c. To provide gainful employment to agriculture graduates in new emerging areas in agricultural sector

Concept / Definition

Agriclinics are envisaged to provide expert services and advice to farmers on cropping practices, technology dissemination, crop protection from pests and diseases, market trends and prices of various crops in the market and also clinical services for animal health etc. which would enhance productivity of crops/animals.

Agribusiness Centres would provide paid services for enhancement of agriculture production and income of farmers. Centres would need to advice farmers on crop selection, best farm practices, post-harvest value-added options, key agricultural information (including perhaps even Internet-based weather forecast), price trends, market news, risk mitigation and crop insurance, credit and input access, as well as critical sanitary and phyto-sanitary considerations, which the farmers have to keep in mind.

List of Ventures

- Soil and water quality cum inputs testing laboratories with (Atomic absorption Spectrophotometres)
- Maintenance, repairs and custom hiring of agricultural implements and machinery including micro irrigation systems (sprinkler and drip)
- Agro service centres including the three activities mentioning above.
- Seed processing units
- Micro propagation through plant tissue culture labs and hardening units.
- Setting up of Vermiculture units, production of bio-fertilizers, bio pesticides, bio- control agents.
- Setting up of Apiaries (bee keeping) and honey and bee product s processing units.
- Provision of Extension Consultancy Services
- Facilitation and agency of agricultural insurance services
- Hatcheries and production of fish finger lings for aquaculture
- Provision of livestock health cover, setting up of veterinary dispensaries and services including frozen semen banks and liquid nitrogen supply.
- Setting up of Information Technology Kiosks in rural areas for access to various agriculture related portals.
- Feed processing and testing units
- Value addition centres
- setting up of cool chain from the farm level onwards
- Post Harvest Management Centres for sorting, Grading, Standardisation, storage and Packaging.
- Setting up of Metallic and non metallic Storage structures
- Retail marketing out lets for processed Agricultural products.
- Rural marketing dealerships of farm inputs and out puts

Any combination of two and more of the above viable activities along with any other economically viable activity selected by graduates which is acceptable to the bank.

Soil, Water Quality & Input testing, Laboratory Service Centres

The objective of this is to undertake soil testing at reasonable costs, to undertake irrigation water quality testing, to undertake testing of some of the inputs, to provide recommendation on fertilizer application and fertility management, to arrange for suitable inputs like bio- Fertilizers, to provide guidance for soil reclamation and related technical areas, to train / demonstrate/ educate farmers in the technical areas of soil fertility development , integrated input use, improved compost making etc.

Plant Protection Service Centre

The objective of this is to provide guidance and consultancy services for control of various pests and diseases, nematodes and weeds at reasonable costs to the farmers, to undertake regular visits provide prescription, advice respond to the enquiries in case of needs as also undertake control operations at reasonable charges using their own equipment and inputs, to undertake plant protection services as the package deal , from seed to harvest with agreement to the farmers.

Vermicomposting Unit

The objective of this is to provide cultural material of the desired species and train farmers and entrepreneurs, to demonstrate practically the production methodology on the unit that will be set up.

Horticulture Clinic & Business Centre

The objective is to create facilities for provision of the technical guidance, custom hiring services including grading and packing to the fruit growers under a single roof, to create additional job opportunities within the village itself to the unemployed youth, to ensure easy availability of various horticulture inputs and technical extension services to the fruit growers to increase productivity.

Agro Service Centre - Farm Machinery

The objective is to enable farmers who cannot afford bullocks or other farm machinery to hire services of agro service centre for farm operations, to make available various farm machineries for custom hire at one place - single window, to make available services of agro service centre for repair and maintenance of farm machinery owned by farmers.

Agro Service Centre - Farm Machinery & Primary Processing

The objective is to provide custom hire services facilities to the farmers, to improve timeliness in agricultural operations, to improve production and productivity of Indian agriculture, to improve post harvest processing facilities and profitability of farmers.

Private Veterinary Clinic with Small Dairy unit

The objective of this is to provide veterinary services to the farmers at the doorstep to rear good quality animals and to control infectious animal diseases and thus reduce morbidity and mortality, to cover large population of the breedable stock for genetic improvement.

Private Artificial Insemination Centre

The objective of this is to arrange delivery of vastly improved artificial insemination service at the doorstep of the farmer.

Selection of Borrowers: The selection of borrowers and location of the projects may be done by the banks in consultation with Agricultural Universities / KVKs/Agriculture department of the state etc. in their area of operations, if necessary.

Repayment: The period of loan will vary between 5 years to 10 years depending on the activity. The repayment period may include a grace period (to be decided by the financing bank as per the individual scheme) of a maximum of 2 years.

Advantages

Ø Multi-sourced extension services.

Ø Input supply and support services are provided on competitive basis.

Ø Location specific specialized crop advices are provided.

Ø Field level staff are adequately qualified and trained for extension work.

Ø Provision of specialized agri-services like agricultural insurance, technology information, maintenance and repairs etc.

Ø Serves as a source of incentive to graduates by affording them to various viable business opportunities.

JOURNALISM

Journalism: Definition and meaning

Journalism is that part of social activity, which is concerned, with the dissemination of news and views about the society. Modern journalism feeds five departments of mass communication. (1) Newspaper and periodicals, (2) Radio, (3) Television, (4) Films and (5) Advertising.

Journalism is the systematic and reliable dissemination of public information, public opinion and public entertainment by modern mass media of communication.

In modern societies, journalism has become the media of mass education providing supplementary education to students at all stages and to the general masses - educated and uneducated.

All activities concerned with the communication of mass media is not journalism but the part of that activity involving writing, preparation and production of the communication messages is journalism. Thus, essentially journalists are writers, authors, reporters, correspondents, editors, sub-editors, interviewers, storywriters, scriptwriters, scenario editors and allied specialists.

Principles of modern journalism

The main function of journalism is to bring to light to the people what its members feel and think journalist are therefore supposed to possess a good deal of intelligence, knowledge and experience as well as natural and trained powers of observation and reasoning. A journalist has the same obligations as a teacher or interpreter as an educationist has. A journalist who misuses his power for any selfish or unworthy purpose is to a high trust. While the freedom of the press needs to be guarded as a vital right of humankind, it has to suffer certain explicit restrictions to subserve social needs. Freedom of the press does not imply promotion of any private interest of the journalist contrary to the general welfare. That is the way the so-called news communications from sundry sources are not published by sensible journalists without substantiating their value as news both in form and substance.

In addition, partisanship in editorial comments, which is knowingly based on a lie, does violence to the best spirit of journalism.

Rules to be followed by a journalist

a) Study the field and have an estimate of what type of articles is published in newspapers, magazines, books etc.
b) Look ideas
c) Develop the idea
d) Keep an unbiased mind
e) Write clearly and meaningfully
f) Remember the people to whom the articles are written
g) Write with a purpose
h) Write on timely subjects
i) Keep in touch with editors
j) Watch out for important events/occasions
k) Establish credibility, politeness and do not assume familiarity
l) Understand the communication process and the elements of communication.

Agricultural journalism

Agricultural journalism is a specialized branch of journalism which deals with the techniques of receiving, writing, editing and reporting from information through the media like newspapers, periodicals, radio, TV, advertising etc. and the management processes connected with such production.

It is the timely reporting and editing with words and photography of agricultural news and information for newspaper, magazine, radio and television.

Importance

The mass media are capable of reaching vast widespread audiences, thanks to fast moving newspapers/radio broadcasts, TV telecast and the celluloid films. A single broadcasting network today can reach millions of people at the same time. The world stands of the threshold of new communication systems which enable large number of citizens to regularly and effectively interact with each other. To make full use of the interactive information systems made possible by the computer technology, citizens can remain so well informed that they will be able to perform their duty adequately and efficiently and accelerate the process of development in different social fields.

Modern communication systems reflect the philosophy and achievements of society in all spheres by fast flow and pave the way for the homogeneity of culture-not only with in its geographical unit but also beyond.

Journalism is the publication of news and views on various aspects of human activities in newspapers and periodicals. Ina broader sense, the functions of journalism are to convey national policies to the public and to keep the governments at local state and central levels, informed of public needs. It also brings to the notice of the government public reaction to government policies and decisions. In addition, it keeps the public and the government informed of events and happenings at home and abroad.

On one hand, it performs the utilitarian purpose of information and on the other, it provides entertainment to its readers by publishing short stories, poems, sports, cinema, features, etc. A clever journalism by his penmanship creates interest in day-to-day political happenings. He presents the drop events and incidents in an artistic way, which provides the reader information

In modern times, the horizon of journalism has widened and it has transcended the limits of mere reporting of political as well as entertainment.and economic news. As it is a vehicle of mass-communications, it is performing the function of social intercourse between the people having identical interests. Hence, we find literary, political, economic and scientific magazines as also household or industrial magazines, which cater to the interests of their respective readers.

Scope

The farmers are information hungry and present public extension system is not able to meet the demand of the farmers for information. The farmer and extension worker ratio is widening. On the other side, communication tools development is enormous. Private extension is also coming into picture. Today, journalism in India has got lot of scope with media barons opening new channels or newspapers or publishing houses on a regular basis. The competition is so rife that each channel or newspaper tires to produce something exclusive, which in turn has given the audience a great deal of variety.

Sources of News

1. Result demonstrations

2. Research Stations

3. Research publications – Annual reports, highlights

4. Kisan melas

5. Farmers fields

6. Agricultural Universities / State Departments

7. Other extension activities like field days/training programmes, rythu sadassus etc

8. Plan estimates related to agriculture and allied activities

9. Agriculture finance institutions

10. Agriculture input agencies

11. Agriculture Market committees

12. Electricity and irrigation sectors

13. Farmers committees and associations

14. NGOs etc.

Types of News

• Before and after event stories

• Experience and success stories

• New development – such as pest outbreaks, scientific discoveries, weather and crop conditions, progress made on plans

• Predictions – such as long range crop and livestock report economic outlook information, long range weather forecasts

• Subject matter - when tied to an event, situation, development or problem

Purposes of Journalism

1. They may inform, disseminate news and miscellaneous non-news items.
2. They may influence, giving the public either a social or commercial message.
3. They may be entertaining, presenting features, fiction, humour, comics and similar methods.

Functions of Journalism

1.News function

The primary function of press is to inform. Examining the glut of public occurrences, ideas and situation, newspapermen must determine which will interest the public. Apart from

factual presentation of news, for the complex situation the interpretation and explanation are also required.

2. The opinion function

Modern man frequently finds himself in the midst of confusion which product to purchase? What decision to take? Whom to vote? He requires a medium of communication, which will guide him to understand the positive and negative points of the situations because of logical arguments. Thus, the modern press has to be both a daily teacher and a daily tribute. Therefore, the editorial is the only means of building public opinion.

3. The Entertainment function

Entertaining the public is the function and a business too. Since it is too big a job for the local staff, newspaper relies upon syndicated materials. Entertainment is where you find it. It pops up in human-interest stories and news features. Public interest in various features, comics in particular sometimes determine the choice of a newspaper.

Principles of Farm Journalism

Our purpose in writing is to communicate information. Therefore, our first consideration is our reader audience. If you were writing for a scientific paper, you would use a vocabulary and style different from what you would use when writing for the general public.

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

(1) Select Facts

a)   Suitable subject matter. Does it meet a need? Is it timely? Is it of current interest? Does it

b)   Readers: Who are the people you want to reach? What are their problem, 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 something?

(2) 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.) p^H value, calorific value.

c) Give layman an application of subject rather than a detailed explanation.

d) Express highlights.

e) Do not try to impress the lay reader with all you know.

f) Do not document everything.

(3) Sort Facts

(1) Arrange facts in logical order

(2) Set out important points in 1-2-3 order(step y step)

(3) Guide reader with attractive subheads and suitable illustrations and pictures.

(4) ABC's of Journalism

Accuracy, Brevity and Clarity which are fundamentals of good writing.

(5) Adopt the following Tips for Readability

(1) Short sentences, clear in meaning, simple in construction with few prepositional phrases and dependent clauses.

(2) Simple words which are familiar and concrete words.

(3) Personal or human - interest words.

Photo-Journalism

It is a process of creating a mental picture through the combined use of visual and verbal medium that could come about on the printed page.

Elements of photo-journalism

(1) Possesses a visual impact

(2) Defines life in the picture form

(3) It represents reality.

DIFFUSION OF INNOVATIONS

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas.

Elements in the diffusion of innovations

The four main elements in diffusion of innovations are

1. innovation
2. communication channels
3. time
4. social system.

The descriptions for these elements are presented below:

1) The innovation

An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. The perceived newness of the idea for the individual determines his or her reaction to it. The "newness" aspect of an innovation may be expressed in terms of knowledge, persuasion or a decision to adopt.

In this context, to know about the perceived attributes of innovation would be appropriate which are described in the succeeding paras:

a. Relative advantage

It is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience and satisfaction are also often the important components.

b. Compatibility

It is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters.

c. Complexity

It is the degree to which an innovation is perceived as difficult to understand and use. In general, new ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

d. Trialability

 It is the degree to which an innovation may be experimented with on a limited basis. An innovation that is trialable represents less uncertainty to the individual who is considering it for adoption, as it is possible to learn by doing.

e. Observability

 It is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt.

2) Communication channels

A communication channel is the means by which messages get from one individual to another. The following classification of channels would help the communicator to use them appropriately:

i) Interpersonal channels - It refers to those which are used for face to face communication between two or more individuals.

ii) Mass media channels - These enable the messages to reach a larger, diverse audience simultaneously in a relatively shorter time. e.g.: Radio and T.V.

iii) Localite channels - They originate within the social system of the receiver. eg: neighbours, relatives, opinion leaders etc.

iv) Cosmopolite channels - They originate outside a particular social system. eg: Extension worker, sales personnel etc.

3. Time

It is an important element in the diffusion process. Time is an obvious aspect of any communication process. Time does not exist independently of events, but it is an aspect of every activity. The time dimension is involved in diffusion (i) in the innovation - decision process, (ii) in the innovativeness of an individual or other unit of adoption, and (iii) innovation's rate of adoption in a system.

4. Social System

It is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organisations and / or subsystems. The social system constitutes a boundary within which an innovation diffuses.

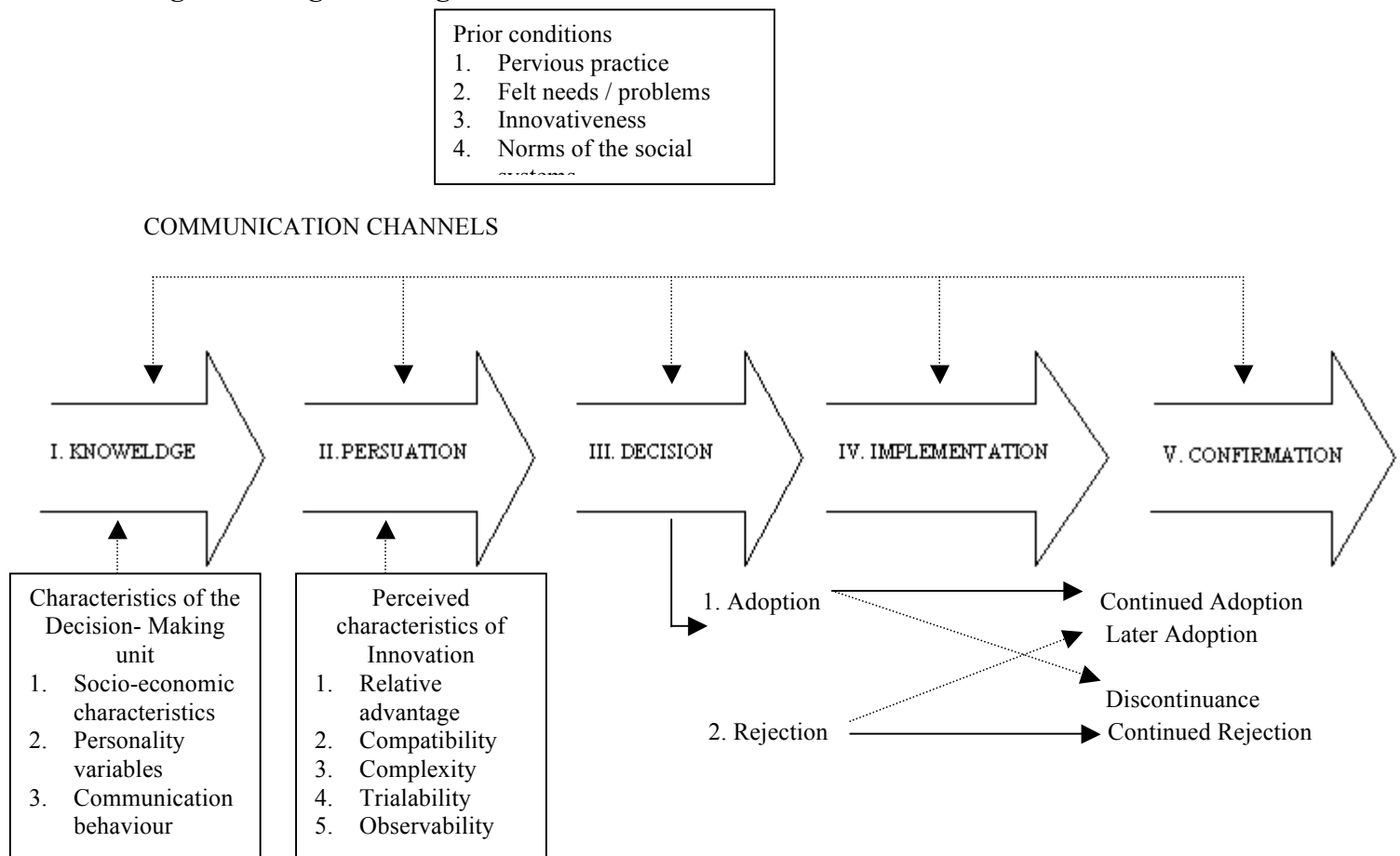**Innovation - Decision Process**

As an alternative to the "Stages in the adoption process" *viz.,* Awareness, Interest, Evaluation, Trial and Adoption, due to the advancements in diffusion research, currently" Innovation - Decision process" is proposed which enlightens the sequential stages in the adoption - decisions made by individuals or other units of adoption.

The "Innovation - Decision Process" is the process through which an individual (or other decision - making unit) passes from first knowledge of an innovation, to forming an attitude towards the innovation to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.

This process consists of a series of actions and choices over time through which an individual or an organisation evaluates a new idea and decides whether or not to incorporate the new idea into ongoing practice.

The conceptualization of the model of the innovation decision process consists of the following five stages (as illustrated in fig.27.)

Fig.1. Paradigm on Stages in the Innovation-Decision Process

Prior conditions
1. Pervious practice
2. Felt needs / problems
3. Innovativeness
4. Norms of the social
~~systems~~

COMMUNICATION CHANNELS

I. KNOWELDGE | II.PERSUATION | III. DECISION | IV. IMPLEMENTATION | V. CONFIRMATION

Characteristics of the
Decision- Making
unit
1. Socio-economic
   characteristics
2. Personality
   variables
3. Communication
   behaviour

Perceived
characteristics of
Innovation
1. Relative
   advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

1. Adoption

2. Rejection

Continued Adoption

Later Adoption

Discontinuance

Continued Rejection

1. Knowledge stage:

Knowledge occurs when an individual (or the decision - making unit) is exposed to the innovation's existence and gains some understanding of how it functions.

The following three types of knowledge possessed by an individual influence the decisions:

i). **Awareness – knowledge** motivates an individual to seek "how-to" knowledge and principles knowledge. This type of information - seeking is concentrated as the knowledge stage of the innovation - decision process, but it may also occur at the persuasion and decision stages.
ii). **How-to knowledge** consists of information necessary to use an innovation properly. When an adequate level of how-to knowledge is not obtained prior to the trial and adoption of an innovation, rejection or discontinuance is likely to result. Change agents could perhaps play their distinctive role to concentrate on "how-to knowledge" at the trial and decision stage in the process.

iii). **Principles knowledge** consists of information dealing with the functioning principles underlying how the innovation works. It is usually possible to adopt an innovation without principles knowledge, but the danger of misusing the new idea is greater, and discontinuance may result. The long-range competence of individuals to judge future innovations is facilitated by principles knowledge.

2. Persuasion stage

Persuasion occurs when an individual (or other decision - making unit) forms a favourable or unfavourable attitude toward the innovation.

While the mental activity as the knowledge stage was mainly cognitive (or knowing), the main type of thinking at the persuasion function is affective (or feeling). At this stage, a general perception of the innovation is developed. The individual becomes more psychologically involved with the innovation and hence he or she seeks information about the new idea.

3. Decision stage

Decision occurs when an individual (or other decision - making unit) engages in activities that lead to a choice to adopt or reject the innovation.

Adoption is a decision to make full use of an innovation as the best course of action available. Rejection is a decision not to adopt an innovation.

The small - scale trial is often part of the decision to adopt, and is important as a means to decrease the perceived uncertainty of the innovation for the adopter.

4. Implementation stage

Implementation occurs when an individual (or other decision - making unit) puts an innovation into use. Until the implementation stage, the innovation-decision process has been a strictly mental exercise. But implementation involves overt behaviour change as the new idea is actually part into practice.

Problems of implementation are likely to be more serious when the adopter is an organisation rather than an individual. Reason is that in an organisational setting, a number of individuals are usually involved in the innovation - decision process, and the implementers are often a different set of people from the decision makers.

5. Confirmation stage

Confirmation occurs when an individual (or other decision - making unit) seeks reinforcement of an innovation - decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation.

The confirmation stage continues after the decision to adopt or reject for an indefinite period in time. At this stage, the change agents have the additional responsibility of supporting messages to individuals who have previously adopted.

As a sequential effect, there is a possibility for "discontinuance". Discontinuance is a decision to reject an innovation after having previously adopted it. There are two types of discontinuances:

i). Replacement discontinuance - is a decision to reject an idea in order to adopt a better idea that supersedes it.

ii). Disenchantment discontinuance - is a decision to reject an idea as a result of dissatisfaction with its performance.

MODEL OF ADOPTION PROCESS

Adoption process includes

1. **Need**: This is a stage when an individual wishes to change his existing practices, express dissatisfaction and develops a compromise.

2. **Awareness:** The individual just comes to know about an innovation without knowing the details of it.

3. **Interest:** He makes an attempt to know more about the innovation. Asks extension agents / friends and seeks information and sees the innovation.

4. Deliberation: This is a stage of deliberation and mental evaluation. The individual mentally examines the possibility of application of the innovation under own condition. He seeks advice of opinion leaders, observes the performance at different places and discusses with family members. The individual then takes a decision to try out or reject the idea.

5. **Trial**: An individual uses an innovation in part or sometimes in full. The individual applies the practice on a limited scale to observe the performance under own conditions.

6. **Evaluation**: The individual evaluates the performance of the innovation. The individual observes the performance of an innovation on various dimensions. Collects data on the performance of an innovation on others' situations. Compares the performance of the new with the old one and figures out changes which will be necessary if innovation is to be adopted. Calculates input- output, risks, uncertainties etc.

7. **Adoption**: It is a decision to use the practices on continued basis.

Adopter Categories

There are different categories of farmers. According to Rogers (1971), the farmers based on their innovativeness can be classified as

1. Innovators (Venturesome)
2. Early adopters (Respectable)
3. Early majority (Deliberate)
4. Late majority (Skeptical)
5. Laggards (Traditional)

Characteristics of farmers

All individuals 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. In technology transfer programme, it is of great practical utility for the extension workers to identify the individuals who are likely to adopt innovations early and who may lag behind.

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, accelerate 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. 1). The S-shaped curve is like that of a 'learning curve' as propounded by the psychologists. Each adoption in the social system is in a sense equivalent to a learning trial by an individual.

Fig.1. The bell shaped frequency curve and the S-shaped cumulative curve for adopter categories
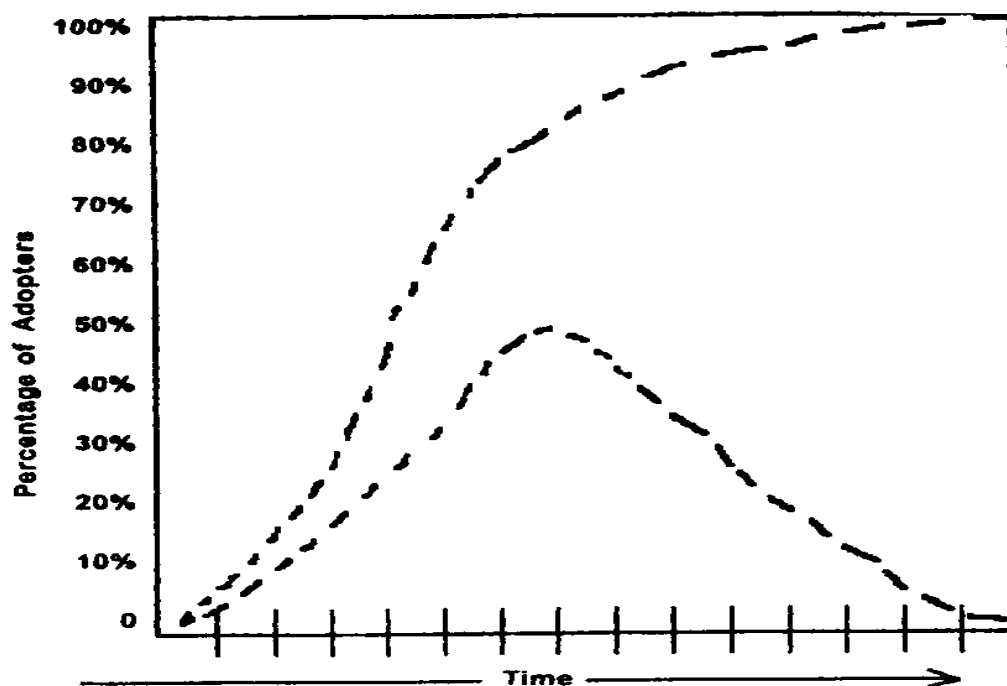
Both of these curves are for the same data, the adoption of an innovation over time by the members of a social system. But the bell-shaped curve shows these data in terms of the number of individuals adopting each year, whereas the S-shaped curve shows these data on cumulative basis.

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 (x) and standard deviation. The area lying to the left of the mean time of adoption minus two standard deviations includes 2.5 per cent of the individuals who are the first to adopt an innovation and are known as innovators. The next 13.5 per cent between the mean minus one standard deviation and the mean minus two standard deviations to adopt the new idea are called as early adopters. The next 34 per cent of the adopters between the mean date of adoption and minus one 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 per cent to adopt the new idea, the late majority. The last 16 per cent 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 Figure2.
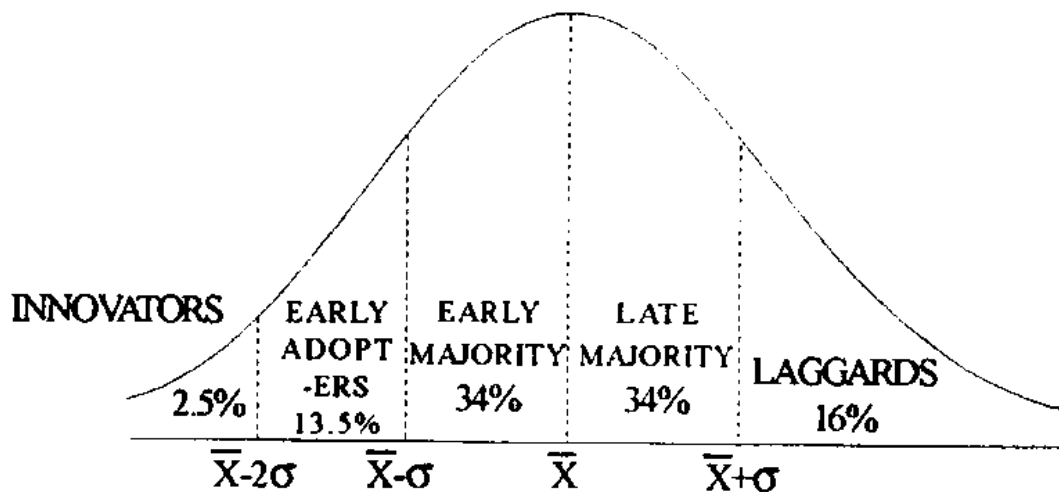

Fig. 2. Adopter categorization on the basis of innovativeness

The innovativeness dimension, as measured by the time at which an individual adopts an innovation, is continuous. However, this variable may be partitioned into five adopter categories by laying of standard deviations from the average time of adoption.

The detailed information on the characteristics of adopter categories is presented in the succeeding pages:

Innovators: Venturesome
Observers have noted that venturesomeness 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 understand and apply complex technical knowledge.

The salient value of the innovator is venturesomeness. 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 numbers, 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 much formal and informal contact outside the immediate locality.
j) They often by-pass the local extension worker in getting information from the originating 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 specialised 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 "neighbours and friends" to whom they go for information.

Early Adopter: Respectable

Early adopters are a more integrated part of the local social system than are innovators. Whereas innovators are cosmopolites, early adopters are localities. This adopter's category, more than any other, has the greatest degree of opinion leadership in most social systems. Potential 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. Members of a social system respect the early adopter. 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 format 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 leaders.

Early Majority: Deliberate (Local Adoption Leaders)

The early majority adopt new ideas just before the average member of a social system. The early majority interacts frequently with their peers, but leadership position; are rarely held by them. The early majority's unique position; between the very early and relatively late to adopt make; 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 neither 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 bulletins 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 association
f) They also attend extension meetings and farm demonstrations.
g) They are most likely to be informal resources than early adopters and innovators, and so cannot afford to make hasty or poor decisions.
h) They associate mainly with people of their own community.
i) They value highly the opinions their neighbours and friends hold about them; for this is their main source of status and prestige.
j) They are mostly mentioned as "neighbours and friends" from whom the majority of farmers seek information.

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 cautions 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 majority is 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 9(formal organisational membership, although they participate less in such formal groups.
   c) They take fewer leadership roles than the earlier 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 that adopt earlier.

Laggards: Traditional

   Laggards are the last 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 terms 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 innovators 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 much of the laggard's outlook. While most individuals in a social system are looking to the road of change ahead, the laggards has his attention fixed on the rear-view mirror.

Characteristics:
   a) Least education.
   b) Oldest.
   c) Participate least in formal organisations, cooperatives and government programmes.
   d) They hardly read farm magazines and bulletins.

Factors Influencing Adoption Process

The Nature of the Practice: The speed with which adoption will 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 technique or operation (e. g., new variety of seed).

b) **Improved practice:** Change in existing operation with or with-out a change in materials or equipment (e. g., change in rotation of crops).

c) **Innovation**: Change involving new technique or operation (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. The above two characteristics viz., cost and net returns are also referred to as "relative advantage" or "Profitability".

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 beef production with cultural values in India.

E) Divisibility (Trialability): Is the degree to which an innovation may be tried on a limited basis**.** New ideas that can be tried on a small scale or on the instalment plan will generally be adopted more rapidly than 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 diffused 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).

CAPACITY BUILDING OF EXTENSION PERSONNEL AND FARMERS

Capacity Building can be defined as "activities which strengthen the knowledge, abilities, skills and behaviour of individuals and improve institutional structures and processes such that the organization can efficiently meet its mission and goals in a sustainable way. Training is one of the essential components of capacity building.

Training for Development

Training has become an inseparable part of HRD. It has become one of the components, which enables any institution to churn out its employees as the most productive and most suitable ones.

Training – Definitions

1. Training is the art of increasing the knowledge and skill of an employee for doing a particular job.
2. Training is a learning process, which seeks a relatively permanent change in behavior that occurs as a result of experience.
3. Training is the process of aiding employees to gain effectiveness in their present or future work through the development of appropriate habits of thought, action, skills, knowledge and attitude (Milton Mall, 1980).
4. Training is the process of changing employee behaviour, attitudes, or opinion through some type of guided experience (Krietner, 1989).
5. Training is a systematic process of changing the behavior, knowledge and or motivation of present employees to improve the match between employee characteristic and employment requirement (Milkovich and Boudreau, 1998)

Need for training

The process of training has caught up mainly in industries. This can be attributed to the sudden and competitive change that is occurring in the world. However, the needs for training can be fixed down to the following:

1. Rapid changes in technologies and jobs people do.
2. Immediate and long term skill shortage
3. Changes in the expectation and composition of work force
4. Competition and market pressure for improvement in quality of products and services.

Types of training given to extension personnel – This is of broadly two types

1. **Pre-service Training**

It is a process through which the individuals are made ready to enter a certain kind professional job, as in agriculture, medicine or engineering. It is a professional training prior to any appointment, oriented to make an individual prepared to enter into a new profession. Swanson (1984) defines it as a programme of training activities that prepares an individual for a career in extension, and usually leads to some type of diploma, certificate, degree, or other qualification in one or more of the following agriculture, fisheries, forestry, animal and/or veterinary science or home science.

The state departments of Agriculture now prefer University graduates for entry into their extension services and similarly the Veterinary department prefers to to take only Veterinary graduates released from the Universities.

2. In-Service Training

It is meant for in service candidates who are on the job. In-service training is a process of staff development for the purpose of improving the performance of an incumbent holding a position with assigned job responsibilities. It promotes the professional growth of individuals. Inservice training is a problem centred, learner oriented and time-bound series of activities, which provide the opportunity to develop a sense of purpose. broaden perception of the participants and increase their capacity to gain knowledge and mastery of techniques.

According to Arnon (1987), even for the University graduate, learning cannot cease on completion of formal studies. He said that the in-service training is given with the following objectives

1. To keep up with research by regular meetings between researchers and extension workers, joint colloquia etc.
2. To impart basic knowledge not only in the fields directly related to agriculture, but also in sociology, economics, psychology etc.
3. To improve extension methods, by constant evaluation of methods, the joint study of research findings and extension methods, exchange of experiences.

In-Service training are of different types, some of them are as follows:

i. Orientation Training

This training is given usually to newly appointed extension personnel. It provides an introduction to public employment and provides answers to questions which a newly recruited person is likely to ask. This term is also used for training in-service extension personnel in a new responsibility likes a new operational programme so that personnel are appropriately oriented towards meeting the requirements of new situation.

ii. Induction / portal / vestibule Training

Induction training is given to new extension personnel immediately after they have been employed and before they are assigned to work in particular area usually as an Assistant Agriculture Officer or Agriculture Officer, or Extension Officer.

iii. Maintenance or refresher training

This training is originally started for trainers of the training institutes and Universities for refreshing their knowledge and skills for imparting them to trainees. The term indicates any new training for updating professional competence of extension personnel notably in the subject matter area of specialization. This training is usually imparted in the later career of extension personnel. This training is having considerable importance to extension personnel as it relates to updating to technical knowledge and competence of extension personnel. This deals with new information and new methods and review of older materials. This type of training is given to the employees to keep them at their peak performance level and also prevent them from getting into a rut.

iv. Retraining

It refers to the efforts designed to prepare an individual for a new assignment or a broadened aspect of the old specialty.

v. Career or development training / Training for professional qualification

This type of training is designed to upgrade the knowledge, skills and ability of employees to help them assume greater responsibility in higher positions. This training may lead to the acquisition of higher degree (undergraduate or postgraduate) or diploma by the employees, to motivate them to move up higher levels of administrative hierarchy (promotions) The Directorate of Extension is operating such a scheme on an yearly basis under which, in addition to salary and allowances which personnel get from their own employing organizations, it pays fixed monthly stipends to extension personnel to cover their cost of boarding, lodging and tuition fees. Only meritorious extension personnel and that too below the age of 45 years are eligible for such courses.

Training to Farmers

There is a regular farmer training programme in all agricultural universities. There are training centres for young farmers. In some states, they also arrange short courses for the farmers. The training includes crop raising, animal feeding and management, plant protection. For such training the following points should be considered.

1. Time of holding the training: It should be at the convenience of the farmers i.e., when they are comparatively free from such of the agricultural operations. This will differ according to the seasons and climate. In case T.N March to May for Kharif crop and August to September for rabi crop is ideal time for conducting training courses in Agriculture.

2. Duration of course: For farmers who are engaged in farming, a one week course is sufficient for special topics such as use of irrigation facilities and water management, operation of implements and plant protection etc, it may be of two or three days duration.

3. Venue of course: Besides physical facilities, the appropriate environment under which the course is to be conducted i.e, where the farmers car see the actual crop, method demonstrations, operations with some machines and implements or some treatments such as fertilizer application, venue has to be given due considerations.

4. Production cum demonstration camps and discussion groups of the farmers: These should be arranged in the villages because the farmers cannot afford to remain away from their farms and homes. These should be organized before each main crop. The duration should be 1-2 days only, and the trainees or participants should be from the same village or groups of nearby villages, so that the farmers can walk back to their home the same evening. This will provide technical knowledge to the farmers right in their villages, and the topics can be related to their local problems.

Training Process

In case of training, the focus will be on a person-on-the job-in the organization. Whereas in the case of training process, the focus will be both at the starting point and at the end with difference. The application of what a person has learned during training process is called the effectiveness of training.

The training process has three phases as follows:

- ❖ Pre-training
- ❖ Training
- ❖ Post-training

I.   Pre-training phase

- ❖ Pre-training process starts with understanding the situation, which calls for behavior that is more effective.
- ❖ Key aspect of the process is analysis of situation and job on which improved performance is to be achieved.

- ❖ Pre-training begins with description of the job to be changed by it.
- ❖ The technical requirement of the job is not enough but also knowledge on operational description of the job is required so that the training programme can be designed to meet out those requirements.

Training process – models

There are several models for training processes, of which there are three important models.
1. Simple model of training process
2. Elaborated model of training process
3. Spiral model of training process

Simple Model of the Training Process

More effective behaviour of people-on-the-job-in-the-organization is the primary objective of the training process as well a whole. In the simple training process, improvement is dependent variable and participants and organizations independent variables. A model of training in its simplest form is presented in fig 1.

Fig.1. Simple Model of the Training Process
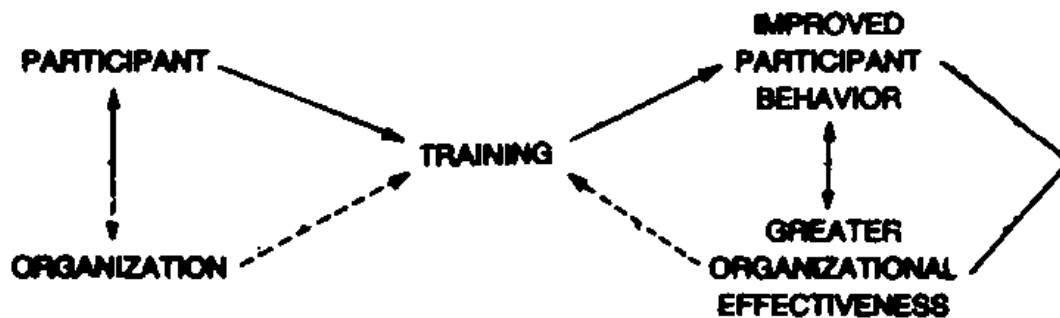
But training is actually a more complex process than figure 31 suggests. In the first place, the training system itself needs to be included. It may be temporary system, such as an occasional program, or a permanent institution, such as training department. In either case, the trainers-in-the-system also learns through the various opportunities available for checking their effectiveness, i.e. through feedback. Thus the independent and intervening variables become dependent variables. This elaboration is shown in figure 2.

ELABORATED MODEL OF THE TRAINING PROCESS

Fig. 2. Elaborated Model of the Training Process

The process as a whole, with its three partners and three stages, is depicted in figure 3. It is a spiral model, overlapping the people-on-the-job-in-the-organization. This spiral model is useful in visualizing a training program as an entity, as well as each event and series of events that make up the program. For instance, the phase of actual acquisition and development of new knowledge and skills.

Spiral Model

The spiral model in the figure 3 shows the phases through which participants pass as they learn, then return (with enhanced capabilities, we hope) to their jobs. At various stages in the process the other two partners contribute "inputs" to assist the participants. These inputs are shown as arrows: arrows originating inside the spiral depict inputs of the work organization; arrows originating outside the spiral , inputs of the training institutions. The arrows are merely visual conveniences. The large spiral itself comprises spiral feedback system. We will use this spiral model to explicate the training process, further focussing turn on participants, work organizations.
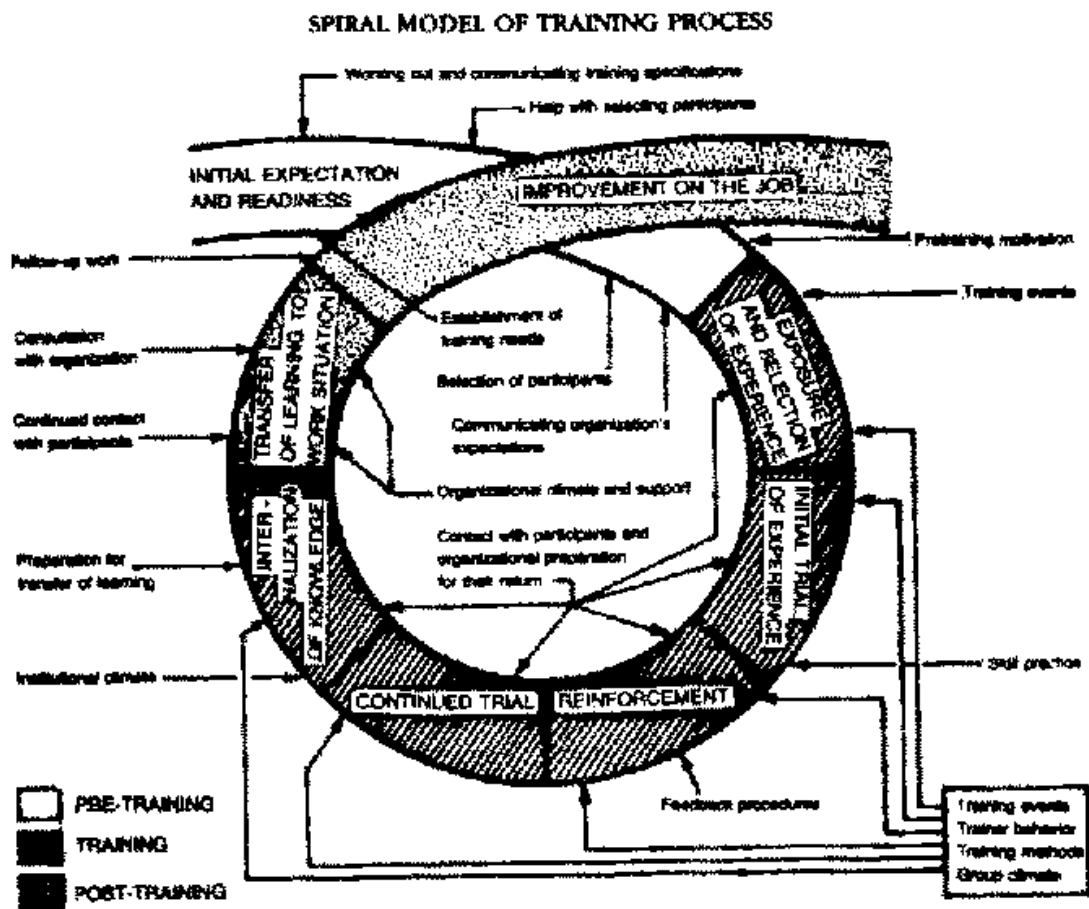
Fig. 3. Spiral Model of the Training Process

Training Strategy

Effective training calls, in the first place, for clarity of objectives and means. In that respect it is just like a manufacturing process, both the ends and means must be appropriate to the purpose. Relating them demands clear specifications for each part of the training task, including the resources of time, skill, and facilities required for it. Ensuring this is a responsibility of the first order.

It is necessary to consider four strategic questions, which shall be examined in turn. The first and second are of external strategies,

1. Establishing training goals
2. Defining training specifications
3. The next two are outcomes of internal strategy

4. Organizing the training inputs and
5. Improving the training institution

❖ The second aspect is the organization's receptivity to more effective behaviour of the trained people. How far the organization would respond to the change in knowledge and skill of the trainee after he returns from training is also to be considered.
❖ Who feels the need for this new behaviour? Is it his immediate superior of the organization itself or the trainee himself has to be taken into account for an effective training programme.

II.   Training phase

1. Most of the training programmes would be for a session or an evening course or a residential program.
2. In the training program, the trainee is exposed to a new subject matter, new people, new atmosphere and the participant would be at unease for a while, later when the subject which would be useful and stimulating is taught the participant would focus his attention on the subject of his interest and would be in line with other participants.
3. There would be several questions in his mind, such that he is lacking, the skill required for his job or is it an opportunity given for his sincere work in the organization or is it a plan of the organization to keep him away from the organization so that it would implement the programme which he had strongly opposed.
4. With all such questions in his mind, there will be no guarantee that the trainee will learn what he has chosen to learn. His mind would deviate and he would learn something of his interest from the training program provided. This error in selection would be due to the lack of necessary capabilities of the trainee or irrelevant training design and methodology followed by that training institution etc.,
5. Finally after overcoming all the hurdles in the initial stage of training programme, the participant would explore in training situation what interests him the more. After exploring, if he finds it useful he tries it again and checks for its effectiveness and satisfaction. There would be several trials repeatedly.
6. If he is satisfied with the results, he decides to incorporate it in his organization, but if he finds it to be not useful he discards it and tries some other variant, in some cases he may discontinue his learning.

III.   Post-training phase

❖ Here the situation changes, the participant goes back to his work place, meets his colleagues, family members etc. He goes prepared with some anticipation; as he had been away from them for a while and also had come back learning some new ideas.
❖ Newly learned skills undergo modifications to fit in with the work situation. If the organization were encouraging and helping, the participant would use his training for the

betterment of his organization. Some organization would offer support to the participants to have contact with the training institution even after the training program.

❖ On the other hand, if the organization resented his absence and if his table is loaded with work, he would feel extra burden and would work to make up for lost time. He would loose his interest to make use of his training and the contact with the training institution is also broken off.

Designing Extension Training Programmes

While a training plan provides a structure for training, the design of a training programme provides its content. A training plan provides broad parameters within which training is required to take place in accordance with the assessed training needs of extension personnel within the frame work of extension training policy. The design of the training programme operationalises the training plan and provides actual training. A well designed training programme will go a long way in ensuring success of training intervention. As a corollary, an ill-designed training programme is deemed to be a failure. The following are the steps in designing a training programme:

A. Objectives of training programmes

The first step in the design of a training programme is a clear statement of the objectives of the training programme. These objectives have to be based on the Training Needs Assessment (TNA) of extension personnel and stated, in order of priority, from general to specific objectives. These objectives have to be stated in terms of knowledge, Skills, Attitudes and Attributes, which the trainee will gain at the end of the training programme.

A clear enunciation of objectives of training programme will enable the trainees to have a clear idea as to what should they expect from training.

At a simple level of treatment the objectives of a training programme fall under two categories, namely, General behavioural objectives, and Specific Behavioural objectives. Both types of objectives are required to be stated in the objectives of a training programme.

At a more sophisticated level of treatment, following the Bloom's taxonomy of educational objectives, the training objectives can be classified into three classes of Cognitive Objectives, Psycho-Motor Objectives, and Affective Objectives, and their sub-classess.

If the design of a training programme is conceptualised to consist of (a) objectives, (b) learning experience and (c) evaluation, then the objectives provide the base upon which subsequent edifice of learning experience and evaluation could be built and hence their importance in the design of a training programme.

B. Skill - Mix The second step in the design of training programme is determination of appropriate skill-mix for different levels of extension personnel.

　　　Katz postulate three types of skills for a manager, namely (i) Technical Skills, (ii) Human Skills, and (iii) Conceptual Skills as proposed by Misra (1990).

Fig.4. Skill mixes for the different levels of Extension Personnel

Skill Mixes for Different Levels of Extension Personnel.
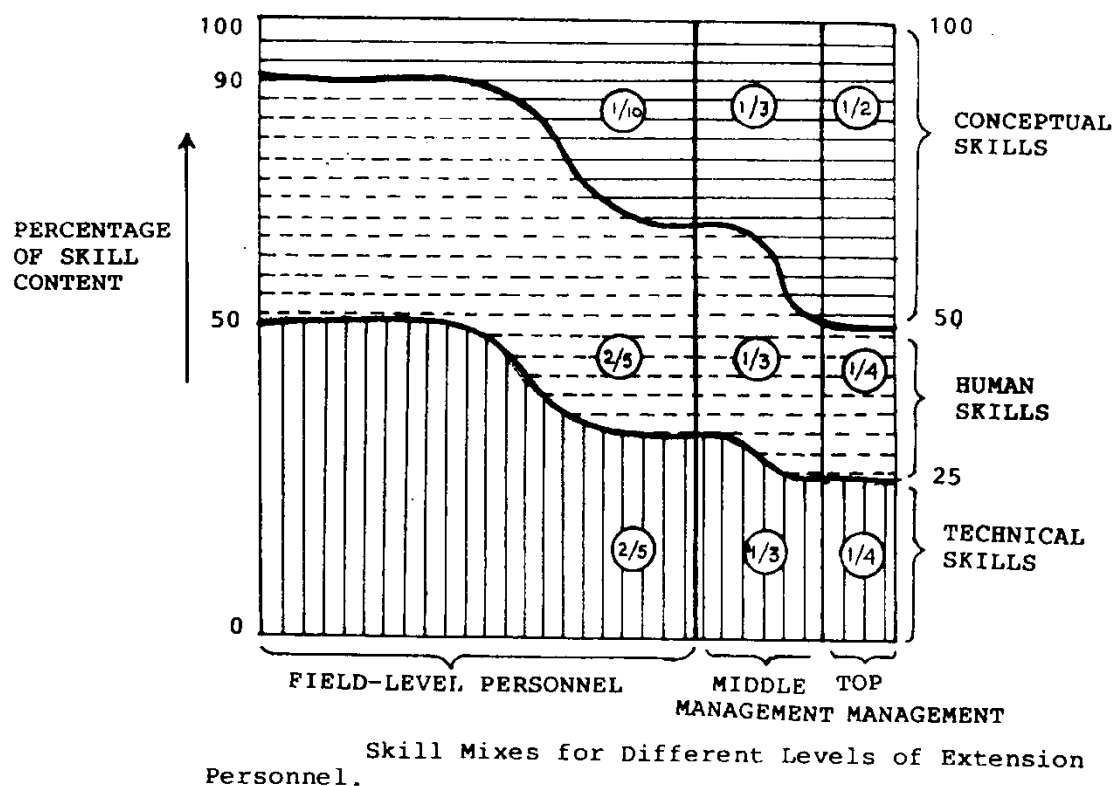
Source: Misra, D.C. (1990), New Dimension in Extension Training

For example, field-level personnel like Village Level Extension workers and Agricultural Extension Officers require technical skills in ample measure, human skills in fairly good measure and conceptual skills in moderate measure.

C. Curriculum Development

The next step in the design of a training programme is development of appropriate training curriculum. Curriculum is required to be developed for two reasons. Specific curriculum is required to be developed for a specific training course which is organised in response to assessed training needs of extension personnel which emerges out of the changing needs of farmers. Since no readymade curriculum exists for the purpose, specific curriculum is required to be developed for a specific training course which has a specific target group. Its challenge lies in the fact that it is interdisciplinary. Curriculum development is required to anticipate future needs.

Components of a Standard Curriculum

Course objectives
Achievement Targets
Course Structure
Assessment
Course Contents

Developing Standard Curriculum

Objective
     While developing the curriculum, we must first determine the training objectives - general and specific based on the assessed training needs of extension personnel. The specific objectives should ultimately be broken into specific information units.

a. Subject Matter - Decision Structure Matrix
     For determining the content of training curriculum, it is essential that the target group is located on a subject matter - decision structure matrix.

b. The concentric circles approach to curriculum
     Thirdly, for making the training objectives, we are required to decide the subjects and their number which are required to be taught. This requires prioritisation of subjects.

Fig.5. The Concentric Circles Approach to Curriculum
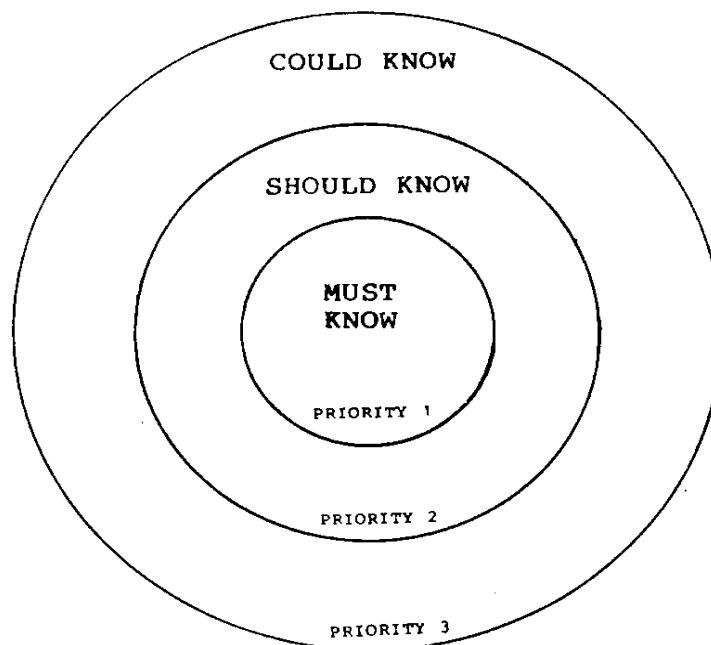
     The 'Concentric Circles Approach to Curriculum' divides the subjects into three categories of what must be known, should be known, and could be known..

It is essential to concentrate the efforts on the inner circle of 'must know' not to drift to middle or outer circles at the cost of inner circle as has often been observed in practice.
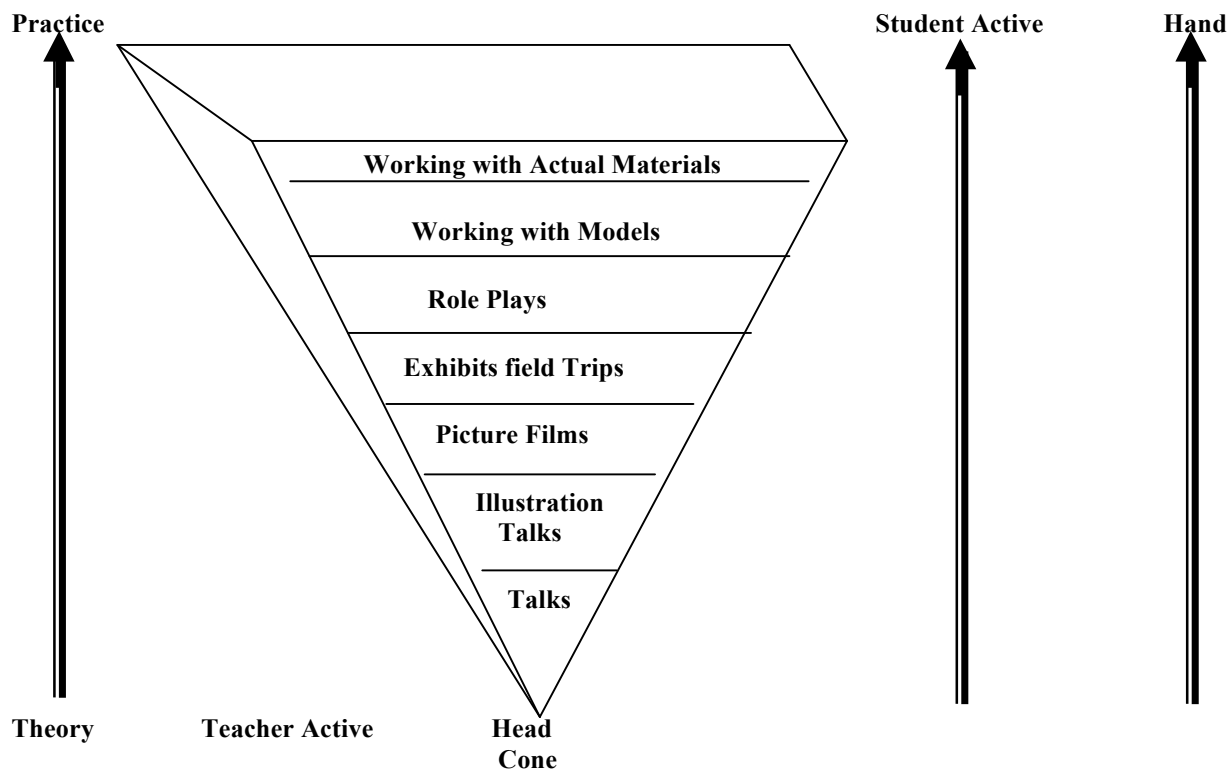
c. The information unit

An information unit is a definition or a description of a single idea. Every aspect of the subject matter is expressed in terms of an identifiable technical unit which may be analysed, improved and linked to others in logical or psychological sequence. This breaking down of all the subject matter for each activity into information units makes it easy for it to be updated and objectives combined in order to obtain new training responses.

d. Training Methodology

If curriculum is the 'heart' of a training programme, training methods could be described as the 'arteries' and 'veins' of the training system through which training messages reach the trainees and trainees and trainers receive concurrent feedback on the training programme from the trainees. The choice of appropriate training method is required to be guided by the level and background of trainees as well as by the training curriculum and the time available for training. While the appropriate choice of the training methods will certainly enhance the effectiveness of a training programme, an inappropriate choice of training methods is equally likely to mar or reduce the effectiveness of a training programme.

Fig.6.The Extension Training Methodology Cone

Practice   Student Active   Hand

Working with Actual Materials

Working with Models

Role Plays

Exhibits field Trips

Picture Films

Illustration Talks

Talks

Theory   Teacher Active   Head Cone

Source: Misra, D.C. 1990. New Direction in Extension Training

A training method should never be forgotten. It is only a means, for attainment of training objectives. It should never be treated as an end, and an end in itself. In training practice, such a tendency is often noticed and is required to be curbed as such a tendency displaces the training objectives reducing the effectiveness of a training programme. The detail of training methodology is illustrated in the Fig.37.

e. Training media
1. Non-Projected media - Including books, hand-outs, graphics, flipcharts, photographic prints and other printed materials, real objectives, specimens, models and simulation devices, chalkboards, and magnetic and flannel boards.
2. Projected media - Including opaque projector (epidiascope), projection, slides and filmstrips, microfilm, movie films, broadcast television, closed circuit television video tape.
3. Sound media - such as broadcast radio, reel and cassette tapes, records and public address system.

The choices of appropriate training media will not only depend upon the nature of audience and the training objectives but also upon the training methods. For group discussion, chalkboard and overhead projector may be adequate but may also be supported by handouts. Training media should be used only when required and not used because they are there.

f. Training manuals and handbooks
The training manuals and hand-books, in their coverage and content, lie in between the comprehensive text books and scattered leaflets and bulletins . Additionally, they focus on a carefully selected subject matter of specialisation.

The Design of Training Programmes (DTP) falls within the purview of the training institutions. The training institutions are required to pay special attention to various sub-systems of DTP. It is only when different sub-systems of DTP have been attended to professionally by a training institution, it could be claimed that a training programme has been designed. Training institutions have to realise this responsibility. Reputations are built the hard way and training institutions are no exception to this general precept.

Conducting an Active Training Programme

A training program can be totally successful only if effective exercises have been worked out previously. Attention should be paid on the physical setup, rapport building and content of the program. Programs that look gorgeous on paper are worthless if the trainer doesn't have delivery skills to carry out the design requirements.

Steps to conduct an active training programme

1. Preparing yourself mentally

Feeling comfort with the course content

Thorough preparation well in advance

Preparation of material activities for training program

Course materials, manuals, rooms, audio visual equipments etc. and get connected with the participants

If a question is asked and you do not know the answer give it as a group exercise; another way is to write them down and promise to find the answer.

Repeating a course may be a bored one to the trainer but not to a new trainee - Focus your attention on the participants and not on oneself and make opportunities to learn from their experience through discussions.

2) Arranging the physical environment

The physical set up at first the participants receive will create permanent impressions of the program.

The seating arrangements should depend on many factors like number of participants, method of speech, and the like.

In case the program has little of writing work, the participants can get rid of tables and they can arrange the chairs to their comfort.

In other case, if small subgroups should be formed, care should be taken to leave enough space so that one group does not disturb another group.

A well-known arrangement is horseshoe type. This can be modified into a square or a circle. All these arrangements favour group discussions with face to face contact with each participant.

These arrangements can be formed with the help of the participants themselves for their own comfort.

3) Greeting participants and establishing program

The best and most desired start is a good welcome address. The trainer should be able to reach the mind of each person, make each feel good in the new situation, allow his feelings to flow without any hesitation. Hence a trainer should ensure that his program should have a good greet and hence to build rapport with the participants.

A short refreshment before the actual training enables participants to mix well among themselves. Trainer himself can build relationship by knowing their names and making them feel comfortable. During the opening session he/she should introduce the participants to each of them and he himself should be introduced with a touch of un boastful higher knowledge.

There are number of wordings which can be addressed. To mention a few 'I have got something for you'

This should make a feeling among the participants that they have a person with much greater knowledge and experience to his credit.

"I've been through this too"

This makes a 'we' feeling among the participants and the trainer. The participants feel that the trainer can understand one's problems and this workload so this helps to bring out their own experience in this field.

"I admire you"

This greeting puts the participants on a higher stand. This is the way one can express one's admiration over the participant's qualities and deed. It may be on very simple actions of theirs but such an admiration heartens the people to a much higher extent.

4. Getting the best from the first 30 minutes of trainers

The first 30 minutes of any classroom period is the most crucial period which a trainer should not trample upon. It is called the 'grave period' according to Napien and Gershenfeld (1983) during which any over hostility or antagonism will be submerged under a veneer of politeness, watchfulness and reserve. It is during this time that the participants perceive what role they expect to play during the training program, what they intent to accomplish during the course.

Begin the class at the time intended without creating impatience among the participants, once competence should be made known to the members. One should make himself compatible

with the group and create trust. The trainee should be clear on what activities are there for the participants and how and when they can get connected to their home town.

5. Reviewing the agenda

In the beginning moments of the program, one should be made clear of what is going to be done i.e. What is expected of the programme and What is expected of the participants. The training objectives should be given in writing and these should be explained clearly. The list of what is to be accomplished should also be presented. They should be informed of how the program will be done with indications of the stay place, food arrangements, telephone messages etc. A content outline and a description of the activities designed should also be given.

6. Inviting feedback

After reviewing the agenda, one must not fail to get the feedback on the agenda. This gives the participants an opportunity to give their views or to tell what they expect more of the programs. The simplest approach is to ask directly "Does this m match what you hope to gain from this program?" "Is there anything you would like to add to it?".

The feedback helps the trainer to change his program if feasible to the requirements of the participants and remains compatible with them. Otherwise, the programme will be a waste with a content not interested to the participants.

After all these steps, one can readily and confidently enter into the actual training programme.

ASSESSMENT OF TRAINING NEEDS

Training Need

Johnson (1967) defined training need as matching in terms of what is going on now and what should go on now (or) in the future and the gap if any, between these two gives due insights into the kind and amount of training need.

David Deshler (1979) identifies four dimensions of need, four ways of viewing need. The first is felt need, the view from the perspective of the needers when asked what they want. 'the second dimension is expressed need, the need that people express when they sign up for pay for or participate in services. The third dimension is normative need.

This is the option from the perspective of experts or public policy. And, the last is comparative need, an inequity in the availability of services, all other things being equal.

Dugan Laird (1978) a well known training expert, commented that a training need exists when an individual lacks the knowledge and skills to perform an assigned task satisfactorily.

Training Need Assessment

Before organizing training programme it is necessary to determine correctly the training needs of the group of personnel. The training needs may be determined in three ways.

First, from an analysis of organisational change, the organization must change if it is successfully to meet new conditions and so must the operations conducted within the organisation, 'this means that the people who operate the systems, procedures and role of the organisation must be trained to accept new jobs and new skills.

Second, from analysis of work problems as inefficiencies and problems within the organisation indicate that the worker has been inadequately trained. Thirdly, training needs can be derived from an analysis of man power wastage data.

Comparing the performance achieved in the job with the performance demanded by the job needs can derive the individual training. If the worker's performance is less than that demanded by the job, then a potential training need has been revealed. Training needs could be in the areas of skill, knowledge and change in attitudes.

Individual requires training to overcome problems as well as to avoid creating problematic situation in the organisations. It has been observed that most of the problematic situations are people -centered. When individuals have to learn new skills, replace incorrect

habits with productive habits, modify attitudes and acquire additional knowledge, training is one of the best management tools available.

Principals involved in Planning and Conduct of Training Programme

Training in an organisation is essentially a learning process in which learning opportunities the managerial purposefully structures, personnel and training staff, working in collaboration or by external agents acting on their behalf.

The aim of the process is to develop in the organisation's employees the knowledge, skill and attitudes that have been defined as necessary for the effective performance of their work and hence for the achievement of organisational aim and objectives by the most effective means.

Table 13.Components and sub-components of Training

Sl.No.	Component	Sub-Component
1.	Knowledge (K)	Knowledge of Extension Methods
		Subject Matter Knowledge
		Knowledge of Clients' Problems and their Solutions
		Knowledge of Farms, farm Families, and Farming Systems, and
		Knowledge of Farm Economics, Inputs Supply and Marketing
2.	Skills (S)	Communication Skills
		Technological Skills
		Demonstration Skills
		Organisational Skills
		Training Skills, and
		Diagnostic Skills
3.	Attitudes (A)	Attitude for Serving Clients
		Attitude for Acquiring Latest Knowledge and Technical Know-How
		Attitude for Problem - solving
		Attitude for Field Work, and
		Attitude for Self-Development
4.	Attributes (Os)	Personality Traits
		Conduct
		Empathy
		Experience, and
		Self-Development

Training Objectives

Any programme whether it be training or extension work should have objectives which are to be achieved. There are four types of objectives which are as follows:

Level	Type of objectives	What it should tell us
I	Policy/organisation	General direction of efforts, order of priorities
II	Target	How much is aimed
III	Operational objectives	Who has to do, what in order to attain the targets (in terms of clientele)
IV	Training objective	Who are the learners and what learning products are required

Principles involved in Training

Training should be based on the Principles of

1. Achievement of organisational objectives

2. Training need assessed

3. Training objectives - Expected learning behaviour

4. Flexibility

5. Level of the learners

6. Past experiences - existing knowledge

7. Co-operative / Collective process-active participation of learners

8. Teaching - learning process

9. Continuous process

10. Informed options - alternatives

11. Learning varies from individual

12. Individual creation of learning environment

Building up of a Training Programme

Any programme whether it be extension activity / Training activity, it has the following activities.

Trainer Roles

The various trainer roles can be seen in three distinct phases : pre-training, training and post-training.

a. Pre - Training

1. **Training Designer**

The role of identifying and translating learning needs into objectives, content and designing the programme.

- ❖ collecting and identifying learning needs
- ❖ listing objectives
- ❖ working out related contents/methods/materials/exercises
- ❖ sequencing the contents/activities
- ❖ identifying resource persons
- ❖ preparing and selecting learning materials

2. **Administrator/Organiser**

The role of ensuring and meticulously planning in advance the facilities, learning materials, required equipment, participants and other related components of the training event and the coordination of the programme logistics.

- ❖ choosing venue and time
- ❖ selecting and scheduling facilities
- ❖ regularly communicating with the trainees regarding the programme plans
- ❖ identifying and arranging the needed support system at the training venue
- ❖ scheduling the time of co-trainees and resource persons
- ❖ distributing training materials
- ❖ arranging resources

b. During Training

1. Facilitator

The role of guiding the learning process so that individuals learn from each other and the group functions effectively.

- ❖ eliciting opinions
- ❖ enhancing participation
- ❖ focusing trainees' attention on their potentialities
- ❖ summarising and synthesising information
- ❖ organising groups such that issues and needs are addressed
- ❖ intervening in the process

2. Instructor

The role of presenting information and concepts, clarify objectives, creating and sustaining a structured learning environment and helping generate new learning.

- ❖ providing information and concepts
- ❖ directing structured learning - role-plays, simulations, games and discussions
- ❖ using learning aids - films, audio-tapes, video-tapes and other materials

3. Counsellor

The role of supporting and guiding individual trainees during periods of stress and strain and helping trainees to assess their potentialities and personal competencies, so as to enable them to reflect, grow and change.

- ❖ developing a rapport with trainees
- ❖ showing genuine interest in directing their process of growth
- ❖ communicating on a one-to-one basis
- ❖ organising sessions to enhance self-confidence and self-esteem of some individuals

4. Recorder

The role of maintaining records of the process and content to enable monitoring, analysis and documentation.

- ❖ observing keenly both flow of content and process
- ❖ maintaining detailed notes on a daily basis

5. Evaluator

The role of assessing the impact of training programme on the trainees.

❖ planning evaluation mechanisms
❖ using written aswell as verbal reports to assess an event
❖ utilising the evaluation design to assess individual changes in behaviour, attitudes and knowledge
❖ forming steering committees to assist in day-to-day evaluations
❖ conducting mid-term reviews
❖ sharing reflections and analysis with co-trainer
❖ providing relevant feedback

6. Organiser/Administrator/Manager

The role of managing all the related tasks during the programme

❖ managing time and space for each session
❖ solving problems related to accommodation, food, etc.
❖ organising reservations, departures/arrivals, reimbursements, etc.
❖ managing the learning situation (session timing, breaks, off-time, etc.)

c. Post - Training

1. Report - Writer

The role of preparing a report of the training programme.

❖ organising the relevant information for the report-writing
❖ disseminating the reports to all participants, and others interested

2. Follow-up Coordinator

The role of continuing contacts with individuals and their organisations to assess impact of training on the organisations and individuals and providing the necessary follow-up support whenever needed.

❖ communicating at regular intervals
❖ inviting feedback from both organisations and individuals
❖ collating learning needs for the next event, if so designed
❖ providing support in the field

FTC

       The main objective is to popularize latest technology among the cultivators by organizing short term training courses at village level, specially to small and marginal farmers, farm women and convenors of (Discussion Group).

Objectives

1. To conduct training programmes for farmers for speedy diffusion of knowledge regarding modern agricultural techniques.
2. To develop efficient farm leadership
3. To inculcate among farmers the habit of seeking timely guidance from agricultural extension personnel and other experts.

Types of Trainings conducted by FTC

       The FTC conducts two types of trainings. They are 1) Non-Institutional and 2) Institutional. The details are given below

I.   Non-institutional trainings

(1) **Production cum Demonstration training Camps**: The training camps are organized in each village extension worker circle to give training on H.Y.V's to farmers before the crop season with the objective to give a brief but complete demonstration of various techniques of growing the particular crop. Ttraining is carried out by experienced field staff.

(2) **Farmers Discussion groups**: Discussion groups consist of farmers and farmwomen. The discussion group serves as a forum for exchange of views and field problems faced by them.

II. Institutional Training

i. **Short Term Courses for Farmers**: These courses are developed to acquaint farmers with modern scientific technique of farming. These courses are conducted at the mandal headquarter or in the villages. Stipend is also paid to meet the incidental charges to each farmer for attending the training programmes. These are usually for 1 or 2 days only.

2. **Short Term Courses for farmwomen**: Training content includes the storage of agricultural produce, HYV grains, and methods of cooking, nutritional principles. Stipend is also paid.

3. **National Demonstrations**: National demonstrations are conducted in each district with emphasis on multiple cropping including HYVs of improved food crops in their region. The objective is to provide an opportunity to the farmer in the neighbourhood to see for themselves the methods and results of new agricultural practices recommended. The Subject Matter Specialist looks after the proper conduct of these demonstrations.

4. **Study /Conducted Tours**: To make the farmers training more effective through visual education and exchange of experiences, the conducted tours are organized. The place of visit

may be research stations, agricultural university, experimental farms, and private farms of progressive farmers.

5. Training courses for Conveners of Discussion Group:
a. Specialized training for 3 days
b. Correspondence courses or radio broadcasts on agriculture technology
c. Annual prizes for best run discussion group
      FTC also conducts training programme for Water Users Associations (WUAs) FTC was actively involved in conducting Agricultural Market Committee Level training programmes to farmers

Krishi Vigyan Kendra (Kvk) (Agricultural Science Centre)

      The first KVK was established in 1974 at Pondicherry under Tamil Nadu Agricultural University. The Krishi Vigyan Kendra is designed to impart need-based and skill-oriented vocational training to the practicing farmers, in-service field level extension workers, and to those who wish to go in for selfemployment.
      The first KVK was established in 1974 at Pondicherry under Tamil Nadu Agricultural University. The priority for establishing KVKs is given to hilly areas, drought prone areas, forest areas, coastal areas, flood prone areas, forest areas, coastal areas, flood prone areas, and areas dominated with tribal farmers, weaker sections, small farmers and landless labourers. The objective is to gradually cover the entire country with one KVK in each district, priority being given to the backward areas.

The basic concepts of a KVK are-

1) The center will impart learning through work-experience and, hence, will be concerned with technical literacy, the acquisition of which does not necessarily require as a precondition the ability to read and write.
2) The center will impart training only to those extension agents who are already employed or to practicing farmers and fishermen. In other words, these centers will cater to the needs of those who are already employed, or those who wish to be self-employed.
3) There will be no uniform syllabus for a KVK. The syllabus and programme of each center will be tailored according to the felt needs, natural resources and the potentials for agricultural growth in that particular area

The three fundamental principles of KVK are

_ Agricultural production as the prime goal
_ Work-experience as the main method of imparting training and Priority to weaker sections of the society.

The main idea is to influence the productivity to achieve social justice for the neediest and deserving weaker sections of the society like the tribal farmers, small and marginal farmers, agricultural labourers, drought and flood affected farmers, and so on.

Need-based training courses are designed for different types of clientele. Courses are based on the information received through family and village survey. No certificate or diploma is awarded irrespective of the duration of the courses. After the training, follow-up extension programmes are organized for converting the acquired skills of the trainees into practice. While designing the courses, the concepts of farming system are taken into account to make the enterprises commercially viable.

Mandate

The mandate of a KVK is unique for it and is determined on the basis of the most important needs of the clientele, their resources and constraints, and nature of the ecosystem. The success of a KVK is judged by the extent to which it fulfils obligations specified in the mandate.

1. On-farm testing on farmers fields of proven technologies in agriculture and allied fields.
2. Organising Vocational Trainings in agriculture and allied areas
3. Conducting frontline demonstrations on major cereal, oilseeds, pulses and other important crops
4. Organinsing in-service training programmes to field / local extension functionaries in emerging advances in agriculture and allied areas.

The KVKs are fully funded by the Indian Council of Agricultural Research (ICAR). Initially, one KVK for each district was thought of and now two KVKs are also established in certain districts being the larger ones. Though KVKS are sponsored by ICAR they are working under different administrative controls viz., SAUs, NGOs and ICAR.

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