



Yashwantrao Chavan Maharashtra Open University

Agricultural Communication and Mass Media

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FOREWORD

Dear Students

The School of Agricultural Sciences of our university has always remained at the forefront in planning and implementing need based and innovative programmes in Agricultural Sciences through the distance mode. They have worked out a unique and flexible model of multiple entry and multiple exit that provide for vertical mobility for each and every aspirant in the farming community.

This university has received an International Award of Excellence in Distance Education from the Commonwealth of Learning, Canada, for its innovative approach in operating distance education to suit the common man and woman in every sphere of life. The university has catered to over six hundred thousand learners in Maharashtra including 40000 farmers since its establishment in 1989. The School of Agricultural Sciences has contributed substantially in this endeavour.

The School of Agricultural Sciences would now like to move further ahead and cater to the educational needs of village leaders, extension specialists and policy makers in the field of Agricultural Education and Development. Taking into account the national perspective, these are the nontraditional areas that need to be addressed with the help of the powerful tools of Information and Communication Technology (ICT) in order to reach the unreached.

The Post-Graduate and Research programmes in Agricultural Communication, Agricultural Extension and Agricultural Development would definitely equip and arm the agricultural experts in using tools of Information and Communication Technology and promote Virtual Education in Agriculture and Rural Development. The virtual education would proceed from Class Education to Mass Education and would cover distance learners from un-reached communities including farmers and farm women.

I am quite confident that the learners striving to complete these innovatively developed educational programmes would soon establish themselves as pillars of the distance education movement in India.

I wish you all a happy and rewarding learning experience in this university.

*Professor B. P. Sabale
Vice-Chancellor
Yashwantrao Chavan Maharashtra Open University, Nashik*

WEL COME

Dear Friends

On behalf of the School of Agricultural Sciences, I would like to welcome you to our Post Graduate and Research programmes in Agricultural Communication, Agricultural Extension and Agricultural Development. The programmes would meet the long felt need of extension workers and policy makers in the field of Agriculture and Rural Development.

The term distance education refers to Intentional Processes of Teaching and Learning in which physical space separates teachers and learners. Teachers and learners communicate through various media and an educational organization exists to design, facilitate and evaluate the educational process.

The Food and Agriculture Organization (FAO) is an international catalyst involved in promoting distance learning for diverse and globally distributed learners, organizations and communities, whose capacities and actions ensure the achievement of Food Security and Rural Development

The role of FAO in distance education and learning was spelt out in the Rome declaration on World Food Security, in 1996. The international community leaders had made the core commitment thus “We recognize the need to adopt policies conducive to investment in human resource development, research and infrastructure for achieving food security. Our sustainable development policies will promote full participation and empowerment of people, especially women and equitable distribution of income, access to health care and education and opportunities for youth.” Consistent with their commitment, FAO has recognised the best practices in pedagogy of distance education and distance learning.

With this commitment from FAO, it may safely be assumed that at flexible mode will soon be capable of reaching every home and will empower each individual to achieve a better standard of living. Since you are the ‘early bird’ having an access to distance education, your involvement as a student in our post-graduate programme, will certainly go a long way in benefiting the distance learning system in the country.

I wish you all the best in your learning endeavours.

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Unit 1 : Process of Communication

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1.1 Introduction

Since birth an individual tries to convey, transmit, express something to those around him and also to those far away from him. He also receives information, ideas and feelings of others. An individual is with someone most of the time and through words, gestures, writings, through symbols and even through simply looking or being silent, he conveys something to others. Wherever an individual influences others through his own activity or non-activity he communicates with them. Thus communication is a basic activity. Man's ability to communicate is his distinctive character. He interacts with his environment through communication. It is difficult to know how long it has taken man to develop his communication skills to the present level. We are so familiar with our communication behavior that the process seems natural as well as easy and simple. But the act or process of communication have many facets. There have been diverse opinions about the process of communication

- its elements, its functions, its principles and so on. Communication involves a complex background of habits, information, attitudes, biases and knowledge. It is essential to understand the complexities of the communication process to become better communicators.

After the study of this unit, you will be able to know and understand :

- λ Communication Process and Agricultural Communication.
- λ Theories and Models of Communication.
- λ Principles of Communication.
- λ Communication and Learning
- λ Dimensions and Aspects of Communication.

1.2 Content

1.2.1 Communication Process and Agricultural Communication

The purpose of communication is affect the intent by creating comprehension, understanding and perceived use of the message. There is a process of communicating these messages. When information on agriculture in communicated, it is called as agricultural communication.

1. Communication : Definition and Meaning

The term communication is derived from the Latin word **Communis** which means common. Communication is a common activity among those involved in it. In other words, there is symbolic interaction between and among people. Communication is a process of exchange of information, ideas, opinions, and it is a means of changing the behaviour of other people. It is an art of persuasion and motivation and thereby influencing other people. Communication is information sharing activity. Through the process of communication we try to understand each other.

There are many definitions of communication developed by various sociologists, educationists, and psychologists. Some of these definitions are given below.

- (i) Rogers and Shoemaker defined communication as the process by which messages are transferred from a source to receiver.

- (ii) According to Van-den Ban and Hawkins, communication is the process of sending and receiving messages through channels, which establishes common meanings between a source and a receiver.
- (iii) Leagans says that communication is a process by which two or more people exchange ideas, facts, feelings or impressions in ways that each gains a common understanding of meaning, intent and use of the message.
- (iv) Allen Louis defined “Communication is the sum of all the things one person does when he wants to create understanding in the mind of another. It involves a systematic and continuous process of telling, listening and understanding”.
- (v) According to Hortman communication is the control of behaviour through descriptive and reinforcing stimuli.

An analysis of these definitions reveal that communication is a process since it involves series of actions on the part of source of information and the receiver of information. As a process, Communication has at least three phases, namely, expression interpretation and response. Moreover, communication is a dynamic process, since there is interaction of forces and power. Moreover the nature of communication changes with changes in technology . Another aspect of communication as a process is that it continues over a period of time. Mostly communication is purposeful activity to influence behaviour. But sometimes, without concious efforts on the part of communicator. The study of the definition also indicate that there is a change in the behaviour of the receiver of information. In this sense, communication is a process of teaching and learning.

In short communication has three basic characteristics, namely (i) communication is product of human behaviour; (ii) it is a dynamic process and; (iii) it is imprecise in nature

2. Basic Functions of Communication

Communication has following functions :

- (a) **Information Function** : Human beings try to adapt and adjust to the situation.

For this purpose, he has to know the information about environment around him. Communication helps him to get this information.

- (b) **Instructive Function** : This function of communication is mostly observed in formal organization. In formal organization superiors have to achieve the goal of the organization and for this purpose they have to issue an instructions in a way that the subordinates understand and act upon them. Effective Communication on the part of superiors is essential to perform this function. In nonformal organizations like family, community society also this function is observed.
- (c) **Influensive Function** : According to Berlo, the purpose of communication is to influence people. This function of communication is important in extension education, where the people are influenced to change their behaviour to accept and adopt innovation on their farm, in family and the community.
- (d) **Integrative Function** : Integration or continuously avoiding disintegration at the interpersonal and organizational level is an important function of communication.
- (e) **Expressive Function** : There is a psychological need to express joy, sorrow, happiness, sadness, anger, love and other feelings. The function of communication is to help express and share the feeling.
- (f) **Mutual Understanding Function** : The primary function of human communication is to define and understand reality, so that other human purpose can be achieved. Communication is always a joint occurrence, a mutual process of information sharing between two or more persons. Mutual understanding is required for any other social or collective activity.

In other words, the function of communication is to influence to affect with intent by creating comprehension, understanding and perceived use of the message.

3. Agricultural Communication

Communication in agricultural development has gained greater importance in recent days. As in other fields, there is an explosion of information innovations and technologies in agriculture and these have to be effectively communicated to the

farming community. The main facets of agricultural communication are (1) the farmers (2) the innovation and (3) the communication sources and channels. For effective agricultural communication, there is a need to have full understanding of diversity of these facets. For example ; there are subsistence and commercial, sedentary and migrant, poultry and plantation, farmers, renters and share croppers, occasional and permanent farmers. Each type of farmer and each type of farming arrangement produce a different combination of communication and adoption behavior. Therefore for effective agricultural communication and adoption of farm practices, it is necessary to become aware of the diversity of the target audience.

The main problems in the effective agricultural communication are :

- λ Urban and consumption oriented communication sources
- λ Communication channels weakly penetrate rural areas.
- λ Farmers with limited decision making power, who are not organized
- λ Unequality of economic capacity and differential access to information.
- λ Inadequate innovations
- λ Deficient infrastructure
- λ Poor agricultural policies.
- λ Geographical dispersion and isolation.

1.2.2 Theories and Models of Communication

Several authors have attempted to present models or theories in order to give a better understanding of the various elements in the communication process and their relationships. A few representative models are indicated here. These models are developed by experts from different disciplines.

1. Aristotle's Model

Aristotle provided the first basic persuasive communication model. He identified three elements to communicate. These elements are speaker, speech and audience

- (i) Speaker : the person who speaks.
- (ii) Speech : the speech that he produces.
- (iii) Audience : the person who listens.

2. Shanon - Weaver Model (1949)

This model is also referred as the “Mathematical Theory of Communication”. This model or theory has five key elements.

- (i) Source : Which produces a desired message.
- (ii) Transmitter : Which changes the message into signals suitable for transmission.
- (iii) Signal : A channel which carries signals from transmitter to the receiver.
- (iv) Receiver : A sort of inverse transmitter which transfers the transmitted signals back into messages.
- (v) Destination : The final consumer of messages.

3. Berlo's Model (1960)

This model is based on behavioural theory and research. According to this model all human communication has some source, with ideas, needs, intensions, information and a purpose. The purpose of the source for communication is where the messages are encoded and passed on through signals. After receiving the signals, the encoded messages are decoded so that the receivers understand and use them. The elements in this model include.

- (i) Communication Source
- (ii) Encoder
- (iii) Message
- (iv) Channel
- (v) Decoder
- (vi) Communication receiver.

4. Schramn's Model (1964)

According to this model, there must be a source of messages. The source must encode a signal and a receiver, who must decode a signal. The most important fact in any communication process is that the sender and receiver must be tuned together. It is obvious that each person in the communication process is both an encoder and a decoder i.e. he receives and he transmits. However, a person will decode the message,

interpret it in accordance with his own experience and then encode a response accordingly. The same is true for both the receiver and the source. According to Schramm's model of communication, the elements of communication are as follows:

- (i) Source
- (ii) Encoder
- (iii) Signal
- (iv) Decoder
- (v) Destination

5. Leagan's Model (1963)

According to Leagan, successful communication in extension education requires a skilled communicator sending a useful message through a proper channel, effectively treated to an appropriate audience, that response as desired. The key elements involved in his model are : (1) Communicator, (2) Message or Content, (3) Channels of Communication, (4) Treatment of Message, (5) Audience, (6) Audience Response.

The above models of communication indicate the elements of communication system. For any act of communication, it is essential to have communicator, message and receiver of message. The communicator gets information (message) from the source, encodes it, treats it and sends to the receiver with the use of channel, who in turn encodes and responds to it. The whole process is also affected by the environment in which it occurs. The Leagan's model of communication process involves six elements and feedback which describes the process clearly. For proper understanding of the communication process a brief description of each of these elements will be useful and is given as follows :

(1) The Communicator : Communicator is the person who initiate the process of communication. He conceives and initiates message. A good communicator has knowledge of his objectives. He knows the needs, interests and abilities of the audience. He understands the content, validity, usefulness and the importance of his message. He should also know the effective channels of communication and how to organize and treat his message. Successful communicator also have skill in selection, treatment and expression of the message.

(2) Message or Content : Message is a piece of information to be passed from one person to another. It is the information, a communicator wishes his audience to receive, understand, accept and act upon. It is the subject matter of communication. It may be any fact, idea, opinion, feeling, attitude or course of action. Messages are not precisely the same as the subject matter or technology conveyed, They are rather generalized idea what the subject matter says. For example; fertilizer when used properly increases crop yield. or washing rice properly retains its food value. These statements represent messages.

For successful communication one should control the major factors that influence message. A good message must be :

- (i) in line with the objective to be attained,
- (ii) clear - understandable by audience,
- (iii) in line with the mental, social, economic and physical abilities of the audience,
- (iv) significant to the needs, interest and values of the audience,
- (v) specific and simply stated,
- (vi) accurate and timely,
- (vii) supported by factual material
- (viii) appropriate to the channel selected,
- (ix) appealing and attractive to the audience,
- (x) applicable, adequate and manageable.

(3) Channels of Communication : The channel is the medium in which the message exists. The channel may be any physical force or matter that can affect the sensory mechanisms of audience. Anything that can affect the sense of sight, hearing, touch, taste or smell can be used as a communication channel. Channel is a transmitting line used for carrying message to the audience. Channel is connective link between sender of message and the receiver of message. The crucial point is that the communicator and audience must be connected. Channels are only good, when they are used in right way at the right time, to do the right job for the right purpose, with the right audience, in relation to right message.

Channels frequently limit what can be transmitted. A radio does not transmit

the same stimuli as a television. A letter does not provide the same opportunity for immediately interchanging the roles of communicator and audience, that a telephone provides. Written words do not create the same impressions as the spoken words.

Often channel is responsible for adding noise to communication. “Channel noise” may be defined as stimuli which are present in the channel and are added to the message. ‘Noise’ may totally destroy a message by making it incomprehensible or twisting its intended meaning.

Legen’s has enumerated following causes of noise.

- (i) Failure of a channel to reach the intended audience.
- (ii) Failure on the part of a communicator to handle channels skillfully
- (iii) Failure to select channels appropriate to the objective of a communicator.
- (iv) Failure to use channels in accordance with the abilities of the audience.
- (v) Failure to avoid physical distraction.
- (vi) Failure of an audience to listen or look carefully.
- (vii) Failure to use enough channels in parallel.
- (viii) Use of too many channels in a series.

(4) Treatment of Messages : Treatment of message is the way a message is handled to get the information across to the audience. It relates to the technique or details of procedure or manner of performance essential to expertness in presenting messages. Treatment deals with the design of methods for presenting messages. 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. The following are the three categories of bases useful for varying treatment.

(a) *Matters of general organization*

- (i) Repetition or frequency of mention of ideas and concepts
- (ii) Contrast of ideas
- (iii) Chronological - compared to logical and psychological
- (iv) Presenting one side compared to two sides of an issue
- (v) Emotional compared to logical appeals

- (vi) Starting with strong arguments compared to saving them until the end of presentation
- (vii) Inductive compared to deductive
- (viii) Proceeding from general to the specific and vice versa
- (ix) Explicitly drawing conclusions compared to leaving conclusions implicit for the audience to draw.

(b) *Matters of speaking and acting*

- (i) Limit the scope of presentation to a few basic ideas and to the time allotted too many ideas at one time may be confusing
- (ii) Be yourself strive to be clear and not clever.
- (iii) Know the facts. Fuzziness means sure death to the message.
- (iv) Do not read your speech. People have more respect for a communicator who talks to the audience.
- (v) Know the audience. Each audience has its own personality. Be responsive to it.
- (vi) Avoid being condescending. Good treatment of message results in hitting the target. Never overestimate the knowledge of an audience or underestimate their intelligence.
- (vii) Decide on the dramatic effect desired. Effective treatment requires sincerity, smoothness, enthusiasm, warmth, flexibility and appropriateness of voice, gesture, movements and tempo.
- (viii) Use alternative communicators, when appropriate as in group discussion, panels, interviews etc.
- (ix) Remember that audience appeal is a psychological bridge for getting a message delivered.
- (x) Quit on time.

(c) *Matters of symbol variation and devices for representing ideas*

- (i) Word symbols - speech
- (ii) Real objects
- (iii) Models
- (iv) Specimens

- (v) Photographs
- (vi) Graphs
- (vii) Charts
- (viii) Motion pictures
- (ix) Slides
- (x) Drama
- (xi) Puppets
- (xii) Songs
- (xiii) Flash cards
- (xiv) Compact discus

It should be remembered that people respond best to messages, that are reliable, realistic, relevant and understandable.

(5) The Audience : The audience or receiver of message is the target of communication. Communication to be successful must be target oriented. The communicator must know the target, their needs, interests, resources, facilities, constraints, and even their approximate number and location. The more homogeneous an audience, the greater the chances of successful communication. Similarly, more a communicator knows about his audience and can pinpoint its characteristics, the more likely, he is to make impact. Following specified aspects will help a communicator to clarify the exact nature of an audience and how to reach it :

- (i) Communication channels established by the social organization
- (ii) The system of values held by the audience.
- (iii) Forces influencing group conformity - customs, traditions etc.
- (vi) Individual personality factors
- (v) Original and acquired abilities
- (vi) Educational, social and economic levels
- (vii) Pressure of occupational responsibility
- (viii) People's needs as they see them and as the professional communicator sees them.
- (ix) Why the audience is in need of changed ways of thinking, feeling and doing.
- (x) How the audience views the situation.

(6) Audience Response : Response of the audience is the ultimate objective of any communication function. Response of an audience to message received may be in the form of some kind of action, mental or physical.

The possible kinds 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 a typical audience :

- (i) *Understanding versus knowledge* : People usually do not act on facts alone, but only when understanding of facts is gained. Understanding is attained only when one is able to attach meaning to facts, see the relationship of the facts with each other and to the problem. Communication must promote understanding.
- (ii) *Acceptance versus rejection* : Audience response may be either way. Communication should lead to understanding and acceptance of an idea.
- (iii) *Remembering versus forgetting* : When opportunity for action is not immediately available, or action is delayed, the message may be forgotten.
- (iv) *Mental versus physical action* : Changes in the minds of people must always proceed changes in action by hands. People should not only understand and accept the message but shall also act on it.
- (v) *Right versus wrong* : The goal of communication is to promote desirable action by the audience as specified in the objective. If the response of the audience is in line with the objective, it is assumed to be right action.

(7) Feedback

In some of the models of communication feedback is considered as an independent element. In many situations the audience or receiver proves important stimuli to the communicator through a process called feedback. Broadly defined feedback refers to responses of the receiver which can be interpreted as indicating the impact of message upon him. Feedback enables the communicator to carryout corrections or amendments or change message to be effective. Feedback has the following characteristics :

- (i) Feedback is source oriented

- (ii) Feedback varies in different communication situations
- (iii) Feedback affects the source or communicator
- (iv) Feedback exerts control over future messages
- (v) Feedback affects communication fidelity
- (vi) Feedback maintains the stability and equilibrium of a communication system.

1.2.3 Principles of Communication

Principles are general rules, well established truths that usually have wide application. They serve as useful guides in a wide range of situation. Principles explain cause and effect relationship. They guide a process or action or activity. For effective communication, these principles have to be kept in mind by the communicator. Legans (1961) has identified critical factors in extension communication which are listed below.

- (1) Communication is limited by one's concept of communication process. The way one thinks about communication will influence its quality.
- (2) Communication is a two way process always involving interaction between those who are aspiring to communicate and the receivers. The two way process is necessary to assure that information presented is interpreted as intended. Without this the response can not be as desired.
- (3) One must have ideas before one can communicate with others. Not only one must have ideas, but one must also know how to organize them, and present them clearly, forcefully, accurately and adequately.
- (4) The system of symbols used to represent ideas, objects or concepts must be accurate and used skilfully.
- (5) Cultural values and social organizations are determinants of communication.
- (6) The environment created by the communicator influences his effectiveness.
- (7) To make sense, the communication effort must be organized to some specific form or pattern -- Common ways of organizing a presentation are chronological, logical and psychological.
- (8) Co-operation, participation and involvement are essential to communication.

- (9) Standards of communication influence its success -- These include standard of correctness, standard of effectiveness, standard of good taste and standard of social responsibility.
- (10) Evaluation is necessary to improve communication.

Ten Commandments of Good Communication

The American Management Association has given excellent essentials of good communication. They are popularly called as ten Commandments of good communication. They are as follows :

- (i) Clarify ideas before communicating.
- (ii) Examine the true purpose of communication.
- (iii) Take the entire environment, physical and human into consideration.
- (iv) When valuable, obtain advice from other in planning communication.
- (v) Be aware of the overtones or basic content of the message.
- (vi) When possible, convey useful information.
- (vii) Follow-up on communication.
- (viii) Communicate with the future as well as the present in mind.
- (ix) Support words with deeds
- (x) Be a good listener.

While planning effective communication programme, the communicator must keep in mind the above consideration.

1.2.4 Communication and Learning

Most learning involves communication of some kind. The teaching-learning process is essentially a communication process. The elements of effective learning situation are (i) learners ; (ii) teachers ; (iii) subject matter ; (iv) teaching material and (v) physical facilities. These elements can be identified with the elements of communication process as below :

- (1) Teacher : Communicator
- (2) Learner : Audience (receiver of message)
- (3) Subject matter : Message

- (4) Teaching material : Channels and treatment of message
- (5) Physical facilities : Communication environment
- (6) Learning : Changed behaviour of audience and response

In the learning situation, the people directly involved in the communication are the students and teacher. The messages are those dealing with the subject matter being taught. The channels are the senses through which the learner get learning experience and they carry all the sensory stimulations that the learner receive. The outcome of communication include learning specific course content and how it fits into the operation of the universe and learning about the feelings of people develop about themselves and other people.

Learning is sometimes characterized as teacher centred, content-centred, material-centred or student-centred. Communication counter parts of these categories are source-centred, message-centred, channels-centred or receiver-centred.

Thus teaching - learning process is essentially a communication process and therefore, the principles of communication will be applicable for effective teaching and learning.

1.2.5 Dimension of Communication

Communication is a product of human behaviour. Initially man started to communicate with gestures and then with sounds. The need to communicate is so vital to human beings that even an infant is vested with a certain degree of communicative ability from the very onset of his life. But communication is not a simple process. Its complex nature gives it many dimensions. The following aspects of communication will indicate the dimension of communication process.

1. Communication : Foundation of Human Behaviour

Communication is a process by which people reveal their reactions to geographical, social and other environmental factors. Social, behaviour specialists have long recognized its close relationship to human behaviour. So wrapped up is human behaviour with human communication that it is almost difficult to distinguish one from the other. In the broadest sense communication is behaviour in itself. It is

through communication that people react to their environment by conceiving of needs and it is through the same process that people ultimately secure satisfaction of their needs and behave as they do.

2. Communication : Dynamic nature

Communication is a dynamic process. It has a tendency and ability to adjust to the changing world that it serves. World changes make their impact on communication through changing languages and customs and through innovations in the facilities used for transmitting, receiving, analyzing and storing information. People communicate today in a manner far different from that of yesterday. The natural evolution of language as well as advancing communicative technology and many such factors account for the dynamic nature of communication.

3. Communication : Imprecise Nature

Communication is so influenced by a spectrum of changing personal variables, language variables and the like that it is almost impossible to perceive of perfect communication. The basic causal factors that lead to imprecise nature of communication are (I) the word and its meaning ; (ii) abstracting the word and (iii) dating the word. A word has meaning simply because a given individual at a given time in a given place feels that the word has given meaning. Meaning is inherent in the object the word represents , not in the word itself. The word is merely a wisp of sound or a mark on paper which may or may not be related to an object or an idea in the real world of a person who speaks, writes, hears or reads the word. No concept is absolutely precise. No man's interpretation of words is based on exactly the same experience as any other man's. This may also apply to meanings of gestures - another means of communication.

4. Communication : Complex Nature

The processes involved in the production and reception of communication are exceedingly complex. Communication involves a complex background of habits, information, attitudes, biases and knowledge which interrelate to determine what we will say and how we will react. Many external elements influence the communication

process. The receiver must pay attention to various stimuli interpret and give meaning to those stimuli and in turn respond to them. Increased ability to communicate comes through understanding the complexity of communication process.

5 Communication - Multidisciplinary Process

The communication process involves different sciences such as sociology, psychology, education, anthropology and even economics. Understanding multidisciplinary bases of communication is necessary to make communication, an effective activity. Moreover, in communication the communicator may use single channel or there may be multiplicity of channels. The effect of communication may be single or multiple. These aspects give multidisciplinary nature to the communication process. The foregoing discussion lead to conclude that communication process has length, breadth and depth.

1.2.6 Aspects Related to Communication

Communication does not take place in a vacuum. It comes across various subsystems such as political, economical, cultural and technological while delivering the messages to the client. In performing this task, it is necessary to pay attention to certain aspects related to communication which are as follow :

1. Fidelity and Noise

Fidelity and noise are the two sides of the same coin. Fidelity refers to the effectiveness of communication process. By fidelity we mean that the receiver will get what the communicator wants. Given a purpose for communicating, a response which is to be elicited a communicator hopes that his communication has high fidelity. A high fidelity encoder is one that expresses the meaning of the source perfectly. Noise is that which distort the quality of a signal in communication. Noise is any obstruction that prevent the message from being heard by or carried over clearly to the audience. Distracting stimuli, whether visual, tactile or oral and whether external or internal to the person can be noise. Lesser the noise higher will be the fidelity of communication.

2. Homophily and Heterophily

Important aspect of communication is that the transfer of ideas most frequently occurs between a source and a receiver who are alike, similar or homophilous. Homophily is the degree to which the pairs of individuals, who interact are similar in certain attributes such as beliefs, values, education, social status and the like. Better communication occurs when source and receiver are homophilous. Heterophily is the result of differences in technical competence, social status, attitudes and belief. Heterophilic interaction is likely to be cause of cognitive dissonance, because the receiver is exposed to a messages that may be inconsistent with existing beliefs and an uncomfortable state. The exchange of ideas most frequently occurs between transceivers who are homophilous.

3. Empathy

When we develop expectations, when we make predictions, we assume that we have skill in what the psychologists call “empathy” - the ability to project ourselves into other peoples personalities. We can define empathy as the process through which we arrive at expectations and anticipation of the internal psychological state of a man. As sources and receivers we carry around images of ourselves and a set of expectations about other people. We use these expectations in encoding , decoding and responding to messages. We take other people into account in forming messages. We frame messages to influence a receiver, but our expectations about the receiver influences us and our messages.

4. Communication Network

A communication network consists of interconnected individuals who are linked by patterned flows of information. The essence of much human behaviour is the interaction through which one individual exchanges information with one or more other individuals. As these interpersonal communication flows become patterned overtime a communication structure or network emerges and is relatively stable and predictive of behaviour. Communication network analysis describes the linkages created by the sharing of information and their interrelationships in the interpersonal

communication structure. Individual behaviour is influenced through relationships of the individual with others. The communication network in which one individual is embedded offer a basic explanation for the individuals behavioural change. The behaviour of an individual is party a function of communication network in which the individual is a member.

5. Communication Matrix

Communication network analysis is a means of identifying the communication structure in a system. Communication structure is defined as the arrangement of the components and subsystems within a system Network analysis also helps to measure the proximity in the communication structure. proximity is the relative nearness of a pair of individuals to each other in a communication sense. Communication network analysis indicate proximity in terms of whether two individuals communicate directly and how closely tied they are through other individuals.

All computer methods for network analysis are based on the use of a matrix to order the data about “ who - to - whom” communication links. In such a matrix each individual appears on the vertical (who) dimension and also on horizontal (to whom) dimension. Thus there is a row and a column for each individual in the system. In this binary matrix, if individual A has a communication link with individual B “1” is entered in row 'A' column 'B'. If there is no communication link between individual A and individual B, the entry for row 'A' column 'B' is “0”. This communication matrix analysis procedures are useful for reduction of data, for using technique of matrix algebra and for use of computer programmes.

1.3 Glossary

Communication : It is a process by which two or more people exchange ideas, facts, feelings or impressions in ways that each gains a common understanding.

Communicator : This is the person who initiates the process of communication.

Message : It is the information, a communicator wishes his audience to receive, understand, accept and act upon.

Channel of Communication : The channel is medium in which the message exists and which affects the sense of sight, hearing, touch or smell mechanism of the audience.

Treatment of Message : It is the way a message is handled to get the information across to the audience.

Audience : The audience or receiver of message is target of communication.

Feedback : Feed-back refers to responses of the receiver which can be interpreted as indicating impact of message upon him.

Fidelity : Fidelity refers to effectiveness of communication process

Noise : It is the obstruction that present the message from being heard by or carried over clearly to the audience.

Homophily : It is the degree to which the pairs of individuals who interact are similar in certain attributes.

Empathy : It is the process through which we arrive at expectations and anticipations of the internal psychological state of a man.

Communication Network : It is the interconnection of individuals who are linked by patterned flow of information.

Communication Matrix : It is a method of analysis of communication network and communication structure.

1.4 Summary

Communication is the basic activity of human beings. Man's ability to communicate is a distinctive character. Communication is a process by which two or more people exchange ideas, facts, feelings or impressions in ways that each gain common understanding of the message. Communicator, message, channel, treatment of message, audience and audience response are the elements of communication. The important functions of communication are, information, instruction, persuasion, integration, expression and mutual understanding.

Understanding important principles of communication helps in increasing effectiveness of communication. Knowledge of communication concept, its nature

of two way process, accurate and skillful use of system of symbols, creation of suitable environment, consideration of cultural values and social organizations, organizing the communication efforts to some specific form, knowledge of standards of communication are the important aspects for effective communication.

Most learning involves communication. The elements of communication and those of teaching - learning situation are identical. For effective learning , communication must be effective.

Communication as product of human behavior, its dynamic imprecise, and complex nature, its multidisciplinary approach are the important dimensions of communication. Fidelity and noise, homophily - heterophily, empathy, communication network, communication matrix are some of the related aspects of communication.

1.5 Exercise for Practices

Answer the following questions in 200 words each.

1. Define Communication and describe functions of communication.
2. State and explain Leagan's model of communication.
3. State the principles and commandments of good communication.
4. Explain the qualities of good communicator.

Unit 2 : Modes of Communication

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2.1 Introduction

Mode of communication is the way in which sensory stimulation is carried through the medium or channel to the audience or receiver of message. Mode of communication determine the kind of stimulus that will be carried through the medium of channel. The sensory stimulations are related to sound, visual, touch, smell and taste. Again, space, position and movement also determine the type of mode of communication to be selected. Whatever the mode of communication, it should provide optimum representation of direct experience, confirm to structural rule (language and grammar), balance verbal and nonverbal components and optimize figurative assertions (metaphor, simile, analogy). If a communication experience requires touch, no mass medium can be used to transmit it. If a communication experience can be transmitted via words then any medium that can transmit visual or auditory modes can be used. Communication channels may be categorized as direct versus interposed, as mass versus non mass. Direct channels do not use any intervening mechanical

device or person between the primary communicators. Interposed channels are those for which there are devices such as the printed page, a radio, or television system, a telephone or another person relaying message.

For all channels, you can compare the fidelity of transmission of the codes, the speed of transmission, the ease of storage and retrieval of message, the control over message flow, the amount of total context available to the receivers of message and the cost of transmission.

After the study of this unit, you will be able to know and understand :

- λ Traditional and folk media
- λ Print material
- λ Audio and Radio
- λ Video and Television
- λ Digital media

2.2 Content

2.2.1 Traditional and Folk Media

In India traditional and folk media have significant importance. Because of the economic, industrial, social and cultural background, the traditional and folk media continue to be more effective in India. Wang and Dissanayake (1984) defined folk media as a communication system embedded in the culture which existed before the arrival of mass media and still exist as a vital mode of communication in many parts of the world, presenting a certain degree of continuity despite changes. To a society, folk media are more compatible.

The folk media consist of variety of forms - fine arts, music, dance, folk theater, puppetry, story telling, folk painting, ballad and mime. The traditional uses of folk media were primarily for entertainment, natural participation at the social level, religious activity etc. The folk media, however, may be used in communicating development oriented messages to the real audience and can be integrated with modern mass media. The folk media can be used to increase the effectiveness of communication

and bring about greater participation, particularly of resource poor people, in the development process. Rural India is treasure of folk art, folk theater, folk music and folk dance and kinds of these four. Being ancient forms of art, the folk media are very close to the hearts of people, its appeal is universal and its understanding direct and at the personal level. It is observed that folk media are uniformly popular regardless of the educational, social and financial status of the community.

1. Advantages of Traditional and Folk Media.

There are specific advantages of the folk media over other media of communication in terms of the acceptability, credibility, flexibility and repeatability. These media also require low cost in reaching the clientele.

(a) High Credibility and Acceptance : People are exposed to the traditional and folk media for centuries. The language and dialects are very much of their own. The familiarity of language, gestures, music and rhythm of these media makes them universally acceptable among rural folks. Moreover, in the case of folk media, there is direct contact between the sender of message and the receiver. This personal contact and factors of familiarity makes the message credible and acceptable.

(b) Participative Approach : In most folk art forms, audience participation is an integral part. It is this all important aspect of anybody being able to participate that encourages greater attentiveness and therefore more and better understanding of the message. Thus folk media encourage participative approach to communication both for the sender and receiver of message.

(c) Flexibility, Repeatability, and Reach : Folk media have capability to change to the time and situation, keeping the basic form and the structure without being affected. This helps to use them for various kinds of messages. Moreover, repeating one particular message through folk media is easier and less expensive. In addition, the effective reach of folk media is more than the other media.

(d) Small Investment and Cost : Compared to other media, the cost of developing folk media into effective mass communication tool is small. The virtual elimination of components like power, transmitters, receivers, maintenance and technical problems in the folk media are the major cost saving factors.

2. Types of Traditional and Folk media

There are in general mainly four major types of folk media, (a) folk dance; (b) folk music; (c) folk theatre and (d) folk art.

(a) Folk dance : The dance in India can be classified into three groups, namely, the Tribal dance, the Folk dance and the Classical dance. The Buffalo dance of Gonds of Orissa is one example of tribal dance, whereas Bharatnatyam, Kuchipudi, Kathak, Kathakali, Manipuri, Odissi, are the examples of classical dance. The folk dance include Karakam , kavadi Puravi attam, Peacock dance, Tholu Bommala katha (Aata), Therukuthu dance.

Every country in the world has its own variety of folk dance. Even in civilized nations wherein highly developed classical and modern dances with complicated techniques are to be found, folk dance and music also play an important part in life of people. While the classical dances cater the artistic taste and needs of few, the folk dances are a matter of necessity to the masses at large. The folk dances have been mainstay of the cultural pastime of the vast masses of people. From the earliest time a rich variety of folk dances have been in vogue in almost all parts of India. Irrespective of nature and quality, folk dance in India have spiritual purpose and religious background and through them the fundamental principles of philosophical truths of the religions have been enabled to permeate into the minds of the masses. At the same time, they have been the most convenient means reflecting community life, beliefs, customs and manners, hopes and aspirations of the people.

(b) Folk music : Music is the powerful vehicle of communication. Music is as old as man and it is the finest of fine arts. It is developed by man's genius and imagination. The uniqueness of music is that, it is able to express emotions. Music appeals to the physical, intellectual, emotional, moral and spiritual instincts of man. Therefore, music is able to influence man's physical nature and give pleasure to his senses. Folk music has different forms. Powada, Lavani, Abhang, Ovi, Bhedik, Bharud, etc. are the forms of folk music in Maharashtra. Moreover, women have varied types of music to suit different religious and social occasions. All of these forms have special appeal to the rural people and they can be effectively used for communicating rural development messages.

(c) **Folk Theatre** : Theatre in India is supposed to have begun with gods. Theatre is a place where dramatic art is performed. Dramatic representation is defined as the one which imitates a condition or situation in life. The purpose of such representation is instruction as well as entertainment. Since dance or plays present imaginary but apparently real life situation they have been very effective in communicating useful message. The effectiveness occurs as dramatic presentation uses sound and vision sensory stimulations. In other words, it is audio visual medium. As in other folk media, theatre and drama take different forms in different geographical areas of a state or country. For example, Tamasha, Kalapaphak etc. are some of the forms of folk theatre and drama.

(d) **Folk Art** : This part of the folk media is relatively less used in communication, inspite of its tremendous capacities. Folk art brings out real life experience in the form of painting of culture or graphic art. Since these exhibit real life experience, they are useful in communicating useful ideas to the masses. Any art is born out of inspiration and inspiration is result of intense feeling, hence folk art can influence people emotionally.

Traditional and folk media, as indicated earlier have great communicative value. But the important factor for making them effective is the design and treatment of message. This requires genius, inspiration and intuition and few persons are entrusted with these abilities. None the less, since traditional and folk media have universal and mass appeal, their significance in communicating useful messages cannot be overemphasized.

2.2.2 Print Material

An important category of communication media is print material. When the communicator and receiver of message are beyond oral communication, print media are the best way of communication. These media ensure exchange of facts, ideas, opinions through written, instrument by which the participants in the communication process get in touch with each other and share meaning and understanding.

Printed material can be kept for reading another time and it can be used as reference material. Written material is more authentic. If presented well, print material

has power to convince and motivate people. It can attract attention, develop interest, make the people understand the message and help them put the message in practice.

1. Essentials of Good Print Material as Communication Media.

The purpose of writing is to make the receiver to understand the message. Therefore, the communicator has to pay adequate attention to the essentials of good writing. Following are some of the essentials. :

(a) Unity : An orderly arrangement of ideas flowing into other ideas and progressing to conclusions helps to achieve unity. Unity of writing implies the condition of being one. The principle of unity calls for unified message organized through each sentence in the paragraph and each paragraph in to the total written material. In other words, unified approach to the totality of message is essential in any communication literature.

(b) Coherence : To achieve clarity of communication the principle of coherence has to be observed. Relation and clarity are two important aspects of coherence. Coherence is tying together several ideas under one main topic in any paragraph. By interlinking paragraphs, the whole message is tied together into a meaningful whole. Smooth flow, lucidity and transition aspects should be given effects and there should not be any scope for the reader to misinterpret the message. Developing and arranging paragraphs in a clear, logical order, linking them by transitional phrases or sentences, relating them by repetition of ideas and progression of thought are the essentials of good coherence of any written communication.

(c) Emphasis : Emphasis is bringing the message to the attention of the receiver prominently. The degree of importance or emphasis is placed upon the important aspects of the message. The thoughts of greatest value or high degree of importance should be placed in the most prominent positions. Emphasis on important ideas can also be placed by repetition, by use of figures, by punctuating or by skillful arrangement of paragraphs. By all means, emphasis is essential to get most important ideas across the receiver of the message.

(d) Clarity : Clarity is correct understanding of the message. What is expressed by the communicator must be comprehended by the receiver as desired. The more

systematically the message is analysed and presented the more clearly it is understood. Therefore, print material should provided clear understanding of the message to the reader or receiver of message. Since, there is no one to clarify or remove misunderstanding in the mind of reader, the written material itself should be clear and easy to understand.

(e) Completeness : Completeness of written material means comprehensive coverage of the subject or message. The writing should give all necessary information to accomplish the purpose. Incomplete messages are seldom or not acted up on. So whatever form of print material it may, it should contain clear and complete message.

(f) Brevity and Conciseness : Brevity refers to the presenting written message in minimum words but in concise and clear manner. Brevity has to be associated with clarity and correctness. Brevity saves time of reader but require planning on the part of communicator. Use of unnecessary words or details may make the print material unreadable. Brevity and conciseness give grace to writing. Effective use of language is a style as well as an art.

(g) Correctness and Accuracy : Correctness refers to absence of wrong statement of facts. Wrong statement of facts in print material may lead to loss of credibility. Also it may create misunderstanding. Correctness also means accuracy of grammar, spelling, punctuation and style. Accuracy can be achieved through careful checking and editing. Overwriting, erasures, strikeouts, wrong spellings, faulty grammar, poor sentence construction etc. will lessen the correctness of written material.

(h) Neatness : Neatness creates the first impression as good. A careful written, typed or print material has to have an appropriate margin, paging, evenness in length and breadth of words, sentences headings and so on. Neatness catches the attention of the readers.

(i) Readability : Readability is an important criteria of a good written or print material. Readability increases chances of reading the print material by the reader. Following factors determine the readability of written matter :

(i) Average sentence length in words.

(ii) Percentage of simple sentences.

(iii) Percentage of verbs expressing forceful action.

(iv) Proportion of familiar words.

(v) Percentage of personal reference.

(vi) Proportion of abstract words.

(vii) Percentage of long words.

(j) Courtesy : The print material should be courteous. Appropriate tone of written material enhances the desired response. Courtesy brings personal touch to the print material and increase effectiveness.

(2) Forms of Print Material

A variety of forms of print material are used for effective communication depending upon the type of message and nature of audience. Moreover of forms of print material also differ from communication organization or agency to agency. For example, the type of print material used by extension agency may be different then those used in business organization. Following types of print material are commonly used by agricultural extension agency.

(a) Personal letter : It is written by an extension agent to a particular farmer or home maker in connection with extension work to answer queries or give information.

(b) Leaflet : It is a single printed sheet of paper of small size containing information related to a topic.

(c) Pamphlet or Bulletin : It is a small paper covered book which gives, comprehensive information on number of related topics.

(d) News paper column : Writing a column in a news paper is a good way of communicating with the client system in a regular and friendly manner.

(e) News letter : It is a miniature news paper containing information relating to activities and achievements of the organization. It has a fixed periodicity of publication.

(f) Journal or magazine : It is a periodical containing information related to various topics of interest of clients and members of organization or extension agents.

(g) **Circular letter** : It is a letter sent to many people periodically or on special occasion.

(h) **Feature story** : It is printed matter containing background, birth and growth of an idea or events or an experience that may be published in a news paper or news magazine.

(i) **Wall news paper** : It is a big poster with illustration and information that can be displayed on walls or bulletin Boards. In addition to the above, following are the forms of print material that are used in business organization.

(j) **Memorandum** : It is a written tool of internal communication which help the recipient to remember the matter. It serves one particular individual or can be passed between colleagues. It provides record of evidence and proof.

(k) **Instructions** : It is a print material giving information and directives to a person or group of persons on particular topic or issue. They are generally from top to bottom.

(l) **Manual or Hand Book** : It is a compilation of directions and instructions in a book or booklet form. It is useful both for internal and external communication.

(m) **Office note** : It is a message written in short form for internal communication to keep people correctly and properly informed or instructed.

(n) **Form** : It is a piece of paper containing some information printed with blank space left for entry or additional information.

(o) **Brochure** : It is a short booklet containing information about a specific subject.

(p) **Catalogues** : They contain information about products to help public to buy the product.

(3) Advantages and Disadvantages of Print Material

In modern era print media is universally used to communicate messages. However, this media has certain advantages and disadvantages over other media. The disadvantages are mainly on the basis of the limitations of the media.

(a) **Advantages** : There are some advantages of print material over oral communication which are :

- (i) **Reliability** : Written material is more reliable as it has value of documentary evidence. One can trust upon written communication.
- (ii) **No distortion** : There is no distortion of message in the written communication. In oral communication , lack of communicative ability may distort the message.
- (iii) **Useful for long distance** : When the communicator and receiver of message are located geographically at long distance written communication is best suitable for transmitting messages.
- (iv) **Record of evidence** : Written messages can be preserved for reference as well as for record of evidence. It has also documentary value..
- (v) **Suitable for lengthy matters** : A bulk of message cannot be transmitted fully and clearly by oral media. Written communication can cover lengthy messages with diagrams, figures and so on.
- (vi) **No rumor or gossip** : Print material usually carries no rumor or gossip since it has formal sanction of the organization or agency.
- (vii) **Secrecy** : Certain information that have secrecy nature can only be communicated through print material. This is particularly true in business organizations.
- (viii) **Time and cost saving** : Since print material can be produced and sent to large number of people, it saves time and cost of communication.

(b) Disadvantages

- (i) **Confusion and misinterpretation** : People differ in their understanding ability. This may cause confusion and misinterpretation if there is written communication. Because there is nobody to clarify the doubts and difficulties.
- (ii) **Lack of personal touch** : In communication through print material, there is no scope for exchange of feeling and reactions cannot be understood. Thus it lacks personal touch.
- (iii) **One way communication** : print material provide for one way communication only. The audience cannot express it's needs and problems in relation to the messages communicated. There is no interaction.

- (iv) **No feed back** : Feed back is important aspect of any communication activity. The communicator has no opportunity to know what happens to his message when sent through print material.
- (v) **Require planning and preparation** : Print material require comparatively more planning and preparation than oral communication. There is a need for devices to print material.
- (vi) **Slow movement** : Written communication requires more time to reach the audience compared to oral communication.

2.2.3 Audio and Radio

The communication devices through which the message can only be heard are known as the audio media. Telephone, Audio, Public address system, cassettes and compact audio discs, radio are the modes of communication that use only the hearing sense.

1. Telephone

Telephone is a system of equipment through which people can communicate both ways in distant places. It provides for instant interpersonal communication in which the communicator and the communicatee change their roles while giving and getting information. Initially only two people were able to communicate, but now with the help of conference phone system more than two persons can discuss on topics of mutual interest. Recently, the development of mobile phone system has provided for extensive use of phone as the communication medium. By using telephones, people can keep contact with the outside world without physically moving out. This improves the speed of communication and involves considerable saving of time, money and labour. During recent time, there has been a vast network of telephones even in rural areas.

2. Public Address System

It is a set of equipments used to amplify sound so that it is audible to a large audience over a distance. It contains the microphone, amplifier and loudspeaker. It is

not a medium in itself but a device used by a speaker to communicate a large audience at a time.

3. Audio Cassettes and Tape Recorder

Audio cassettes are prepared of celluloid, plastic or high tensile polyester film with ultrathin coating of iron oxide on side. The tape is magnetized as it passes through a recording head. To play back the tape is passed again through the magnetic head. For recording and playing back the message an equipment, namely, the tape recorder is required.

Tape recorder and audio-cassettes are mostly used for entertain purpose. But they have very good communication value because of their unique features, namely:

- (i) Facilitates on the spot recording of messages
- (ii) Helps in duplication and dissemination of information on large scale
- (iii) Messages available with original source can be made available anywhere.
- (iv) Facilitates editing of message by adding, deleting and adjusting tape back and forth.
- (v) Helps synchronization of sound with picture making the message more interesting.
- (vi) Preservation of recorded message in tapes for future use.
- (vii) Easy to operate and transport.
- (viii) Low operational cost.

4. Compact discs (CD) with CD player

Advances in science and technology have made it possible to store large information in a very small space. Compact discs are the magnetic discs which store voluminous information. The advantages are similar with that of audio tapes, but preparation and recording of CD's is rather complicated.

5. Radio

Radio is an electronic audio-medium used for communicating through its broadcasts programmes. It is cosmopolite in approach and suitable for communication to millions of people widely dispersed and situated in remote areas with low cost.

Radio is suitable for creating general awareness among people, help change their attitudes and reinforce learning. This medium is extremely convenient for communication in times of crises and urgent situations. Radio makes its possible to pool and make available wide range of experiences. Talks and discussions with specialists if broadcast, help to serve educational purpose. Radio is widely used as recreational medium and can also encourage local talent and abilities.

(i) Radio Programmes : Radio programmes cater the entertainment, information education and commercial needs of the audience. The programmes are also target oriented such as school broadcast, programmes for armed forces, industrial programmes, rural programmes, farm and home broadcast, women's programmes, children's programmes, youth programmes, tribal programmes and university programmes. Depending upon the nature, the programmes may be radio talk, discussion, question-answer, quiz, interview, drama, music, news bulletins or news reels, documentaries, radio forums, farm radio school and so on.

Each of the above programmes requires careful thinking, planning and preparation. Few programmes are direct broadcasts. Many programmes require script writing. Writing for radio is a special technique.

(ii) Writing for Radio : Writing for radio put certain limitations on use of language. The writing should suit the listening or to ear and not the eye. It has to be short, simple and direct, with familiar words and simple sentences. Good radio writing has simplicity and directness that is interesting and understandable - conversation style of writing is most effective. **“Write it as you would say aloud to a group of people”** is the general principle of writing for radio.

Qualifying words at the beginning or end of the sentence should be avoided. Repetition in different forms is good for radio writing, not repetitive phrases or redundancies. Numbers are not safe or easy to broadcast, round figures are generally better. The write-up should be arranged in short paragraphs, which will facilitate giving pause at appropriate place at the time of recording.

These are a few tips and not executive guidelines for writing radio-scripts, since the scripts will differ as per type of programme.

2.2.4 Video and Television

Video and television are the mass media of communication having distinct elements of visual characteristics in combination with sound or audio and motion or action.

1. Video

Video is an electronic audio-visual system for preparing video tapes of programmes and events which can be projected through a receiving set with moving images and synchronized sound. The complementary of video, motion picture and television and their differences shall help to understand the special feature and potential of video. There is a general fluidity between the three major audio-visual systems, namely film, television and video. Film can be transferred to video tape and video tape to film. Television can transmit live, filmed or video taped material indiscriminately. Film can be used to record the output of television studio. While film and video are systems of recording which result in concrete tangible works, television is essence of a channel of transmission.

Advantages of Video

- (i) Video tapes can be prepared in advance and specifically to suit the requirements of individual, groups or mass of people.
- (ii) It may be viewed through a single receiving set or integrated with television network for broadcast to millions of people.
- (iii) It increases the viewers' control over learning as programmes on video can be viewed repeatedly with pauses and replays according to one's own space of learning.
- (iv) It provides for interaction and analysis of programmes with the instructor and fellow viewers.
- (v) Video can be viewed independent of fixed transmission time of television.
- (vi) It can simulate and present real life situations effectively.
- (vii) In addition to educating and motivating, video can also be used to inform and entertain people.

- (viii) Video is less costly and more easy to handle in comparison to motion picture.
- (ix) Video may be used by linking its player with computer which overcomes the drawback of any delay in searching for specific material in the video programme.

2. Video Compact Disc (VCD)

Video Compact Discs (VCD) are the advanced version of video tapes. The VCD contains voluminous information in small space. While the video tape requires Video Cassette Recorder to display the information, the Video Compact Discs require VCD player to display. Moreover, sophisticated machinery is required to prepare VCD's. They can also be viewed on computers.

3. Television

Television is an electronic audio-visual medium of communication which provides pictures with synchronized sound. Television is multimedia equipment as it can include motion picture, recording, slide, photograph, drawing, poster etc. Television can show both recorded as well as live programmes.

In 1959, the first Television Station was started on experimental basis at New Delhi in India to train personnel and to discover what TV could achieve in community development and formal education. Educational TV programmes on science for teachers were started in 1961; whereas, entertainment programmes were introduced in 1965. Rural programmes were started with the name "Krishi Darshan" in 1967 and SITE (Satellite Instructional TV Experiment) was started in 1975 as well as commercial programmes were introduced in 1976. In India colour TV were available from 1982 and the cable TV with different channels are available recently.

(a) Objectives of Public Television : The Ministry of Information and Broadcasting, Government of India has stated the following as the objectives of Public television in India :

- (i) To act as a catalyst for change
- (ii) To promote national integration
- (iii) To stimulate scientific temper among the people
- (iv) To disseminate the message of family planning as a means of family welfare and population control.

- (v) To stimulate greater agricultural production by providing essential information and knowledge.
- (vi) To promote and help preservation of environmental and ecological balance.
- (vii) To highlight the need for social welfare measures including welfare of children, women and less privileged.
- (viii) To promote interest in games and sports.
- (ix) To stimulate appreciation of our artistic and cultural heritage.

(b) Television programmes : To achieve the objectives, different kinds of programmes are telecast on television, namely :

- (i) News cast and News programmes
- (ii) Quiz programmes
- (iii) Interview programmes
- (iv) Documentaries
- (v) Music and dance
- (vi) Children's programmes
- (vii) Farmers and industrial workers programmes.
- (viii) Television commercials
- (ix) Educational programmes of University Grants Commission and Indira Gandhi National Open University.
- (x) Sports - live and recorded programmes.
- (xi) Feature films and drama.

(c) Advantages of Television : Television has the unique advantage over other mass media. While it provides words with pictures and sound effects like the movies, it scores over the latter by its high intimacy and reach the large number of people at the shortest possible time. The visual in it has the advantage over radio. Television can deal with topical problems and depict known persons who can provide the solutions. People learn through seeing and therefore believe and remember long.

Television viewing does not require strain and discipline needed to read the printed material. The messages on the TV screen are pre-selected, sorted out and then presented in simple manner. As mass medium, TV programmes lead to awareness, contribute information and perhaps helps to form opinions. Demonstrations, the 'need'

in farm extension, are brought to the farmer by the television. It is within the power of Television to provide dynamic presentation to bring ideas in a compelling way into the receptive environment of the people.

2.2.5 Digital Media

The inception of digital media in communication has revolutionized the whole system of communication. The basic forms of digital system are computer and internet. The internet is further characterised by FTP Server, Mail Service and Web Server. The details of these aspects are described as follows :

1. Computer

With the invention of computer the world has entered into digital media communication. Computers have provided the fastest communication system. Initially man developed a machine to help him to add numbers quickly. Subsequent developments and modifications in that machine led to the machine called computer.

Computer is a digital electronic machine that processes data to give information. Information is the product of processing of data.

A computer system consists of the (i) Hardware ; (ii) Software and (iii) User. The hardware consists of input devices, the Central Processing Unit, Output devices, the monitor and the motherboard. Software is also known as computer programme or simply a programme. A computer programme is a large collection of a set of instructions which is made to work by giving commands. The software is of two types, namely (1) the basic software that help to carry basic operations of the computer called system software and (2) the one that make the computer do the work is called as application software like accounting, drawing, painting and writing letter. The user is the one, who uses the computer with help of hardware and software.

Advantages of computer

(a) **Accuracy** : Given right instructions to computer, there are almost no chances of making mistakes.

- (b) **Information storage** : Vast data can be stored in computers reducing the work of filing and maintaining papers.
- (c) **Automation** : It is possible to computerize many tasks and get done automatically. A very complicated process can be done automatically with the help of computers.
- (d) **Versatility** : Several different functions can be done with the help of computers.
- (e) **Speed and quickness** : Depending upon power of the computer, a variety of tasks can be performed quickly with the help of computers.
- (f) **Continuity and consistency** : Computers can be put to work continuously and consistently. In spite of many advantages of computers as communication media, they lack the ability to think and ability to find alternative means of getting work done. Moreover, incorrect data and incorrect programme may lead to providing wrong information. Computer with the help of many softwares have proved to be an excellent digital medium for communication.

2. Internet

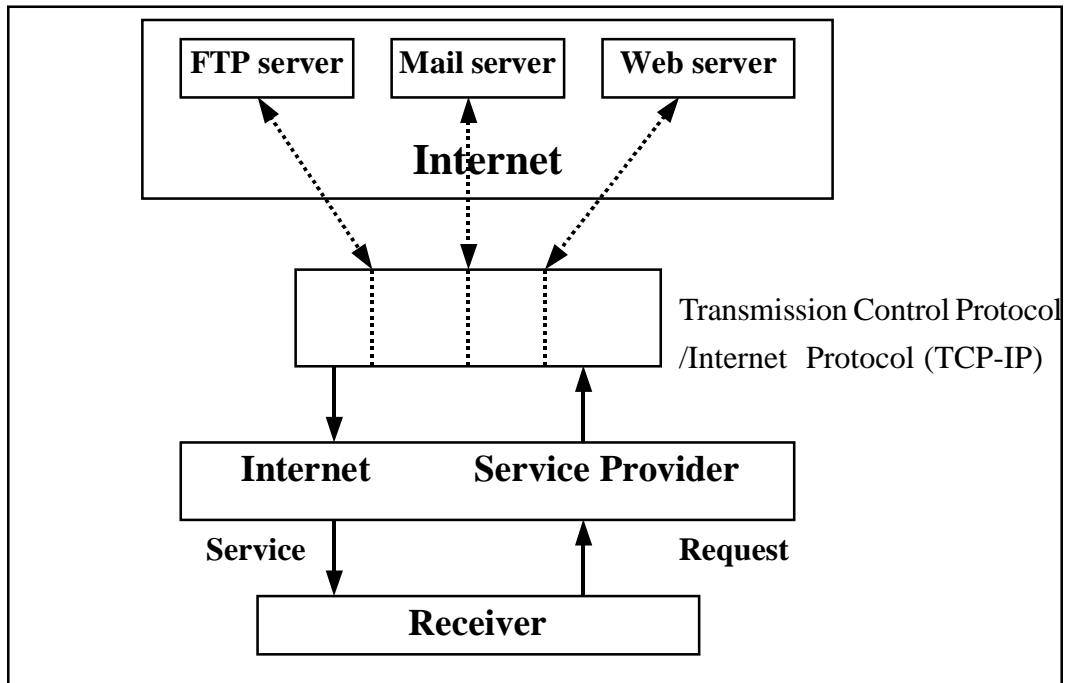
Internet is a source of enjoyable, important and varied information that can be obtained and used by millions of people. Internet allows one computer to be connected to another computers that could be physically located anywhere in the world. It also helps to transfer a file from one computer to another, irrespective of their physical locations, their capabilities or their operating system.

The applications of internet are (a) The World Wide Web (WWW), (b) File Transfer Protocol (FTP) and (c) Electronic Mail (E-mail)

The World-Wide-Web (www) is a very popular application of Internet. The www is the universal storage of information that is made available to people across the world. With the help of www one can have information on any topic available in any part of the world. People using internet believe in sharing the knowledge and information with others. Virtually thousands of transactions take place per hour throughout the world and thus create a web of information flow. **Hyper Text Transfer Protocol (HTTP)** is used for sending and receiving Web sites.

The File Transfer Protocol (FTP) is a method of transfer of files from one

computer to another. There are millions of useful and important files stored on Internet. Most of these are kept at “ ftp sites”. Some of these files can be available free of cost to general public having internet access, whereas others can only be used by authorized persons or account holders. e-mail is the fastest and easiest way to transfer a file from one machine to another over a network by using FTP Technology.



Internet Communication

Electronic mail or e-mail is a simple digital media for sending and receiving brief text messages between individuals or among a larger audience. E-mail is the most widely used application on internet. Electronic mail is a method of transfer of messages from one computer to another. Address and message are two parts of an E - mail. The message is sent to the receiver of the letter on the E-mail address. E - mail is a kind of file transfer from one computer to another, where a copy of document gets copied from the computer of person who is sending the message to the receiver. The E - mail letter can reach the receiver within seconds, if he is on line. Sound, images, video, computer softwares can be sent through E-mail. E-mail is cheaper in the sense that the cost is same to send the message across the street or around the

world. The **Simple Mail Transfer Protocol (SMTP)** is used for transferring E-mail messages.

2.3 Glossary

Folk Media : Folk media are the communication system embedded in the culture which existed before arrival of mass media and still exists as a vital mode of communication.

Folk Dance : Folk dance is a form of dance performed by a mass of people in a particular geographical area by a specific social community.

Folk Music : It is type of folk media including different forms of traditional music.

Folk Theatre : It is the dramatic representation of imaginary life situation by the local communities on the occasion of social and religious function.

Folk Art : Folk art is the real life experience in the form of painting, culture or graphic art.

Print Media : It is form of mass communication media, wherein written or printed material is used to communicate large number of people.

Public Address System : It is a set of equipments used to amplify sound, so that it is audible to a large audience over a distance.

Audio Cassettes : It is a means of communication prepared out of celluloid plastic or high tensile polyester film with ultrathin coating of iron oxide on one side.

Video Compact Disc : It is an advanced version of video tapes in the form of disc.

Internet : it is a digital electronic media which is source of important and varied information that can be obtained and used by millions of people.

2.4 Summery

Mode of communication is the way in which sensory stimulation is carried through the medium or channel to the audience or receiver of message.

In this unit we have studied traditional and folk media, print material, audio and radio, video and television and digital media useful for communicating large number

or mass of people. Folk dance, folk music, folk theatre and folk art are the forms of folk media. The traditional uses of folk media were primarily for entertainment and mutual participation at the social level and religious activity. These can be put to use for communicating development messages in the present era.

When the communicator and receiver of message are beyond oral communication, print media are the best ways of communication. Their utility as reference material, ability to convince and motivate, capacity to develop interest and make people understand the message, have made them very useful mass communication media.

Telephone, public address system, audio cassettes with tape recorder, compact discs and radio are the audio media that has been effectively used for communicating messages in times of crises and urgent situation and for creating awareness among people and make available wide range of experiences.

Video and television are the mass media having distinct characteristics in combination with sound or audio and motion or action. Through these media people learn through seeing and hearing and therefore remember long.

Computer and internet are digital media that have vast capacity to reach people effectively. They have the unique feature in the sense that audience or the learners search for messages to get themselves communicated.

2.5 Exercise for Practice

Answer the following questions in 200 words each.

1. What is traditional media of communication ? Explain advantages of traditional communication.
2. What are the characteristics of good print materials ?
3. What are the merits and demerits of print media for communication ?
4. What is significance of Radio and Television as mass media for mass communication ?

Unit 3 : Consequences of Communication

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3.4 Summary

3.5 Exercise for Practice

3.1 Introduction

In the unit on communication process, we have studied different models of communication, indicating the elements in the communication process. The Leagan's, model indicates the 'audience response' as the final element of communication whereas the model developed by Rogers and Shoemaker includes 'effect' as resultant element of communication process. One can understand that 'audience response' and 'effect' elements are similar in meaning and cannot that as a result of communication, there is some response from or some effect in the behaviour, of the receiver of message.

In agricultural communication, the change agent or extension worker attempts to communicate useful messages in the form of innovations to the farmers with the aim of effecting desirable change in the behaviour of farmers as a result of adoption of the innovations. Thus the consequence of communication here is the diffusion, adoption or rejection of farm innovation.

After the study of this unit, you will be able to know and understand :

- λ Diffusion of Farm Innovations
- λ Adoption of Farm Innovations
- λ Rejection of Farm Innovations
- λ Media and Adoption
- λ Opinion Leaders and Diffusion of Farm Innovations

3.2 Content

3.2.1 Diffusion of Farm Innovation

Diffusion is a special type of communication. It is concerned with the spread of innovations to the members of social system. Before going into the details of the diffusion process, let us understand the innovation and its characteristics

1. Innovation

Before we understand the term “diffusion of innovation” it is essential to know the meaning of “innovation”. **An innovation is an idea, practice or object that is perceived as new or an improvement over the existing one by an individual or member of a social system.** It matters little whether or not an idea is “ objectively new as measured by the lapse of time since its first use or discovery. It is the perceived or subjective newness of the idea for the individual that determines his reaction to it. If the idea seems new to the individual, it is an innovation.

“New” as an innovative idea, need not be simply new knowledge. An innovation might be known to an individual for some time, but he has not yet developed a favourable or unfavourable attitude towards it, nor has he adopted or rejected it. The “newness” aspect of an innovation may be expressed in knowledge, in attitude or regarding a decision to use it. Every idea has been an innovation some time. Any list of innovations must change with the times.

An “idea” constitutes the central element of an innovation which often manifests itself in a material or behavioural form. Sometimes the idea aspect of an innovation gets accepted but not its material or behavioural form which is called “stimulus

diffusion". An innovation is also sometimes adopted in terms of its form alone, the ideational aspect being ignored or not understood. The intended consequences of an innovation are fully attained, when it is adopted both in terms of its idea and form, material or behaviour. Most agricultural innovations manifest a material form which includes improved implements, high yielding varieties of seed, chemical fertilizers, plant protection chemicals and so on. Some innovations manifest themselves in behavioural forms such as improved cultural practices.

2. Characteristics of an Innovation

All innovations are not diffused or adopted by an individual or a social system with the same speed. The time required for diffusion or adoption of an innovation is influenced by many factors, some of which are related to the characteristics, attributes or traits of innovation. These characteristics are as follows :

(a) Relative advantage or utility : It is the degree to which an innovation is perceived as useful, advantageous and better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, convenience or may be social prestige. Innovations which have relative advantage are adopted quickly.

(b) Compatibility : It is the degree to which an innovation is perceived to be in conformity with the ideas, values and practices of social system.

(c) Complexity : It refers to the degree to which an innovation is perceived as difficult to understand and use.

(d) Tradability or divisibility : It refers to the degree to which an innovation can be tried out in a small scale before making the decision to adopt or reject it.

(e) Observability or communicability : It is the degree to which the use and results of an innovation can be observed and communicated to others.

(f) Predictability : It denotes the degree of certainty of receiving expected benefits of adoption of an innovation.

Barnett identified eight traits which influence the acceptance of new idea within a social system : compatibility, efficiency advantage, prestige, pleasure, mastery, penalty and cost. Generally relative advantage, compatibility, triability, observability and predictability of an innovation, as perceived by members of a social system are

positively related to its rate of adoption, whereas the complexity of an innovation as perceived by members of a social system is negatively related to its rate of adoption.

3. Diffusion and Communication

Diffusion is the process by which an innovation is communicated through certain channels over a period of time among the members of a social system. In other words, diffusion is the process by which innovations spread in a social system. It is a special type of communication in the sense that messages are innovations. The newness of idea in the message content of communication gives diffusion a special characteristic. **Katz** and his associates defined the diffusion process as (i) acceptance or adoption, (ii) over a period of time (iii) of specific item - an idea or practice by (iv) individuals or groups or other adopting units linked (v) to specific channels of communication (vi) to a rural social structure and (vii) to a given system of values or culture. **Rogers and Shoemaker** identified four elements of diffusion of innovation namely (i) the innovation; (ii) which is communicated through certain channels; (iii) over a period of time; (iv) among members of a social system. It is the elements of time and newness of message (innovation) which distinguish diffusion from other types of communication. Rogers and Shoemaker, further point out that the four elements of diffusion differ only in nomenclature from the essential elements of most general communication model, namely the (I) source, (ii) message, (iii) channel (iv) receiver and (v) effect as (SMCRE) depicted below :

Similarity between Elements in the diffusion of innovations and the S - M - C - R - E communication model.

<i>Elements in S-M-C-R-E model</i>	<i>Source</i>	<i>Message</i>	<i>Channel</i>	<i>Receiver</i>	<i>Effect</i>
Elements in the diffusion of innovations	Innovators scientists change agents or opinion leaders	Innovation (Perceived attributes such as relative advantage compatibility etc.)	Communication channels (Mass media or inter personal media)	Members of social system	Consequence over a period of time: i. Knowledge ii. Attitude change iii. Behaviour change (Adoption or rejection)

The five elements in the diffusion model of Katz, namely (i) acceptance (ii) over a period of time (iii) of some specific idea or practice by (iv) individuals, groups or other adopting units, linked (v) to specific channels of communication are corresponding to (i) effects (ii) over a period of time (iii) innovation (iv) members of social system (v) channels, elements respectively of the diffusion model of Rogers and Shoemaker. The other two elements - social structure and system of values and culture are included in the “Social system. Explanation of these elements will help to understand the diffusion process.”

- (a) **Acceptance or adoption :** The diffusion of farm innovations within a social system occurs as a result of adoption of farm innovations by the farming community. Adoption is continued use of a recommended idea or practice by the farmers over a reasonably long period of time. A farmer may discontinue the use of an idea or practice either because it is substituted by better practice or because the use of practice does not serve the intended purpose, or it may not suit to his social system norms.
- (b) **A period of Time or Adoption Period (Over time) :** Time is an important consideration in the diffusion process. There is always a time lag between the introduction of innovation and its adoption by individuals and communities. The time required from first hearing of an innovation to its adoption is known as “adoption period”. The length of the adoption period varies from individual to individual and from practice to practice. The characteristic of individual farmers and the innovations appear to be related to the length of the adoption period. The job of the agricultural extension worker is to minimize the adoption period to help rapid diffusion of agricultural innovations among farmers. The diffusion process mainly relates to the time lag between introduction of an innovation in the social system and its adoption by majority or most of its members.
- (c) **Innovation :** The meaning of innovation and its characteristics have already been discussed earlier. Diffusion is related to the new ideas, practices and methods in agriculture, whereas communication is concerned with any message to be transmitted to the audience. All innovations do not diffuse at the same rate. The traits of the innovation influence its rate of diffusion.

- (d) **Channels of Communication :** A communication channel is the means by which the message gets transferred from the source to the receiver. Effective use of communication channels is essential for adoption and diffusion of farm innovations. The communication channel by which the new idea reaches an individual is important in determining the individual's decision to adopt or reject the innovation. The selection of channel by the communicator has to be made considering the purpose of communication and the receiver of the message. Mass media channels are useful to make farmers aware of new farm practice or idea whereas for persuasion about the farm innovation, interpersonal channels of communication are useful. In other words, the different communication channels will have to be used for diffusion of farm innovations depending on the stage of adoption of the innovation.
- (e) **Among members of social system :** A social system is defined as a collectively of units which are functionally differentiated and engaged in a joint problem solving with respect to common goal. The members or units of a social system may be individuals, informal groups, complex organizations or subsystems. The social system constitutes a set of boundaries within which innovations diffuse. Diffusion occurs within a social system because the social structure of the system affects the pattern of diffusion of innovation in several ways.

The interrelated and interdependent parts or units of a social system constitute its social structure. The structural units of a social system are individuals, groups, statuses, roles, norms and values. The structural units are integrated in that they maintain a functional interdependence to attain the system goals. The differences in the adoption of innovations at the village level are due to the structural differences in the village social system. The degree to which a village is structurally homogeneous or heterogeneous, unitary or highly stratified affects the rate of diffusion of agricultural innovations within the village. Thus the social structure acts to impede or facilitate the rate of diffusion and adoption of innovations through what is called as "System effects"

Each social system has its own social structure, similarly it has its distinctive set of shared values and attitudes which broadly constitute its culture. These values and

attitudes guide the collective and individual actions of the members of social system. Therefore, innovations which are compatible with the values and attitudes of the village people are easily accepted and diffused.

Thus the foregoing discussion leads to infer that the nature of innovation, the types of channels available and used, the social structure and value system of the social system to which the units of adoption belong and the time factor indicating adoption period, innovativeness of individuals and the innovations rate of adoption, all combined together influence the diffusion of farm innovations in rural communities.

3.2.2 Adoption of Farm Innovation

So far we have seen that diffusion of innovation occurs as a result of adoption of the innovation by majority of members of a social system and adoption is the process through which an individual mentally passes from first knowing of innovation to its continued use in actual practice. Adoption is considered as a process since it involves a number of stages that an individual experiences over a period of time. Ryan and Gross (1943) in their paper entitled “The diffusion of Hybrid Seed Corn in two Iowa Communities” first pointed out the existence of sequential stages in the process of adoption of hybrid seed corn by the farmers. They studied the (1) ‘awareness’ of hybrid seed corn (2) ‘conviction’ of its usefulness (3) ‘Trial’ acceptance and (4) ‘complete adoption’ of the hybrid seed corn as the stages of adoption process. Wilkening (1953) also outlined the existence of four stages, namely (1) initial knowledge of the practice, (2) its mental acceptance as a good idea, (3) its use on a trial basis and finally, (4) its full adoption, in his study on “adoption of improved farm practices as related to Family Factors”. Johnson and Haver (1955) considered adoption as the decision making process involving (1) observing the problem (2) making analysis of it (3) deciding the available course of action (4) taking one course and (5) accepting the consequences of decision, as the stages in the adoption process. The North Central Rural Sociology. Subcommittee identified the five stages of adoption, namely (1) Awareness (2) Interest (3) Evaluation (4) Trial and (5) Adoption. In the (1) ‘Awareness’ stage the individual learns about existence of a new idea, in the (2) ‘interest’ stage the individual develops interest and

seeks additional information about it, in the (3) 'evaluation' stage the individual makes mental application of the new idea to his present and anticipated further situation and decides whether or not to try it (4) in trial stage he actually tries the new idea on small scale, to ascertain its utility and (5) in the adoption stage, the new idea is continuously used on full scale. Beal and others (1957) and Copp and others (1958) provided empirical evidence to the five stages of adoption process postulated above by the committee of rural sociologists. Singh (1965) proposed a seven stage model of adoption process involving (1) Need, (2) Awareness, (3) Interest, (4) Deliberation, (5) Trial, (6) Evaluation, (7) Adoption. Thus in this model 'need' precedes the 'awareness' stage and also 'deliberation' as an additional stage and 'trial' precedes the evaluation stage.

1. Stages in Adoption Process

The foregoing account of stages in the adoption process brings out that there is diversity in the number and sequence of stages as well as nomenclature of the stages in the adoption process. There is also possibility of changes in sequence of stages of the adoption process as well as skipping some of the stages. Moreover there is also possibility of ending the process in rejection of the innovation rather than its adoption. Considering these aspects, Rogers (1983) suggested the term "Innovation - Decision Process" for the "Adoption Process" having five stages namely (1) Knowledge, (2) persuasion, (3) decision, (4) implementation and (5) confirmation. According to Rogers, 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 toward 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 organization evaluates a new idea and decides whether or not to incorporate the new idea into the on going practice. The five stages of the "Innovation - Decision" process are explained in brief as under :

- (a) **Knowledge** : It occurs when an individual or other decision making unit is exposed to the existence of the innovation and gains some understanding of

how it functions. Knowledge about innovation is categorized in three types, namely (a) awareness knowledge means knowledge that a new idea or practice exists (b) how-to- knowledge meaning thereby how the new idea or practice functions and (c) principles knowledge that is theoretical basis on which the innovation functions. The ‘what’, ‘how’ and ‘why’ knowledge of an innovation help to form attitude toward it.

- (b) **Persuasion** : At this stage the individual or the decision making unit forms a favourable or unfavourable attitude toward the innovation. The individual is more psychologically involved with the innovation and actively seeks information about it. In developing a favourable or unfavourable attitude toward the innovation, the individual may mentally apply the new idea to his present or anticipated future situation before deciding whether or not to try it. Moreover, the specific - favourable or unfavourable attitude toward innovation of an individual is influenced by his general attitude toward change. Therefore creating favourable attitude toward change through mass media help in developing favourable attitudes towards farm innovation among the farming community.
- (c) **Decision** : At the decision function in the innovation - decision process, the individual engages in activities which lead to a choice to adopt or reject the innovation. The individual puts the innovation to a small scale trial in his own situation. Considering the relative advantage, risk involved and many other related factors like availability of market, need for the family etc; the individual takes a decision to adopt or reject the innovation.
- (d) **Evaluation** : In the earlier models of adoption, the evaluation stage is present almost in all stages. In the someway decision function occurs in all the functions of innovation - decision process.
- (e) **Implementation** : An innovation is put to use by an individual at this stage. During this stage, the individual gets the innovation, try to solve the operational problems and implement the decision to put the innovation into use. Implementation of the innovation may involve changes in management of the enterprise and modifications in the innovation if necessary, to suit more closely to specific needs of the individual.

(f) **Confirmation** : This is the stage wherein the individual implementing a decision to adopt an innovation seeks reinforcement for the innovation - decision he has made. The individual may reverse his previous decision, if he comes across conflicting messages about the innovation. The decision to adopt or reject an innovation is not a terminal stage, since the confirmation stage continues over an indefinite period of time. Throughout the confirmation stage, the individual seeks to avoid internal disequilibrium or dissonance or an uncomfortable state of mind that the individual seeks to reduce or eliminate. This he does by changing his knowledge, attitude or actions.

2. Adoption Process and Indian Research

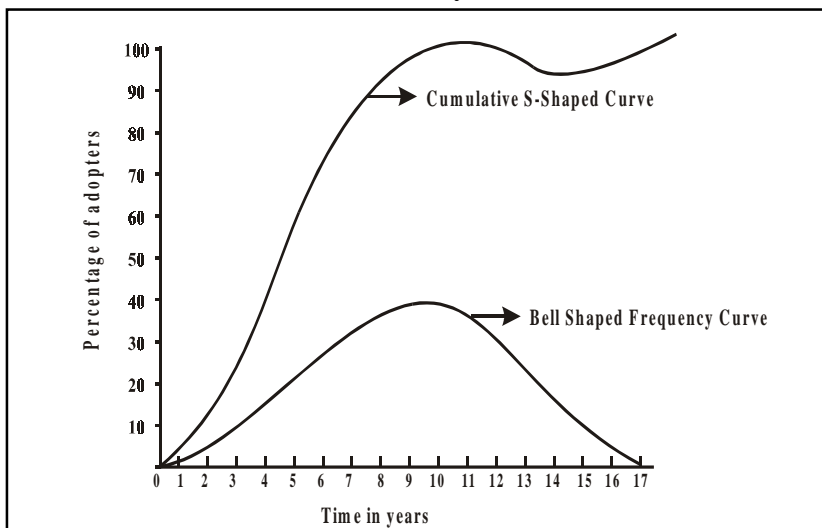
There is no doubt that adoption process is not a unit action or instantaneous act. The process of adoption definitely involves a series of actions on the part of individuals. However there is no unanimity regarding the number of stages as well as sequence of the stages in the adoption process. Dasgupta (1989) reviewed adoption studies in India. He found that the number of stages used in different studies varied from three to seven and there was also a wide variation in the use of the sequence of stages. According to him, in five studies the sequence of stages was awareness, interest, evaluation, trial and adoption, in four studies the stages were awareness, interest, trial, evaluation and adoption in that order ; in three studies, need, awareness, interest, deliberation, trial, evaluation and adoption was the sequence of stages; awareness, knowledge, trial and adoption were the stages studied in two researches ; awareness, trial and adoption was the sequence of stages in three studies whereas in another two studies the stages sequence was awareness, acquaintance and adoption and lastly in one study the sequence and names of the stages were first information, most information and final adoption.

This brings home the point that there is a large variation among researchers in the study of number and sequence of stages in the adoption. The reason for this variability might be the difficulty to get empirical evidence of number and sequence of adoption stages. However, at least three stages, namely awareness, trial and adoption can be identified in objective terms. Dasgupta (1989) conclude that “the evidence

regarding the empirical validity of the adoption stages is primarily indirect. The fact that farmers can recognize the time lag between awareness and trial, and trial and adoption stages and that this time lag can be objectively established, is important evidence of empirical validity of adoption stages. Differential use of information sources at different stages of adoption process also appear to be an indirect evidence supporting the empirical validity of the adoption stages.” Thus, without regard to the number, sequence and the nomenclature of the stages, adoption is a process through which an individual passes from first knowledge of an innovation to its final adoption or non-adoption.

3. Adopter Categories

We have understood so far that integration of an innovation into a farmer's ongoing farming activity over an extended period of time is adoption. However, all farmers in a village do not adopt an innovation at the same time. Rather they adopt an innovation in an ordered time sequence. Thus they can be classified into adopter categories on the basis of when they first begin using the innovation. Adopter categories is the classification of members of a social system on the basis of innovativeness. Innovativeness is the degree to which an individual is relatively earlier in adopting new ideas than other members of his social system.



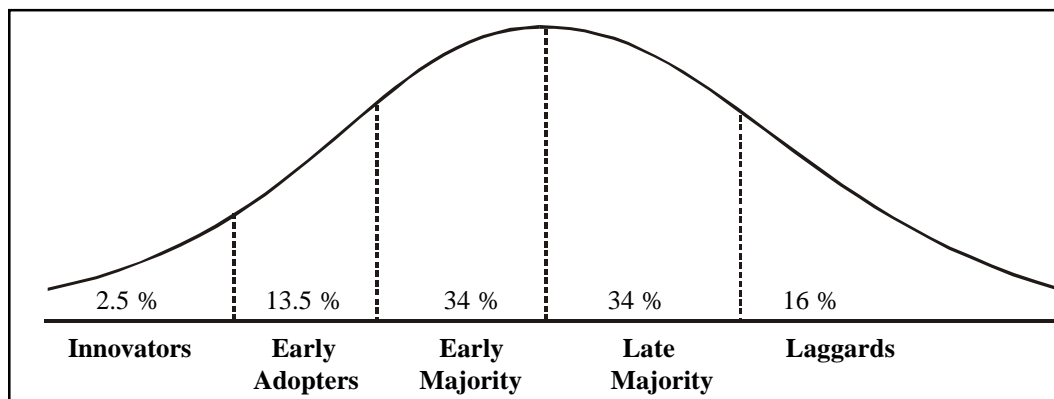
The bell-shaped frequency curve and the S-shaped cumulative curve

It is observed that the adoption of an innovation follows a normal, bell-shaped curve when plotted over time on a frequency basis. The following figure shows the cumulative number of adopters is plotted, the result is S-Shaped curve shows the same adoption data presented by bell-shaped (frequency) or S-Shaped (cumulative) curve.

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

When an innovation is introduced in a system only a few highly innovative individuals (farmers) adopt it at first. The number of adopters starts increasing at a relative rapid rate after which the rate declines and finally tails off by the time all or most of the individuals (farmers) have adopted the innovation.

The adopter categorization on the basis of innovativeness involves dividing the bell shaped curve into five areas by using its two parameters - mean and standard deviation as shown in the figure below :



Adopter Categories on the Basis of Innovativeness

There are other approaches followed for categorization of the farmers in different categories of adopters, such as adoption quotient, adoption index, adoption score wherein the number of practices (innovations) adopted by each of the farmers are considered. The different categories of farmers (adopters and non adopters) have different personal, social, economic and psychological characters, which if known

help in diffusion of innovations. The agricultural extension agency can plan the strategy to introduce the innovation with right type of farmer.

A number of studies have identified the characteristics of the adopter categories. Ray (1996) had summarized characters of the categories of adopters as below :

(i) **Innovators** : They are venturesome and first to adopt a new idea, much ahead of the others. They are generally very few in number. They may deviate from the social norm and may be viewed as deviants by the others.

They are cosmopolite and their sphere of influence and activity may go beyond the community boundaries. They are mentally alert, have good contact with cosmopolite sources of information and actively seek new ideas. They are oriented to take risk, have large size of enterprise and have the financial resources to absorb any possible loss due to adoption of the innovation. They are generally literate and have more prestige in the community. The innovators are oriented to develop good contact with the research stations and high level extension functionaries.

(ii) **Early Adopters** : They are localites, and are a more integrated part of the community. Because early adopters are not too far ahead, the average members of the community can comprehend their activities relating to adoption of innovation. They have more opinion leadership and potential adopters look to them for advice and information about the innovation. They try to maintain adoption leadership to keep up their prestige in the community.

Early adopters are literate, have large size enterprise, high income, more participative and maintain good contact with cosmopolite sources of information. They do not test untried ideas, but quickest to use tried ideas in their own situation. They are looked upon as good sources of advice and information by their neighbours.

(iii) **Early Majority** : They adopt new ideas just before the average members of the community. They are neither very early nor relatively late to adopt an innovation. They are deliberate and take longer time to make the decision to adopt, in comparison to the innovators and early adopters. They do not hold leadership position in adoption, but actively participate in extension programmes like

training, demonstrations, farmers' days, study tours etc. They are slightly above average in education, social and economic status and experience about the enterprise. Because of their limited resources, they can not take hasty or poor decisions.

They have less contact with the cosmopolite sources of information. They are active localities and associate mainly with the people of their own community. They are the “neighbours and the friends” from whom majority of the members of the community seek advice about innovations.

- (iv) **Late Majority** : They are cautious and sceptical and adopt new ideas just after the average members of the community. They adopt mainly because people have already adopted the innovation and getting the benefit out of it. They have low level of education, low level of participation and depend mostly on localize sources of innovation.
- (v) **Laggards** : They are traditional and last to adopt an innovation. By the time the laggards finally adopt an innovation, it may already have been superseded by a more recent idea, which the innovators are already using.

They are most locality and primarily interact with those who have traditional values. They tend to be suspicious of innovations, innovators and extension agents. A fast moving world is shocking to them and they find it difficult to adjust with it. They do not have opinion leadership and is almost a forgotten mass of people in the community. They have little or no education, least participation and hardly any contact with the outside world.

These people are likely to belong to the backward classes, may be working as share-croppers, agricultural labourers, with very little land of their own. They are generally resource poor people with little surplus to invest in their production enterprise. They generally live in areas having least urban influence and socially and economically the most disadvantaged. The categorization of farmers on the basis of innovativeness is arbitrary. Even though each category seems to have distinctive traits, the number of categories may not be necessarily five, it could be more or less than five. Many of the Indian researchers have used three adopter categories, namely, innovators, early adopters and late adopters.

3.2.3. Rejection of Farm Innovation

We have understood so far that adoption is continued use of an innovation over longer period of time. Introduction of an innovation does not necessarily end in its adoption. The innovation may be rejected, non-adopted or discontinued. Let us now understand what is meant by rejection, non-adoption, discontinuance of an innovation and over-adoption.

1. Rejection

Rejection is a decision not to adopt an innovation. Rejection of an innovation may take place at any stage of adoption process. In a study regarding adoption of artificial insemination carried out in Punjab, it was observed that out of the 143 respondents, 30 farmers rejected the innovation and out of these 30 farmers, 13 at awareness stage, four each at interest and trial stage and nine farmers at evaluation stage rejected the innovation. It is seen that more number of farmers rejected the innovation at awareness stage probably because they were least inclined to change their farming habits and consequently were not even interested to acquire more information about the innovation at evaluation stage and may not be satisfied with the result of their trial of the practice on small scale. Cost, incompatibility of the innovation with the farmers' personal situation or improper implementation of the practice at the trial stage singly or severally contributed to the farmers' decision to reject the innovation.

Farmers' reasons to reject an innovation are not always rational. Rejection is often based on subjective perception of the relationship between the cause and effect. There are not many studies directed to find out causes of rejection of innovations. But it is presumed that the attributes of the innovation have much to do with rejection rather than other variables intervening adoption of innovations.

2. Non-adoption

Rejection of innovations is supposed to have two forms. Active rejection consists of considering adoption of the innovation including even its trial but then deciding not to adopt it, passive rejection consists of never really considering use of innovation. Passive rejection is called as non-adoption. According to Dasgupta (1989), the non-

adoption of an innovation does not necessarily imply its rejection. Farmers often fail to adopt an innovation, because of constraints beyond their control rather than for their dislike for the innovation. Poor knowledge about the innovation, especially about the method of its application, on the part of the farmers, acts as an important constraint against the adoption of an innovation. This is especially true amongst small or tribal farmers among whom extension activity is often inadequate. The non availability of technical guidance is a major technical impediment to the adoption of recommended farming practices among these farmers. The cost involved in the use of an innovation is another frequently mentioned factor for non-adoption by small farmers, even when they are positively predisposed towards it. Lack of knowledge, non-availability of adequate technical guidance and available resources are thus the major reasons of the non-adoption of an innovation, when the farmer has mentally accepted it.

3. Discontinuance

Discontinuance is the decision to cease to use an innovation after previously adopted it. There are at least two types of discontinuances : Replacement and disenchantment. A replacement discontinuance is a decision to cease using an idea in order to adopt a better idea which supersedes it. Better idea in the sense that the individual perceives it as a better idea. In a rapidly changing culture there are constant waves of innovations and each new idea replaces an existing practice which in its day was an innovation too.

A disenchantment discontinuance is a decision to cease using an idea as a result of dissatisfaction with its performance. The dissatisfaction may come about because the innovation is inappropriate for the individual and does not result in a perceived relative advantage over the alternative practice. Some times situational factors like lack of capital to invest and of needed inputs and irrigation were the frequently cited reasons for discontinues of an adopted practice.

4. Over Adoption

Sometimes it may so happen that people continue to adopt an innovation, rather vigorously, when experts feel that it should not be so done. This is over adoption.

Excessive use of fertilizers, pesticides or irrigation or indiscriminate sinking of shallow tube wells in a limited area are the examples of over adoption.

Over adoption produces negative effect and may cause distortion or deterioration of related system. Insufficient knowledge about an innovation and inability to predict consequences generally lead to over adoption. The role of extension agent is to prevent over adoption of an innovation by providing adequate knowledge and making the farmers aware of consequences of over adoption. This may be achieved by appropriate surveillance, training and communication.

3.2.4 Media and Adoption of Innovation

Adoption and diffusion of innovations in a social system are the consequences of communication. Without communication of innovation, there can not be adoption and ultimately the diffusion of innovations. In communication of innovations media or the communications channels play an important role. Farmers or clients use different information sources and channels of communication at different stages of adoption. Even the use of information source varies with the type of farmer.

Communication channels are classified as (1) mass media channels which include radio, television, print material which help to reach many people at a time and (2) interpersonal channels that involve a face to face exchange between two or more individuals. Communication channels are also categorized as (1) institutional or formal that include impersonal channels namely radio, television, movies, print material and personal channels namely extension agents, village level workers, Agricultural Extension officers, Block Development officers, Agricultural Scientists and (2) Non-institutional (informal) channels that include friends, neighbours, relatives, other farmers, commercial dealers etc.

In India generally farmers prefer personal channels of communication - both institutional and non-institutional and use them frequently. However, the non-institutional personal sources are comparatively more credible and popular than the institutional personal channels. Among the institutional personal sources Village Level Worker has high credibility and popularity as a communication source in rural India.

As regards use of communication channels at different stages of adoption, it is generally observed that non-institutional personal sources are used slightly more frequently than institutional personal sources at the awareness and interest stages. Non-institutional personal sources are, however, used much more frequently than the institutional personal sources in the evaluation stage, although the frequency of their use become low again in the trial stage. Considering the innovation decision process, mass media channels are relatively more important at knowledge function and interpersonal channels are more important at persuasion function.

Innovators and early adopters use frequently and in higher proportion the institutional sources of information at early stages of adoption and non-institutional sources of information in the later stages of adoption. However, the early majority, late majority and the laggards predominantly use non-institutional personal sources of information at all stages of the adoption process. Moreover, mass media channels are relatively more important than interpersonal channels for earlier adopters than for later adopters. Similarly, cosmopolite channels are relatively more important for earlier adopters than for later adopters.

Considering the characteristics of farmers it is found that young, literate farmers having large size of holding and high level of social participation, belonging to early adopter categories, higher socio-economic status, use institutional channels of communication whereas relatively old and non-literate farmers having small size of holding and low level of social participation, belonging the later adopter categories and lower socio-economic status use non institutional communication channels.

3.2.5 Opinion Leaders and Diffusion of Farm Innovations

It is generally observed that certain individuals have an ability to influence behaviour of their people in a desired way. Such individuals are often sought for information and advice on certain topics about which others feel that they are expert. These individuals exert their influence informally through interpersonal communication networks. The term “opinion leader” is often applied to these individuals who lead in influencing others’ opinions in informal ways. Thus ‘opinion leader’ is an individual who lead and informally influences other peoples’ opinions in a desired way. Opinion

leadership is defined as the degree to which an individual is able to influence informally other individuals attitudes or overt behavior in a desired way with relative frequency. The opinion leaders are also some times referred to as key communicators or information leaders or lay leaders. In farming, opinion leaders are people who are sought, by their fellow members of the community for information and advice on agricultural innovations. They do not only disseminate information but also influence action on the content of the information by their fellow community members.

In a village opinion leaders may be acting for different groups such as caste, religion, occupation of neighbourhood groups. There may be two types of opinion leaders, (1) monomorphic and (2) polymorphic. When there are opinion leaders for each sphere of activity, the leadership is called as monomorphic. The polymorphic leadership is the one that act as opinion leaders in several spheres of activities including agriculture. Traditional and less developed villages have generally polymorphic opinion leadership, whereas in modern and developed village the opinion leadership is of monomorphic. Opinion leaders are innovative, have high level of adoption, wide extension contacts, use institutional sources of information belong to middle age group, have high level of education, have large size of holding and high income and social participation.

1. One - Step Flow Model of Mass Communication

The one-step flow model states that mass media channels communicate directly to the mass audience, without the message passing through opinion leaders; the message does not equally reach all receivers, nor does it have the same effect on each. But the one step model recognize that; (1) the media are not all powerful, (2) the screening aspects of selective exposure, perception and retention affect message impact and (3) differing effects occur for various members of receiving audience.

2. Two - Step Flow Model of Mass Communication

Information communicated through mass media do not necessarily reach all the intended member of a community. Instead, a few members receive the information and pass it on to those individuals with whom they interact. The process by which a

few innovative farmers obtain information from institutional sources and spread them among the other farmers in the village is referred to as “Two - Step Flow of Communication Theory”. The first step in this theory involve the transfer of information from source to the opinion leader and the second step involve the flow of information and spread of influence from opinion leader to other members with whom he interacts. The assumption in the theory is that not all members of a community have the contact and familiarity with external sources to directly obtain information from them. The opinion leaders first obtain the information and disseminate it to his fellow members and influence them to act upon the information that is passed : As a result of diffusion effect not only the opinion leaders and his followers act upon the information, but other members in the community also are influenced.

3. Multi - Step Flow Model of Mass Communication

This model is based on a sequential relaying function that seems to occur in most communication situations. This model suggests that here are a variable number of relays in the communication flow from a source to a large audience. Some members will get the message directly through channels from the source, while others may be several times removed from the message origin. The exact number of steps depends on the intent of the source, the availability of mass media and the extent of audience exposure, the nature and salience of the message to the receiving audience.

3.3 Glossary

Innovation : An innovation is an idea, practice or object that is perceived as new or an improvement over the existing one by an individual of a social system.

Relative Advantage : It is the degree to which an innovation is perceived as useful, advantageous and better than the idea it supersedes.

Compatibility : It is the degree to which an innovation is perceived to be in conformity with the ideas, values and practices of social system.

Complexity : It refers to the degree to which an innovation is perceived as difficult to understand and use.

Tradability : It is the degree to which an innovation can be tried out on a small scale before making the decision to adopt or reject it.

Observability : It is the degree to which the use and results of an innovation can be observed and communicated to others.

Predictability : It denotes the degree of certainty of receiving expected benefits of adoption of an innovation.

Diffusion of Innovation : It is the process by which an innovation is communicated through certain channels over a period of time among members of a social system.

Adoption of Innovation : Adoption is the process through which an individual mentally passes from first knowing of an innovation to its continued use over a reasonably long period of time.

Communication Channel : it is the means by which the message gets transferred from the source to the receiver.

Innovators : They are the individuals who are venturesome and first to adopt a new idea much ahead of others.

Laggards : They are the individuals who are last to adopt an innovation.

Rejection of Innovation : It is a decision not to adopt an innovation.

Non-adoption : It is passive rejection of an innovation and consists of never really considering use of an innovation.

Discontinuance : It is the decision to cease to use an innovation after previously adopting it.

Over-adoption : it is excessive and vigorous use of an innovation when experts feel that it should not be so done

Opinion leader : He is an individual who leads and informally influences other peoples' opinions in a desired way.

3.4 Summary

A farm innovation is an idea, practice or object that is perceived as new or an improvement over the existing one by an individual farmer or member of a social system. The traits namely utility, compatibility, complexity, tradability, observability

and predictability of innovation influence its adoption. The consequences of communication of a farm innovation are adoption and diffusion of it or rejection, discontinuance, non-adoption or over adoption of the farm innovation.

Adoption of farm innovation is the process through which a farmer mentally passes from first hearing of an innovation to its continued use over a reasonably longer period of time. When a farm innovation is put to use by majority of the farming community, the diffusion of the innovation takes place. Thus diffusion of farm innovation is the process by which a farm innovation is communicated through certain channels among the farming community over a period of time.

Since adoption is a process, it involves a number of stages through which an individual mentally passes. There has been difference of opinion regarding number and sequence of stages as well as their nomenclature. The five adoption stages namely awareness, interest, evaluation, trial and adoption, though were commonly accepted, Rogers and Shoemaker identified knowledge, persuasion, decision implementation and confirmation as the functions of adoption decision process. Based on the time taken by the farmers for adoption of farm innovations, they can be categorized as innovators, early adopters, early majority, late majority and laggards. These categories of farmers have distinct personal, socio-economic and psychological characteristics'.

Rejection of farm innovation is a decision not to adopt a farm innovation. It may take place at any stage of adoption. Active rejection consists of considering adoption of the innovation and then deciding not to adopt it where as passive rejection of innovation consists of never really considering use of innovation. Passive rejection is called non-adoption. Over-adoption is vigorous or more than recommended use of an innovation. Discontinuance is the decision to cease to use an innovation after previously adopting it, which is a result of replacement of the innovation or dissatisfaction about it. Communication channels are classified as mass media and interpersonal channels, institutional and non-institutional channel and cosmopolite and localite sources. The use of channels depends upon stages of adoption as well as category of adopters. Opinion leaders are the individuals who have ability to influence behaviour of other people in desired way. Opinion leaders help speedy adoption and diffusion of farm innovations.

2.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Define Innovation and explain characteristics of an innovation.
2. Write note on adoption of farm innovations.
3. What is Adopter of innovation ? Describe various categories of adopters of farm innovations.
4. What is Diffusion ? Explain three models of mass communication.

Unit 4 : HRD in Communication

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4.1 Introduction

We have seen that communication is man's basic activity. Man communicates from his birth to death. However, it is observed that all communication acts are not conscious efforts. Many times human beings communicate without any intention. Actions as well as inaction's of human being may communicate something. This however, does not mean that communication is simple act or process. Effective communication is an art as well science. Therefore, to be an effective communicator one has to learn and practice the art and science of communication. This may require formal or informal training in the process of effective communication. This calls for human resource development in communication.

After the study of this unit, you will be able to know and understand :

- λ Characteristics of a communicator
- λ Training in communication methods
- λ Training of local leaders in agricultural communication
- λ Training programmes in India and Local human resource utilization

4.2 Content

4.2.1 Characteristics of Communicator

In the Communication act, the communicator is responsible for placing the message in a channel duly designed and treated. Therefore, he is an active agent in the communication process. He selects the message and tries to achieve a response from the receiver. Frequently he works hard to obtain the opportunity to communicate with the receiver.

A communicator's communication activity is very much a product of himself. His knowledge and information, communication skills, interests, attitudes, values, motivations and perceptions exert a strong influence over the effectiveness of his communication activity.

Moreover the social characteristics of the communicator in terms of group membership (formal and informal), roles and positions in groups (including leader, follower, agitator) group pressure, social support and social norms, have direct influence over his communication effectiveness. In addition, cultural factors related to the communicator tend to influence his communication ability. The relationship of the communicator between or among the participants also determine the result of his communication act.

Another important characteristic of the communicator that influences his communication efforts is his ethos. Ethos of the communicator may be defined as his image in the minds of the receivers. This may be perceived in terms of one receiver, in terms of average image held by a variety of receivers, or in terms of the image held by people in general. It may also be defined in terms of specific points in time, namely, prior to a given communication, as it is created during a given communication and after a given communication is completed. The ethos of the communicator decide his trustworthiness or safety. This relates not only to the spiral character but also to the degree to which the receiver trust him to convey accurately what he knows. Ethos also reflect upon the image of the communicator held by the audience regarding his qualification or authoritativeness or his expertise. Moreover, the judgment of receivers

regarding dynamism - that is power and activity of the communicator is the result of the ethos. In short, the image of the communicator held by receiver in terms of his trustworthiness, qualification, expertise and dynamism have influence over the communicator's effectiveness.

The ethos of the communicator can be brought to desired level if he acquires following **qualities of good communicator** as given by Leagans :

(i) He should know

- (a) his objectives - has them specifically defined ;
- (b) his audience - its needs, interests, abilities, predispositions ;
- (c) his message - its content, validity, usefulness, importance ;
- (d) the channels that will reach the audience and their usefulness ;
- (e) how to organize and treat his message ;
- (f) his professional ability and limitations ;

(ii) He should interested in

- (a) his audience and its welfare ;
- (b) his message and how it can help people ;
- (c) the results of communication and their evaluation ;
- (d) the communication process ;
- (e) the communication channels and their proper use ;
- (f) how to improve his communication skill ;

(iii) He should prepare

- (a) a plan for communication - a teaching plan ;
- (b) communication materials and equipments ;
- (c) a plan for evaluation of results ;

(iv) He should have skill in

- (a) selecting messages ;
- (b) treating messages ;
- (c) expressing messages ;

- (d) the selection and use of channels ;
- (e) understanding his audience ;
- (d) collecting evidence of results ;

In rural development and agricultural communication extension workers at different level act as communicators of agricultural and rural development innovations. To be effective as a extension workers, they have to acquire certain skills and develop certain competencies. Leagans has listed there abilities of good communicator as below :

- λ skill in human relations
- λ knowledge and understanding of technical subject matter
- λ ability to plan
- λ ability to do things with one's own hands
- λ ability to clarify objectives and state them in a way that they are useful in guiding extension activity.
- λ ability to organize people and things
- λ skill at communication
- λ skill at seeing the relationship between principle and practice
- λ skill at enquiry
- λ ability to provide learning experience or to teach
- λ ability to evaluate the achievements and methods of programmes

The characteristics and qualities of good communicator described above indicate that communicator need training in different aspects of communication process. Training in communication methods will up-grade the ability of the communicator.

4.2.2 Training in Communication Methods

We have so far seen that good communicators need to be endowed with certain qualities. These qualities may be original or acquired. Training helps to acquire needed qualities to do specific job. To be trained in communication means to :

- (a) understand communication as a process
- (b) understand elements in communication process and their interdependence

- (c) know what can be expected as a result of correct use of communication methods and techniques.
- (d) acquire skill in application of communication methods
- (e) know how to evaluate effectiveness of communication methods

In the rural development and agricultural extension programmes, the administrators, specialists, and the extension workers have to function as communicators. There are the persons who are responsible for communication of useful information and innovations to the rural people and farmers so as to bring desirable change in the rural community. In the process of helping village change, people to seek solutions to their problems and to plan and execute rural development programmes, the administrators, specialists and extension workers must be thoroughly trained in communication methods and techniques.

1. Need for Training in Communication Methods

Communication methods are the tools in the hand of the communicator. Unless he is well versed with these methods, he will not be able to deliver the expected goods to the receivers.

- (a) The function of the extension worker is to get the villagers concerned first about their problems and second to want to solve them. He has to help rural people learn how to get and apply information. Since the central objective of community development is to develop the people's competence in looking to themselves for solutions to most of their problems, the extension worker through communication methods, must help them how to solve their problems.
- (b) The job of the extension worker is to function as a village "stimulator" for change. It is for carrying out this role as the village stimulator for change that he must have the knowledge of all communication methods and skilful in their use.
- (c) The extension worker has to make people aware of innovations, develop interest, motivate them to try and adopt the innovations. At each of the stages of adoption of innovations, skilful selection and use of communication methods is essential. Training in communication methods to the extension workers help enhance his competence as a communicator.

- (d) It is the extension worker who has acquired the skill in the use of proven communication methods, he can educate village people about their problems, get them interested in examining new ways of thinking and doing and help them try out innovations, so they can for themselves decide, if the new innovation is superior to the old practice.
- (e) To be effective in the use of communication methods, the extension worker must know about all the proven methods how to use each method properly and for what specific purpose a given method or combination of methods should be used. By being trained in communication methods is meant being able to apply effectively appropriate communication method in right way.
- (f) Before a message is put to communication channel, proper design and treatment of the message is essential. Training in selection of communication channel to suit the message, the audience and the communication situation will also require training in treatment of message. As a result of training a well designed and treated message sent through appropriate channel will enhance effectiveness of communication.

2. Strategy for Training in Communication Methods

Any training has three phases, namely pre-training, training and post-training. The training in communication methods involves careful planning at the pre-training phase. Selection of participants, assessing their training needs, defining training objectives, deciding training content, identifying resource persons, creating needed physical facilities, selecting proper time and duration of training and preparing schedule of training are the different aspects about which decisions are taken in the pre-training phase. In the training phase, all-out efforts need to be made in imparting knowledge, developing skill and competence and building confidence among the participants of the training. Creating proper learning situation and providing useful learning experience are important in making the training successful. There has to be expected changes in knowledge, skill and attitude of the trainees in relation to programme content.

The post-training phase deals with the evaluation of outcome of the training programme as a whole as well as that of the trainees and also the feedback from the

trainees to improve the future training programmes. Considering the general planning of training programme it is necessary to develop strategy for training in communication methods.

- (a) The training in communication methods is for extension workers. Therefore the participants of the training programme are extension workers. Their training needs will depend on their position in the extension organization, their qualifications, experience and the nature of the job they are expected to perform.
- (b) The objective and content of the training programme is to impart knowledge about different communication methods, their characteristics, their usefulness at different stages of adoption of innovations, their effectiveness to individual, group or mass audience, steps in their use, advantages and limitations of each of the communication methods, proper selection and combination of the methods and how to evaluate their effectiveness. Adequate practice in the use of communication methods to develop competence and build confidence will have to be provided. The practicals should have a specific predetermined purpose considering job expectations of the extension communicators. Practice in interpersonal methods namely speech, debate, discussion is possible to arrange. Practice in print media is also easy. But it is difficult to arrange practicals on telecast media, digital media. Careful planning, however, will make it possible to have learning experience in the use of these media.
- (c) The training schedule be such to provide for evaluation of training during and after the training is over. Also feedback from the trainees be sought to improve the future training programmes.
- (d) Training programmes in communication methods need to be repeated after certain period of time to update the knowledge and enhance skill in their use.
- (e) Training material with practical exercises need to be provided to the trainees for future use in the actual field.

4.2.3 Training of Local Leaders in Agricultural Communication

A leader is a person who exerts influence and control over others. People have always banded together to form groups and have chosen or accepted leaders to lead

them in pursuit of common needs and objectives. In extension work, leaders are visualised as initiators of action which helps a group to move in the direction it wishes to move. Extension work needs local leaders who can guide the community towards its cherished ideals. These leaders are those who emerge through democratic process work in accordance with democratic principles and ideals and have the general welfare of the community at heart.

In communication and diffusion of agricultural innovations, local leaders play an important role. Local leaders are responsible for providing technical skills and information to their fellow villagers and for maintaining liaison with local government officials or extension workers. In fact the communication pattern in a village suggests that a relatively small number of farmers who own large size holding and are relatively more educated, innovative and cosmopolite in orientation, obtain information on agricultural innovations from mass media and extension agents and pass them on to the average farmers in the village. Normally ordinary farmers seek information and advice from the innovative farmers. These innovative farmers are sometimes known as opinion leaders, lay leaders, agricultural leaders, key communicators or simply local leaders. These leaders use mass media and institutional sources of information more frequently than the average farmers and adopt not only higher number of recommended farm practices but also adopt them earlier than the average farmers.

1. Need for Use of Local Leaders in Agricultural Communication

Effective use of local leaders in agricultural communication is essential for the following reasons :

- (a) The number of extension workers is limited. It is not possible for the extension workers to contact each and every farmers every time. If he works through local leaders, it is possible to communicate farm innovation to a large number of farmers. This is the multiplier effect of communication.
- (b) Local leaders have generally larger size of farms, so the extension workers' direct effect on total agricultural production is greater, if he works with the local leaders.
- (c) Opinion leaders or local leaders have high sense of efficacy; thus they are eager

for information. They follow technical advice. The extension worker does not waste much time in convincing them about innovations and therefore gets quick results.

- (d) Local leaders are homophilous with the agricultural extension workers. It is relatively easy for them to communicate. Similarly, the leaders are homophilous to farmers on social characters. This facilitates the local leaders to communicate effectively to the farmers.
- (e) Villagers believe more in local leaders and therefore, ready to accept his advice. Thus the innovations can be diffused without much resistance, if introduced through local leaders.
- (f) Local leaders are demonstrative farmers. Improved agricultural technology can be demonstrated on the farms of local leaders to other farmers.
- (g) Local leaders are cosmopolite in the sense that they have much contact with outside world. They visit cities, fairs, exhibitions, research stations, agricultural colleges and participate in group meetings more frequently. Thus they get information on new technology and are able to communicate fellow farmers.

2. Need for Training of Local Leaders in Agricultural Communication

- (a) Local leaders function as leaders by virtue of their characteristics, namely, innovativeness, venturesomeness, risk ability, initiation, education and socio-economic status. They themselves may not communicate other farmers, the information they get through mass media and institutional sources. But other farmers seek advice from them. Experience may develop in them some communication ability. But careful training in effective communication can enable them influence other farmers in a better way.
- (b) Good communicators require certain qualities. These qualities can only be developed through conscious attempts to train local leaders.
- (c) Use of certain communication methods is only possible through training. Particularly mass media, electronic media and digital media require training for their effective use. Even well educated person require training in handling such media. There is much need to train local leaders in these media.

(d) To be a good communicator one must have useful message which can be acquired through information sources. Training in agricultural communication will help local leaders to acquire information through different sources and media.

Thus to develop local leaders as better communicators of agricultural innovations, it is necessary to train them in communication process and communication methods.

3. Training Local Leaders

The objective of training local leaders is to make them good communicators capable of passing on many ideas and facts with a perfect understanding of the people with whom they are working. As a result of training in communication, the local leaders can perform their roles as fact seeker, fact-giver, spokesman initiator in a better way.

In training local leaders in agricultural communication, the basic principles of psychology of adult learning should be understood and observed. Informal as well as formal methods of training may be used for training local leaders in agricultural communication.

(a) Following are informal methods of training local leaders :

- (i) Observation : Noticing how others have performed.
- (ii) Reading : Studying printed material on communication of agricultural information
- (iii) Talking : Speaking with other leaders regarding agricultural communication methods

(b) Formal methods are as follows :

- (i) Lecture
- (ii) Discussion and workshop
- (iii) Forum, Panel and Symposium
- (iv) Audio - visuals
- (v) Field Trips
- (vi) Training groups
- (vii) Actual practice with communication methods and techniques

It may not be possible to organize formal training course of long duration at a

place away from their place of work or residences. Therefore, training activities of a day or two can be organized for specific communication methods in the village or nearby place. Practice in speech communication, participation in radio-talk, discussion group, writing messages, news stories or new articles, participation in telecast programmes and so on will develop the communication qualities of local leaders.

4.2.4 Training Programmes in India

In India the need for trained extension staff was felt since inception of the Community Development Programme. Training institutes were established and training programmes for different categories of extension personnel were initiated right from beginning of the Community Development Programme. The objectives, contents, methods and duration of the training varied with the training needs of the personnel as well as there have been modifications in the training programmes to suit changed conditions, changed times and changed programmes. In most of these training programmes there has been provision for training in communication technology. Because, the extension personnel have been basically communicators of rural development messages and agricultural technology. The aim of these training programmes has been to help trainees to acquire useful knowledge, develop an understanding of methods of transmitting the knowledge to villagers and develop ways of encouraging their participation and local initiative. The training programmes also focussed at inculcating a missionary zeal and the spirit of rural development work.

1. Training of Village Level Extension Functionaries

For training of village level extension functionaries, namely Gramsevakas, Gram sevikas, Agricultural extension workers, a number of Extension Training Centres, Home Science Wings and Agricultural Schools were established. Initially the training was imparted at the five Training-cum-development Projects. Subsequently, 43 Extension Training Centres were started, which provided a six months training course for the Gramsevakas. The subjects taught to them were agriculture, animal husbandry, public health, social education and extension methods. But it was soon realized that

the six months training needed considerable reinforcement in basic agricultural sciences. Consequently, 53 Basic Agricultural Schools were established and the period of training raised to one and half years from one year training in basic agriculture followed by six months training in extension methods and other related subjects. Subsequently, to meet the additional requirement of trained staff 13 additional Extension Training Centres and 25 Basic Agricultural Schools were established. Subsequently, considering the inadequacy of the training, the two year integrated training course was introduced with amended syllabus. For training of Gramsevikas 25 Home Science Wings were attached to selected Extension Training Centres which provided training in Home Science to the Gramsevikas. The number of Home Science Wing was further extended to 45 with increased admission capacity. The organization of extension Training Centres and the training programmes therein have undergone to meet the growing requirements of training in Community Development.

With the introduction of Panchayat Raj System, the content and emphasis of the training programmes were changed. Again, the introduction of Training and Visit System brought change in the objective, content, methods and duration of training programme for the extension functionaries at village level. While the training of Gramsevikas in rural development related subjects except agriculture continued at the Extension Training Centres, the Agricultural Extension Workers received training at the Fortnightly Training Classes organized by the Department of Agriculture and the Agricultural Universities. The nomenclature of the training courses at the Extension Training Centres changed to Induction Training Courses, Foundation Training Courses, Refresher Training Courses with modified duration and content of the training programmes. The job requirement of these extension workers was also changed and the training programmes were accordingly modified. Workshops and seminars on special topics are also organized at these centres

2. Training of Extension Officers, Instructors of Extension Training Centres and Subject Matter Specialists

For training of middle level extension functionaries namely the extension officers and the instructional staff of the Extension Training Centres, three extension education

Institutes were established at Anand (Gujarat) Hyderabad (Andhra Pradesh) and Nilokhari (Haryana). These institutes organized training programmes mostly in communication methods and techniques of different duration. Training courses to up-grade technical competency in different subjects are also organized at these institutes. Thus the training programmes organized at these institutes help to enhance technical and communication abilities of instructors and extension officers. These institutes also organize short duration course of about one week for top management personnel and administrators namely Directors, Joint Directors of Department of Agriculture and Agricultural Universities in extension and communication management.

For training of the subject Matter Specialists and Sub-Divisional Officers of the Training and Visit System, Monthly District Workshops of two days duration are organized by the Agricultural Universities. Similarly specialised training courses are arranged by the Agricultural Universities for the Subject Matter Specialists, Agricultural Extension Officers and other personnel of Department of Agriculture and other development departments. Workshops, seminars, symposia are other forms used for training the extension personnel to upgrade communication and technical ability.

3. Training of Top Level Extension Personnel

The need to train top level personnel namely Joint Directors, Directors of Development Department, Directors, Crop Specialists, Heads of Departments, Professors of Agricultural Universities and In charge Officers from different Projects is well recognised. Workshops, Seminars, Meetings are regular features to refresh and upgrade the management abilities of these personnel. Short duration courses are also organized for these personnel at the National Institute of Rural Development (NIRD), National Institute of Agricultural Extension Management (MANAGE), National Academy of Agricultural Research Management (NAARM), Hyderabad, Yashwantrao Chavan Institute of Development Administration (Yashada), Pune and such other institutes in the country.

4.2.5 Local Human Resource Utilization

Agricultural extension involves communication of agricultural technology to the farmers in a way that they accept and adopt it on their own farm and improve their economic situation and living conditions. This is a gigantic task and beyond capacity of the village extension worker alone. All possible efforts will have to be made to utilize local human resources for communication of technology. The use of progressive farmers or opinion leaders in this respect is well emphasised earlier in this chapter. Apart from the local leaders there are other human recourses which if properly used, will make the job easier to some extent.

The local human resources include formal and informal leaders and institutions functioning at the village level. The *Gram Panchayat*, the multipurpose cooperative society, cooperative credit society, cooperative milk society, cooperative commodity societies, youth clubs, sports club, *Mahila Mandal*, and some other of these type function at the village level. The chairmen and members of Board of Management of these organizations can be utilized in communication of agricultural technology. Apart from these, there are representatives of different Government Departments and organizations such as Cooperative Sugar Factories, Cooperative *Soot Girmi* Workers at the village. Their utilization will multiply the efforts of the transmission of technology to the farming community. Intensive and integrated efforts to train them in communication methods and in technical matters would enhance their ability as communicators of agricultural technology.

There are other voluntary and non-government organizations, who work for upliftment and development of rural people. They have their own aims, objectives, methodology and resources. However, their help in communication of innovation can also be sought and would be available, if systematic attempts are made in that direction. As a matter of fact, the new approach to communication of agricultural technology under the National Agricultural Technology Project (NATP) rest on utilization of local natural and human resources. In future communication of agricultural technology will be more through local voluntary and non-government organizations.

4.3 Glossary

Leader : A leader is a person who exerts, influence and control over others.

Extension Training Centres : These are the institutes established for training of village level extension workers.

Extension Education Institutes : These are the institutions established for training of middle level extension functionaries.

4.4 Summary

In the Communication act, a communicator is a person who selects and treat the messages and place them in communication channel to get expected response from receiver. The communicators knowledge, communication skill, interests, attitudes, values, motivations perceptions, his membership roles and position in group, group pressure, social support and social norms and his ethos influence his communication ability. A good communicator requires certain characteristics and training helps him to acquire some of these characteristics Training of communicators in communication methods enhances his ability in effective communication. Local leaders help village extension workers in communication of technology to the farmers. Their training in communication methods will enable them to be better communicators.

Realizing the need for training of extension personnel at different levels, training institutes have been established all over India. Extension Training Centres are established for training of village level extension workers, whereas for training of instructional staff of Extension Training Centres, Extension Officers, Extension Education Institutes have been established. Under the Training and Visit System there is different arrangement of training of extension personnel. Top level extension personnel are trained at National Institutes.

For multiplying effect of communication, it is essential to use local human resources available with formal and informal organizations at the village level. Similarly, representatives of different organizations available at village level may be used for extension work.

4.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Define communicator and state characteristics of good communicator
2. Explain the need of training and methods of training for local leaders.
3. Write note on training facilities available for extension functionaries in India.
4. What is ethos ? How ethos influence effectiveness of communicator ?

Unit 5 : Agricultural Communication in India

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5.1 Introduction

Since independence, Government of India and the State Governments have tried to bring all sided development of the rural society. Introduction of Community Development Programme in 1952, National Extension Service in 1953, Democratic Decentralization through Panchayat Raj in 1959, Area Development Programmes (IADP, IAAP, HYV) in 1960's and Target Group Programmes (DPAP, CAOP, DDP, ITDP) in 1970's were the different approaches to rural development. Though these approaches brought impressive achievements in agricultural production, they had only marginal impact on rural life and caused sectoral imbalance in the growth of economy. To remove some of the weaknesses in the earlier agricultural communication systems the Training and Visit of agricultural extension was introduced in India. The Training and Visit System also suffered due to certain weaknesses such as factionalism (biased selection of contact farmers), excessive reliance on word of mouth, repetition of some information creating indifference, male orientation and lack of economic,

social, scientific and communication competencies of the communicators (extension workers).

In any social system there are information holders (scientists, change agents, elites), information seekers (progressive farmers, innovators) and aphonic persons (those who have no ability to hold, seek and use information). In the context of the developing countries, communication has emerged as an essential ingredient of introducing planned social change. The fruits of planned change have increasingly fallen in the lap of elites and progressive members of society. A vast majority the rural people, particularly the aphonic persons have remained out of reach of the benefits. There is a need to bring this group in the folds of development process.

After the study of this unit, you will be able to know and understand :

- λ Rural Institutions and Communication Patterns
- λ Gender in Rural Communication
- λ NGOs in Rural Communication
- λ Communication in Tribal Communities
- λ Communication Pattern in Rural India

5.2 Content

5.2.1 Rural Institutions and Communication Patterns

In any society, family, religion, education policy and economy are the basic institutions. In the context of rural India, family (mostly joint family) village temple, village school, village panchayat and multipurpose cooperative societies and other cooperative societies, rural banks, industries represent these social institutions. Rural institutions can play an important role in communication of agricultural technology. A brief description of existing agricultural communication pattern in respect of rural institutions is given below:

1. Family

Extension workers contact mainly the head of family for transfer of technology. The head of the family is generally male member. Agricultural communication within

the family takes place while taking farm decisions and carrying out farm operations. Dissemination of information takes place through neighbours, friends and local leaders in rural area and thus communication of agricultural technology between families takes place through interpersonal communication methods. Involvement of maximum members in acquisition and transmission of agricultural information is essential to make family as effective unit of communication.

2. Religion

The whole village is structured around a village temple or deity. Religious festivals and fairs attract involvement of large number of people at a time and place. The significance of the religious structure for agricultural extension work is that assemblies of people for religious and fairs may be used to impart agricultural information and skills by organization of exhibition, distribution of print material, display of films and use of other mass media such as folk songs, folk drama and so on. Supply of improved seeds and seedlings is also possible at the time of religious fairs. Recently the Agricultural Universities have established permanent Agricultural Information Centres at Pandharpur, Shirdi, Alandi, Shegaon where large number of people gather regularly.

3. Village Panchayat

Prior to introduction of the Training and Visit (T&V) system of extension, the Zilla Parishad, Panchayat Samiti and the Gram panchayat played a significant role in communication of agricultural technology as a part of regular job. Most of the channels of communication were used for transfer of technology by these institutions. However, with the adoption of T & V approach of extension, transfer of agricultural technology was entrusted to Department of Agriculture, whereas the supply of inputs was the duty of Panchayat Raj institutions. Yet, rural people when they approach the Gramsevak for other purposes, they seek information from Gramsevak also.

4. Education

Village school is an important rural institution and can be effectively used for communication of farm technology. However, village schools are very rarely utilized

for transfer of technology. Display of posters, occasional screening of video films, lectures for the students and teachers will help sensitise them about innovations in agriculture and they in turn will communicate the information to parents and other rural people. The carry-over of learning to the home through the students can be great.

5. Economic Institutions

Every society organizes its relationship into a pattern that forms the physical means of livelihood. The economic system as a basic social institution refers to acceptable ways of making a living which are well established and have become stable and permanent in society. A number of economic institutions function in the rural area and to some extent perform the role of communicators of agricultural technology. Multipurpose cooperative societies, Milk cooperative societies, Gramin Banks and Pat Sanstha, Market Committees, Krishi Seva kendras who are concerned with supply of inputs, credits and marketing of farm produce, communicate information to farm people. However, their role and contribution is limited.

In short extension strategies need to involve groups not only to ensure more farmers are reached at lower cost, but more importantly to provide viable local institutions that can help farmers to be more self reliant and to sustain development investments. The role of extension staff in utilization of rural institutions in agricultural communication is significant one for which special awareness and training are needed. Existing institutions have often been neglected in rural development, but they may need careful adaptation to fulfill an expected role in the agricultural extension.

5.2.2 Gender in Rural Communication

Gender is a broad and analytical concept which not only encompasses all that are concerned with women but also highlights women's role and responsibilities in relation to those of men. The gender system is variously defined in different societies, but almost in every society the system is asymmetrical. One gender is considered inferior to the other and paradoxically, the assumed so, is always the female.

1. Role of Women in Agriculture

Cultural and anthropological literature suggests that agriculture is the invention of women. They were engaged right from the beginning in feeding and milking animals. Thus right from early ages of invention of agriculture to the present day modern agriculture, women have been playing a significant role in agricultural development.

It is believed that women first started cultivation of crop plants. Women started gathering seed from native flora and cultivated those for food, fodder, fibre and fuel around their hutments. Even today women are traditionally known for their seed selection and collection ability.

Women play a significant role in actual participation in farm operations as well as they are partners in decision making about various aspects of farming. Traditionally, seed cleaning and grading, sowing, dibbling, planting, transplanting, weeding, thinning, gap filling, inter culturing, harvesting, threshing, winnowing, feeding cattle and looking after milk animals and poultry birds are the main operations performed by women. Activities such as processing and storage at home are exclusively done by women. Higher caste women are generally engaged in supervisory work on farm.

Pearson (1979) has classified the role of farm women in agriculture, in following four categories :

- (a) *Independent producers* : who manage the farm largely by themselves.
- (b) *Agricultural partners* : who share most of the aspects of work responsibilities and decision making with their husbands.
- (c) *Agricultural helpers* : who only participate in farm work at busy times when extra help is needed.
- (d) *Farm home makers* : who contribute to the farm production indirectly by preparing meals and attending those working in the field.

2. Status of Women in Relation to Agricultural Communication

The vital aspect of transfer of improved agricultural technology to the rural women has been mostly neglected. With the fast development of new farm technologies it is necessary that the technical knowledge of farm women is updated. The existing system suffers from following weaknesses in relation to rural women.

- (a) Almost all the extension workers are male and in the context of existing rural social system these extension workers have no access to farm women for transfer of technology.
- (b) Women are seldom motivated to participate in extension related activities such as demonstrations, discussions, meetings, exhibitions, educational tours etc.
- (c) Rural women have comparatively less access to print media due to low literacy.
- (d) Mass media are mainly focused to men rather than women in respect of transfer of farm technology.
- (e) Under the Training and Visit system there are no women contract farmers.
- (f) Women are not involved in planning agricultural extension strategies.
- (g) There are meagre facilities for training of rural women in improved agricultural technology and related aspects. Similarly training of women in leadership role is almost neglected.
- (h) Adequate efforts are not made to organize rural women into interest groups to facilitate effective communication of farm technology.
- (i) Women's involvement in generation of agricultural technology suitable to rural women is not satisfactory.

3. Communication Strategy for Rural Women

Considering the role of rural women in agriculture and the weaknesses of the present agricultural communication system, following suggestions are given :

- (a) The extension service should be gender sensitive so that women farmers have full and appropriate access to meetings, demonstrations, field days and other activities and the women should be encouraged to attend and participate in these activities.
- (b) Informal communication networks are frequently gender - specific. The extension workers need to know how to use these traditional networks more effectively to disseminate improved technology to farm women.

- (c) There is a strong need to involve women in the design of extension programmes and their implementation.
- (d) Extension organization should develop training material that is gender specific and appropriate to the rural women.
- (e) The placement of extension announcements, posters, wall newspapers should be at places easily accessible to farm women.
- (f) Female extension workers should be appointed and professional extension services should be made available for consultation and to provide required information about agriculture at a regular interval to farm women.
- (g) Training programmes for farm women be organized for (1) imparting information on improved agricultural technology, (2) motivating and convincing to participate in extension activities, (3) developing leadership and management qualities.
- (h) Women should be selected as contact farmers representing broadly the average rural women and the extension worker should have extension contact with the women contact farmers as on par with men contact farmers.
- (i) Farm women should be organized in informal functional groups for which help of local women teachers, women members of Panchayats and cooperatives may be taken. This will facilitate group extension activities for women and provide access to input, credit and marketing services.
- (j) The planning of extension programmes must be based on accurate and appropriate data which reflect the true status and needs of women.
- (k) Women's development must be viewed as a part of the development of whole community and must be provided with adequate resources at all levels.
- (l) Women's extension programmes should recognize the imbalance which exists in the work loads and working conditions of men and women.
- (m) Educational and extension activities for women must meet their needs for increased managerial, organizational, entrepreneurial and decision making skills along with technical skills related to agricultural production or agro-based industries.

- (n) Women's programmes must reach the "unreachable" and those most deprived of access to education and services through modern communication technologies as well as through traditional media.

In short extension strategy for rural women must be planned in such a manner that women form a part of action plan for increasing agricultural productivity and production. The necessary training, provision of facilities and access to all kinds of information should be made available to farm women at their disposal.

5.2.3 Non Government Organizations in Rural Communication

Organizations are formalized groups, each consisting of a systematically arranged unit of people with the object of achieving some common purpose or interest. There are often a number of public, semi-public and private organizations concerned with rural development. In addition to national organizations, there can be a number of local agencies such as farm cooperatives, community councils, farmer associations, commodity groups and charitable organizations, input production organizations. Many of these local and national organizations have goals that are similar to those of extension organization. They are being increasingly involved in activities related to communication of agricultural technology. Some of the NGOs are devoted to conservation of natural resources, while some other are engaged in watershed management. Quite many of these NGOs strive for all-round rural development. Many NGOs voluntarily come forward to undertake and implement government extension programmes such as Lab to Land programme, Krishi Vigyan Kendra in addition to their own programmes. Commodity group organizations such as Grape Growers' association, vegetable growers associations, not only communicate relevant technology to their members and other farmers, but also generate technology for the benefit of their members. The cooperative sugar factories, cooperative milk societies, undertake a number of activities for communication of technology.

1. Characteristics of Non-Government Organization

Though there is diversity in purpose, organization, funding and participation in extension work, some common characteristics of Non-Government Organizations

can be identified as given below :

- (a) Most NGOs have been established with the basic objective of serving the rural community. They survive in the field through their own efficiency and commitment and not because of any dictating power from above.
- (b) Most of the NGOs are small organizations that concentrate on a particular area and have a strong network at the grass root level. They are able to understand local problems and the methods required to solve them
- (c) NGOs may be able to persuade farmers to adopt new techniques because they maintain close ties with them.
- (d) NGOs can modify general plans and models to suit local needs.
- (e) NGOs are generally strong in programme management and hence able to organize and monitor the programme more efficiently.
- (f) NGOs are primarily service organizations. They are generally hard working and efficient in comparison to Government extension agencies when it comes to promoting development programmes in rural areas.

2. Communication Approach of Non-Government Organizations

For both political and economic reasons NGOs do not generally have the same ready access to mass media channels as government extension agencies. NGO's make use of small scale local media such as audio-cassettes and videos in their work with rural people. However, use of print media on a small scale is made by NGOs to reach large and scattered audience.

NGOs mostly rely on individual and group contact methods. Individual visits by the extension staff of NGO are used as means of extension. Demonstrations, field days, group discussions, meetings, study tours are common features of extension approach of the NGO's for transfer of technology to the clientele as well for organization of beneficiaries.

For acquisition of knowledge and information about the agricultural technology, the NGO's have to depend heavily on agricultural research system, namely ICAR institutes, agricultural universities and State Department of Agriculture. The business houses and large Non-Government Organizations may participate in Government

research programmes to a limited extent and generate the technology. But by and large, they seek information from Government research organization through participation in meetings, workshops, seminars and conferences and through direct contact with the research organizations.

There is growing awareness about the significant role that can be played by Non-Government Organizations in generation and transfer of technology and under the National Agricultural Technology Project (NATP) the NGOs are encouraged to participate in transfer of technology.

5.2.4 Communication in Tribal Communities

The mode of communication in tribal areas is quite different from other areas. It is necessary to understand the cultures of the tribal for effective communication.

1. Tribes and their Characteristics

A Tribe is generally defined as “A social group usually with a definite area of living, dialect, cultural homogeneity and unifying social organizations. It may include several sub-groups or villages”. Lack of specialization, that is least functional interdependence can be considered as a basic criteria to differentiate a tribe from the rest of the people. Tribal community generally cling to a crude economic state or organization, that is they have primitive technology and this is considered as one of the important criteria. Homogeneity or lack of social stratification is another tribal feature. Group consciousness or ethnocentrism may be counted as yet another aspect of tribal life. This tribalism is again reinforced by endogamous principles governed by strong communal organization reflected in the form of the tribal ‘panchayat’ even today. There are about 427 scheduled tribes in India and three important tribal concentrated zones, where most of the tribals inhabit. There are :

- (a) North and north-eastern zones of India comprising the sub-Himalayan mountain region.
- (b) The central or middle zone comprising the states of West Bengal, Bihar, Orissa, Southern Uttar Pradesh, Northern Maharashtra, Madhya Pradesh, and Northern Rajasthan.

- (c) The southern zone consisting of Kerala, Tamilnadu, Andhra Pradesh states. The tribal pockets are also found in Andaman, Nicobar and Lakshadweep islands.

2. Problems of Tribals

Each of the tribal zone has specific problems of tribals; namely -

- (a) The tribals of North zone have remained neglected mostly due to remoteness of their habitat and difficult climatic conditions.
- (b) The tribals of North-Eastern zone are mostly shifting cultivators due to dearth of level land and steep hill slopes. Moreover, their economy is disrupted because of severance of communication between rest of the country. Thus communication and shifting cultivation are major problems of this zone.
- (c) In the Eastern, Central and western zones, the problems of tribal development are related to pressure of population on land problem of land tenure, indebtedness, and rights of tribals in forests and practice of shifting cultivation coupled with low production. Tribals of this area also suffer from chronic scarcity of food, water and employment.
- (d) The problems of tribals living in southern zone are mostly based on their primitive economy of shifting cultivation, food gathering habit and prevalence of ‘ muttadari ’ system of land tenure.

In general, the problems of tribals are reflected in (i) primitive methods of agriculture, (ii) land alienation, (iii) indebtedness, (iv) adverse effects of industrialization (v) low rate of literacy, (vi) poor health and nutrition, (vii) poor communication facilities, (viii) unemployment.

3. Tribal Development and Rural Development

Tribal development is sometimes thought to be synonymous with rural development. The difference between the two has to be clearly appreciated. The tribal population is concentrated in certain tracts. Many of the tribal areas are remote, inaccessible, forested, hilly or sloppy. Their natural resource endowment is vastly

different from that of the alluvial plains. Therefore, the schemes for the development of tribals have to be related to regional resource availability. Secondly, their requirement of infrastructure are large and distinctive. Thirdly on account of their age-long seclusion, the tribal communities have been cut off from the main stream, and hence cross fertilization of ideas have been restricted hampering technological advancement. Moreover, as a result of their isolation, the tribal communities have developed a certain culture and psyche of their own. These factors make it necessary to set planning for the tribal people and area different from rural development.

From sociologist's point of view tribal development is :

- (a) a movement emphasizing upon building up organizational structure
- (b) a programme emphasizing on activities
- (c) as a method emphasizing on certain achievable ends
- (d) as process emphasizing on what happens to people not only economically and socially but also psychologically
- (e) institutionalization of newly discovered skills and procedures leading to social change without completely breaking away from the past.

4. Status of Communication in Tribal Communities

Within the individual tribes, communication occurs through interpersonal channel in specific dialect of the tribe. Isolation, scatteredness, low literacy and lack of modern means of communication and transport, have severed the tribal people from communicating the people other than their own tribes.

Tribal development personnel have to communicate with the tribal people to transmit ideas, information and technology. The VLWs, the forest guards, the ancillary health workers, the primary school teachers and all others concerned with implementation of tribal development programme have mostly to rely upon individual contact methods and to some extent mass contact methods for transfer of technology and development messages. Personal contact, group meeting, demonstrations are the communication channels generally used by the development workers. Here also they face the problem of language many times. Low literacy prevent use of print

media, where as for want of radio and television sets, these media can not be effectively used. Most of the village level workers are men and therefore, communication with tribal women is rarely possible. Training programmes organized for development personnel are sometimes extended to tribal leaders and the office bearers of tribal cooperatives.

In communicating with tribal people, the extension workers face (1) cultural barriers, such as traditions, customs, values, (2) social barriers such as group soldierly, rejection of outsiders, conformity to norms, conflicts and group insight, (3) organizational barriers such as hierarchical patterns, channels of communication, division of labour and (4) psychological barriers such as dogmatism, low tolerance, low risk taking of the tribal people.

5. Measures to Improve Communication with Tribal Community

Following are some of the measures to improve communication with tribal communities.

- (a) Extension workers should be trained in tribal dialect or local language for easy communication.
- (b) Folk media should be used for communication of technology to maximum possible extent.
- (c) Extension women may be recruited from respective tribal communities.
- (d) Use of women teachers should be made for communication with tribal women, till educated tribal women are available for extension work.
- (e) Extension workers should have adequate training in tribal cultural and social aspects of tribal people.
- (f) The time schedule of extension workers should be flexible.
- (g) Community radio and television sets may be provided to enhance use of mass media.
- (h) Increased use of tribal panchayat and tribal school be made to communicate development messages.
- (i) Tribal festivals are important avenues to communicate with the tribal people.

5.2.5 Communication Pattern in Rural India

Communication pattern is the way through which information is passed from one group of individuals to another. There are two types of communication patterns, namely, (a) media of communication within the village, and (b) media of communication from one village to another and beyond to the outside world. Like the pattern of influence in a village, there is in the village society a network of communication channels. The extension worker is basically concerned with communication and as a communicator he strives to disseminate information and knowledge relevant to specific changes that he seeks to promote. The extension worker should possess adequate knowledge of existing system of communication both within the village and between villages and outside. He should also know how and through whom information is disseminated.

Communication within the village is mostly carried out by word of mouth. It has been said that all that is needed to spread information is to tell the village barber about it and the information will be easily disseminated. This may or may not be true, but it is a fact that there are in the village, individuals and groups who act as point of exchange in the communication network. Examples may be found in the many informal groups, that exist in the village such as the work group in the field, the gathering at the teashop, at the blacksmith's shop, the group at the village well or at the river gathered to bath, wash clothes or fetch water and individuals assembled in the village shop.

Recently the village library, the radio listening groups, the sports grounds also serve the points of exchange of information. The pattern may vary to some extent from village to village and area to area, particularly regarding individuals and points of exchange of information. Therefore, the extension worker should carefully study the existing situation in the village as regards individuals and groups who are the points of dissemination of information and the way in which they function.

The extension worker should also know the channels through which information from towns and cities is brought into the village. These may be news paper, radio, television, word of mouth, visitors, tradesmen and government officials like the extension worker and staff of other departments such as revenue, public health, animal

husbandry and so on. Contacts that take place at market places, meals, at wedding ceremonies and festivals and such other occasions that call for groupings of people at one or more points are important both in bringing information from other villages, towns and cities and in disseminating it in the village. The media of communication within the village is almost exclusively by word of mouth in local village dialect. The extension worker should learn the local dialect to be able to communicate effectively with the village people.

There is one more aspect that the extension worker should know in relation to communication pattern in rural area. Formal and informal leaders play an important role in information dissemination. Village people seek information and advice on many aspects of village life. There are community leaders, group leaders who often serve as point of exchange of information. Similarly the sarpanch, school teachers are also approached occasionally for advice and information. The extension worker has to identify these formal and informal leaders for their efficient use in information dissemination.

5.3 Glossary

Gender : It is a broad concept which not only encompasses all that are concerned with women, but also highlights women's role and responsibilities in relation to those of men.

Organization : Organizations are formalized groups, each consisting of a systematically arranged unit of people with the object of achieving some common purpose or interest.

Tribe : A tribe is generally defined as a social group usually with a definite area of living, dialect, cultural homogeneity and unifying social organizations.

Information Holders : These are the persons who possess information, such as scientists, change agents and elites.

Information Seekers : These are the persons who are eager to get information such as progressive farmers, innovators.

Phonic Persons : These persons who have no ability to hold, seek or use information.

5.4 Summary

For equal distribution of benefits of the development process, it is essential that weaker sections of the community need to be involved. This requires effective communication of technology to those, who are still remained out of main stream of development. An attempt has been made in this unit to review the communication pattern in rural area particularly communication of innovations to women and tribal people and role played by the rural institutions and Non-Government Organizations in these respects.

The rural institutions, namely, family, religion, school, polity and economic institutions will play an important role in communication if properly utilized. These institutions touch every aspect of human being as a member of society and, therefore, planned efforts will have to be made to make their use. Tribal people and women are neglected sector of rural India and for fuller development, they need to be reached with useful innovations. Their participation in communication and development process is need of the day.

The NGO's have concern for rural development. Communication support have to be provided to them by the extension organization. Moreover, extension agency have to study the communication pattern in rural area so as to make best use of it for communication of innovations.

5.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Describe the Rural Institutions involved in agricultural communication.
2. Describe the role of women in Indian agriculture.
3. What are the characteristics of Non-Governmental Organizations ?
4. What are the problems of Tribal population in India ?

Unit 6 : Communication and Development

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- 6.5 Exercise for Practice

6.1 Introduction

In simple terms, communication is exchange of ideas, facts, feelings and information between a source and receiver in a way that each gains common understanding. Communication influences the behaviour of an individual. In other words, the effect of communication may be changing behaviour of people. Thus communication may and often does play a key role in change.

The term development can notes growth or maturation. It implies gradual and sequential phases of change. Development is simply a purposeful change toward a kind of social and economic system that a country decides it wants. Thus, since communication generally produces change and development is purposeful upward change, both communication and development have some kind of relationship.

After the study of this unit, you will be able to know and understand :

- λ Communication for Rural Development
- λ Developmental Approaches
- λ Information Dissemination in Rural Area
- λ Communication Structure and Policies
- λ Developmental Communication

6.2 Content

6.2.1 Communication for Rural Development

The terms “rural development” and “community development” are synonymously used as they can note the same meaning. Community development designates the utilization under one single programme of approaches and techniques which rely upon local communities as units of action and attempts to combine outside assistance with organized local self determination and effort and which correspondingly seek to stimulate local initiative and leadership as the primary instrument of change. Community development is a process of change from the traditional ways of living to progressing ways of living. Community development is a method by which people in villages are involved in helping to improve their own economic and social conditions . It is a process of change by which the efforts of the people themselves are united with those of Government authorities to improve economic, social and cultural conditions of communities. In short, rural development or community development aim at economic development, social justice and democratic growth in rural area. When technology and educational instruments for disseminating it are available, the key to rural development is the human element and not the material aid. It is the education of the people to do things for themselves that make for enduring change. Thus rural development involves change - change in living conditions of rural people, change in their social conditions, change in their cultural aspects, that is overall change in the life of rural people.

Theoretically a overall change in the living conditions of rural people was considered to be rural development. This concept of rural development emphasized change in materialistic aspects of rural life. Therefore industrialization, capital intensive technology, economic growth in terms of increase in per capita income or Gross National Product (GNP) were the indices of rural development. However, there has been change in the concept of development from one, that had centred on materialistic, economic growth to a definition that implied such other valued ends as social advancement, equality and freedom. These valued qualities have to be determined by the people themselves through a widely participatory process. Rogers, therefore defined development as a wider participatory process of social change in a society, intended to bring about both social and material advancement including greater equality, freedom and other valued qualities for the majority of the people through their gaining greater control over their environment.

This new concept of development implied that the role of communication in development must also change. Previously mass communication had been considered to play an important role in development, especially in conveying informative and persuasive messages from government to the public in a downward, hierarchical way. Mass media was often thought to be a very powerful and direct force for development. Mass media was considered to be magic multiplier for development in developing nations. There was considerable optimism about the potential contribution of communication to development. Certainly, the media were expanding during the 1950 and 1960. Literacy was becoming more widespread in most developing nations, leading to greater print media exposure. Transistor radios were penetrating every village. A predominantly one-way flow of communication from government development agencies to the people was implied and the mass media were ideally suited to this role. They could rapidly reach large audiences with informative and persuasive messages about the details of development. Communication research showed that mass media exposure was highly correlated with individual modernization variables. However, gradually it was realized that the role of mass communication in facilitating development was often indirect and only contributory, rather than direct and powerful. But this varied upon such circumstances as the media, the messages,

the audience and the nature of intended effects. The further studies on role of communication media in rural development indicated that interpersonal channels with peers totally predominated in diffusion of innovations rather than the mass media. Technological innovations diffused most frequently from government development workers to their clients and among peers in the mass audiences. However, the role of mass media in creating general awareness about modernization among the rural people had been quite significant.

India's Community Development Programme aims at complete transformation - social and economic - of the individual and the community and the means chosen for this purpose is extension education. The method of extension education is used to improve the quality of human being. The extension techniques and the different methods of communication are used in the process of educating the people and stimulating them to purposeful action and to gradually bring about a guided technological and social change. Research regarding use of communication channels and sources of information by the rural people indicated that :

- (1) Personal sources of information of both institutional and non-institutional types have greater credibility with farmers than impersonal sources.
- (2) Non-institutional sources are most frequently used and have the highest credibility among the farmers followed by institutional personal sources.
- (3) The mass media are least used sources of information with lowest credibility.
- (4) Use of personal sources of information is predominant in all stages of adoption.
- (5) Institutional sources of information are more frequently used by young, educated, upper caste and by those having large holding and high socio-economic status.
- (6) Opinion leaders generally obtain information from institutional and cosmopolite sources and pass on to other farmers.

Thus personal and institutional sources of information play an important role in communication for rural development.

6.2.2 Developmental Approaches

According to the geographic scope, emphasis on development or community organization as the main objective and the effects on prevailing structure, rural

development programmes can be classified into three categories, namely (1) integrative type (2) adaptive type and (3) project type.

1. Integrative Type

This type of programme is countrywide in scope. It emphasizes on development and coordination of technical services. In the early years, it involves substantial changes in the administrative organization and functioning of Government. It has a readily identifiable organization which is designed to marshal and coordinate, at each level the efforts of Government and Non-Government agencies which can make a contribution to community development. In some cases, new administrative areas are created within the traditional ones in order to coordinate technical services at a point close to the people. Substantial technical and financial resources are channelled through this organization to achieve centrally planned development goals. India's programme is of this type.

2. Adaptive Type

The scope of this type of programme is also countrywide. The emphasis is on community organization and self-help. There is little change in administrative organization of government. It is designed primarily to stimulate self-help community effort toward locally determined goals and to attract the support of the technical department thereto. These are called adaptive type because they can be attached to almost any department and adapted to the prevailing administrative organization of government. Some of these programmes have as their objectives the improvement of the interdepartmental coordination and community development activities. For the most part, however, they utilize existing machinery and informal methods for this purpose. Very seldom there are interdepartmental committees at each level of government or new administrative areas or sub-areas established for community development purpose. There is wide diversity in the structure of this type of programme because of adaptations.

3. Project Type

This type is multifunctional but limited by geographical scope to certain parts of

the country, and usually emphasizes development. Its forms may be : (a) Inter-Ministerial in character, with primary responsibility for administration resting in a Functional Ministry. (b) In an autonomous agency under the general direction of an official appointed by the President and a council composed of representatives of Ministers of the Government and private institutions. (c) Multifunctional with responsibility for both policy and administration vested in a single department.

The above three types of approaches to rural development programmes differ substantially in purpose, organization and method of administration. In certain cases it is difficult to decide in which type the programmes should be placed.

New Approach to Rural Development

Rural development programmes in developing countries were influenced by the academic and historical events in the developed countries. The main elements that dominated the purpose and content of the rural development programmes can be briefly described below :

(i) **Industrialization** : The rapid economic growth in Europe and United States as a result of industrial revolution implied that economic growth was development. Industrialization was seen as the main route to development. So less developed countries were advised by development planners to industrialize. Thus economic growth through industrialization was considered to be development.

(2) **Capital - Intensive Technology** : More developed nations possessed capital - intensive technology. Less developed countries have less of it. So it was assumed that introduction of such technology in the developing countries would bring development. It was further assumed that appropriate social technology would appear to accompany the externally introduced material technology. When the needed social structures did not materialize in less developed countries, fault was attributed to traditional ways of thinking, beliefs and social values.

(3) **Economic Growth** : It is assumed that man would respond promptly and rationally to economic incentives, that the profit motive would be sufficient to motivate the wide spread and large scale behavioural changes required for development to occur.

The focus on economic growth carried with it an “aggregate bias” about development, that had to be planned and executed by national government. Local communities, of course, would be changed eventually by such development, but their advance was thought to depend upon the provision of information and resource input from higher levels.

(iv) **Quantification** : The index or measure of development was considered to be Gross National Product or per capita income. The drive for quantification of development helped define what development was and was not. Material well being could be measured. Such values as dignity, justice and freedom can not be measured. So the meaning of development began to have somewhat dehumanised nature. Development policies paid little attention to the equality of development benefit. The “growth - first - let - equality - come - later” mentality was justified by the trickle - down - theory - that leading sectors once would then spread their advantage to the lagging sectors.

Experience with implementation of rural development programmes having elements - industrialization, capital intensive technology, economic growth and quantification of economic benefits, showed that most development efforts have brought further stagnation, greater concentration of income and power, high unemployment and food shortages, This led to emergence of alternative pathways to development with following main elements as described by Rogers, in “Communication and Development” - 1976.

- (a) The equality of distribution of information and socio-economic benefits. The new emphasis in development led to the realization that villagers and urban poor should be the priority audience for development programmes and more generally that the closing of socio-economic gap by bringing up the lagging sectors was a priority task in many nations.
- (b) Popular participation in self development planning and execution, usually accompanied by decentralization of certain activities to the village level.
- (c) Development came to be less a mere function of what national government did to villagers, although it was recognized that some government assistance was necessary even in local self development.

- (d) Self - reliance and independence in development with an emphasis upon the potential of local resources.

Mao Tse-tung's conception of national self-development in China is an illustration of this view point including the rejection of foreign aid. Not only international technical assistance may be rejected, but so too are most external models of development - leading to the view point that every nation, and perhaps each village may develop in its own way. If this occurs, standardized indexes of the rate of development become inappropriate and largely irrelevant.

- (e) Integration of traditional system with modern systems, so that modernization is a synchronisation of old and new ideas.
- (f) The integration of Chinese medicine with Western scientific medicine in China is an example of this approach to development. Acupuncture and antibiotics mix quite well in the peoples minds as shown by this experience. Until the 1970 development thinking implied that traditional institutions would have to be entirely replaced by their modern counter parts. Belatedly, it was recognized that these traditional forms could contribute directly to development.

Thus (1) equality of distribution, (2) concern with quality of life, (3) integration of traditional and modern systems in the country, (4) greater emphasis on intermediate-level and labour intensive technology, (5) self reliance on development, (6) popular participation in decentralized self development planning and execution are the main elements of new approach to rural development.

6.2.3 Information Dissemination in Rural India

It has been seen that information from mass media and institutional sources does not reach directly to all people; rather it is relayed in ways to people through different steps. Based on this assumption, the theories of 'one-step flow', 'two-step flow', and 'multi-step flow' of information have been generated. Without regard to the number of steps involved in dissemination of information, there is no doubt that not all people, but a few people have access and contact to outside information. It is

generally a few large and innovative farmers with cosmopolite orientation, who obtain information from external sources and disseminate the information to other farmers in the community. Consequently, most farmers obtain information from non-institutional personal sources at almost all stages of adoption. The low level of literacy and relative poverty of the majority of Indian farmers keep from having easy access to the mass media.

The relative physical and social isolation of Indian farmers and their traditional nature also make them suspicious of information originating from institutional and external sources. The distrust for institutional and external sources makes the Indian farmers turn to their more informed and innovative friends, relatives and neighbours for information and advice which they can trust. It is only a few large, innovative and externally oriented farmers, who are exposed to and receptive of information flowing from institutional sources. These farmers are some times called as innovators, key communicators, opinion leaders, agricultural leaders, lay leaders. These innovative farmers use institutional sources of information namely extension personnel, representatives of agricultural input agencies, research stations more frequently than average farmers. The exposure to mass media, namely print media and electronic media is higher among these innovative farmers and opinion leaders.

In short interpersonal sources of the non-institutional type are most frequently used by Indian farmers to obtain information on agricultural innovations. Opinion leaders obtain information from institutional sources and transmit to their neighbours, friends and relatives in the villages. Extension agents are the second most important sources of information to Indian farmers. The Village Level Worker, who is in close contact with farmers is the most frequently sought often and most widely known extension agent among villages. Because of low level of literacy and access, mass media such as literature, radio, TV are used for information by educated and affluent farmers.

6.2.4 Communication Structure and Policies

Communication is always a joint occurrence, a mutual process of information sharing between two or more persons. In other words communication always implies

relationship. This relationship is a result of interconnectedness among individuals.

The essence of much human behaviour is the interaction through which one individual exchanges information with one or more other individuals. Any given individual in a system is likely to contact certain other individuals and to ignore many others. As these interpersonal communication flows become patterned over time, a communication structure or network emerges, that is relatively stable and predictive of behaviour. **Communication structure** is the arrangement of the differentiated elements that can be recognized in the patterned communication flows in a system. A **communication network** consists of interconnected individuals who are linked by patterned flows of information. Communication network analysis describes the component linkages and their interrelationships in the interpersonal communication structures. The communication networks in which an individual is embedded offers a basis of explanation for the individual's behavioural change.

Communication structure consists of links, clique, liaison and bridge. **Link** is a communication relationship between two units (usually individuals) in a system. **Clique** is a subsystem whose elements interact with each other relatively more frequently than with other members of communication system. **Liaison** is an individual who links two or more cliques in a system, but who is not member of any clique. **Bridge** is an individual who links two or more cliques in a system from his/her position as a member of one of the cliques.

Communication structure exists in a system to the extent that the units in the system are differentiated from each other. Structure is the property of the system, rather than of the individual members of the system. One function of the structure is to provide stability, regularity and predictability to the system. Communication structures are multidimensional having conceptual variables such as connectedness, integration, diversity and openness.

When we study the communication, we have also to understand the determinants of who is linked to whom. These determinants are (1) spatial distance and (2) the homophily or the similarity of linked individuals in certain social characteristics. In this respect, it is observed that individuals tend to be linked to others who are close to them in physical distance and who are relatively homophilous in social

characteristics. Both social and spatial proximity can be interpreted as indicators of “least effort”. Everything else equal, individuals form network links that require the least effort and that are most rewarding. Homophily usually leads to more effective interpersonal communication, because the linked individuals share similar views of the topic being discussed. Thus the homophilous communication is more rewarding.

The homophilous contact, however, tends to be of limited value in an information exchange sense, because such network links generally are more closed and are thus weaker for the individual as a means of reaching for new information. The relatively role heterophile in a network is in an advantageous position to be better informed.

Communication structure in relation to Policy of diffusion of Innovations

A major function of Government agencies is to diffuse technological innovations to an audience of potential adopters. These diffusion agencies mainly conceived of their function in terms of linear model of communication, from research and development to create the innovation, to dissemination of these technologies to the public audience, who then adopt the innovations. Thus the Government agencies follow the top-down or vertical diffusion model. Most Government programmes in the past assumed that the innovation was perfected prior to its diffusion and that it moved out from the ‘centre’ via vertical spokes to the ‘periphery’ of local government and the public through a carefully planned, well managed diffusion process. However, local problems and needs are so diverse in a rapidly changing and heterogeneous society that the vertical diffusion model may not effectively meet the local needs. Therefore it is necessary to design and support horizontal networks for information exchange about innovation. New problems could then be identified by localities, which would also begin experimentation to find solutions. The Central Government should assist Local Governments in exchanging the resulting innovations, playing a facilitating role, rather than acting like a top-down authority. Local adaptation of the innovation would be encouraged in light of the heterogeneity of local conditions. As a result of the horizontal diffusion networking, the networks become not only user-driven but also user designed. In India, the central extension system is continuously being modified encouraging adaptive research, location specific research, encouraging local non-

government agencies in generation and transfer of technology and promoting commodity groups to undertake the function of technology generation and transmission.

6.2.5 Developmental Communication

In general, development communication is to inform, motivate and influence all sectors and levels of people of a developing country, to use hitherto unfamiliar ideas, skills and instruments, thus adding the long neglected social component. According to Nora Quebral (1975) the development communication is art and science of human communication applied to the speedy transformation of a country and the mass of its people from poverty to a dynamic state of economic growth that makes possible greater social equality and larger fulfilment of social potential. According to Rosario Braid (1979), Developmental communication is an element of management process in the overall planning and implementation of development programmes. In a broad sense, it is the identification and utilization of appropriate expertise in the development process that will assist increasing participation of intended beneficiaries at the grassroots level. Development communication has emerged from practical life situations and therefore is an innovation of the developing countries. It implies desirable changes in the thinking and works of the people. To be more specific, it grows mostly out of people's participation and satisfaction. The ingredients of development communication are :

- (1) sense of feeling to have actively participated
- (2) sense of pride in evolving solution to the problems at hand
- (3) sense of mental and physical achievements

Developmental communication can use any channel, a combination of channels such as television, radio, print media, to achieve the objectives of development. Thus all these media fall within the ambit of developmental communication. Development covers most of the aspects of rural life such as agriculture, health, sanitation, family planning, education, roads and transports etc. Development communication also pertains to urban area and addresses the issues such as crimes, accidents, drug addictions, conservation of water and energy and so on. Thus developmental

communication is a deliberate, systematic and continuous effort to organize human activity for the efficient use of communication policies, in the context of a particular society's developmental goals, means and priorities and subject to its prevailing forms of economic, social and political organization.

Planning Development Communication

The development method and the objectives and goals of a country influence the planning of development communication of the country. However, following aspects are generally considered in planning developmental communication :

- (1) Identification of communication needs and resources - critical analysis of communication needs of each society, especially in relation to existing social and communication structures and the uses to which communication is applied.
- (2) A statement of goals in clear and measurable terms.
- (3) Planning a development strategy - a combination of channels and messages to reach certain audiences in order to achieve certain goals. There may be a number of possible communication strategies which must be carefully analysed including their benefits and cost before selecting the appropriate one.
- (4) Planning for implementation - a scheme for implementation of the chosen strategy which involve organization, resources and time.
- (5) Planning for evaluation - It is an essential aspect that seeks to establish mechanisms and allocate resources to determine how well the strategy is working; whether goals have been achieved and to identify the relationship between strategies and goal achievement.
- (6) To summarize, development communication is one of the means of speeding up the space of progress. It is one of the most vital components in any developmental planning and its implementation.

6.3 Glossary

Community Development : It is the process of changes from the traditional ways of living to progressive ways of living.

Communication Structure : It is the arrangement of differentiated elements that can be recognized in the patterned communication flows in a system.

Communication Network : It consists of interconnected individuals who are linked by patterned flows of information.

Link : It is a communication relationship between two units usually individuals in a system.

Clique : It is a subsystem whose elements interact with each other relatively more frequently than with other members of the communication system.

Liaison : It is an individual who links two or more cliques in a system but who is not member of any clique.

Bridge : It is an individual who links two or more cliques in system from his/her position as a member of one of the cliques.

Developmental Communication : It is an art and science of human communication applied to the speedy transformation of a country and the mass of its people from poverty to a dynamic state of economic growth that makes possible greater social equality and larger fulfillment of social potential.

6.4 Summary

Rural development is bringing change in the living conditions of rural people. Communication plays an important role in bringing about this change. It was believed that mass media played a significant role in development in conveying informative and persuasive messages. However, studies showed that interpersonal channels with peers totally pre-dominated in diffusion of innovations rather than the mass media. Technological innovations most frequently diffuse from development workers to their clients and among peers in the mass audience.

Considering geographic scope, emphasis on development or community organization and the effects on prevailing structures, rural development programmes are classified as integrative type, adaptive type and project type.

The initial approach to rural development consisted of industrialization, capital intensive technology, economic growth and quantification of economic benefits as

the elements of development. However, the new approach envisaged the equality of distribution of information and socio-economic benefits, popular participation in planning and execution of development programmes, self reliance and independence and integration of traditional and modern systems as the aspects of rural developments.

In India, few innovative and cosmopolite farmers obtain information from external sources namely mass media and institutional sources and disseminate the information to other farmers. Thus interpersonal sources of non-institutional type are most frequently used by most of the rural people to get information.

Analysis of communication network helps to understand the interconnectedness of individuals in a social system. It is suggested that alongwith top-down or vertical model of diffusion, it is necessary to design and support horizontal networks for information exchange about innovation.

Development communication is the identification and utilization of appropriate expertise in the development process. It is one of the means of speeding up the space of progress.

6.5 Exercise for Practice

Answer the following questions in 200 words each.

1. What is Rural Development and explain role of communication in rural development ?
2. Describe approaches of rural development.
3. Define Developmental Communication and describe its role in developing nations.
4. Define the terms Link, Clique and Bridge and state their role in communication.

Unit 7 : Status of Agricultural Communication

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7.1 Introduction

Agricultural communication is concerned with the dissemination of agricultural technologies to the farming communities to increase their production, employment and income. It is also concerned with providing feed-back to research, education and training organizations. The demand made upon the agricultural communication system for enhancing agricultural production is enormous and most formidable, because the agricultural communication system has to deal with a complex and socio-economically weak farming community which is large in size and thus massive in demand. To meet this massive demand a number organizations are functioning from international level to national state and local level. While the main function of some of these organizations is communication of agricultural technology, many organizations communicate agricultural technology as their secondary function. A brief review of these organization is taken in this unit.

After the study of this unit, you will be able to know and understand :

- λ International organizations
- λ National organizations
- λ State level organizations
- λ Non-Government organizations
- λ Corporate organizations
- λ Local organization

7.2 Content

7.2.1 International Organizations

International organizations play significant role in communication of agricultural technology. Among all these organizations United Nations Organization (UNO) plays an important role through its organizations namely FAO (Food and Agriculture Organization), United Nations Education, Scientific and Cultural Organization (UNESCO), United Nations Development programme (UNDP) and so on. Moreover, many developed countries have organizations established for exchange of information. A number of specialized information centres, each devoted to a particular facet of agriculture have been established in various parts of the world. While not necessarily devoted to extension *per se*, these centres are important sources of authoritative information. Several organizations generate publications of potential value to extension activities, and most of them are willing to answer questions and perhaps even supply relevant bibliographies or publications themselves in their areas of specialization. In some cases, these centres will provide services free or at greatly reduced cost, to the developing countries. A list of these centres as well as other organizations is given below :

- (1) United Nations organization (UNO)
- (2) United States Agency for International Development (USAID) Washington
- (3) International Agriculture Centre (IAC), Wageningen, Netherlands.
- (4) Food and Agricultural Organization (FAO) of United Nations, Rome

- (5) World Bank, Washington, DC. USA
- (6) International Development Institute, Bloomington, Indiana
- (7) Overseas Development Institute, London, U.K.
- (8) The Rockefeller Foundation, New York, USA
- (9) Institute of Development Studies, Nairobi, Kenya
- (10) United Nations Development Programme, Bangkok, Thailand
- (11) Swedish International Development Agency, Sweden
- (12) Danish International Development Agency, Denmark
- (13) International Information System for Agricultural Sciences and Technology
- (14) Canadian International Development Agency (CIDA), Canada
- (15) International Institute of Communication (IIC)
- (16) International Fund for Agricultural Development (IFAD), Rome
- (17) The Commonwealth Agricultural Bureau, Farnham House, United Kingdom
(This is a unique organization that coordinates the work of 14 information centres on the following topics : entomology, mycology, biological control, helminthology, agricultural economics, animal breeding and genetics, animal health, dairy science and technology, forestry, horticulture and plantation crops, nutrition, pastures and field crops, plant breeding and genetics, and soils).
- (18) Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia (Cassava, field beans, rice and tropical pastures).
- (19) Centro Internacional de Mejoramiento de Maiz Y Trigo (CIMMYT), Mexico (Maize, wheat).
- (20) Centro Internacional de la papa (CIP), Lima, Peru (Potato).
- (21) International Centre for Agricultural Research in Dry Areas (ICARDA), Aleppo, Syria (Cereals, food legumes, forage crops, and farming systems in general for arid regions).
- (22) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India (Chick pea, pigeon pea, pearl millet, sorghum, groundnut, farming systems in semi-arid areas)
- (23) International Livestock Centre for Africa (ILCA), Addis Ababa, Ethiopia.

- (24) International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya.
- (25) International Rice Research Institute (IRRI), Manila, Philippines.
- (26) International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria (Maize, rice, roots and tubers, food legumes, farming systems for tropical areas).
- (27) West Africa Rice Development Association (WARDA), Monrovia, Liberia.
- (28) International Irrigation Information Centre (IIIC), Bet Dagan, Israel.
- (29) Asian Vegetable Research and Development Center (AVRDC), Taiwan.
- (30) International Centre for Insect Physiology and Ecology (ICIPE), Washington, USA and Nairobi, Kenya.
- (31) International Fertilizer Development Centre (IFDC), Alabama, USA.
- (32) International Food Policy Research Institute (IFPRI), Washington, USA.
- (33) The Inter-American Centre for Agricultural Information and Documentation, San Jose, Costa Rica.
- (34) International Buffalo Information Center, Kasetsart University, Bangkok, Thailand.
- (35) African Food and Nutrition Research organization (ORANA), Dakar, Senegal.
- (36) Comprehensive Pig Information Centre (CPIC), Reading, UK
- (37) Soybean Insect Research Information Center (SIRIC), International Soybean Program, College of Agriculture, University of Illinois, Urbana, Illinois, USA.
- (38) Dairy Society International (DSI), Washington, USA.
- (39) Nigerian Institute of Oil Palm Research, Benin City, Bengal State, Nigeria.
- (40) Rubber Research Institute of Malaysia, Kuala Lumpur, Malaysia.
- (41) Rubber Research Institute of Sri Lanka, Mt. Lavinia, Sri Lanka.
- (42) Tropical Pesticides Research Institute, Arusha, Tanzania.
- (43) Centre for Overseas Pest Research, London, UK
- (44) Institute of Tropical Forestry, Rio Piedras, Puerto Rico.
- (45) International Documentation Centre on Abaca, University of the Philippines, Los Banos, Philippines.
- (46) Institute Francis du Cafe et du Cacao, Paris, France.
- (47) Coconut Research Institute, Lunuwila, Sri Lanka.

- (48) Centro de Documentacao de Cafe, Missao de Estudos Agronomic de Ultramar, Lisbon, Portugal.
- (49) Servico de Documentacao Economica, Instituto-Brasileiro do Cafe, Rio de Janeiro, Brazil.
- (50) Institute Francis de Recherches Fruitiness Outre-Mer, Paris, France.
- (51) Institute de Recherches pour les Huiles et Oleaginous (IRHO), Paris, France (Oil seeds).
- (52) Institute de Acucar e do Alcool, Praca Rio de Janeiro, Brazil.
- (53) Sugarcane Breeding Institute, ICAR, Coimbatore, India.
- (54) Tropical Products Institute, London, UK.
- (55) Documentation Center on Tropical Forestry, University of the Philippines, Los Banos, Philippines.
- (56) Centre Technique Forestier Tropical (CTFT), Gabrielle, France.

While not a specialized information centre per se, mention should be made of Volunteers in Technical Assistance (VITA). VITA is a private non-profit making development agency based in the United States. Throughout the developing countries, since 1960 VITA has used the mail to inform farmers and extension officers about technical improvements they may not know about. A farmer's questions are answered by sending a photocopy from one of VITA's publications, which are written by experts in their fields and who are experienced in work in developing countries. Subjects of particular interest to VITA are agriculture and animal husbandry, alternative energy systems, water and sanitation, food processing, and small-scale industries. They maintain a collection of 50 thousand published and unpublished documents concerning small-scale technologies suitable for developing countries.

VITA also produces many appropriate technology manuals, including some in French, Spanish, and Arabic. The Village Technology Handbook is a collection of plans and designs for the support systems necessary for a small community's survival. Specific topics include windmills, water wheels, and rabbit raising. In addition a number of technical bulletins are available. The headquarters of VITA is located at Rhode Island Ave., Mt. Rainier, USA.

7.2.2 National Organizations

At the national level, agricultural communication function is performed mainly through the ministry of agriculture, Ministry of Rural Development and the Indian Council of Agricultural Research (ICAR). The Extension Education Institutes at Anand (Gujrat) Hyderabad, Nilokhari (Haryana) and Jorhat (Assam) function under the Ministry of Rural Development for training of Instructors of Gramsevak Training Centres and other middle level development personnel. The ICAR carries its agricultural extension activities through :

- (i) Front line demonstration programmes
- (ii) National Research Institutes
- (iii) National Research and Training Institutes
- (iv) National Research Centres (NRCs)
- (v) UNDP Advanced Centres
- (vi) National Agricultural Research Projects
- (vii) All India Coordinated Research Projects
- (viii) Project Directorates

Most of the ICAR Institutes have departments of extension or extension cells. The larger institutes have Directorates of Extension with training, farm advisory and communication wings. Their communication activities are organized in villages around the institutions. The National Agricultural Research Projects are under the control of state Agricultural Universities, where as the All India Coordinated Research project are under the technical control of respective Project Directorates with administrative control of the State Agricultural universities. Some of the UNDP advanced centres are also functioning under State Agricultural Universities. The list of different kinds of ICAR organizations is given below :

1. Indian Council of Agricultural Research (ICAR) : Institutions having Educational and Training Facilities

- (1) Indian Agricultural Research Institute (IARI), New Delhi-110012.
- (2) Indian Veterinary Research Institute (IVRI), Izatnagar, Utter Pradesh-243122.

- (3) National Dairy Research Institute (NDRI), Karnal, Haryana-132001.
- (4) National Academy of Agricultural Research Management (NAARM), Rajendranagar, Hyderabad, Andhra Pradesh-500 030.
- (5) Central Institute of Fisheries Education (CIFE), P.O. Box No. 7392, Bombay, Maharashtra-400 058.
- (6) Central Sheep and Wool Research Institute, (CSWRI) avikanagar, Rajasthan-304501.
- (7) Central Avian Research Institute (CARI), Izatnagar, Bareilly, Uttar Pradesh-243122.
- (8) National Centre for Mushroom Research and Training (NCMRT), Chambaghat, Solan, Himachal Pradesh-173 213.
- (9) National Bureau of Soil Survey and Land-Use Planning, (NBSS & LUP), Amravati Road, Nagpur, Maharashtra-440 006.
- (10) Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehra Dun, Uttaranchal-248 195.
- (11) Central Institute of Agricultural Engineering (CIAE), Nabi Bagh, Berasia Road, Bhopal, Madhya Pradesh-462 018.
- (12) Central Agricultural Research Institute (CARI) for Andaman and Nicobar Group of Islands, Port Blair, Andamans-744 001.
- (13) Sugarcane Breeding Institute (SBI), Coimbatore, Tamil Nadu-641 007.
- (14) Directorate of Pulses Research (DPR), Kanpur, Uttar Pradesh-208 024.
- (15) Central Inland Capture Fisheries Research Institute, (CICFRI), Barrackpore, 24-Parganas, West Bengal-743 101.
- (16) Central Marine Fisheries Research Institute (CMFRI), Cochin, Kerala-682 031.
- (17) Central Institute of Fisheries Technology (CIFT), Cochin, Willington Island, Matsyapuri P.O., Cochin, Kerala-682 029.
- (18) Indian Institute of Sugarcane Research (IISR), Lucknow, Uttar Pradesh-226002.
- (19) Vivekananda Parvatiya Krishi Anusandhan Shala, (VPKAS), Almora, Uttar Pradesh-263601.

- (20) Central Plantation Crops Research Institute (CPCRI), Kasaragod, Kerala-670124.
- (21) Directorate of Rice Research (DRR), Rajendranagar, Hyderabad, Andhra Pradesh-500030.
- (22) Central Rice Research Institute (CRRI), Cuttack, Orissa-753006.
- (23) Central Potato Research Institute (CPRI), Shimla-171001 (HP)
- (24) Indian Institute of Horticultural Research (IIHR), Bangalore, Karnataka-560080.
- (25) Indian Lac Research Institute (ILRI), Ranchi, Bihar-834 010.
- (26) Directorate of Oilseeds Research (DOR), Hyderabad-500 030 (AP)
- (27) Indian Agricultural Statistics Research Institute (IASRI), Pusa, New Delhi-110 012.
- (28) Central Arid Zone Research Institute (CAZRI), Jodhpur, Rajasthan-342001.
- (29) Cotton Technological Research Laboratory (CTRL), Mumbai-400019(MS)
- (30) Central Institute of Cotton Research (CICR), Nagpur, Maharashtra-400019.
- (31) Jute Agricultural Research Institute (JARI), Barrackpore, District 24-Parganas, West Bengal-743101.
- (32) Jute Technological Research Laboratory (JTRL), Calcutta -700 040 (WB)
- (33) Indian Grassland and Fodder Research Institute (IGFRI), Jhansi, Uttar Pradesh-284003.
- (34) National Institute of Agricultural Extension Management, (MANAGE) Rajendranagar, Hyderabad.
- (35) National Institute of Rural Development (NIRD, under Ministry of Rural Development)

2. List of National Research Centres (NRCs)

(a) *Crop Sciences*

1. National Research Centre for Groundnut, Junagadh, Gujarat
2. National Research Centre for Sorghum, Hyderabad, Andhra Pradesh
3. National Research Centre for Soybean, Indore, Madhya Pradesh
4. National Research Centre for Plant Bio-technology, IARI, New Delhi.

5. National Research Centre on Integrated Pest Management, Faridabad, Haryana

(b) Horticulture

6. National Centre for Mushroom Research and Training, Solan, Himachal Pradesh
7. National Research Centre for Citrus, Nagpur, Maharashtra
8. National Research Centre for Cashew, Puttur, Karnataka
9. National Research Centre for Spices, Calicut, Kerala
10. National Research Centre for Garlic and Onion, Rajgurunagar, Maharashtra
11. National Research Centre for Grapes, Pune, Maharashtra
12. National Research Centre for Pomegranate, Sangola, Maharashtra

(c) Animal Sciences

13. National Research Centre for Yak, Nikamadang, Arunachal Pradesh
14. National Research Centre for Mithun, Nagaland
15. National Research Centre for Equines, Hissar, Haryana
16. National Research Centre for Camel, Bikaner, Rajasthan
17. National Research Centre for Meat and Meat Products Technology, Izatnagar, Uttar Pradesh
18. National Research Centre on Animal health, Izatnagar, Uttar Pradesh
19. National Research Centre on Animal Production, Karnal, Haryana

(d) Resource Management

20. Water Technology Centre for Eastern Region, Bhubaneshwar, Orissa
21. National Research Centre for Weed Science, Jabalpur, Madhya Pradesh
22. National Research Centre for Agroforestry, Jhansi, Madhya Pradesh

(e) Fisheries

23. National Research Centre for Coldwater Fisheries, Bhimtal, Jammu & Kashmir

3. List of Project Directorates

(a) Crop Sciences

1. Directorate of Rice Research, Hyderabad, Andhra Pradesh

2. Directorate of Wheat Research, New Delhi.
3. Directorate of Pulses Research, Kanpur, Uttar Pradesh
4. Directorate of Oilseeds Research, Hyderabad, Andhra Pradesh
5. Project Directorate on Vegetables, New Delhi.

(b) *Resource Management*

6. Directorate of Cropping system Research, Bangalore, Karnataka
7. Project Directorate on Water Management, Karnal, Haryana

(c) *Animal Sciences*

8. Project Directorate of Cattle, Meerut, Uttar Pradesh
9. Directorate on Poultry Improvement, Hyderabad, Andhra Pradesh

4. UNDP Advance Centres

(a) *Under ICAR*

1. Dairy production, NDRI, Karnal
2. Poultry Production, CARI Izatnagar
3. Agricultural Economics, IARI, New Delhi
4. Mariculture, CMFRI, Cochin
5. Tropical Horticulture, IIHR, Bangalore
6. Dairy Processing, NDRI, Karnal
7. Plant Physiology, IARI, New Delhi
8. Agricultural Statistics and Computer Application IASRI, New Delhi
9. Plant Virology, IARI, New Delhi
10. Plant Biotechnology, IARI, New Delhi
11. Animal production Bio-technology, NDRI Karnal
12. Immune Biotechnology, IVRI, Izatnagar
13. Agricultural Research and Education Management, NAARM, Hyderabad
14. Agroforestry, CSWCR & TI, Dehara Dun
15. Irrigation Management, NBSS & LUP, Nagpur
16. Inland Fisheries, CIFA, Bhabaneshwar

(b) *Under Agricultural Universities*

1. Soil Fertility and Plant Nutrition, PAU Ludhiana

2. Agricultural Meteorology, College of Agriculture, Pune
3. Seed Technology, HAU, Hissar
4. Crop Protection, UAS, Bangalore
5. Agricultural Engineering, PAU, Ludhiana
6. Soil and Water Management, HAU, Hissar
7. Temperate Horticulture, HPKV, Palampur
8. Agricultural Microbiology, TNAU, Coimbatore
9. Energy management in Agriculture, PAU, Ludhiana
10. Post-harvest Technology, GBPUAT, Pantnagar
11. Agricultural Communication, GBPUAT, Pantnagar

5. Transfer of Technology Programmes of ICAR

1. Operational Research Projects, New Delhi
2. National Demonstration Project, New Delhi
3. Upliftment of Scheduled Castes, Scheduled Tribes, and Backward Area, Akola Maharashtra.
4. Tribal Area Research Project, Akola, Maharashtra
5. Krishi Vigyan Kendras (300 in number)
6. Trainers Training Centres (10 in number)

6. Agricultural Communication organizations under other Ministries at National level

Some of the organizations under the control of other Ministries of Central Government also deal with agricultural communication. They are :

1. Central Information Bureau
2. Press Council of India - Press Trust of India - United News Agency- Samachar Bharati - Hindustan Samachar
3. Directorate of Field Publicity - Regional offices and Field offices
4. Film Division of Information and Broadcasting ministry
5. Indian Institute of Mass Communication
6. All India Radio
7. Door Darshan

7.2.3 State Level Organizations

At the State level, the Agricultural communication activities are carried out through the Department of Agriculture, Department of Rural Development and the Agricultural Universities in the State.

1. State Department of Agriculture

In almost all the States, the Training and Visit system of Agricultural Extension has been introduced. The major function of transfer of technology by the Department of Agriculture is performed through the Training and Visit System. The Zonal Workshops, Monthly District Workshops and Fortnightly Training Classes are the avenues, where the extension personnel are trained in formulating location-specific and timebound messages to be passed on to the farmer. Scientists of Agricultural University participate in the training activities to help formulate the messages.

There are Information Units attached to the Directorate of Agriculture to provide communication support of the extension personnel as well as to the farming community through supply of print material, audio-visual aids and through the mass media like Radio and Television.

A number of Agricultural Development projects are also implemented by the Department of Agriculture. The personnel working in these projects also cater the communication needs of the farmers.

In Maharashtra, Training Institutes at Nagpur, Amravati, Aurangabad, Daund (Pune), Nasik, and Khopoli are established to impart training to the personnel working in the Department of Agriculture about various aspects of agricultural Development. In most of the states there are Farmers Training Centres, for training of farmers in agriculture.

2. Rural Development Department

Though, the major function of agricultural communication is performed by the State Department of Agriculture and State Agricultural Universities, the personnel working at different levels in the Rural Development Department, also participate in agricultural communication activities while implementing rural development projects'. Village Development Officers, Training Centres, Extension Training Centres.,

Gramsevak Training Centres, State institute of Rural Development, Agricultural Training Centres are the institutions established for the training of village level and state level rural development personnel. In Maharashtra, Yashwantrao Chavan Institute of Development Administration, Pune organizes training courses for higher level development personnel. There is a state level Institute of Tribal Development, Research and Training, Pune looking after training of tribal development personnel. The Zilla Parishad and Panchayat Samiti are the middle level organizations performing agricultural communication work while supplying the inputs to the farmers.

All these organizations perform, to some extent, the agricultural communication activities.

3. State Agricultural Universities

Agricultural Universities play significant role in communication of agricultural technology. The training of state extension personnel at different levels is a major function of Agricultural University. In addition, communication of agricultural technology by the Agricultural University is carried out by various activities organized by the :

- (1) Under - graduate and post graduate colleges ;
- (2) Agricultural Research Stations ;
- (3) Agricultural Research Projects ;
- (4) Agricultural Schools ;
- (5) Directorate of Extension Education.

The main function of the Directorate of Extension Education is to coordinate all the extension education activities performed by the different colleges and research stations under the university. The Directorate also develops effective linkage with the state Department of Agriculture and other development Departments, and organizes training programmes for the extension personnel. It has also linkages with the mass media agencies in the State, namely Doordarshan, Radio and the News papers. These functions are performed by the Directorate through its (1) Training wing (2) Advisory wing, and (3) Communication wing. The administrative control and the technical guidance is also provided by the Directorate of extension to the

TOT projects of ICAR namely National Demonstrations, Krishi Vigyan Kendras, Operational Research Projects, Trainers Training Centres, and Front Line Demonstrations. An important agricultural communication activity carried out in the Agricultural University is through the Rural Agricultural Work Experience (RAWE) provided to the students of Agricultural Colleges. Almost all types of extension and communication activities are organized by the students under this programme.

Recently Regional Extension Centres have been established in Mahatma Phule Krishi Vidyapeeth, Rahuri. A team of scientist with a mobile van for soil testing and disease-pest diagnosis equipment's is provided to these centres. Moreover, Agricultural Technology Information Centre (ATIC) is started under National Agricultural Technology Project (NATP) in the Mahatma Phule Krishi Vidyapeeth, Rahuri, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. Much variations occur in different Agricultural Universities. But with meagre staff and inadequate financial support, the State Agricultural Universities perform significant role in agricultural communication.

4. Agricultural Communication through Open University and Other Universities

In Maharashtra, The Yashwantrao Chavan Maharashtra Open University, (YCMOU), Nashik plays an important role in agricultural education and communication. The open university conducts a number of courses such as (1) Gardeners Training, (2) Diploma in Fruit production, (3) Diploma in Vegetable Production (4) Diploma in Floriculture and Landscape Gardening (5) Diploma in Agri-Business Management (6) B.Sc.(Agriculture) (7) B.Sc.(Horticulture). A number of educational institutions having farm, laboratory and other facilities have been recognized by the YCMOU. These centres through their staff and students carry agricultural communication activities. Moreover, at the main campus at the YCMOU, short duration training courses for farmers and farm women are organized. Other extension activities are also organized at the main campus of the university.

Other traditional universities also carry out agricultural communication work to some extent through their Educational Media Research Centres (EMRC) and communication centres and social service camps organized for the graduate students.

Other institution such as National Chemical Laboratory, Pune, Bhabha Atomic Research Centre, Mumbai also participate in agricultural communication as a part of their research programme.

7.2.4 Non-Government Organizations

Agricultural communication work is also carried out by many non-Government organizations. these are :

1. Vasantdada Sugar Institute
2. Cooperative Sugar Factories
3. Grape Growers Association
4. Nagpur Orange Growers Association
5. State Agricultural Marketing Federation
6. State Farming Corporation
7. Krishi Utpanna Bajar Samiti
8. Vegetable Production and Marketing Cooperative Societies
9. Vanrai Trust
10. Bhumata Trust
11. Cooperative Milk Societies.
12. Cooperative Multipurpose Societies

There are many other charitable organizations and trusts, who as a part of their rural development activities, perform the agricultural communication work.

7.2.5 Corporate Organization

Many corporate organization producing agricultural inputs carry agricultural communication activities as a part of their sales promotion programme. The advertisements, propaganda, demonstrations, farmers rallies, publications, reports films and such other programmes educate the farmers about agricultural technology. National Seeds Corporation, Private Seed Production Companies, Fertilizers Producing Companies, Insecticides and Pesticides Producers, Farm implements and machinery producers, Sprinkler and drip irrigation system producing companies, and

many such input producers disseminate agricultural information to the farming communities.

Farmers seek information from local organization, as they are immediately accessible. Gram Panchayat, Cooperative Milk Society, Lift irrigation society, Youth Club, Multipurpose cooperative society, *Krishi Seva Kendra*, *YCMOU : Krishi Prayog Pariwar*, Traders and such other organizations at the village level serve as the important sources of agricultural information to the farmers.

7.3 Glossary

International Organisation : The organisation which covers various countries of the world.

National Organisations : The organisations which function within the country.

State Level Organisation : These organisations function within the State.

Non-Governmental Organisation : These organisation work autonomously under the elected members of the organisation free from Government control.

7.4 Summary

The demand made upon the agricultural communication system for enhancing agricultural production is enormous and formidable. Because the agricultural communication system has to deal with a complex and socio-economically weak farming community which is large in size and thus massive in demand. It is said that only thirty percent of the agricultural technology generated at research organization reach the farming community. The agricultural extension system in the country strives hard to meet the demand for agricultural communication. The Ministries of Agriculture, Rural Development at the National and State level, the ICAR and State Agricultural Universities through their different institutions and projects, many corporate and voluntary organizations as well as local organizations carry agricultural communication activities. Some of these organizations have full responsibility for agricultural communication. Whereas, some perform agricultural communication activities as a

part of testing of the technology or as a part of advertising and propaganda activities. Considering the large quantity of general technology remain uncommunicated, the agricultural communication system needs to be strengthened.

7.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Enlist and state the functions of any ten international organizations in agriculture and rural development.
2. Enlist institutions working under the control of ICAR and state their core functions.
3. Describe the role of YCMOU in agricultural communication, extension and development in Maharashtra.
4. Describe role of All India Radio and Doordarshan in communication for agricultural development.

Unit 8 : Effective Strategy for Communication

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8.1 Introduction

Communication is not a random activity. There is always some purpose when one tries to communicate. The purpose of communication may be to inform, express some thing or to influence the receiver in some way or other. The ultimate response, effect, feed back or outcome determine, whether there has been communication. There may be some problems or barriers that may affect the results of communication. Efficient planning will minimize the barriers and enhance effectiveness of communication. Moreover, communication in an organization takes various forms and may differ from communication between individuals.

After the study of this unit, you will be able to know and understand :

- λ Evaluation of Effectiveness
- λ Problems of Communication
- λ Communication Planning
- λ Organizational Communication

8.2 Content

8.2.1 Evaluation of Effectiveness

While it is interesting to note the role that communication play for individuals, groups of people working together, or members of society, we all recognize that, too often communication is not successful.

The effectiveness of communication depends almost on each of the elements in the communication process - The source, message, channel, treatment of message and the receiver. More effective communication occurs when source and receiver are homophilous. (1) Cultural values and social organization, (2) environment created by communicator, (3) treatment of message and system of symbols used to represent message, (4) cooperation, participation and involvement of audience in communication process, (5) standards of communication, namely correctness, effectiveness, good taste and social responsibility, (6) proper understanding of the communication process, (7) adequate interaction between communicator and receiver, (8) correct selection of communication channel, all these factors influence the effectiveness of communication.

Too often, we assume that the task of communication is over, when we finish putting the message into channel. This can be disadvantageous. As communicators, we should evaluate and monitor the effects of communication. In other words, communication should include evaluation of the results. Evaluation is the process of finding out, what happened as a result of communication.

Communicators need to know if their expressions were effective, if they were interpreted correctly and what kinds and amounts of response resulted. This knowledge is necessary as a basis for making changes needed to improve subsequent communications. Because rarely do we transmit a message only once. We frequently repeat the some message to the same people, and we certainly direct the same message to other people and other message to the same people. Thus the results of the communication are a key to the next. But this depends upon the communicator's working to maximize his ability to understand and then build upon, each

communication effort. Without information about whether respondents received the message, understood it, accepted it and took the action recommended, one cannot know how he is doing or take intelligent action to improve one's effectiveness.

Evaluation of Effectiveness of Communication

Evaluation of effectiveness of communication can be done in different ways, either formally or informally. Indirect checks may be made through direct questions, conversation and observable reactions with members of audience. Formal evaluation may be made through the use of surveys in many different forms, attitude tests, information tests and so on.

In an experimental situation, the most frequent measurements are information retention and attitude change. These are usually measured by paper and pencil tests. Sometimes, measurements are obtained before the communication and then repeated again after it. Sometimes a measure is taken several days or weeks later. In spite of certain weaknesses in the laboratory study of communication effectiveness, it has been of great value.

Verbal feedback from the audience may be used as a measure of effectiveness of communication. A person will often indicate his response and his intentions. He may even commit himself to performing an action, which we interpret as a measure of effect. However, feedback in addition to being subject to false interpretation, may be an inaccurate basis for judgment.

To measure effectiveness, we may try to observe actions ; but many communication situations do not evoke immediate action. Furthermore many factors affect actions. Sometimes, other sources such as newspapers, public opinion surveys provide a gross measure of effect, although the specific contributing factors can not be determined. In general, the only reasonable measure of effect is our own estimate based on our knowledge of the person, situation and the communication process.

8.2.2 Problems in Communication

A problem is a difficulty to be solved, mastered or to be adjusted to. In relation to communication, a problem is a difficulty which adversely affect the transmission from sender to the receiver. Problems are also referred to as barriers in communication.

It is necessary to understand problems or barriers to communication, so that steps can be taken to remove them for effective communication. Communication barriers are classified as (a) organizational, (b) semantic, (c) relating to elements in communication, (d) other problems.

1. Organizational Problems

The organizational problems in communication occur because of (i) duties and lines of authority not clearly defined, (ii) distance communication, (iii) more layers of communication, (iv) heavy communication load and (v) lack of instructions.

The types of organizational communication problems are as follows :

(a) Policy : Broad objectives and policies of the organization are decided by the top management. If the policy is not supporting the flow of communication - vertically and horizontally - it acts as obstacle in the smooth flow of communication.

(b) Rules and Regulations : Organizational rules and regulations sometimes work as obstacles for transmitting messages. They prescribe rigidly the messages to be communicated, the channel to be followed and the path through which communication should flow. Many times these rules and regulations restrict the flow of communication resulting in delay in decision and action.

(c) Status and Position : In any organization there is a hierarchical arrangement of status and positions. In two-way communication, status and positions may block the flow of communication. Many times the upward flow of communication is difficult. Non-listening, non-answering attitude of superiors and withholding information may cause problem to smooth flow of communication.

(d) Facilities : Sometimes adequate facilities are not provided for communicating messages. Typing pool, mechanical instruments, funds are not sufficiently provided resulting in poor communication.

(e) Complexity of Organization : In an organization there are many layers of supervision, long distance, more lines, organizational distance between management and employees. This complex nature of organization may hinder the communication.

2. Semantic Problems

Problems arising out of language are called semantic problems. semantic problems may be present in written and oral communication. Differential perceptions of meaning of words on the part of communicator and receiver lead to semantic problems.

Following are the causes of semantic problems. :

- (a) Lack of clarity and precision.
- (b) Use of unfamiliar and complex words
- (c) lack of coherence.
- (d) Poor organization of ideas.
- (e) Awkward sentence structure.
- (f) Inadequate vocabulary.
- (g) Jargon of words
- (h) Faulty translation.
- (i) Uncommunicated assumptions.

All the above aspects of language used in formulation of message may create problems in communication.

3. Problems Relating to Elements in Communication

Problems related to communicator, message, receiver, channel fall in this category.

- (a) **Communicator related problems** : These problems occur as a result of failure :
- (i) to present useful ideas to the audience
 - (ii) to give complete story with its relationship to audience problem.
 - (iii) to adjust to closed minds.
 - (iv) to avoid talk when audience not listening.
 - (v) to go along with audience understanding
 - (vi) to provide comfortable and congenial atmosphere
 - (vii) to keep in mind values, customs, prejudices and habits of audience.
 - (viii) to start from where people are
 - (ix) to recognize other's view point

- (b) **Message related problems** : Communication is poor, when messages are not in line with objective to be attained and mental, social, physical and economic capabilities of audience. Messages that are not significant, specific, simply stated, accurate, timely, appropriate, appealing, adequate and manageable, create problems in effective communication.
- (c) **Receiver related problems** : Problems in effective communication arise when audience are not attentive, interested, cooperative and homogeneous. Pressure of occupational responsibility, individual personality factors of audience pose problem to effective communication.
- (d) **Channel related problems** : Proper selection and use of channels constitute an important determinant of effective communication. From this point of view channel related problems are :
 - (i) Failure of the channel to reach intended audience
 - (ii) Failure to handle channels skilfully
 - (iii) Failure to select channels appropriate to objective
 - (iv) Failure to use channels in line with abilities of audience.
 - (v) Failure to avoid distraction.
 - (vi) Failure to use enough channels in parallel.
 - (vii) Use of too many channels in series.

4. Other Problems

(a) **Technical problems** : There are problems concerned with accuracy of the transference of information from sender to receiver. Certain things that are not intended by the source are added to the signal. These unwanted additions may be distortion in the shape or shading of a picture, or errors in transmission. Unwanted sounds in electronic channels create problems in message receiving.

(b) **Physical and psychological problems** : These problems mostly pertain to nature of the communicator - physical and psychological. Speech and voice defect, anxiety, tension, reaction, stage fright, inferiority complex, physical appearance, expressive body action, all these interfere with effectiveness of communication.

(c) **Entropy and redundancy** : Entropy simply means the uncertainty or disorganization of a system at the receiver's end. Redundancy is the superfluously in the communication process. Both entropy and redundancy affect the communication effectiveness.

(d) **Distance and time** : Distance and time are barriers to communication. In case of written communication to far off places, time and distance inhibit communication. Delayed messages are stale messages.

8.2.3 Communication Planning

Though much of our communication is spontaneous, many times it is possible to anticipate a communication act and prepare for it, as well as it is possible to evaluate it both as they occurs and afterwards. By becoming conscious of these procedures, we can develop patterns of response which will typify our behaviour even in spontaneous communication interchanges. We can follow the sequence of procedures in one-to-one or small group interactions almost as much as in formal audience or mass communication situations. The stages in planned communication actions as given by Anderson in his book " Introduction to Communication Theory and Practice (1972) " are (1) Prior preparation stage, (2) Immediate adjustment stage, (3) Message creation stage, and (4) Post Message Analysis.

1. Prior Preparation Stage

This stage begins when the potential communicator anticipates the communicative action and ends when he decides to begin communicating.

The first step in prior preparation is an extensive analysis of the situation and the potential receivers. Many times, in anticipating a communication possibility, the communicator has a topic area and a purpose in treating that topic. if this is not true, the analysis of situation and receivers will involve finding out a topic area and the general purpose.

The next step should be an analysis of the general topic area in an effort to narrow down the exact purpose of communication efforts. The analysis should reveal the attitude of the receivers towards the general topic area and the communicator. It

should also disclose the receiver's probable information on the topic and the potential motivational forces. On the basis of this analysis the communicator should be able to choose a specific topic area and a purpose. If he wishes to inform his receivers about some problem, he should estimate their knowledge and attitude toward it. He should then be able to decide rather specifically what he can expect to accomplish. His goal should be set in terms of his knowledge of the situation and the constraints it imposes, the available time, the predicted receiver responses and the media available.

Having set his purpose and specific topic the source can now inventory his resources. What information he does possess and what does he need? What resources are available to him to provide that information? What can he do to structure the situation or alter the available channels in order to increase communication effectiveness? Having estimated his needs in this respect, the communicator is ready to proceed with the actual preparation of his message and his efforts to modify the potential elements in the communication process.

If time permits, additional material for the communication may be assembled. This may be drawn from the communicator's resources or obtained through research. The communicator is then ready to pre-plan his message carefully in terms of content. Considering the requirements imposed by the topic itself and his purpose in treating it as well as taking into account the demands of the situation, channel and receivers the communicator will organize the material he might use. He will select material in terms of motivational forces acting on his receivers and what he feels will gain the desired attention, comprehension and acceptance. Throughout the process of planning, the communicator reacts to his analysis of audience, the topic, his purpose in treating it and all other elements of communication situation. As he plans more and more specifically, the communicator may rethink and perhaps change his topic, modify his purpose or seek new materials and way of presenting them.

After completing the planning the communicator may go through a trial run. In oral communication, this may involve writing a manuscript or trying to go through the material orally from the outline. In written communication, this stage involves putting the final version into the channel. In one-to-one and small group communication, actual trial runs may not be possible, but can be mentally rehearsed.

2. Immediate Adjustment Stage

Just prior to actually putting the communication process into action, there is often a chance for the communicator to reassess the situation and his preparation. Some times he can observe the receivers directly. He can interact with them and draw upon such interactions to modify his planning.

3. Message Creation Stage

This is the time for the communicator to use his resources to the fullest extent. The act of committing the message to the channel creates heightened excitement and energy. The communicator, at this stage, often finds new insights, new strategies and new ways of handling the material and feedback received can be of great value. The communicator may respond to the message itself and alter succeeding parts of it.

4. Post Message Analysis

The job of the communicator is not finished by putting the message into the channel. As communicators, we should monitor the effects of the communication. We may ask ourselves : What did we accomplish ? Why ? What worked and what did not ? Was the prior analysis accurate ? Did we succeed in accomplishing our goal ? To what degree ? How do we know ? What can be learned from all of this ? In other words communication planning should involve how we know whether we succeeded or failed as well as how we plan for its next stage.

Elements in Planning Process

An Asian Regional Seminar on the Training of Communication Planners was convened by UNESCO in December 1974 at Kuala Lumpur. In this seminar the elements in planning of communication process at national level were identified as :

- (1) Collection and analysis of basic data about the country.
- (2) An inventory of present communication resources.
- (3) Analysis of present communication policies.
- (4) Analysis of communication needs.
- (5) Analysis of communication components in National Development Plans and Programmes.

- (6) Analysis of constraints in communication developments.
- (7) Definition of aims of future communication policies, with design of alternative strategies.
- (8) Making choices between strategies in terms of other perceived economic, social, cultural and educational relevance.
- (9) The phasing of overall communication development.

8.2.4 Organizational Communication

Communication is the process of transfer of information from one person to another person or group of persons. Communication in organization may take different forms depending upon size, type and nature of organization. To understand, organizational communication, it is essential to understand the meaning of “organization”. An organization is a stable system of individuals who work together to achieve through a hierarchy of ranks and division of labor, a common goal. The relationship among the members of organization are relatively stable. This structural stability enables an organization to function effectively in accomplishing certain objectives. Organizational structure lends predictability and stability to human communication and thus facilitates the accomplishment of administrative tasks.

1. Elements in an Organization

(a)	Two or more individuals,	size
(b)	who recognize that some of their goals can be more readily achieved through interdependent (cooperative) actions, even though dis-agreement (conflict) may be present,	inter dependence
(c)	who take in material energy, and information from environment in which they exist,	input
(d)	who develop cooperative and controlled relationship to capitalize on their interdependence while operating these inputs, and who return the modified inputs to environment in an attempt to accomplish	throughput
(e)	the goals that interdependence was meant to make it possible.	output

2. Need to Study Organizational Communication

A critical reason for studying organizational communication is that it occurs in a highly structured context. An organization's structure tends to affect the communication process ; thus a communication from a sub-ordinate to a superior is very different from communication between equals.

Communication is the life blood of an organization. If we could remove communication flows from an organization, we would not have organization. Communication pervades all activities in an organization, represents an important work tool through which individuals understand their organizational role and integrate organizational sub-units. Communication provides a means for making and executing decisions, obtaining feedback, and correcting organizational objectives and procedures as the situation demands.

3. Classification of Organizational Communication

Organization communication can be classified under different categories. According to organisational structure and function it is categorised as formal and informal communication. Considering the way of expression it can be grouped as oral or verbal and written or blank. Another way of classification of communication is according to its direction or flow. It can be grouped as downward, upward and horizontal or lateral or cross communication.

Types of Communication

A brief description of types of communication is given below:

(a) *Formal Communication and Informal Communication* : Formal communication is communication structured on the basis of hierarchy, authority and accountability. Under formal communication, the message flows according to a fixed and prescribed way. Formal communications are both oral and written, but mostly black and white. The information is transmitted by virtue of one's status or placement in the organization and the message flows through officially prescribed route. Thus formal communication channels recognize superior and sub-ordinate positions and relationships. The departmental meetings, conferences, circulars, company news,

interviews, organizational manuals, handouts, bulletin, annual reports are means used for formal communication.

Informal communication occurs on account of informal relationship between the individuals. Informal communication arises spontaneously from personal and group interests. In informal communication, the message may be conveyed by a simple glance, nod, smile, gesture and even through silence. Informal channel is effective and transmits information with considerable speed. For the management, informal communication is active channel and can be beneficially utilized for communicating employees through leaders. However, for this management must be able to pinpoint the leaders and work through them, must feed factual information, listen to the feedback response. Informal communication helps in building mutual trust based on open communication followed throughout the organization or business.

(b) Oral and Written Communication : Communication can be through direct and specific words or through body movements. Verbal communication is communication through spoken words. Oral or verbal communication has advantage of speed, correct and complete interaction. In oral communication mostly, there is face to face conversation. however, mechanical devices like tele-communication may also be used. Thus, dicta-phone, telephone, radio, meeting, conference, interview, public address systems are the means used for oral communication. Doubts, questions, explanations and clarifications are possible in oral communication.

In a written communication, every message is in black and white. It is the best method when the communicator and receivers are beyond oral communication. Formal communication is usually in written form, such as rules, orders, manuals etc. Letters, circulars, notes, explanations, memoranda, leaflets, bulletins, reports, questionnaires, handouts, union publications, catalogues, posters, brochures are the means of written communication.

(c) Downward, Upward and Lateral Communications : The flow of information from top to bottom in the organization is called as downward communication. It is a common feature in a formal organization. The top management would like to send messages in the form of orders, directions or general news either written or oral to different levels of organization. In downward communication, timeliness, quality and

adequacy are important ingredients. Written media is mostly used in downward communication. By this the management can effectively transmit objectives and goals to be achieved and rates to be enforced. It has official support from topmost authority. Downward communication is not for ratification but for imposition.

Upward communication is opposite to downward communication. A communication is said to be upward, when it moves from bottom to top. It is sending message from sub-coordinate to superiors. The upward communication can use oral or written means. Upward communication is useful for submitting reports, suggestions, complaints and grievances. It may also facilitate management to know the reactions - acceptance or rejection - of the subordinates to decisions communicated by management. Encouraging upward communication ensures two-way communication. The media of up-ward communication are suggestions, complaints, grievances, consulting, opinion survey, exit interviews (interviews with leaving persons), informal communication, meetings, union activities, participation in management and collective bargaining.

Horizontal communication is also known as lateral communication or cross communication. Incumbents in any organizations are required to interact with each other horizontally or diagonally within an organizational structure. A communication is said to be horizontal, when it takes place between sub-ordinates of the same superior. It is mainly informal communication and is reflected in meetings, seminars and conferences. Lateral communication is useful to bring out coordination among peers, to provide emotional and social support to the individuals of same rank, and also help speed up information flow and understanding. Lateral communication also helps problem solving, inter and intra-departmental dispute solving, interaction among peers and sharing information among different departments.

8.2.5 Persuasion, Propaganda and Publicity

Persuasion, propaganda and publicity are types of communication, where the receivers are made to accept a message through continuous and concentrated efforts. A brief description of each follows below :

1 Persuasion

Persuasion is defined as process of interpersonal communication in which the communicator seeks through the use of symbols to affect the cognition's of receiver and thus effect a voluntary change in attitude or action desired by the communicator. In persuasion, the impact upon the cognition's is designed to produce a change in belief, attitude, value or action. Another important aspect of persuasion is that there is the emphasis upon the voluntary nature of change, that is to cause a change without use of force.

A persuasion effort may be a single isolated phenomenon or part of an ongoing series of efforts by many people, some working collectively and some independently, to accomplish a goal. However, certainly not all the people who are focusing their concern and persuasive efforts around the problems of the consumer are organized and structured into a concerted campaign. A persuasion effort can provide great catharsis and self expression for the source. It can entertain and provide information as well as seek a change in attitude. Indeed exposition, entertainment and facilitation are all basic to the persuasion process. Persuasion serves as a means of getting things done - new programmes, new policies, and new approaches can be offered and accepted or rejected. Persuasion is democratic in influencing audience to bring change in their attitude and behaviour.

2. Propaganda

Propaganda is deliberate manipulation of people's beliefs, values and behaviour through words, gestures, images, thoughts, music and so on. In other words it is the manipulation of symbols and of other means to transmit accepted attitudes and beliefs. Propaganda aims at propagating beliefs and values of the communicator and presents only the communicators side of arguments without considering the arguments of the receiver's side. propaganda describes political application of publicity and advertising and on a large scale to the end of selling an idea, cause or programme. In their propaganda, the communicators rely for the most part on repetition, suppression and rationalization. In propaganda, there is repetition of catch words, which communicators wish to be accepted as true, suppression of facts which they wish to

be ignored and arousal and rationalization of passions. Philosophy teaches us to feel uncertain about the things that seem to be self-evident, whereas propaganda teaches us to accept as self-evident matters about which it would be reasonable to suspend judgment or to feel doubt.

The science and art of propaganda is similar to the arts of advertising and selling and like the advertiser and salesman, the propagandist must study his market and tailor his product to suit the demand. He must analyze the perceptions, the fears, the desires and the weaknesses of group to be approached in order to use the most promising technique to achieve his purpose.

3. Publicity

The art of publicity consists in taking subject matter which has interest and creatively moulding the factor of being interesting so that the subject will command the attention of people or public it is desired to reach. That is why in applying publicity, subjects are so often identified with paramount people or pretty girls or popular cause to create and intensify interest.

Publicity is major weapon of wars, instrument of sales, tools of politics. Every person engaged in self expression is practicing publicity. Every nation, government, commerce and industry, political party, labor union, trade association, non-government organization, religious establishment practice publicity as a device for keeping its components organized. Publicity is the process of analysing, planning, organizing, and producing, distributing the publicity material, so that it reaches the target. Publicity is an umbrella term which in its meaning covers all the techniques employed to get a story across to the public.

8.3 Glossary

Evaluation of Communication : It is the process of finding out what happened as a result of communication.

Communication Problem : It is a difficulty which adversely affect the transmission of message from sender to receiver.

Semantic Problem : Problem arising out of language.

Organization : It is a stable system of individuals who work together to achieve through a hierarchy of ranks and division of labour, a common goal.

Formal Communication : It is the communication structured on the basis of hierarchy, authority and accountability.

Informal Communication : It is the communication that occurs on account of informal relationships between individuals.

Verbal Communication : It is communication through spoken words.

Downward Communication : The flow of information from top to bottom in an organization is called downward communication.

Up-word Communication : When information flows from bottom to top, the communication is called up-word communication.

Horizontal Communication : Communication that takes place between sub-ordinates of same superior is called horizontal communication.

Persuasion : It is process of interpersonal communication in which the communicator seeks through the use of symbols to affect cognition of receiver and thus effect a voluntary change in attitude or action desired by the communicator.

Propaganda : It is a deliberate manipulation of symbols and of other means to transmit accepted attitudes and beliefs.

Publicity : It is the process of commanding attention of people or public to be reached for creating interest in a subject.

8.4 Summary

Evaluation of effectiveness of communication is the process of finding out what happened as a result of communication. Evaluation is necessary for making needed changes to improve subsequent communication. There are different formal and informal methods of evaluation such as direct questions, observation, conversation, verbal feedback and paper and pencil tests.

A number of problems limit the effectiveness of communication. These problems may be semantic organizational or related to elements in communication process.

Communication planning can avoid some of these problems. Communication planning involves, analysis of situation, potential audience, general topic area, available resources and channels followed by selection of specific topic area and deciding the purpose of communication in terms of expected response. A trial run and message creation stage may be included in the planning process and also the provision for evaluation of effects of communication be made.

Organizational communication is a type of communication that occurs in a highly structured context and pervade all activities in an organization ; organizational communication represents a work tool through which individuals understand their roles and integrate the organizational sub-units. Formal and informal communication, verbal and written communication, downward, upward and horizontal communication are the different forms of communication.

Publicity, propaganda and persuasion are the types of communication, where in concerted efforts are made to change the behaviour of receivers.

8.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Define evaluation of communication effectiveness and explain in brief how to evaluate effectiveness.
2. Describe the different organizational problems in communication.
3. Define organization and list the elements in an organization.
4. Explain formal and informal communication in an organization.

Unit 9 : Communication of Farm Innovations

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9.1 Introduction

Since independence, significant development in agriculture has occurred in India. This development is possible through scientific planning, generation and promotion of technology, intensification of agriculture and adoption of new technology together with development of extension services and support infrastructure. However, an important question is being raised regarding the propriety of concentrating on resource endowed farmers of irrigated tracts with capital intensive technological options for a few crops only. This approach has led to social and economic inequalities by creating prosperity in hardly thirty percent area of the country, while tenants, small and marginal farmers lagged far behind in gains from the application of new technology than the larger farmers. Thus it is imperative to know the efforts made in promotion of technology as well as the consequences of diffusion of technology.

Moreover, communication of technology to traditional minded farmers with poor resources and low access to the communication agency create many problems. Appraisal of these problems to suggest modifications in the existing extension organization is very essential.

After the study of this unit, you will be able to know and understand :

- λ Promotion of Farm Innovations
- λ Consequences of Diffusion of Farm Innovations
- λ Problems in Communication of Farm Innovations
- λ Extension Organizations

9.2 Content

9.2.1 Promotion of Farm Innovations

Innovations play a vital role in the development of the area and therefore they need to be propagated among the ultimate users of the technology. The use of the innovations will bring change in the clientele leading to their development for propagation of the innovation, in the first instance, it is necessary to generate them. If innovation are not generated then there will be nothing to propagate.

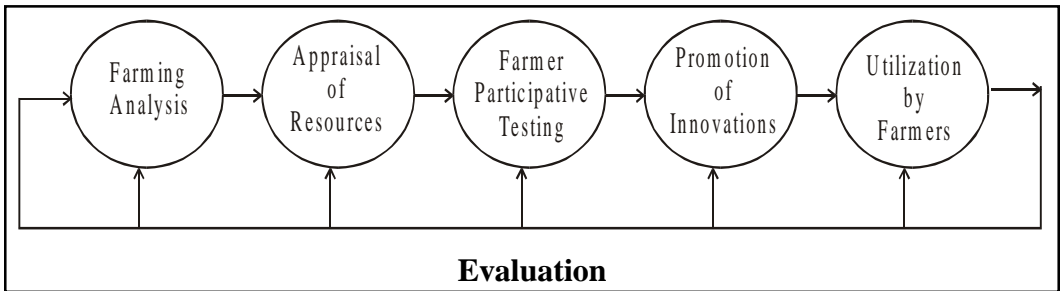
In generation of innovations research plays the key role. The process of generation of innovations is essentially an inductive one and proceeds in a particular direction. Normally the research priorities are determined by the scientists and the funding agencies. Experiments or trials are planned accordingly and these are carried out in laboratory, sophisticated growth chambers, green houses and experimental fields in well managed experimental research stations. From the field of research stations, results may pass on to extension agencies, which in collaboration with research scientists may be tested in the fields of farmers (usually resource rich) or may find place in the package of practices to be recommended to the farmers for use under programmes of transfer of technology. The entire approach has its base on professional thinking and prescriptions. This line of approach has been successful in the field of resource rich farmers. However, this model of generation of technology has achieved limited success, where the farming conditions are more variable, where the farmers are resource poor and where agriculture is risk prone. Moreover, this approach has been mostly crop oriented rather than farming system oriented. In risk prone, resource poor agriculture, farming, enterprises are spread over a wide range of house hold

requirements like food, fodder, fuel, fibre, timber and a number of marketable products. Hence, to take the advantages of generation of innovations in agriculture, to millions of small and marginal farmers, who constitute the bulk in developing country like India, changes in perspective in the process of generation of innovations are essential. This calls for promotion of innovations requiring help and participation of the farmers in generation of innovations right from analysis of situation, identifying problems and planning research to solve the problems in agriculture.

1. Involvement of Farmers in Generation of Innovations

In the process of promotion of innovations, three sets of people or workers play a significant role, namely the farmers, who form the clientele, whose interests are to be looked into and served in the best possible way ; the extension workers who will take the innovations to the farmers and who will transmit the problems of the farmers and act as catalytic agents in the process of development and the scientists who are concerned with process of generation of innovations. Therefore, an integrated approach is necessary, wherein these three sets of people will be involved not only in generation of innovations but also determination of their appropriateness in the diverse socio-economical and ecological context.

The involvement of farmers in generation of innovations and technology is called with different terms, namely, farmer back to farmer, farmer participatory research, approach development, farmer first and farmer last and so on. Whatever label it may be given, it is a producer led, system or a system in which the research system and the extension system, serve the producers, rather than command them. This calls for to at least anchor the development of agricultural innovations and technology in the rural society through participation, rapid rural appraisal, farming system research, on farm and with farmer experimentation and evaluation. The need for such anchoring of innovation generation, transformation and utilization in rural society is raised in extension science in the face of the predominant focus in current practice of transfer of technology. This model of generation and promotion of innovation can be graphically stated as follows :



The involvement of farmers right from identification of problem or need, planning the research and generation of technology, its promotion and utilization differentiates the transfer of technology programme from promotion of sale of consumer or industrial product. The role of extension agency in promotion of innovation is two fold : Firstly to encourage scientist to generate innovation based on needs, problems, resources and environmental factors of the farmers and secondly to induce farmers to participate in generation of innovation through on farm research and trials and finally to utilize the innovation to their betterment.

2. Supply of Inputs

The involvement of farmers in generation of innovation help promotion of innovation as the innovation suits more to resources, management ability and environmental situation of farmers. However, it is not sufficient to promote an innovation. The requirements regarding seed, irrigation, credit, fertilizers, pesticides may be out of reach of the farmers. The responsibility of extension agency, here is to make all-out efforts to make available these inputs so that innovation is readily adopted by the farmers. Many times, even if an innovation is suitable, profitable and feasible, for want of easy access to input requirement, the innovation is not adopted. Therefore making available needed inputs is essential for promotion of innovation.

3. Marketing of Production Surplus

One of the consequences of adoption of innovation is increased or surplus production. If there are no facilities for marketing of surplus production, the profitability of the innovation is reduced, resulting discontinuation of the innovation. Therefore, while introduction of innovation, the extension agency has to consider the

marketing arrangement for excess production. Creating post-harvest processing, storing and marketing facilities is an important aspect of promotion of innovations.

4. Avoiding Unintended Consequence

The extension agency has to try to avoid unintended consequences of diffusion of innovation by anticipating consequences and taking care to avoid them.

5. Advertising, Publicity and Propaganda

In promotion sale of industrial and consumer products a number of methods and techniques are employed. Advertising and publicity are widely used and huge expenditure is incurred on these sale promotion methods. In addition, there may be special awards or benefits offered to consumers in the form of samples, coupons, discounts, trading stamps, or an opportunity to win prizes. Moreover, schemes to motivate middlemen, external agents, dealers and even sales-force of the company are also implemented to promote sales

There may be controversy to adopt these methods and techniques to promote innovations. However, awards to scientists for generation of outstanding innovations are given. Similarly crop competitions are organized at different levels and prizes are awarded to the winners. Moreover, recognition such as “*Shetinishta*” farmers is also given for adoption of innovations in agriculture. Distribution of free literature on modern methods in agriculture also serves as innovation promotion activity. Use of posters on large scale to promote innovation is a common practice. Publicity campaigns in the form of celebration of certain weeks or fortnights for large scale awareness about farm innovations are also innovation promotion efforts. However, expenditure incurred on these innovation promotion endeavours are meagre compared to that of promotion sale of industrial products and consumer goods.

9.2.2 Consequences of Diffusion of Farm Innovations

Consequences are defined as the changes that occur within a social system as a result of the adoption or rejection of an innovation. An innovation is generated for its use by the ultimate users. Consequence of diffusion of an innovation is the ultimate result of generation and adoption of technology.

1. Classification of Consequences

Rogers and Shoemaker (1971) have classified the consequences into three categories as under :

- (a) **Functional** versus **dysfunctional** consequences depending on whether the effects of innovation are desirable or undesirable.
- (b) **Direct** versus **indirect** consequences depending on whether the changes in the social system occur in immediate response to an innovation or as a result of the direct consequences of an innovation.
- (c) **Manifest** versus **latent** consequences depending on whether the changes are recognized and intended by the members of social system or not.

Change agents usually introduce into a client system innovation that they expect will be functional, direct and manifest. But often such innovations result in at least some latent consequences that are indirect and dysfunctional for the system's members.

The introduction of new technologies into agriculture is likely to have both direct and indirect effects. The indirect effects are usually referred to as **secondary** or **spread** effects. Often the effects are also discussed as to whether they were intended or **unanticipated**.

The **Green Revolution** illustrates many of the consequences of diffusion of farm innovations. The term 'Green Revolution' describes the introduction of new varieties of wheat and rice in India. Because of the production potential and other favourable characteristics of these new varieties the area under these, varieties increased resulting in higher production. Moreover, with the shorter duration of these rice and wheat varieties many farmers began to double crop or plant year round. In many instances these improvements in technology increased the demand for farm labour and farmers began to invest in tube wells, drying equipment's and plowing services. Development in agriculture thus stimulated demand for output from the domestic manufacturing sector.

Unquestionably, the new technologies have led to change, enabled farmers to alter practices, increased yields and created a desire and willingness to invest, take risks and improve farming methods and standards of living.

The Green Revolution has also had a variety of unintended consequences. It has highlighted the inequalities and differential access to resources among farmers and demonstrated that there are strong constraints on the expanded utilization of new technologies and continuation of high rates of adoption. Moreover, farmers on small subsistence holdings, many of whom are tenants with few savings and no access to credit have been unable to take advantage of the opportunities presented by new technologies, creating thereby “technology effect gap”.

Various unexpected social problems have been attributed to the more productive agriculture through technological change. These are :

- (i) Traditional land lord - tenant obligations and relationships have changed;
- (ii) Women’s traditional rights to land use have been altered ;
- (iii) Rents and crop shares have increased ;
- (iv) Some tenants have been evicted from land ;
- (v) A class of “gentlemen farmers” has emerged ;
- (vi) Tensions have arisen between landlords and tenants and between agricultural labourers and marginal labourers.
- (vii) These tensions have led to unrest causing evicted tenants and displace labourers to migrate to urban areas.
- (viii) Strains have also been placed on existing transportation, marketing and storage facilities.

All of these are parts of what has been referred to as the indirect and unanticipated consequences of social change. There are countless examples from change agents around the world of well intended efforts aimed at introducing new technologies ending up displacing people, reinforcing already existing inequalities or forcing changes on other areas of culture.

A question is asked as to why consequences of diffusion of farm innovations are un-anticipated. There are two reasons :

- (1) There is often a failure to take into account the fact that cultures are integrated systems and that the changes which occur in one part are likely to have ramifications in other.

- (2) There is often very little, if any, forethought given to the question of what additional cultural changes would be required, if the desired change was successful.

While it is true that one can never completely foresee all possible consequences, it is also true that many consequences can be anticipated with thought and planning. It is easier to extension workers to focus on the tasks they are responsible for than to contemplate what might happen as a result of their efforts. Many view these types of impact as simply one of the “ costs ” of investment. However, it is now becoming common to see agricultural projects, which involve the introduction of new technologies, requiring detailed statement of potential impact based on a knowledge of agricultural and socio-cultural features of project area. Detailed statement include identifying who will be the direct and indirect beneficiaries, the potential impact on persons and institutions not directly involved in the project and impact on groups in adjoining areas. These impact statements are supposed to employ and provide insights into how negative impacts can be minimized.

2. Responsibilities of Extension Agency for Consequences

As seen above, the consequences of diffusion of farm innovations may be intended as well as unintended, so also they may be desirable or undesirable. Therefore the extension agency has to be careful in anticipating the consequences. If the change agents have understanding of the social system, they will be able to predict with considerable accuracy, the consequences resulting from introduction of innovations.

An improved technique for predicting consequences consists of extensive investigations into the conditions of receiving system, followed by a test - market pilot programme in which the innovation is introduced on a small scale. Such an experimental approach reveals major errors in predicting the consequences of an innovation. This approach can prove far less costly than the blind introduction of an innovation on a massive scale, based on the vague hope by the change agent that he has correctly guessed the nature of the innovation's consequences.

Change agents should remember that short range results and long range effects of innovations may be vastly different and are some times contradictory. For example;

introduction of use of chemical fertilizers have immediate effect of increased production ; however in the long range, the continuous application of chemical fertilizers has adversely affected the soil health.

Change agents have some degree of control over whether certain consequences accrue in the short or long range. Certainly, the intensity of promotional effort with which an innovation is introduced into a social system is related to the rapidity with which consequences are felt. A major question which change agents must consider is the ideal rate of change. What rate of change will secure immediate reaping of benefits and yet not produce a traumatic shock to the client system, followed by more negative consequence ? The rate of change should be such that there is almost no change in the social structure or functioning of the social system (stable equilibrium) or the rate of change in social system should commensurate with the system's ability to cope with it (dynamic equilibrium). The rate of change should not be too rapid to permit the social system to adjust causing disequilibrium

9.2.3 Problems in Communication of Farm Innovations

Generation, communication and adoption of innovations are mainly responsible for modernizing agriculture in any country. Generation and communication of technology require adequate funds, which in many countries are not adequately provided. Therefore, lack of sufficient resources to the communication agency may become a problem. Moreover, there may be problems such as lack of trained personnel, too little basic and applied research, or agricultural policies that discourage farmers from adopting new technology. The problems that interfere with generation and communication of innovation are categorized as under :

1. Lack of Knowledge and Understanding of Farming System

There are number of farming systems existing depending upon geographical, environmental and socio-economic conditions. Theses farming systems are characterized by activities related to crop and animal production, family and household consumption, production, labour and leisure time usage, and off farm household

tasks. Technology development and transfer activities that do not consider these farming systems might attempt to extend inappropriate technology which will not be accepted by the farmer.

2. Insufficient Feedback from Farmers

In some cases there are few mechanisms established to facilitate the process of communication and information feedback from farmers to research and communication agencies. Sometimes research and extension personnel do not appreciate the need for eliciting information and evaluation from farmers. In adapting and transfer of technology, it is important to understand farmer's evaluation of its performance during early adoption.

3. Insufficient Understanding of the Environment within which Farmers Work

The third problem area involves the need to identify the environment in which the farmers operate. So that technology development and transfer can be tailored to specific situation. Agricultural and family activities are greatly influenced by physical, economic and socio-cultural factors which tend to change with time and are different among geographic areas within the country. Programmes of communication of innovations, to be effective, must accommodate these environments.

4. Lack of Mechanism for Testing and Adapting Technology on Farmers' Fields

The adaptation of technology can not be achieved entirely on experimental fields or by tightly controlled experiments on farmers' fields. For successful technology transfer, farm level testing, adaptation and verification must be done in cooperation with farmers and extension personnel.

In addition to above set of problems, there are other problems that affect the success of communication of farm innovations. These are listed below :

- (a) Field extension workers are often conscious that their social status is relatively low, a fact, which often adversely affects their performance.

- (b) Frequently the financial resources provided for extension work are inadequate and the size of activity is curtailed for want of funds.
- (c) Many times demands are often placed, some what arbitrarily, on extension workers, to provide various other services to farmers. Although it is recognized that these may be essential for agricultural development, it is arguable whether they should be provided in combination with information.
- (d) The effectiveness of communication of innovations is related to style of management. Constraints are inevitably placed upon this, when as extension service is part of a formal bureaucracy. Similarly, an autocratic management system is inimical to effective extension work. Such constraints reflect lack of knowledge and appreciation among politicians and policy makers of the nature of extension work, of the training requirements of extension personnel at different levels and of the critical role of leadership in the management of extension services.
- (e) The lack of coordination between (a) extension work and policy, (b) between extension and research and, (c) between extension and the range of services which extension workers may be required to convey to farmers.

Each of these problems in communication of farm innovations can be overcome with careful planning and will to overcome at the level of management of extension system. In addition to the problems discussed above, **Rogers** have identified the problems in communication of agricultural innovations. There are :

- (a) Unbranded and consumption oriented communication sources
- (b) Communication channels weakly penetrating rural areas with irrelevant content
- (c) Farmers with limited decision making power who are not organized
- (d) Inequality of economic capacity and differential access to information about innovation
- (e) Inadequate innovations
- (f) Deficient infrastructure
- (g) Poor agricultural policies
- (h) Geographical dispersion and isolations

These problem relate to the research system, communication system and the farmers and understanding of these problems on the part of extension system will enhance the effectiveness of extension system in communication of farm innovation.

An interesting survey was carried out in 1980, regarding the problems about agricultural extension as perceived by the Directors of National Extension Organization. The survey questionnaire sent to 59 directors asked about problems facing extension. Respondents were asked to rate categorically the seriousness of the problem on the three point scale as a serious problem, some what of a problem and not a problem and were then requested to rank in order of importance the five most serious problems. The findings of the study indicated ranking of the communication problems in following order on the basis of responses of 50 respondents:

- (i) **Mobility problem** : Field level extension personnel lack adequate transportation to reach farmers efficiently.
- (ii) **Extension training** : Extension personnel lack training in extension methods and communication skills.
- (iii) **Equipment problems** : Extension personnel lack essential teaching and communication equipment.
- (iv) **Organizational problems** : Extension personnel are assigned many other tasks besides extension work.
- (v) **Technical training problems** : Field level extension personnel lack practical agricultural training about improved technology.
- (vi) **Teaching aid problems** : Extension personnel lack essential teaching aids, bulletins, demonstration materials and so on.
- (vii) **Linkage problems** : A continuous two way flow of information between extension services and national agricultural research institutions is lacking.
- (viii) **Technological problems** : appropriate technology is not available to extend to farmer.

The above findings tentatively conclude that the eight specific problems examined appear to be actual problems facing most national extension organizations in the developing world.

9.2.4 Extension Organizations

The effective conduct of extension work usually requires complex organizations. The type of extension organization that is required is dependent on (1) the relatively large size of the typical extension service, (2) the many relationships that must be maintained, (3) the wide scope of subject matter to be taught and, (4) the large number of scattered clients to be reached. Effective extension work also requires management and operational procedures that reinforce the organizational structure. These must contribute to a favourable work environment and result in systematic and expeditious handling of the many administrative tasks of the organization. Inadequacies in any one of these areas can seriously impair the performance of extension service.

1. Organizational Design

The mission and scope of extension organization vary widely in different countries. The nature of an organization and its operation is highly related to its mission and scope. Mission statements should be broad enough to avoid frequent changing, but they need to be specific to make certain things clear. Some of the essential features of a good mission statement include the following

(a) The goals and objectives of the organization

Most extension organizations try to achieve several goals. However, the emphasis on various goals differs from country to country. The goals of extension organizations include :

- (i) The transfer of knowledge* from agricultural research to the farmers. This is stressed in the French word ***Vulgarisation*** and in the term 'extension'
- (ii) Advising* farmers on the decision they have to make, some times by recommending a certain decision to be taken, some times by helping them to acquire sufficient insights into the consequences of the alternatives from among which they can choose in order that they can make their own decision. In the U.K., Germany and the Scandinavian countries one speaks of 'advisory work'.

- (iii) **Education**, helping farmers to make a decision in such a way that they are able to make similar decisions themselves in future. This is implied in U.S. term ‘extension education’.
- (iv) **Enabling** farmers to find their own way by helping them to clarify their goals and the possibilities which they have, together with other farmers to realize these goals.
- (v) **Stimulating** desirable agricultural developments as implied by the Austrian word **Forderung** (furthering) and Korean expression ‘rural guidance’.

(b) The Expected Outputs from the Organization

The expected output from functioning of the organization may be overall rural development, increase in overall agricultural production or higher yields of a particular commodity or crop.

(c) The Scope or Breadth of Subjects to be Taught and Duties to be Carried Out

Both the degree of national development and the length of time the extension organization has been existence affect the nature of programme. The older systems tend to communicate more sophisticated technical information and cover a broad range of subjects.

(d) The clientele to be reached including criteria to decide priorities, if several different groups of clientele are to be served

If the expected output of the organization is comprehensive rural development the clientele or the target system will be all the categories of people in the community. Sometimes the clientele may be only the farmers, where the programme out put is increase in overall agricultural production and if the out put relates to increase in production of particular crop, the crop growers will be the clientele of the organization.

In addition to the above features that determine the design of organization, there are some other factors influencing the organizational structure of extension organizations. These are :

- (i) Every extension organization has a 'sponsor'. It may be the Government, through a ministry of agriculture, a ministry of community development or ministry of education ; it could be a farmers' organization, a university, a labour organization or an international organization.
- (ii) Every organization carry certain function. Some organization have education as the function, other may carry, in addition, supply governance or marketing or combinations of these functions.
- (iii) some organizations are centrally controlled ; others may be controlled in the field.
- (iv) Some extension systems are part of larger field organizations, other may constitute the entire field organization itself.
- (v) Some extension organization may have generalists as extension functionaries others may have specialist or combination of both.

2. Extension Organization in India

After independence in 1947, in an attempt to improve economic condition, India designed the First Five year Plan in 1950. As a part of this, overall plan of the community development programme was launched in 1952 to bring about all-round development of rural society. The community Development Programme brought out a unified extension agency close to the villagers. The Community Development Programme has comprehensive approach to rural development, integrating various functional agencies of development within the framework of composite area development.

Since 1952, the organizational structure of the Community Development Programme (CDP) has undergone certain modifications to suit changing conditions based on implantation and evaluation of the programme. Initially, at the national level, the Ministry of Food, Agriculture, Community Development was in overall change of the CDP. Programme policies were formulated by the National Development

Council whose chairman was the Prime Minister. The membership of the Council included the State Chief Ministers and members of planning commission.

At the State level, there was State Development Committee headed by Chief Minister with development commissioner as secretary and the ministers as its members. Each state is divided into districts and at the district level there was district development committee chaired by district collector with heads of district development departments and representatives elected to legislatures and the Zilla Parishad, as members.

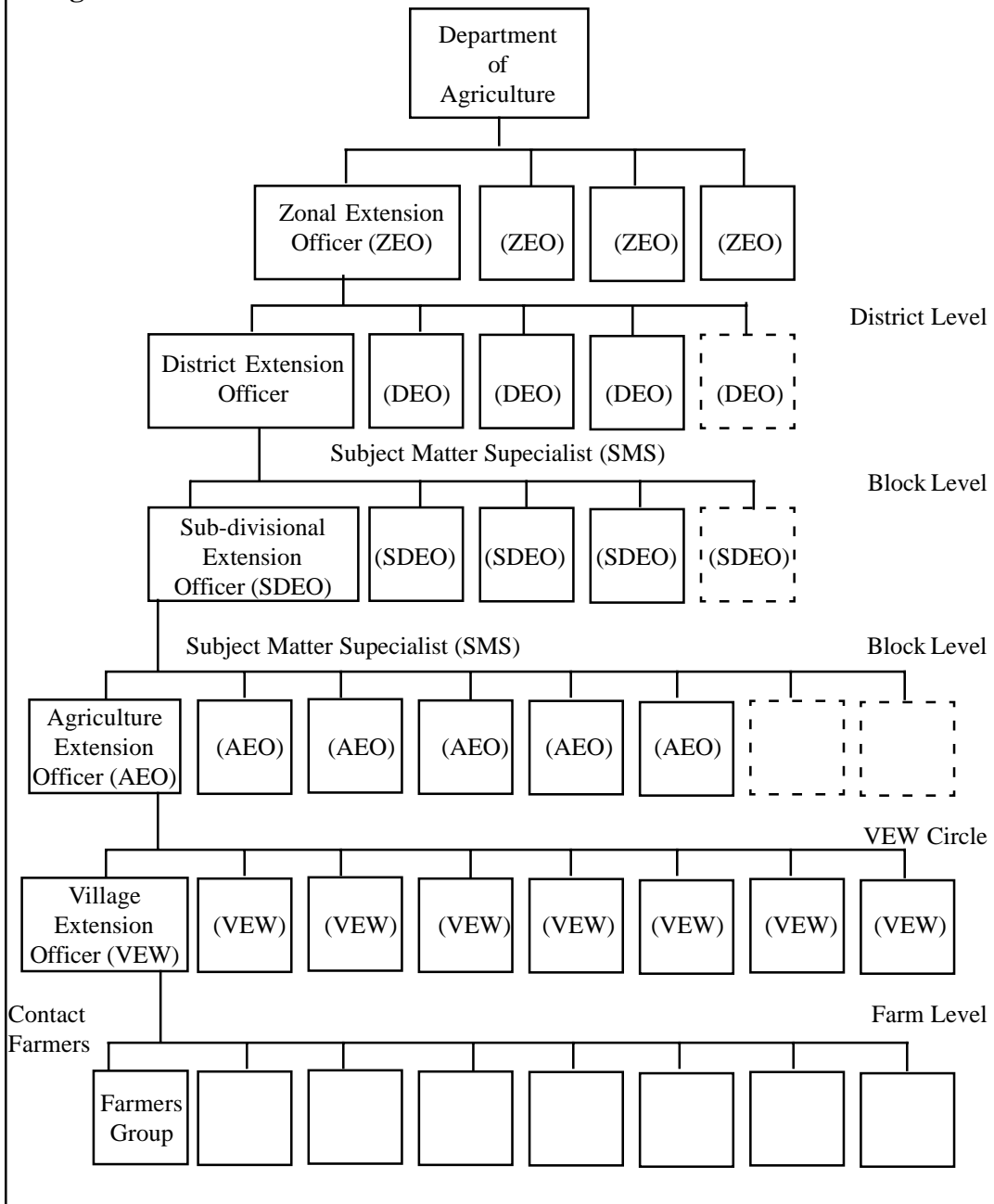
The districts are further divided into blocks which are the basic area development units. At this level the block development officer acted as chairman of the block development committee with the block officials and the representations of the local people as its members. The community development personnel of a block include a team of subject matter specialists consisting of extension officers for agriculture, animal husbandry, cooperation, panchayat, education, public health, rural engineering and rural industries. The team of these specialists provide technical guidance to the Village Level Worker, who is the last link between community development agency and the village people.

With the introduction of Panchayat Raj system in 1960, the organizational structure at the district level and below was modified to suit democratic decentralization for participation and involvement of rural people in planning and execution of rural development programme. More powers are vested with the Zilla Parishad, Panchayat Samiti and Grampanchayat.

3. Organization of Agricultural Extension

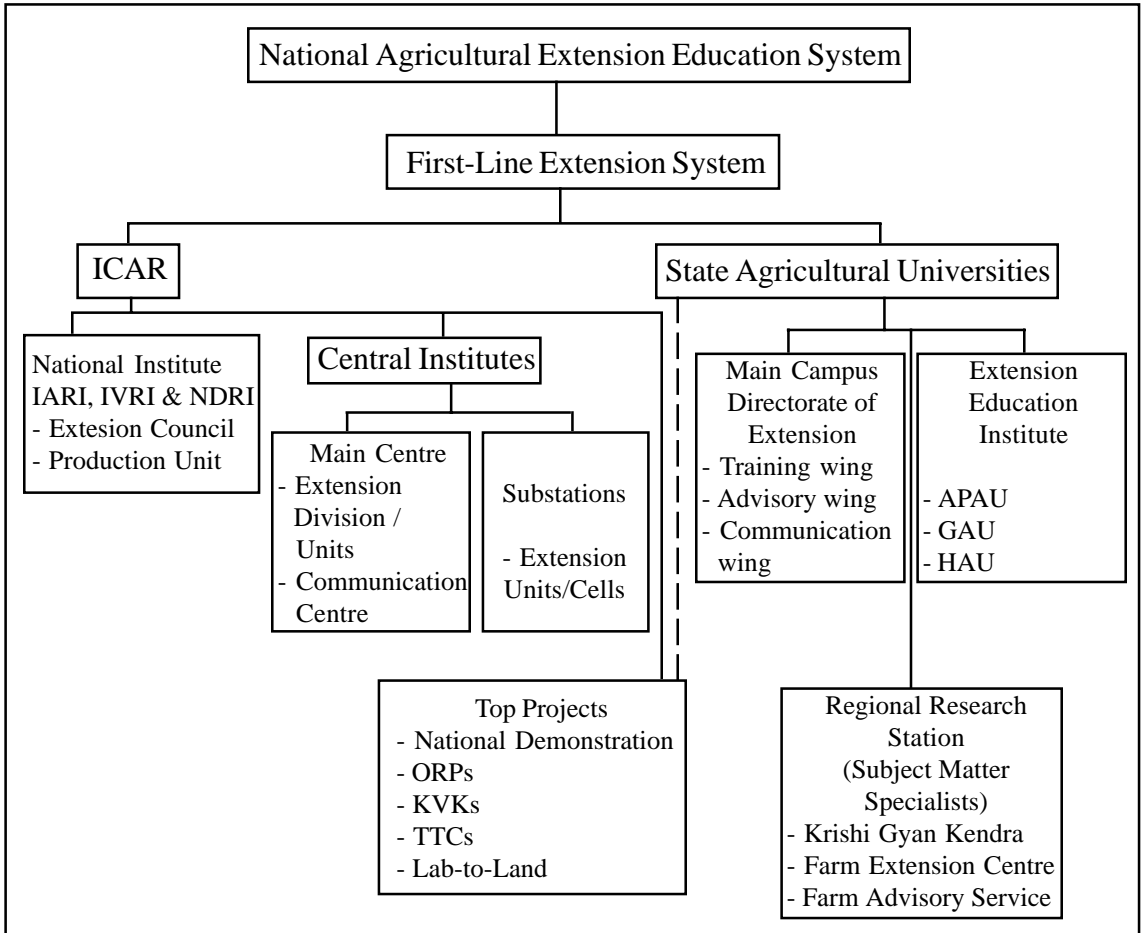
With the introduction of Training and Visit system of agricultural extension, agricultural extension function was separated from community Development organization. The agricultural extension function was entrusted to the Department of Agriculture, whereas the supply of inputs function remained with the Zilla Parishad. Moreover the training of the extension personnel in T and V system was entrusted to the Agricultural Universities. The organization structure of T & V system is shown in following figure.

Organization Pattern of Intensive Extension Service in One State of India



A Director of Extension and Deputy Directors for (a) administration, personnel, and finance (b) implementation and monitoring and (c) technical and professional services are recommended at the central level. The ratio of VEW's to farmers about 800, but will vary widely depending on such factors as the dispersal of farms, cropping intensity, number of differ crops, and so forth.

In addition to the T & V system agricultural extension activities are also carried out by the Indian council of Agricultural Research through its transfer of technology projects, namely National Demonstration Project, Operational Research Projects, Krishi Vigyan kendras, Lab to Land project. Moreover, the State Agricultural Universities also organize extension education activities and training of extension personnel of T & V system and also training of farmers. The organizational structure of National Agricultural Extension Education system is shown in figure.



9.3 Glossary

Functional Consequences : These are desirable effects of an innovation in a social system.

Dysfunctional Consequences : These are undesirable effects of an innovation in social system.

Direct Consequences : These are the changes in a social system that occur as immediate response to an innovation.

Indirect Consequences : These are changes in a social system that occur as a result of direct consequences of an innovation.

Manifest Consequences : These are the change that are recognized and intended by the members of a social system.

Latent Consequences : These are the changes that are neither intended nor recognized by the members of a social system.

9.4 Summary

In this unit we studied the consequences of farm innovations along with promotion of innovations, problems in communication of farm innovations and the extension organization.

Promotion of farm innovations involve generation of innovation with participation of extension personnel and the farmers as well supply inputs, credit and marketing of surplus produce and also avoiding unintended consequences.

Diffusion of farm innovation create changes in the social system. These changes may be functional and dysfunctional, direct and indirect, and manifest and latent. The diffusion of farm innovations has increased yields, made possible double cropping and stimulated demand for domestic manufacturing sectors. There has been many undesirable consequences of farm innovation diffusion such as economic inequalities, creating tension in elements of social systems, migration to cities and so on.

A number of problems in communication of farm innovations have been identified. For effective communication, it is necessary to remove these problems. The major problems are lack of knowledge of farming system, insufficient feed back from farmers, insufficient knowledge of farmers' work environment, lack of mechanism for testing technology, inadequate finance for extension system, management constraints, weak communication channel, inadequate innovations, geographical isolation and dispersion.

The organization design of extension depends on many factors such as goals and objectives, expected output, breath of subjects to be taught and clientele to be reached. Moreover the sponsor, functions, control, also influence the extension organizational structure.

9.5 Exercise for Practice

9.5.1 Answer the following questions in 20 lines each.

1. Explain the consequences of diffusion of farm innovations.
2. What are the problems in communication of farm innovations ?
3. Explain the goals and objectives that influence the design of extension organization.
4. Explain the National Agricultural Extension System in India.

Unit 10 : Farm Advertising

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10.2.1 Farm Advertisement

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10.4 Summary

10.5 Exercise for Practice

10.1 Introduction

The origin of the word “advertise” can be traced to the Latin word “adverter” which implies making some thing, a product or a process, known to the people by some of publicity, the press, the platform, radio, TV, posters, handbills etc. Advertising is always geared towards a specific end to sell a particular product or to change attitude towards it. Obviously advertisement plays a vital role in propagating business, promoting business, promoting sales through persuasion and propaganda and thus create a market, where it does not exist or develop a market.

Today advertisements are being used widely to inform the potential buyers, who seem to be in need of several products for leading a comfortable life. In the twenty-first century, advertising has become necessary ingredient in the total business mix including agriculture all over the world.

After the study of this unit, you will be able to know and understand :

- λ Farm Advertisement
- λ Types of Farm Advertisements
- λ Content - Heading, Illustrations, Layout
- λ Testing of Farm Advertisements
- λ Strategy of Farm Advertisements

10.2 Content

10.2.1 Farm Advertisement

Advertising is the art of influencing human actions towards buying. American Marketing Association defined advertisement as any paid form of non-personal presentation and promotion of ideas, goods, and services by an identified sponsorer. Some typical objectives of advertisement given by **Colley (1961)** are as follows :

- (a) Create awareness of existence of product or brand
- (b) Create brand image or favourable emotional disposition towards the brand.
- (c) Implant information regarding benefits and superior features of brand.
- (d) Combat or offset cooperative claims.
- (e) Correct false impressions, misinformation and other obstacles to sale
- (f) Build familiarity and easy recognition of package or trade mark.
- (g) Build corporate image and favourable attitude towards company.
- (h) Establish a reputation platform for launching new brand or product lines.
- (i) Register a unique selling proposition on the minds of consumer.
- (j) Develop sales lead for salesmen

Farm advertisement refers to any communication by an identified sponsorer concerning farm business appearing in publication, All India Radio and TV to promote sale or to offer services.

Role of advertisement in informing and communicating, educating the farming population about availability and method of use of different farm inputs need special attention. Communication through advertisement assumes greater role in modern

business oriented agriculture, wherein the farmer functions as the businessman and makes decisions in terms of cost and benefit.

Moreover, farmers are becoming aware of various farm products through various types of advertisements. Creating awareness depends on the layout of the advertisements.

Agribusiness and Advertising

In the context of rural development, the role of farm advertisements is informing and educating the farming population about the availability and use of different farm inputs that need special attention. To meet the requirements of modern agricultural technology, several inputs including high yielding crop varieties, fertilizers, pesticides, weedicide etc., are awaiting large scale adoption by the farmers. Besides several agricultural machinery and equipment have been developed which need to be taken at the door steps of well-to-do farmers. This kind of communication through publication and advertisements assumes greater significance since agriculture is no more a way of life, but a business, wherein the farmer so called businessman makes decisions in terms of cost and benefit. A well informed farmer stands a better chance of succeeding on the economic front.

10.2.2 Types of Farm Advertisements

The type of advertisement indicates the category of the advertisement on the basis of orientation of the advertisement towards product, service or institution. The various scientists studied the aspect of types of advertisements and they have classified the advertisements in different ways.

Antrim (1978) classified the advertisement as (a) Product advertisement and (b) Institutional advertisement. **Wright et. al (1978)** classified advertisements according to the kind of selling task faced by the advertiser, which are as below:

- (a) National advertisement
- (b) Retail advertisement
- (c) Co-operative advertisement
- (d) Business advertisement

- (e) Trade advertisement
- (f) Industrial advertisement
- (g) Professional advertisement
- (h) Public utilities advertisement
- (i) Non-profit advertisement
- (j) Public service advertisement

Krishnamacharyulu and Dakshinamurthy (1981) described the types of advertising as product advertising and institutional advertising. The product advertising is further divided into informative and persuading advertising. The institutional advertising is categorised as image building and public service advertisements.

The details of the commonly observed advertisements are given as below

(a) Product Oriented Advertisement

The product oriented advertisement is one which is aimed at promoting the sales of the product by providing product information to the prospective buyers and users of that product.

(b) Service Oriented Advertisement

The service-oriented advertisement is the one which is designed to promote the ideas and services to the public, offered by any particular agency or organization.

(c) Institutional Advertisement

The institutional advertisement is one which is published to create good-will or a favourable attitude or image towards the business.

10.2.3 Content - Heading, Illustrations and Layout

Content means the major theme of the advertisement. It contains heading, illustrations and body or text which gives a clear picture of an advertisement. For an effective advertisement, proper layout of these parts is very important which is described in detail as follows :

1. Heading

It is the most important part of any advertisement. Advertisement content is usually expressed in headline. The headline in the advertisement copy is one which is often set in large bold type or a distinctive type style to make it stand out from the rest of the advertisement and it attracts attention by highlighting the benefits of the product.

(a) Types of Headlines

The type of headline is decided on the basis of arrangement and position of headline in the advertisement copy. Flush left, step line, inverted pyramid, cross line, kicker and reverse kicker are various types of headlines which are generally used for giving a suitable heading to a particular advertisement.

- (i) **Flush Left** : Among the most popular, this type of headline is commonly used. They are easier to write and type setters can work more easily with them. In this every line starts from the flush left. Example :

शेतीमालाचे उत्पादन
वाढविण्यात इफको खते
गुणकारी असल्याचा पुरावा

- (ii) **Step line** : It is another popular head, which is also called the dropline or straggler. It can be two line with one flush left and the other flush right or three lines, with the top and bottom flush left and right respectively and the middle on cantered.

Example :

शेतांना सतत पाणी
पुरविण्यासाठी
शक्ती मोटारी

- (iii) **Inverted pyramid** : This head, sometimes two but usually three long lines, steps down with successfully shorter lines.

मेहनती शेतकऱ्यांचा
दणकट सोबती
प्लॅस्ट्रो पाईप

- (iv) **Cross line** : This head is a single line of type originally centred but now popularly used flush left.

शेतीसाठी पाणीपुरवठा

- (v) **Kicker** : A single line above the main head produces the kicker, which adds a new thought but does not repeat the words or information in the lines below. This line usually is in type approximately one-third to one half the size of the main head underlined and one-third to two-third as long as the main lines.

Example :

फायदाच फायदा !
जय किसान रासायनिक खते

- (vi) **Reverse Kicker** : The general effect of this head is similar to the above - except - that the overline is larger than the two lines of type below it.
Example:

अल्पभार शक्ति अपार
ग्रीव्हज् लोम्बार्डिनी डिझेल पंपसेट

Caples (1977) has suggested five rules for writing heading which are as below:

- λ Try to get self interest into every headline.
- λ Get news into your headline.
- λ Avoid headlines that paint the gloomy or negative side of the picture.
- λ Avoid headlines that merely provoke curiosity.
- λ Try to suggest, in your headline that there is a quick and easy way for the readers to get something they want.

(b) Subhead Line

The subhead line in the advertisement copy is one that expands the thought of the headline, clarifies it, or add another benefit.

The subhead line gives more information about the idea given in headline. Subheads may also be used to lead the reader into the body copy or main text of the advertisement. This reinforces the message in the headline and makes the reader more interested in reading the body copy.

2. Illustration

The illustration in the advertisement means photographs and drawings which can be used to dramatize the message of the headline or it can portray the theme of the advertising and attract attention and promote interest in the product being advertised.

Mehta (1980) in his handbook of Public Relations in India, has classified illustrations into following categories :

- (i) Photograph
- (ii) Cartoon
- (iii) Maps
- (iv) Drawing
- (v) Charts
- (vi) Trademark

Photograph is a picture which contains a depth of tonal values which is usually reproduced by halftone photography.

Cartoon is one which can graphically or humorously give new dimension and perspectives to the advertisement.

Trademark is a word or symbol attached to merchandise or its package to identify the maker or origin.

Drawing : Abstract drawing is that which depicts an idea symbolically, whereas drawing detailed and shaded means the illustration which consists of solid line usually created with pen and ink with variations of tone to stimulate shading by using diagonal lines of various thicknesses. Simple line representation is an illustration that consists of only solid lines created with pen and ink.

While describing, how the advertising picture should be **Sandage and Fryburger (1967)** described

- (i) Picture should be keyed to the self interest and understanding of the reader.
- (ii) Picture should include all or some details of the product.
- (iii) Picture should be relevant to the product and copy theme.
- (iv) Picture should be accurate.
- (v) Picture should be coloured and attracting attention.

Caples (1977) reported that high attention value of a picture does not necessarily mean high sale value. In order to have sale value the picture should be related to the product. Based on the tests of advertisements, following are typical examples of pictures that have sale value.

- (i) Picture of product.
- (ii) Picture of product in use.
- (iii) Picture of reward of using the product.
- (iv) Picture of attainment of ambition.
- (v) Picture of enlarged details.
- (vi) Dramatic pictures.

3. Body or Text

The text of advertisement is one which describes about product as appears in the main body of an advertisement.

Caples (1971) has given a formula for writing body or text : (i) Interrupting

ideas; (ii) The shocker; (iii) News; (iv) Per view; (v) Quotation (vi) Story. If you can find an appropriate story or an interpreting idea, you can fall back on the simple formula, namely you can write the first paragraph that continues the same thought expressed in headlines. Caples has given the following three simplest rules for writing a first paragraph of make in short (i) Continue the thought expressed in headline, (ii) State in few words the most important benefit or benefits and (iii) The reading material of the text needs to be written and presented which will have reading ease and human interest to facilitate understanding of the text.

4. Layout

Advertising layout is the arrangement of ad elements - illustrations, copy (headline, sub-headline, paragraphs of copy, price), and standing details (trademark, firm name and address, reply coupons) - so that they will be attractive and interesting. The layout serves as a means of communication among the several people involved in the creative process. The layout should be designed to provide a logical, clear, unified presentation of the advertisement message.

(a) Principles of Layout

Every effort should be made to apply the important principles of layout design:

- (i) Think first how much space should be allotted to each part of the advertisement. The most important idea deserves the most important display, the least important, the least display. Advertising design is more than the work of an illustrator, it is work of an idea editor as well. The person designing the advertisement must study the content of a proposed advertisement before determining the feature the headline, the copy, the illustration, the name of the advertiser, the price, and so forth. An advertisement must be more than an attractive layout, it must sell a product or service.
- (ii) When the various parts of a layout have been graded according to importance, the parts should be assembled to give the advertisement an interesting appearance.

- (a) The advertisement should have balance. An advertisement however is not divided at the exact mathematical center, rather it is divided at the optical center - a point about five eighths of the way up the page, the point the eye invariably chooses as the center of a printed surface. This optical center is the position of greatest attention in an advertisement and divides the layout into two parts that seem to balance each other.
 - (b) When parts on either side of the optical center are identical and placed opposite each other the balance is called formal. Formal balance is necessary because one identical part simply balances with another. Such balance, however is not particularly interesting because it is static. It may be effective and appropriate, however, for advertisements that aim at dignity conservation, dependability and stability.
 - (c) Informal balance is more interesting. To achieve such balance, a lighter or a smaller unit balances a heavier one by being placed further away from the optical center. Weight of a part of an advertisement may be determined by its degree of blackness, its colors or its shape.
- (iii) Parts of an advertisement should be arranged to cause a reader's eye to move from part to part in certain order. This characteristic is called gaze motion or eye movement. When an advertisement consists of only reading matter, the natural sequence directs the reader through the advertisement, but when illustrations and copy are combined, it is important to have an element of the advertisement point, lead or look toward the next one. For example, if you were to have a picture of a person looking a certain way, you would not place this picture in such a position that the reader's attention would be directed to another advertisement. To do so would violate the principle of gaze motion. Therefore, the people, shoes and the like should face into an advertisement as often as practical and help to accentuate another part of an advertisement as well as direct the eye to it.

(b) Each Advertisement Should be Distinctive

Each advertisement should be as distinctive as possible to attract the maximum amount of attention. Therefore, no two ads, especially if they are to be placed next or close to each other, should be designed in exactly the same way.

- (1) Simplicity is one of the most effective ways of making an advertisement distinctive. One way to achieve simplicity is to avoid crowding advertisements with so many elements that the advertisement becomes almost impossible to read. While space, effectively used, makes an advertisement airy and attractive. Advertisement designers should ask whether the elements that they want to include contribute directly to conveying the idea or spirit of the advertisement. Usually the little decorative spots here and there and the boxes around copy are not necessary and only serve to clutter. Another way of achieving simplicity is by using only a few typefaces - those that are appropriate and harmonize with the illustrations.
- (2) Action is another way to make an advertisement distinctive. Static pictures of people or things are perhaps better than no illustrations, but pictures of people or things in action attract much more attention. A picture of a person using a product is much more interesting and action impelling than a still life of the item.
- (3) Emphasis of one part of an advertisement by showing it in an exaggerated size or perspective may add distinctiveness, so does enlarging one word or phrase in a headline to giant size in comparison to the rest of the advertisement, or taking picture from an unusual angle.
- (4) Large advertisements in daily newspapers and magazines have many other means of achieving distinctiveness, especially through colour and photography.

(c) Some Rules for Effective Advertisement Layout

Here are few miscellaneous rules pertaining to effective advertisement layout.

- (1) When possible try to use large illustrations because they attract attention and show the product or service in detail.

- (2) If advertisements must be run without illustrations, avoid designing the advertisement with all lines centred in the centre from the left to right. Such an arrangement is by far the duller and least imaginative treatment possible. Copy elements arranged informally with effective use of white space can be attractive and distinctive, despite, a lack of illustrations.
- (3) Use of large type of headlines and signatures (store names). The size of type used for the headline may also be used for the store name since both are important to the reader.
- (4) Make an effort to get pictures to alternate borders around advertisements - provided that the same border is not used too often and so many different kinds of borders are used that the page design becomes confusing. Occasionally use some larger advertisements without borders and use shadow boxes for a change of pace.

10.2.4 Testing of Farm Advertisements

The typical advertisement considers major elements such as heading, illustrations, and body or text. Proper arrangement of these elements leads to an effective layout of an advertisement. Considering all these elements by following principles of layout, an advertisement should be ideal, its communicability and effectiveness needs to be studied. One should know what is Good Advertisement.

According to **Eldridge (1958)** good advertisement must confirm the following specifications :

- (1) It must be truthful, both in its statements and its reasonable implications.
- (2) It must be believable.
- (3) It must not unfairly disparage competitors or competitive product.
- (4) The advertising claims must be effectively presented in order that they may be heard or read and in order that they may register with readers and listeners a clear and memorable understanding of the product attributes and sales appeals.
- (5) The product attributes which are the subject matter of the advertising must be attributes to those, whom the advertising is intended to influence.

The best advertising is a combination of words that make pictures in mind and pictures that make words in the mind. And great advertisement usually possess storing, simple words, and arresting obvious art combined in a fresh and surprising manner.

1. Advertisement Communicability and Effectiveness

Communicability and effectiveness of advertisement is an interaction between reader, advertisement in terms of response.

Communicability : It is defined as a degree to which advertisement is able to communicate the message to a specific group of readers with a predetermined effect.

Following points are considered while measuring the communicability of an advertisement.

Heading : (1) Length, (2) Sub-heading, (3) Colour, (4) Type and faces used, (5) Distinct.

Illustration : (1) Number, (2) Type, (3) Colour used, (4) Captions, (5) Decorable illustration, (6) Colour readability.

Body : (1) Content, (2) length, (3) Sentence length, (4) Letter type and faces, (5) Spacing, (6) Words used.

Layout : (1) Type, (2) White space, (3) Size, (4) Eye movement, (5) Prominence of brand name, (6) Words Per sq. inch, (7) Paper quality.

2. Advertisement Effectiveness

It is defined as the degree to which the advertisement is able to make pre-determined effect in overt and covert behaviour of the reader.

George Gallup (1931) stated that advertisement effectiveness should start with (i) Trying to establish, how many persons are reached by the medium. (ii) How many individuals reached by the medium paid attention to the advertisement. (iii) How many of people got registered the brand's name. (iv) How many people changed their attitudes. (v) How many people felt like purchasing. (vi) How many people purchased.

Following points are considered while measuring the effectiveness of an advertisement.

Heading : (1) Type, (2) Support illustrations, (3) Leads into body, (4) Read and understand, (5) Appropriate to subject.

Illustration : (1) Draws attention, (2) Illustrate product, (3) Portrays benefits, (4) Support theme, (5) Compatible with culture, (6) Last impression, (7) Suitable colour. (8) Unique selling points.

Body : (1) Involves emotionally, (2) Type used, (3) Clarity of brands, (4) Truth, (5) Appeal used, (6) Timeliness, (7) Talk in readers language, (8) Readable, (9) End.

Layout : (1) Attention, (2) Interest, (3) Meaningful, (4) Gift, (5) Convey message.

10.2.5 Strategy of Farm Advertisement

Opinions may differ on whether farm advertisements should be continuous or seasonal. In case of industrial products and consumer goods, the advertising strategy depends on nature of product, market stage of product, shortage or excess of the product in market as well as in production unit and so on.

In case of agricultural input, the strategy for advertising will depend on nature of product. For products such as farm machinery, fertilizers, irrigation equipments there may be continuous advertising, whereas for seeds, pesticides advertising may be seasonal. However, as is the case with industrial and consumer products, advertising strategy of farm input will also depend upon market stage (saturation or otherwise) of the product as well shortage or excess production of inputs. Moreover advertising campaigns on special occasions such as fairs, exhibitions, rallies, seminars etc. need to be organized to promote sales through awareness.

10.3 Glossary

Advertisement : It is any paid form of non personal presentation and promotion of ideas, goods and services by an identified sponsorer.

Farm Advertisement : Any communication by an identified sponsorer of farm business appearing in publication, All India Radio, TV to promote sale & services.

Heading : The headline in the advertisement copy is one which is often set in a large bold type or a distinctive type style to make it stand out from the rest of the advertisement.

Illustration : The illustration in the advertisement means graphical presentation of the content in the form of photographs, cartoons, maps, drawing, charts, etc.

Cartoon : It is one which can graphically or humorously give new dimension and perspectives to the advertisement.

Trademark : It is a word or symbol attached to merchandise or its package to identify the maker or origin.

Layout : The visual composition of an advertisement i.e. the arrangement of illustration, headline, body copy and logotype into a unified message is referred to as the layout.

Advertisement Communicability : It is a degree to which advertisement is able to communicate the message to a specific group of readers with a pre determined effect.

Advertisement effectiveness :- It is the degree to which the advertisement is, able to make pre-determined effect in overt and covert behaviour of the reader.

10.4 Summary

Advertising is the art of influencing human actions towards buying. Farm advertising refers to any communication by an identified sponsorer concerning farm business appearing in print and electronic media to promote sale. The role of farm advertisement is informing, communicating, educating the farming population about availability and method of use of different farm inputs that need special attention.

The various farm commodities are known to the people through different types of advertisements. The type of advertisement on the basis of orientation of the advertisement towards product indicates the category of the advertisement, service or institution. The various farm scientists classified the advertisements in different way such as product oriented advertisement, service oriented advertisement, institutional advertisements etc.

Content of the advertisement covers the aspects such as heading, illustration and body or the text. The proper layout of the advertisement is very important for better understanding by the farmers. Flush left, step line, inverted pyramid, cross line, kicker and reverse kicker are the important headlines being used in the farm advertising. Subhead line in the advertisement copy is one that expands the thought of the headline, clarifies it or adds another benefit. Photographs, cartoons, maps, charts, drawings, trademarks etc. are the various types of illustrations being used in the farm advertisements for attracting the attention and promoting interest in the product being advertised. The properly presented reading material of the text leads to reading ease and human interest to facilitate the understanding the text. Layout needs to be designed to provide a logical, clear, unified presentation of the advertisement message.

The best advertising is a combination of words that makes pictures in mind and pictures that makes words in the mind. Communicability and effectiveness of the advertisement is an information between reader, advertisement in terms of response. The points such as Heading, Illustration, Body and Layout are considered while measuring the communicability and effectiveness of the farm advertisements.

10.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Define Farm Advertisement and explain the role of farm advertisement in agri-business development.
2. Describe different types of advertisements in agriculture and rural development.
3. What is content of advertisement ? Explain various parts of typical advertisement.
4. Describe the advertisement communicability and effectiveness.

Unit 11 : Modes of Mass Communication

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11.1 Introduction

Mass communication media play an important role in the development of the nation. Communication with people is necessary in order to tell the people about government plans, programmes, policies, activities, successes and achievements etc. so as involve them to get their participation. The reaction of the people to the policies and programmes must reach the administrators to enable them to modify or change the programmes accordingly. The mass media plays an important and significant role in disseminating information and ideas, and in providing instructions and entertainment to the people in a purposeful and effective manner.

The prominent mass media are print, radio, audio-visual, traditional, oral and outdoor. These media include following specific forms :

- (i) Print : Newspaper, periodicals, publications etc.
- (ii) Radio : Sense of sound.
- (iii) Audio - Visual : television, films, exhibition, computer.

- (iv) Traditional media : puppetry, folk dances, rural theater etc.
- (v) Oral communication : Public meeting, group discussions etc.
- (vi) Out door media : Posters, hoardings, neon sign boards etc.

After the study of this unit, you will be able to know and understand :

- λ Print material.
- λ Radio and television
- λ Video films
- λ Exhibition
- λ Computer

11.2. Content

11.2.1 Print Material

The print material mainly includes two categories which are used as mass communication media. The details are given as follows :

1. Written Material

The written word plays a great role in farm communication. Newspaper stories, magazine articles, leaflets, pamphlets, bulletins, circular, wall newspaper are the popular written and printed materials used in extension work. The written word helps the advisory work with more interesting farm people.

The written material is advantageous over other material in various ways. Spoken words are forgotten after some time. Written word can be read as and when required. The written word is regarded as more authentic. The written word has power. If written well, it convinces and motivates people. The written word helps in making the advisory more interesting with farm people. Experience and research with written word have shown the techniques that would writing readable and useful for the readers. The purpose of writing is to communicate in such a manner that one can attract the attention of readers, interest them in what you are going to say, make them understand and remember and finally help them take decision to act. Writing has to serve all these purposes.

In writing exercise the replies to be given are : Why, Whom, What, Where, When, and How of writing.

- (a) **The ‘why’ of writing** : This is to provide the rational behind any writing and of the occasion that warranted such a writing.
- (b) **The ‘whom’ of writing** : The writer must try to know more about readers. Hence the writing must provide interest is the readers. Without securing readers’ interest, one cannot communicate anything to him. In farm writing, the readers may be identified as crop raisers, vegetable growers, fruit growers, cattle breeders, poultry farmers.
- (c) **The ‘what’ of writing** : The writer should select such subjects which are interesting and useful to the readers. For selecting a topic for writing, the writer must have a sound idea in mind and suitable for communicating to the audience. The writing should be useful to most of them.
- (d) **The ‘where’ of writing** : The writing may be published through various types of print media viz., newspaper, magazine, leaflets, bulletins, reports, resumes, etc.
- (e) **The ‘when’ of writing** : The communication has to be timely for the readers who make use of it. Any information however, much interesting or useful, if it is given late, it will loose all its utility and force.
- (f) **The ‘how’ of writing** : The writing should have a sense of reality and humanness. Such writing will give both enjoyment and education to the readers.

Advantages of written media over spoken words

1. The written words make the advisory work more easy and interesting while spoken words are forgotten more easily.
2. The printed words can be read any number of times again and again.
3. It can be referred at any time to refresh the memory.
4. If a reader has not understood the meaning of the written words or phrases he can go over it once again to get its full meaning.
5. Written words have power, when written well, it convinces and motivate people.
6. Its power can be used in leading them to action

7. The written material function very usefully, if various types of illustration (i.e. photographs, drawings, tables, cartoons, graphs) used. Farmers respect the written words and illustrations.
8. Farmers believe more in written words as they have authority.
9. Printed words can also reorient the field staff engaged in extension activities.
10. Various printed agricultural publications are important source of scientific information to persons associated with agricultural activities.
11. Publications are useful for creating scientific temper among the farming community.

Constraints in written media

1. High cost of publication
2. Low literacy rate. Rural audiences have low degree of message comprehension.
3. Bottlenecks in distribution of print materials.
4. Insufficient co-ordination efforts by communication system.
5. Lack of government incentives- loans on low interest rate, advertisement tariff and news print quota to all newspapers, fax, e-mail, internet facilities.
6. No proper coverage to rural news
7. Lack of skilled journalists, skill in translation.
8. Lack of research support, in respect of readership, readability, and content analysis.

2. Print Material

Invention of printing machine is said to be the first revaluation that accelerated the pace of communication on the earth. The arrival of the first printing machine in India was in 1550 in Goa. The first book *Doctrina Christina* was printed in 1557. The print media has been playing an important role in Socio-economic and political development of the nation. Even today with the onset of second revolution of communication (TV), the importance of print media cannot be ignored. Increasing rural literacy throughout the developing regions of the world invites print media to unexpected corners.

Characteristic of Print Media

In many aspects both written and print media have similar characteristics. When a material is written and printed for more number of copies, it has certain advantages as under.

1. As one of the mass media channel print media can reach more people than any of the person to person or face to face channel.
2. The print media *viz*, newspaper provide more details than radio or television, fewer than magazines and many other forms of written communication.
3. Newspapers provide a higher degree of referability. We can reread the story any number of times, and we can store the paper or documented section for future reference.
4. Newspapers may repeat news in successive editions and they often provide additional details or new interpretation of previously reported news. Print media is good, when the information is either complex or highly specialised or both.

The print medium can be broadly divided into two parts- periodical publications including daily newspapers, and publications such as books and or the printed material. Newspaper occupy a commanding position as a medium of mass communication.

Publications – books and other printed material

Despite the phenomenal progress made recently by other mass media, books continue to remain the most effective means of education and mass communication. India has made significant strides in recent years in the publication of books, not only in numbers but also in quality and variety. India is now the seventh largest producer of books in the world. The country produces over 25000 titles. Indian books, including journals and periodicals are exported to nearly 100 countries in the world. UK is the largest buyer of Indian books followed by USA, Singapore, Malaysia, Bangladesh and Nepal. Books on ideology, arts, culture, yoga and current topics of general interest are imported by the developed countries, while developing countries import Indian books on science and technical subjects. With 15 per cent world population, India produces only 3 per cent of the world book titles.

The main elements in book production work are : the author, the publisher and the printer, and the distributor and bookseller. Since cost of book publishing is high, the Government of India set up various organizations for production of books at low price. The National Book Trust produces and encourages production of good literature in different languages and make it available at low prices to the libraries, educational institutions and the public. The Publications Division of the Ministry of Information and Broadcasting publishes books on diverse aspects of national life, culture and teaching of national leaders and 21 magazines. The 'Indian National Bibliography', published monthly, with author, subject and title index by the National Library, Calcutta lists all publications published in India. It is an important source for the location of published literature on India.

Apart from newspapers, periodicals and books, the printing and publishing industry in the country also brings out publications such as posters, folders, calendars, diaries, packaging labels, stickers, greetings, invitation and visiting cards etc.

11.2.2 Radio and Television

1. Radio

(a) Nature of the Radio Media

Radio is a spoken means of communication. The broadcaster has to get and hold the attention of the audience, otherwise the message is lost. It is one way communication. Since radio is a mass communication tool, it informs, stimulates curiosity, arouses and build interest, creates the desire to learn, hear and act, widen horizons and mental outlook, promotes favourable attitude and influences emotions, inspires to some form of action, interprets policies, guide listeners' interest and help them grasp the significance of new ideas and thoughts.

(b) Advantages of Radio

1. It can reach more people quicker than any other means of communication.
2. It can disseminate timely and urgent information.
3. It is relatively cheap.

4. It can reach illiterates.
5. It builds enthusiasm and maintains interest.

(c) Uses of Radio

Radio can be used for : (i) Announcements – meetings, demonstrations etc. (ii) Information regarding availability of materials, prices, places etc. (iii) Seasonal hints, (iv) News stories, (v) News reviews – about farmers etc. (vi) Interviews, (vii) Questions and answers (viii) Short talks, (ix) Speeches, plays, stories etc. (x) Features and documentaries.

(d) Radio broadcasting in India

The Government of India took over two privately owned transmitters at Bombay and Calcutta in 1930, and the Posts and Telegraphs Department started operating them under the name of Indian Broadcasting service. In 1936, the name of the service changed to All India Radio (also known as ‘Akashvani’ since 1957) and it was made a separate department under the Ministry of Information and Broadcasting.

There were six radio stations in 1947 as All India Radio’s (AIR) network. Now there are more than 100 stations including Vividh Bharati commercial centres. The programmes which are radiated from 179 transmitters, of which 139 are medium wave, cover 95 per cent population spread over 84 per cent area of the country. AIR’s network has been extended further to 54 short wave transmitters and 104 FM transmitters covering 97.5 per cent area of India’s population and 91 per cent area of the country.

The AIR stations are equipped with up linking facilities for the distribution of regional programmes through INSAT- 1B satellite.

About 38.43 per cent of the total broadcast of AIR, at present constitutes music programmes. This includes classical and light classical music, light devotional, folk, tribal, film as well as classical and light western music. Popular entertainment programme known as Vividh Bharati is broadcasted from 32 centres. Film music, humorous skits, short plays and features are presented in these programmes. Commercial broadcasting on radio introduced on 1st November 1967. Each station

broadcasts at least two plays every week. Outstanding plays in Indian languages are broadcasted in national programme of plays which was started in 1956. National programme of features, started in 1956, focuses attention on matters of national importance and interest in the political, economic, social and cultural spheres.

In August 1937, the News Service Division, known as Central News Organization (CNO), came into being. News Service Division (NSD) puts out 273 bulletins daily for a duration of 37 hours. NSD started “The News on The Hour” from August 1985 with the latest happenings and events throughout the world.

All India Radio’s External Service broadcast daily programme for 75 hours in 23 languages, 16 foreign languages including English and 7 Indian languages for listeners in different parts of the world.

(e) Programmes for Special Audience

Special programmes include programmes for armed forces, women and children, youth, students, rural and tribal people and industrial workers. Fourteen air stations broadcast daily programmes for armed forces. Sixty stations present programmes twice a week in regional languages for women. Almost all stations broadcast family welfare and health programmes in a general way.

Almost all stations broadcast programmes specially for rural listeners for 30 to 75 minutes every day. In addition, a daily programme on hard-core agriculture is broadcasted for 45 to 55 minutes from Farm and Home units located in different stations.

In the year 1966, in consultation with the Ministry of Agriculture and Irrigation, AIR setup farm and home units in selected AIR stations to provide relevant and problem – oriented technical information to the farmers. In subsequent year in almost all radio stations farm and home units were established in the country which provide specialised farm broadcasting service. The main ingredients of the farm and home broadcast are information on agricultural practices, scientific methods of cultivation, soil and water management, fertilizer application, plant protection measures, storage and marketing etc. topics on health, hygiene, nutrition, cottage industries and various other aspects of rural life are also included in the general rural programmes.

Farm and home unit are broadcasting programmes for rural women ones or twice a week. Topics like women in agriculture, storage of grains, poultry rearing, kitchen gardening, health, mother and child care, food and child care etc are included. 'Yuva Vani' provides a forum for self expression to the youth. AIR stations broadcast this programme in varying duration and frequency in different languages and different formats. For students in schools, most of the AIR stations broadcast programmes, based on the school curriculum, to reach students in the interior areas. The Government of India appointed a working group under the chairmanship of B.G. Verghese to examine the functioning of AIR and Doordarshan, and to make recommendations regarding their future set-up. The report has made several recommendations. The important one was National Broadcasting Service should be vested exclusively in an independent, impartial and autonomous organization i.e. 'Akash Bharathi' and should be established by an Act of Parliament for the national interest.

2. Television

Television is an electronic medium which provides pictures with synchronized sound. This medium is cosmopolite in approach and can be used to create instant mass awareness. Television combines immediacy of radio with the mobility of cinema and can carry messages over long distances at a relatively low unit cost. Television is a multi-media equipment as it can include motion pictures, recordings, slides, photographs, drawings, posters etc. Television can show recorded as well as live programmes. Both recording and playback equipment are transportable, allowing flexibility of use. Television can be viewed in an ordinary room.

In comparison with motion pictures, television can create more impact due to its flexibility, less time taken to record and telecast programmes and wider coverage. Compared to radio, television appears to have less impact in rural India, mainly because of low availability of this medium due to high cost of receiving sets. Covering of more area by increasing the transmission facility of television does not necessarily indicate the availability of this medium to the rural audience. Availability of cheap receiving sets, increased frequency of telecast and more effective programmes can bring a real breakthrough in the utilization of TV by rural audience.

(a) Educational Role of Television

Television programmes may be broadly classified as commercial and non-commercial. Commercial or general telecasts are revenue earning and include music, dance, drama, serials, cinema, news and current affairs etc. Non-commercial or educative programmes are aimed at education and development rather than entertainment.

Non-commercial or Education Television (ETVs) are of two types- one emphasizes community education and other supplements academic education. Community education in non-formal and deals with important issues relating to social and economic progress of the community. It includes basic adult education, rural development, agriculture, health, family planning, workers education, self employment, consumer awareness, women's liberation etc.

Instructional Television, on the other hand is integrated with relevant text books and is used to supplement academic education to selected homogeneous groups of people. Instructional Television includes syllabus oriented or direct teaching to improve existing educational standards and services, and enrichment or indirect teaching to update knowledge and broaden mental horizon. The beneficiaries of these programmes may range from pre-school children to University level adults.

(b) Farm Telecast

According to the Research and Reference Division of the Ministry of Information and Broadcasting, the television era in India began on September 15, 1959 by a UNESCO grant to study the use of TV as a medium of education, rural upliftment and community development. The service was started by the All India Radio, Delhi and programmes were telecast twice a week for a duration of one hour each day.

In 1967 came the pilot project of agricultural communication initiated by Dr. Vikram Sarabhai. The programme titled "Krishi Darshan" was primarily aimed at demonstrating the effectiveness of TV as a medium for propagating improved farming practices. With the introduction of agricultural programmes, a number of telecasts were organized in rural areas.

The Government recognized the imperative role of television in bringing about the desired social change and established a satellite links through Indian National Satellite, INSAT-1A. This day also marked the introduction of colour communication and TV transmission in India, agricultural and rural development programmes are being organized in a big way. The objectives of this programme were:

1. To create a general awareness amongst people about agricultural and rural development programmes.
2. To provide need based programmes to the rural audience.
3. To show the rural people in general and the farmers in particular, what to do, how to do and with what result

The Television programmes with which the extension agent is concerned are of three types : (i) Publishing extension programmes, (ii) Field recording of specific extension activities and achievement, (iii) Recording of research based and 'how to do' type programmes. For any type of programme, an appointment is to be made well in advance with the producer of agricultural programmes.

For publishing extension programmes, elaborate preparation is not needed, except making arrangements for transport. Training programmes, farmers' day, exhibition, campaign, seminar, symposium workshop etc. which have got some news value, are generally covered under this programme. These are generally telecast along with the news and not in slot provided for agricultural and rural programmes.

11.2.3 Video Films

The term video is derived from Latin word 'Videre' meaning 'to see'. Video is an electronic audio-visual system for preparing video tapes of programmes and events, which could be projected through a receiving set with moving images and synchronized sound.

The special features of video can be understood when compared with motion picture and television. Film can be transferred to video tape and video tape to film; television can transmit live, filmed or video taped material indiscriminately; film can be used to record the output of a television studio. While motion film and video are systems of recording which result concrete, tangible works, television is in essence a

channel of transmission to whose principles of operation recording as such is secondary. In motion picture, the raw film is coated with photo-sensitive material, which after exposure requires dark-room processing and printing. In video, the tape is coated with magnetically sensitive material, which is magnetised after exposure and do not require such operations. In motion pictures, editing of the film is a scissor and paste job, where as in video the editing is done electronically by assembling image sequences from different sources in the desired order on the tape of a second machine.

In motion picture, the images are projected on the screen from outside which requires darkened place for viewing. In video and television, the images are projected from within the receiving set and can be viewed in an ordinary room, preferably with some lights on.

Video is a modern technology which is constantly being improved. To get the best out of it, one has to be conversant with the latest development in equipment and methods. The main objective is to get good quality video tapes with picture and sound recorded on them, which could be viewed as and when needed. There may be various forms of video. For extension, simple systems for making video production and playback should be evolved. These include identifying a theme for video production, time frame need for production, team support required, equipments needed, choice of locations, costs involved etc. Starting such a programme should be slow and preferably with a pilot project for preparation and use of video cassettes.

1. Advantages

The flexibility of video makes it essentially suitable for use in extension, particularly for training and motivating the people.

1. Video tapes can be prepared in advance and specifically to suit the requirements of individuals, groups or mass of people.
2. It may be viewed through a single receiving set or integrated with television network for broadcast to millions of people over the country.
3. It increases the viewer's control over learning, as programmes on video can be viewed repeatedly with pauses and replays according to one's own pace of learning.

4. It facilitates interaction and analysis of programme with the instructor and fellow viewers.
5. Video can be viewed independent of fixed transmission times of television.
6. It can stimulate and present real life situations effectively.
7. In addition to educating and motivating, video can also be used to inform and entertain the people.
8. Video is less costly and more easy to handle in comparison to motion picture.

Following are the other advantages of using video films

1. Video is a powerful communication tool that allows small businesses to compete with large corporations.
2. Video is affordable and can often cost on more than producing a four colour brochure.
3. Video is a great tool for training a large number of people at one time
4. Video can aid sales associates by presenting a consistent message every time for every viewer.
5. Video can demonstrate the benefits of service or product. Brochures cannot do this.
6. One video can be designed for many uses. It can be taken to a trade show, used for one-on-one sales calls or show to a group of potential prospects.
7. Video can be used to explore a complex process or technical product. Computer generated graphics can be implemented to illustrate the process.
8. Video is a cost effective way to sell products that are expensive to demonstrate.
9. It appeals the viewer's emotions. The ability to reach prospect with images and sound can be incredibly persuasive.
10. Combination of sight and sound appeals to our senses on multiple levels.

2. Limitations

1. The application of video technology in extension requires trained personnel.
2. The equipments and materials are costly and need careful handling and maintenance, preferably in a dust-free and temperature controlled condition.

3. Video tapes have less storage life in comparison to motion picture films.
4. Launching and sustenance of a video project require favourable attitude and investment of key personnel of the organization.

11.2.4 Exhibition

The exhibitions are powerful promotional tools for organisations to reach larger number of potential customers/ people. An exhibition is a systematic display of models, specimens, charts, photographs, pictures, posters, information etc. in sequence around a theme to create awareness and interest in the community. This method is suitable for reaching all types of people. Exhibition may be held at village, block, subdivision, district, state, national and international levels. Though an exhibition is organised around a major theme, other related themes and some unrelated items like entertainment may also be included. Farmer's fairs and 'Krishi Melas' held by Agricultural Universities, institutes and various other organizations in which field visit, training programmes etc. are combined with exhibition are effective and popular. Exhibitions may also be organized by taking advantage of local fairs and festivals. In fixing dates for exhibition, the weather condition, and the schedule of farm operations may be kept in view.

1. Objectives of Holding Exhibition

1. To acquaint people with better standards.
2. To create interest in a wide range of people.
3. To motivate people to adopt better practices

2. Techniques in organizing exhibition

(i) Planning and preparation

1. Form a Steering Committee and suitable Sub-Committees with the specialists, local leaders and administrators.
2. Decide on the theme and organizations to be involved.
3. Prepare a budget estimate and procure funds.
4. Decide on the venue, time and duration.

5. Prepare a written programme and communicate to all concerned in time. Keep some cultural and recreational programmes in the evening.
6. Get the site ready within the scheduled date. Make provision for essential facilities.
7. Earmark a stall for display of exhibits to be brought by the farmers.
8. Arrange a pedal for holding meeting, training and entertainment programmes.
9. Display posters at important places. Publishing about exhibition through mass media.
10. Decorate the stalls simply and tastefully. Make adequate arrangement for lighting. Use special effect lights wherever necessary.
11. Prepare good quality and clourful exhibits which shall convey the desired message to the visitors. Use local materials as far as possible. Label the exhibits in local language with bold letters.
12. Display exhibition about 50 to 60 cm. above the floor of the stall, up to a height of about 2 meters. Maintain proper sequence. Avoid overcrowding of exhibits. Take precaution against display of insignificant and unrelated exhibits.
13. If possible arrange action and live exhibits.
14. Train up interpreters and allot specific duties. For a long duration exhibition, arrange rotation and replacement of personnel.

(ii) Implementation

1. Organize formal opening of exhibition by a local leader or prominent person.
2. Arrange smooth flow of visitors.
3. Let the interpreters briefly explain the exhibits to the visitors so that the intended message is clearly communicated. Distribute publication during visit.
4. Organize a panel of experts to be present nearby, so that the visitor who would like to know more or discuss some problems could get the desired information.

5. Conduct meeting, training programmes etc. as per schedule during the day time. Use the pendal at night for entertainment programmes.
6. Arrange judging of exhibits brought by farmers and give away prizes and certificates.
7. Keep the exhibits and the premises clean. Replace exhibits as and when necessary.
8. If desired, judge the stalls on the basis of their quality of display, ability to draw visitors and effectiveness in communicating message and award certificates.
9. Conclude the exhibition as scheduled by thanking the participants and those who have helped.

(iii) Follow up

1. Meet some visitors personally and maintain a visitors' book for comments during the exhibition to get feedback information.
2. Talk to the local leaders and assess success of the exhibitions.
3. Ensure availability of critical inputs and facilities emphasized during the exhibition.
4. Look for changes in practice in the community in the coming years.

(iv) Limitations

1. Requires lots of funds and preparation.
2. Can not be held frequently.

11.2.5 Computer

A computer is high speed electronic device capable of performing arithmetic and logical operation. It sorts and executes a set of instructions, which enables it to perform a series of such operations without manual intervention.

Computers are unique tools. They differ from other type of machines. The machine like mixer, washing machine carry out set type of job. Computers on the other hand, have no set process. We have to define the process and set procedures.

We do it by giving a set of instructions called 'program'. Many such programs can be stored in computer memory. Now the computer is ready to do different jobs or processes. This ability to do different jobs on the same machine distinguishes computer from other machines.

1. Advantages of Computers

The use of computer provides advantages over manual operations in many areas. The broad categories of advantages of computers over manual operations are :

(a) **Speed** : The computer speed is judged on the basis of data it processes. The terms like volume and frequency are always used to describe the amount of data handled by a computer system. The volume may represent the overall quantity of data to be processed. Frequency describes how often a specific data item is used in processing. The airline reservation system describe frequency. In order to make seat reservations, ticket agents must enquire into the file of scheduled flights. The total number of enquiries regarding one flight represents the frequency of request the computer must handle. Because of their extreme speeds, todays computer systems can easily process a high level of request for data. To classify speeds of different computer systems, the industry has developed the criterion of Million Instructions Per Second (MIPS). Data processors can compare computers' processing speed by comparing the number of instructions each can perform in one second.

(b) **Accuracy** : Computers do the calculation without errors. Even when the computer is making thousands of calculations every second, not a single one will go wrong. When people use calculator, we find at least one mistake in a thousand calculations. Using computers eliminates the possibility of calculation errors. When the space craft moving at 2500 km per hour is to be controlled, very accurate and quick control is needed. Computer can provide such control. Pilots on long distance flights have to watch several factors such as wind, height, fuel, aircraft control, engine control and so on. One factor remaining unchecked will cause serious damage. In such cases, computers can help the pilot in sharing the burden.

(c) **Capacity** : Computer can store large volumes of data on magnetic media.

The whole Oxford Dictionary can be stored on a single floppy. Computer not only have a large storage capacity but the speed at which the information is retrieved is remarkable. In a library to search a right books, it takes time but by using computer even if there are millions of book one can search a right book in fraction of a second.

(d) **Risk** : Computer can replace human operations, where the risk factor or hazards are more e.g. Areas in process control and aerospace application. Computer controlled process can take care of hazardous chemicals, more toxic gases and liquids without human touch. Computer controlled spacecrafts can land on distant planets and send the pictures on the earth without human being going out there.

(e) **Reliability** : Unlike human beings, computers are capable of operating under the most adverse conditions for extended periods of time without showing any signs of fatigue. Computers consistently provide the same accurate results under all operating conditions.

2. Application of Computers

Computer can be applied in various fields *viz.*, 1) Transportation, 2) Telecommunication, 3) Military and police, 4) Publishing, 5) Entertainment, 6) Education and training, 7) Engineering and production, 8) Scientific research and laboratories, 9) Commercial offices and banks.

3. Types of Computers

(i) **Micro Computers** : The micro computer is the smallest type of computer available. Inside a micro computer, the arithmetic and control unit are combined an a single chip called a microprocessor. It contain two types of memory. (i) Random Access Memory (RAM) where programmes and data are held during processing. Data stored in RAM lost where either the machine is turned off or when power of the RAM is intercepted. (ii) Read Only Memory (ROM) where permanent instructions or data are held. The ROM is non-volatile and does not depend on continuous supply of electric power to retain its components. Micro computers are used as home computers for the family, or as personal computers by business executives, whose volumes of data and processing speed requirement is small.

(ii) **Mini Computer** : Minicomputers are more powerful than the micro computers and can support several users at once. They have a larger RAM and backup storage capacity and can process data more quickly. They have many uses in business and commerce and are mainly used as departmental computers for large organizations.

(iii) **Main Frame Computer** : The earlier computers were called mainframe computers due to their large size. The term is still used for the large computers today. Mainframes are very large computers with a very high capacity of main storage. They can process large amounts of data very quickly, hence they are used by big companies, banks, government department as their main computer. Mainframes are kept in an air-conditioned environment in a special computer room. They can be linked into a network with smaller microcomputers or with each other. They act as nodes of large national and international communication network. They can handle hundreds of users and have enormous backing storage capacity.

(iv) **Super Computer** : Large supercomputers with faster processing have multiple processors and superior technology and are used for complex tasks requiring a lot of computational power. Complex scientific application like weather forecasting which require a large amount of data to be manipulated within a very short time, is possible only through supercomputers.

(v) **Personal Computer** : Personal computers (PC's) are microcomputers designed to be operated by one user for routine and personal work. Personal computers which serve for variety of purposes, are increasingly coming into use. A personal computer system consists of a television like display with a typewriter type keyboard. Everything that is typed on a keyboard is interpreted by the machine immediately. Programmes and data are stored on a magnetic disc. A magnetic record reply head under control of the processor, transmits the data from the disc. The system is provided with a socket, wherein other secondary storage unit (like floppy discs) can be conveniently inserted. The programme stored on disc is entered by typing it on the key board. It can subsequently be altered, if needed, with a special editor programme.

It is possible to attach personal computer to a telephone line which may lead into a network of other computers and being plugged into a computer-network system (Internet), the using capacity of personal computer is multiplied greatly.

11.3 Glossary

Periodical : The printed material, which is being released for the public at particular period e.g. daily, weekly, fortnightly, monthly, half yearly, yearly, etc.

Publication : Any printed material released for the public use. Book, booklet, folder and all types of periodicals.

Speed of Computer : It is the amount of data being processed in a given time on computer.

11.4 Summary

Print media have special advantages over other media. They reach more people than face-to face channel. These media provide higher degree of referability. Print media in the form of newspaper is being read by large number of people. The publications in the form of books are effective means of education and mass communication.

Radio is an important audio-media. Though there is one way communication by radio, it reaches more people quickly than any other means of communication. Therefore, radio is being used for informing public on various aspects like weather forecasting prices, announcements, news stories, interviews etc. It is very important media of entertainment. All India Radio has network throughout the country which covers 97.5 per cent area of Indian population.

Television is an important audio–visual aid, which provides pictures with synchronized sound. It can show taped as well as live programmes. Television provides more impact and wider coverage through its educational and entertainment programmes. Educational programmes include about education, rural development, agriculture, health, self employment, consumer awareness etc., The farmers can adopt new techniques quickly.

Video films are magnetic tapes, where pictures and sound are recorded. They are affordable and cheaper than films. It is great tool for training of large number of people, commercial advertisements and appeals to viewer’s emotions.

Exhibition is suitable for reaching all types of people. Exhibition may be held at village level to national and international levels. Though exhibition is costly method, it creates interest and motivate people for action.

The computers are high speed electronic devices capable of performing arithmetic and logical operation and of sorting and executing a set of instructions which enable it to perform a series of such operations without manual intervention. Advantages of computer are (1) Speed, (2) Accuracy (3) Capacity, (4) Risk and (5) Reliability. Computer programmes are the set of instructions given to the computer by person. Input is a collection of facts and figures which can be processed to produce information.

11.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Explain the role of print material in mass communication.
2. Describe the history of Radio Broadcasting in India.
3. Discuss the role of television in education and farm telecast.
4. Describe the role of exhibition in diffusion of information.

Unit 12 : Print Media

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12.1 Introduction

Print media play an important role in socio-economic and political development. The use of print media as compared to other media is more advantageous because information can reach large number of users quickly. The readers can read printed matter at leisure and can keep for further reference. The information communicated through print media is definitely well organised and easily understandable. The most common print media are newspapers, bulletins, farm magazines, features, posters and hoardings. The written word has more power which convinces and motivates people.

After the study of this unit, you will be able to know and understand :

- λ Structure and functioning of news papers
- λ Structure and functioning of farm magazine
- λ Structure of bulletins and booklets
- λ Feature writing , posters and hoardings.

12.2 Content

12.2.1 Newspaper

Newspapers are essentially news organs, in that an event is put into news shape and displayed in proportion to its relative value and timeliness. Material having news value comes from the new, the strange, the interesting and the significant.

News may be divided into different types, for example : From the geographical or political point of view, news may be considered as local, state, national or international or from the subject- matter point of view, it may be considered as news of finance, crime, sports, science, politics or society.

Newspapers are different according to whether they are intended primarily for people living in the cities, or in rural area. News in the city is not necessarily news in rural area, while news in villages or rural areas is rarely news of city newspapers.

A large number of daily newspapers are resources-strong and are published from national and state capital or big cities. Their approach is cosmopolite and the circulation ranges from about one lakh to several lakhs. Some of the daily newspapers are quite big and are published simultaneously from a number of cities.

Small newspapers, on the other hand, are resources-weak and are published at weekly or fortnightly intervals, generally from district or sub-divisional headquarters. Their approach is localite and the circulation is limited to a few thousands. Small newspapers cover events which remain uncovered by daily newspapers in rural areas.

1. History of Indian Newspapers

The first newspaper (weekly), 'Bengal Gazette' was published in India in English from Calcutta in 1780, Dig Darshan (Bengali) was the first language newspaper also published from Calcutta (1818). The Gujrati Daily 'Bombay Samachar' published from Bombay (1818) is the oldest existing newspaper not only in India but also in Asia. In 1930 the book publishing in India was in embryonic stage. There was hardly any publishing house worth mentioning and all the text books, including some primers were written by English authors and printed in Great Britain.

With the advent of independence in 1947, the Central and State Government agencies and private sector started a number of weeklies, fortnightlies and monthlies. Subsequently, with the establishment of Agricultural Universities in the decade of 1960 and with the onset of green revolution in 1967-68, the scenario of print media changed drastically. The number of newspapers published in India crossed over 42,000 in 1998 as against 360 in 1947. The number of registered titles today is 2,42,000. The literacy rate has gone up from 16 per cent in 1947 to 52 per cent in 1991. The rural literacy in 1991 was 45 per cent. The rapid growth of language press in India was the direct outcome of increase in literacy, active participation of common people in politics and rise of economic condition of the people. There is a growing evidence that even illiterate can be reached through print media. Generally there is someone in the household, who can read out loud to other family members. There was a considerable exposure of literates to the newspapers and magazines through oral readers. The rural people have not yet used this tool, the way it should have been.

2. Present Status

The total number of newspapers and periodicals was 39,149 on 31st December 1996. There were 4453 dailies, 317 tri/bi-weeklies, 13624 weeklies, 10913 monthlies, 5338 fortnightlies, 2845 quarterlies, 343 annuals and 1316 publications with periodicals like bi-monthly, etc. Newspapers were published in as many as 100 languages and dialects from all the states and union territories during 1996. The highest number of (15,647) newspapers were published in Hindi followed by English (5912). Uttar Pradesh with 6804 newspapers including 735 dailies retained the prestigious position of publishing the largest number of newspapers in India.

In 1996 the total circulation of Indian Press was 8,94,34,000 copies. The Anand Bazar Patrika from Calcutta, The Times of India from Mumbai and the Hindustan Times from Delhi stood first, second and third with circulation of 5,01,577 copies, 4,93,220 copies and 4,85,590 copies, respectively. India publishes largest number of newspapers in Asia and second largest number of newspapers in the world. Despite the arrival of multi-channels through satellite TV, there has been an increase of 124% in daily newspapers in the last decade.

In 1995 the total registered periodicals counted were 486 from 332 district headquarters. These rural newspapers are small in size of about 4-8 pages. The directory of Indian periodicals (Agricultural and allied subjects) by the ICAR enlisted 857 periodicals (Registered and unregistered). Farm periodicals constitute a mere 1.2 per cent of the total number of newspapers published. Similarly the aggregate circulation of the agricultural periodicals is about seven lakhs copies, that is about less than one per cent of the total circulation of periodicals. As per various reports published in newspapers less than 1 to 3 per cent of agricultural related news reach the villages, where 70 per cent Indians live.

3. Newspapers Organization

The organization setup varies from newspaper to newspaper depending on the size of the newspaper and the different services created for the readers. Generally speaking, most of the newspapers have three main departments-editorial, business and mechanical.

(a) Editorial Wing

The editorial and news department is the heart of a newspaper. It deals with news, features, comments, columns, and editorials. The head of the department is the editor-in-chief. Downward from him are assistant editor, special representatives, correspondents, and reporters, whose various functions are to gather news, prepare features and articles and write editorials and comments. The editor is assisted by the city editor or chief reporter, who has a team of reporters to cover local events. In some newspapers, there are separate desks for national and foreign news, which are fed by the news agencies and also by paper's own correspondents. The editor is also assisted by critics in special fields such as theatre, music, film, etc. The copy editor or the copy writer is the backbone of the newspaper. He edits the copy, writes headlines and resumes the accuracy and attractiveness of the newspaper. The editor of small paper combines in himself almost all the functions, i.e. gathering, editing and printing of news.

(b) Business Department

Business department earns revenue for the newspaper. It is divided into two main divisions- advertising and circulation: Advertisement department has three sub divisions viz., local display, national display and classified advertisement etc.

Circulation department deals with the dispatch of copies to the city and beyond city by road, rail and air.

(c) Mechanical Department

The mechanical department, generally, is divided into four parts – composing, engraving, stereotyping and press.

12.2.2 Bulletins and Booklets

Many times the terms, bulletin and booklets are found to be used synonymously to each other in usage. It is a publication containing about 24-28 pages and normally prepared on a single subject that requires detailed information. There are two types of bulletins.

1. A research bulletin

It is a scientific or technical document or publication. It lays emphasis on theoretical aspects of the topic under consideration. It gives cause and effect relationship, past work on the topic if any. It is useful for research workers.

2. An extension bulletin

It is written in an informal style. It gives information on a single topic in easy, simple language regarding practical aspects of problems. It is useful for farmers as well as extension workers.

(a) Planning for Extension Bulletin

Agricultural publications include bulletins, pamphlets, leaflets, circular letters as well as agricultural diaries. They play an important role in the present days of

highly developed systems of mass communication available to the extension teachers. Bulletins and booklets fit in with and reinforce other methods of teaching and influencing people. They are distributed in connection with office calls, farm and home visits, extension meetings and documentations. They are convenient to answer requests for information received by letter or telephone. They are supplied to local extension leaders and cooperating commercial agencies.

The procedure of writing, editing and publishing information in printed form for general distribution tends to promote clarity and accuracy. The fact that the publication carries the name of the Agricultural College or Agricultural University makes it authentic. Artistic prints, illustrations, figures, pictures, colour print, etc. contribute to the attractiveness of the publication and stimulating interest in the content. Even more important trend relates to the readability of bulletins. Simple sentences, short paragraphs, and choice of readily understood words increase both the likelihood of the publication being read and the information being utilized.

(b) Effectiveness of Bulletins

Studies in USA indicate that 7 out of 8 persons receiving bulletins read them and about 3 out of 5 persons make some use of the information in them. Where bulletins are supplied on request, farmers are more likely to use the information than when received in some other way. The likelihood of the bulletins received being utilized is also greater when the farmers are well educated. The responsibility of providing the publications needed for teaching purposes by extension workers rests largely with the university subject matter specialists. They are in a better position to interpret the findings of research projects and prepare the kinds and varieties of publications that will arrest the attention of farmers and arouse their interest and create desire to act.

(c) Essential Elements of Bulletins

The following score card for extension bulletins is set forth in an objective way, considering the elements which are important in an extension publication.

Score card for extension Bulletin

Particulars	Total score
1. General Appearance	(15)
(a) <i>Cover</i> : Compels interest with : Title type, illustrations	7
(b) <i>Make up</i> : Practical width of columns with interesting arrangement of margins, illustrations, paragraphs and effective use of boxes, subheads, type of paper	8
2. Presentation	(45)
(a) <i>Introduction</i>	5
(i) Arrests attention, arouses interest, creates desire	3
(ii) States Purpose clearly	2
(b) <i>Body</i>	35
(i) Language, simple, vivid, and direct	5
(ii) Subject matter presented concisely with sentences and paragraphs and tables understood by reader	20
(iii) Technical and historical material subordinated	2
(iv) Subject matter thoroughly covered but not too long	5
(v) Interest maintained throughout	3
(c) <i>Summary</i>	5
(i) Concise, well written	3
(ii) Material easy to locate	2
3. Subject Matter	(40)
(a) <i>Content</i>	35
(i) Meets definite need for information by presenting only facts significant to reader	12
(ii) Contributes to better standards by emphasizing tested and approved procedure	10
(iii) Information up to date	10
(iv) Free from bias	3
(b) <i>Conclusion justified by text</i>	5
Total	100

(d) Readability

One test for good extension publication is the ease of reading. Short sentences, short words, correct grammatical usage and human interest are the guide posts for writing. Easy reading is emphasized in the Dr. Flesch readability formula.

The average sentence length in words, the syllables per 100 words, and the personal references per 100 words are first determined by counting. By fitting these three measurements into table, as prepared by Dr. Rudolf Flesch, you can express the reading levels of any written material in terms of school grades completed. Most extension publications should be aimed at standard reading levels: sentences should be of average 17 words. Each 100 words should have average about 150 syllables and contain six personal references.

(e) Advantages

There are many advantages in the use of bulletins and other extension publications like pamphlets, leaflets and circular letters.

1. In general, people have confidence in the printed page.
2. Publications of the University are accepted as unbiased and reliable.
3. Written material can be read and studied at leisure and kept for future reference.
4. Necessarily supplement other teaching methods, such as news stories, radio, television, meetings and demonstrations.
5. Information usually definite, well organised and readily understood.
6. Influences adoption of practices at relatively low cost.

(f) Limitations

1. Not suited for teaching people with limited education or non-literates.
2. Frequent revision is necessary to keep abreast of current research.
3. Any information prepared for general distribution may not fit local conditions.
4. It is impersonal, lack social value of meetings and personal contacts.

12.2.3 Farm Magazine

The word magazine has been derived from a French word 'Magasine' meaning a 'story house'. Early magazines were store houses of sketches, verse, essays and miscellaneous writings.

The dictionary meaning of the word 'magazine' is a paper covered periodical with stories, articles etc. by various writers. Magazine is a publication with newspaper format but with wide variety of contents. The words 'magazine' and 'periodicals' are being used synonymously in many of the writings and also in usages.

1. Types of Magazines

Magazines have been classified into different types depending upon contents and readership. In the directory of Newspapers and Periodicals, which lists all American Publications classified the magazines as:

(1) **General Circulation Magazines** : These include general interest material with wide appeal.

(2) **Magazines for Women** : Material of wide popular appeal for women.

(3) **House and Garden Magazines** : Farm publications have been classified into two groups.

(a) **General Farm Magazines** : These include topics related to many aspects of farming e.g. stories of successful farming, farm journal.

(b) **Regional Farm Publications** : These include material of regional interest e.g. Nebraska farmers, Walac's farmers. Magazines can be also classified into sub-groups depending upon subject areas of periodicals e.g. Dairy Publications, Breed Publications, Horticulture Publications etc. Magazines may also be called by different other names such as House Magazines. It is a type of magazine by a concern or institution to promote its public relations and welfare. House magazines can be subdivided into two types as follows :

(i) **Internal House Magazines** : These are mainly intended for employees and usually concerned with stories such as those about new babies, company golf tournaments, explanation of company or institution policies and company news.

(ii) **External House Magazines** : These magazines are intended for persons

outside the company or institution. Sometimes, it is designated to reach the general public, dealers or retailers, legislators, members of the community in which the plant is situated, often it is intended to reach several of these groups.

2. History of Farm Periodicals in India

Farm periodicals in India have a history of over 90 years. The first farm periodical '*Krishi Sudhar*' , (Hindi), "*Krishi*" were published from Agra in 1914 and 1918, respectively which were followed by few in South Indian languages. Government departments started publishing farm periodicals in 1931 : the Indian Council of Agricultural Research (ICAR), New Delhi published its first magazine 'Agriculture and Livestock' followed by the 'Journal of Animal Science'. The Bihar Government started '*Gaon*' in 1938 which continued to serve farmers for many years. Immediately after Independence, the Indian Council of Agricultural Research (ICAR) started a popular farm magazine '*Kheti*' which was later followed by a series of magazines, which laid emphasis on horticulture, crop husbandary etc. '*Basundhara*' (Bengali) appeared in the year 1948 as a Bengal Government periodical for farmers. "*Krishak Jagat*' in 1946 and '*Sevagram*' in 1953 were published to serve the rural readers. Today the ICAR publishes a number of journals for research workers and farmers. Farm Information Unit of Directorate of Extension, Government of India, brings out farm magazines and number of farm bulletins for farmers and home makers. At present, farm periodicals are being published by the Agricultural Universities, State Agricultural Departments, ICAR Institutions, Directorate of Extension, Autonomus Research Institutes, Business Organizations and Private Organizations. Regarding the coverage and quality of content and getup of Indian farm periodicals, the National Workshop for farm journalists on methods and the techniques of farm journalism and communication of agricultural technology (1976) made the following observations:

1. The farm magazines are published in various sizes without keeping in view the appropriateness of the length and breadth.
2. The quality of cover printing and the inside printing is not good in most of the farm magazines. The letter size in most of the magazines is smaller making them less readable.

3. The use of photographs and illustrations is good in some magazines only, while in other those are either too small or not clear.
4. Contents are not need based in all the farm magazines, cover page of subject matter areas like animal husbandry, dairy and poultry is inadequate in terms of number of articles and their quality.
5. The articles in farm magazines are written in language which is less understandable to the readers, specially those belonging to the neo-literate group.

3. Role of Farm Magazines

Farm magazines are generally published every month. They contain several pages and a variety of materials regarding farming matters like feature articles, development news, success stories, informative articles, innovative ideas, photographs, news stories, farmers' queries, answers and farm advertisements. Farm magazines are rich source of information to the farmers and extension workers. Magazines have been programming well because of their ability to reach specialised audience. Better educated people and individuals with higher income also read magazines more than watching television.

4. Content of Farm Magazines

Farm magazines are more credible source of farm information. They contain variety of farm information related to farming such as crop production technology like improved varieties, cultivation practices, water management, plant protection and post harvest techniques. They also provide information on agro-based subsidiary occupations like cattle, sheep, goat, pig, and rabbits farming, food processing, horticultural nursery etc. Some magazines also include information on government programmes, agricultural news, useful information for welfare of farm family. They also publish the success stories of farmers which prove to be more convincing than other information. The farm magazines are published periodically and thereby are sources of thorough knowledge and are helpful in solving the practical problems of the farmers. The articles are written by trained and experienced personnel in the

respective realm of study and therefore are accepted with authenticity and grace by the subscribing farmer.

5. Farm Magazines in Maharashtra

The farm magazines published in the state of Maharashtra are 42. The important among them are published by the Agricultural Universities, State Department of Agriculture, Krishi Vidnyan Prakashan and some private organizations. The largest circulated Marathi farm magazine is “Shetkari” published by the State Department of Agriculture, which was started in May 1965 having highest copies among all farm magazines. The subscription charges are subsidised, as it is a Government publication. The farm magazine published by Krishi Vidnyan Prakashan, Pune viz., ‘Baliraja’ is also popular among the farming community. It is being published since 1970. Other notable farm magazines published are ‘Trombay Sheti Patrika’, ‘Krishivikas’, ‘Usmala’, ‘Kisan Shakti’. ‘Shetkari Shikshan mala’, ‘Shri Sugi’, ‘Apli Sheti’, ‘Hangam’, ‘Pashuseva’, ‘Drakshavrutta’, ‘Dalimbvrutta’ etc. There are 18 agricultural magazines published in Maharashtra.

12.2.4 Feature Writing

1. Meaning of Feature Writing

1. A feature is similar to a news story, in that it gives the readers facts in an interesting form and is adapted to rapid reading. But it goes beyond those facts by amplifying them with study, research and interviews and to instruct, guide or entertain the readers, who know about the subject as well as those who do not.
2. It is a detailed presentation of some interesting subject in a popular form. It deals with the day’s news, a timely or seasonal subject or any topic that appeals to a number of readers. Its purpose is to entertain, inform or to give practical guidance, i.e. to show to readers as to how to do something.
3. The news story stops after it has presented facts or ideas. The feature story goes further. It explores the background, the birth and growth of the idea

or event, provides a glance at feature too. It conveys to the readers what you, the writer or someone else, think about the idea or event. It has greater appeal to readers' imagination.

2. Nature of Feature Writing

Feature writing or feature story is not a fiction article tailored for consumption by a newspaper or television audience. Its peculiarities in newspaper usage are; it is shorter than its magazine counterpart. Magazine reader has the periodical for a week or month and can spend longer time for reading it.

In comparison with story writing, feature follows the newspaper. Style in regard to its requirements covering capitalization, abbreviations, numbers usage preferred spelling and other standards.

The writing of news has a certain set pattern or form but in writing a feature, you have much more freedom, and you can try out the various possible ways of doing it. There are no restrictions towards the length of feature. In writing news story leads have very few choices. But it is not so with feature story lead. The event is dramatized or humanized in the feature lead, thus increasing its appeal to the reader. The writer must develop certain traits for writing good feature stories. He has to be curious and interested in the things around him and should have a sincere desire not only to gather new knowledge but also to share it with others. The written requires an ability to recognize a subject of interest to the readers. The writer must spot out human interest that will give the feature story the reader appeal. The things which are happening should be observed with proper attention for clear and accurate writing. The writer needs to have some skill in writing but this need not be a born gift.

The news story stops after it has presented the facts or ideas. The feature story goes further. It explores the background, the birth and growth of the idea or event. It has greater appeal to the reader's imagination. The event in a news story has to be recent one or something 'new'.

Features usually are relatively timeless meaning that they can be held for some days or weeks and still be usable.

12.2.5 Posters and Hoardings

1. Historic Background of Posters

Posters have existed in primitive form almost since the invention of movable type printing in the 18th century. The first posters consisted almost entirely of text and carried notices of Royal Proclamations, tax assessments, fairs, markets and newly printed books. Some of them had wood cut illustrations. But it remained for lithography developed in the mid nineteenth century which made possible the first cheap and brilliant colour reproduction to bring the modern concept of posters into being.

The first modern poster was made in 1869 in Paris. When Jules Chéret, the first of the modern poster artists was commissioned by appearance in the play *La Biche au Bois*. Chéret, the first modern poster artist was commissioned by Sarah Bernhardt to prepare a poster announcing her appearance in the play *La Biche au Bois*. Chéret's use of colour, design and bold lettering was superb, and the poster started a new trend in graphic communication. As the poster idea caught on, many fine artists experimented with it in Europe and in the United States, the best of these posters combined simplicity and visual force with emotional impact.

2. What is a Poster ?

Poster is a visual aid which can communicate information to a large number of people. It demonstrates vividly and clearly one single idea at a glance. The role of poster is to implant very quickly in the viewers mind, or to make him recall a single important idea. It is designed to catch the attention of the passer by impressing on him an idea and to stimulate him to support the idea. Poster is designed to evolve in viewer a desire for more information or take required action.

A poster is generally seen from a distance and the person glancing at it seldom has the time or inclination to stop and read as it is displayed in 'a public place'. The job of the poster is to stop the hurriedly passing persons, thrust the message upon them quickly and lead them to action immediately or eventually. A good poster should have the following qualities.

1. It must be able to attract attention : the hurriedly passing persons must be stopped by some attractive feature in the poster to take a look at it.
2. It must convey the message quickly : wording must be brief and illustrations easily understood, so that the message of the poster is quickly absorbed.
3. It must lead to action : either immediately or eventually. This requires a forceful idea, strongly presented by the content of the poster.

A few hand drawn posters may be used in a training programme, group meetings, farmers' days etc. Printed posters may be used in large number in campaigns, exhibitions etc. Wall writings and signboards may be made by following the principles of poster and are effective for communication.

3. Advantages of Posters

1. Help in making announcements.
2. Facilitates display of ideas to the audience.
3. Quick communication of message to a large number of people dispersed widely and in remote areas.
4. Facilitates motivating people.

4. Effective Use and Characteristics of Posters

1. Brevity : Not more than 5 words should be used.
2. Simplicity : It should be composed with minimum number of units.
3. Idea : Visualization of the idea should be clear and original so as to attract and impress the viewers.
4. Layout : The arrangement of the elements should be logical and easy flowing. The letters should be simple, attractive bold and visible from a distance.
5. Colour : Bright and attractive color should be used. Judicious use of colour has an important bearing on the effectiveness of a poster.

5. Hoarding

The dictionary meaning of hoarding is wooden fence or compound wall frequently used for pasting advertisements The advertisements are prepared as per posters.

12.3 Glossary

Newspaper : Newspapers are essentially news organs in that an event is put into “news shape” and displayed in proportion to its relative values and timeliness.

Bulletin : It is a bulkier publication with 24 to 28 or more pages. Bulletin is normally written on a subject that requires detailed treatment.

Leaflet : A leaflet is, usually a single sheet of printed matter. It gives accurate and specific information on a particular topic.

Farm Magazine : Magazine is a publication with newspaper format but with wide variety of contents, which include topics related to many aspects of farming.

Poster : Poster is a playcard displayed in a public place with the purpose of creating awareness among the people.

Hoarding : Wooden fence or compound wall etc. frequently used for pasting advertisement.

12.4 Summery

Print media play a great role in communication process. The written word is helping to make the advisory work with farm people more interesting. Various forms of print media *viz.*, newspaper, booklets and bulletins, farm magazines, feature stories, posters and hoardings are increasingly being used for communicating with farm people by the extension staff. The written word is regarded as more authentic and can be put up for reading and referred as and when required.

The newspapers are prime source of information for both urban and rural people. Various types of news *viz.*, political, finance, crime, sports, science, politics and social are being published. Large newspapers are resource strong while small newspapers are resource weak. The progress of newspaper publication is promising in India. India stands fourth largest in the world in respect of number of newspapers published. The status of agricultural newspapers is very weak.

Booklets and bulletins are prepared on a single subject and are of two types: Extension and Research. The information provided is definite, well organized and

readily understood. Farm journals are best source of information to farming community. These are being published by State Departments of Agriculture, Agricultural Universities, Indian Council of Agricultural Research (ICAR) and private organizations. Farm magazines are helpful for solving practical problems of the farmers. The purpose of feature writing is to entertain, inform or to give practical guidance. Apart from these print media, poster and hordings are visual aids. They attract attention of the viewers.

12.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Describe the historical accounts of Indian newspaper.
2. Explain the role and content of farm magazines.
3. Explain the history of farm periodicals in India.
4. What is feature writing ? Explain significance of feature writting in farm communications.

Unit 13 : Preparation for Print Media

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13.1 Introduction

The print media in the forms of newspaper, magazine, newsletter, broucher, bulletin, folder etc. play an important role in the developed system of mass communication. The most popular print media among all class of people is the newspaper. The newspaper has a large audience, which enables to reach a large number of people at one time and quickly. It is said to be a low cost communication medium.

The procedure for writing, editing and publishing information in printed form for general distribution tends to promote clarity and accuracy. The news writer must observe certain principles as correctness, simplicity, objectivity, curiousness and interest in their writing. The important component of newspapers is news. The writing of news story needs to follow a certain pattern of writing which differs from other forms of writing. The present unit describers all aspects about news.

After the study of this unit, you will be able to know and understand :

- λ Steps in news writing
- λ Patterns of news writing
- λ Leads in news
- λ Manuscript editing
- λ Readability test

13.2 Content

13.2.1 Steps in News Writing

1. News

Any new idea, event, situation or development of interest to a large number of people is commonly considered news. There is a famous saying; **“when a dog bites a man, it is not a news but when a man bites dog it is a news”**.

News is also defined in another manner as a report of any event, containing timely and hitherto unknown information, which has been accurately gathered and written for the purpose of serving the reader or listener. This means that an event is not news, only on being reported it becomes news.

News is something that has actually happened; is happening or is expected to happen. It is not that happened in the remote past, it is not history although a newly discovered fact of history is news. To be news, it has to be new.

The Other Definitions of News

1. News is any event, idea or opinion that is timely, that interest or affects a large number of people in a community and that is capable of being understood by them.
2. News is what the newspaper prints and radio broadcasts
3. News is of importance to the reader of the newspaper printing it.
4. News is anything and everything interesting about life materials in all their manifestation.

News of a farm or home practice, has to be published at the proper time or season, if it is to have a good news value. If for example, the news is about new seed, it has to be published well ahead of the sowing season, so that the farm readers come to know of it early enough to find out and move about it and get the new seed for sowing.

2. Characteristics of News

(i) **Unusual Happening** : News has to be unusual or at least out of the ordinary. A farmer growing crop is not news. But a farmer getting a very high yield is certainly a piece of news. It will attract the attention of other farmers, who will be eager to know how he got such a yield. The unusual always forms piece of news is interestingly presented by George Bastian as news arithmetic.

News Arithmetic	News
1 Ordinary man + 1 ordinary life	= 0
1 Ordinary man + 1 extraordinary life	= News
1 Ordinary husband + 1 ordinary wife	= 0
1 Husband + 3 wives	= News
1 Man + 1 achievement	= News
1 Ordinary man + 1 ordinary life of 60 year	= 0
1 Ordinary man + 1 ordinary life of 100 years	= News

(ii) **Proximity of the Event** : The value of the news is normally in direct proportion to the distance of the reader from the point, where the event takes place. The shorter the distances, the greater the interest. People are more concerned with news that affects themselves, their families, their neighbours, their community and their village. The taluka, the district, the state, the nation and other countries come next, in the order of decreasing interest.

Even when an event takes place at a distance, if it affects himself or his family, the interest of the reader increases. For example, the Parliament enacts about removing subsidy on fertilizer, thereby increasing the prices. This affects farmer and his interest increases greatly.

(iii) **Timeliness** : The reader buys newspaper or listens to the broadcast for the news which is new. The news which is coming out of the press should be existing but new. The reader must consume it before the next copy arrives with new fresh information. News, like dairy products, is a perishable commodity, that must be used before it loses its flavour. The radio or TV news report of an hour ago or yesterdays newspapers are of little value. Today's electronic transmission of news provides the audience with the logical expectation of receiving almost instantaneous news.

(iv) **Self- Identification** : Closely allied to proximity as a news value is the factor of self-identification, or the impact that a development will have personally on the individual. News of agricultural prices will find high readership in rural area but would attract little attention in urban community. The persons drawing higher salary would focus attention on the article reporting income tax, while the persons getting low salary would have less interest in it.

(v) **Prominence** : Well known or prominent persons make the news and have higher readership than those of ordinary persons. When a common man fractures his leg, his friends may express sadness and sympathies but the injury is not news. If the prime minister of a nation injures his leg, it is a news event. The events concerning prominent people are covered in news papers. Some dimensions of the prominence will lap over to "proximity" values. A local leader with his activities may be popular in his own community but unknown and therefore of no news value in the news paper which are at long distance.

(vi) **Consequence** : The main purpose of newspapers is to keep the readers informed on matters of consequence and importance, events or situations that are developing around them. For example, a strike may affect not only the involved workers but also the supply and prices of vital goods. When a university announces that the tuition fees will be hiked, then it will affect the admission of the students, particularly the low income group. There are other news of consequences which appear daily in newspapers concerning to weather which affect environment, business etc.

(vii) **Disaster and Progress** : Though the disaster and progress are found at the opposite ends, they have great news value. The tendency of human being is to give

more news value to disaster news than progress news. When flood or earthquake hits an area, newspaper devote pages to stories about the tragedy and loss. The readers eagerly read the news stories detailing the tragedy. However, the news stories pertaining to the projects concerning flood control and safety measures towards earthquake rate relatively small space in newspapers and passing readers' interest.

Generally the readers are attracted towards 'bad' news like robbery, theft accident, crime etc. because they are positive in exiting reader's interest. Few people would bother to read the news of society's efforts in developing communal relations, fighting poverty or slowing crime rates. One factor, of course in many good news stories is the lack of human elements that help develop emotional involvement. The news stories towards progress in certain situations attract attention of the readers. For example the landing of American astronauts on the moon in 1968,

Majority of the readers prefer to read news about 'bad' happenings like murder, accident and may skip the news regarding development of community programme. In newspapers more space is covered for disastrous news and less towards news covering progress activities. Readers expect the news of tragedies, disasters, violence, and breakdowns in human relationships.

(viii) Conflict : The conflicting situations occur in many events such as sports, elections, debates, arguments in the state assembly or parliament. People identify with the personalities or issues involved in conflicts and want to know about them. Various news items are being published regarding conflicting situations between India and Pakistan, Kaveri water dispute between Tamilnadu and Karnataka, strike of workers for bonus. Human beings seem to bound with conflicts and competitions. These elements are found in court cases, playing games, winning awards for best actor or actress, prizes for outstanding journalists and many other daily activities.

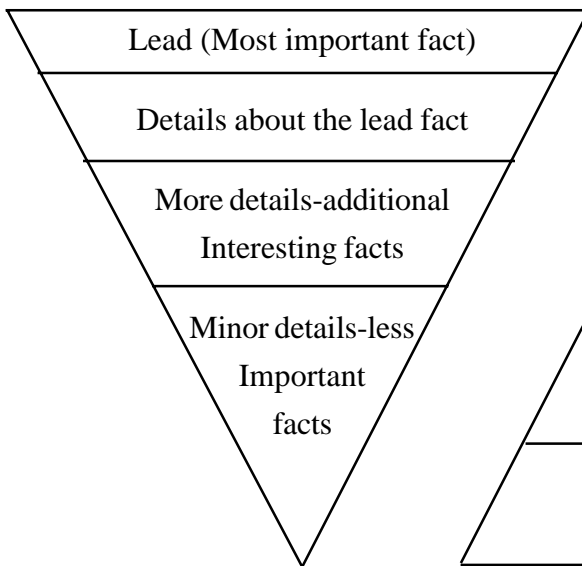
(ix) Human Interest : Many stories are concerned with the impact, but they can arouse interest among readers. The 'human interest' category covers various subjects that may lack story elements such as prominence, real consequence, disaster, conflict or timeliness. The story situations are worthy because they deal with such elements as youth or senior citizens, pets, adventure, the problems of illness and poverty overcoming handicaps, romance, strange places or unusual people. Such

news stories are called as “feature” stories. They are timeless and can be held with photographs that usually accompany them until the newspaper has the space to display them properly.

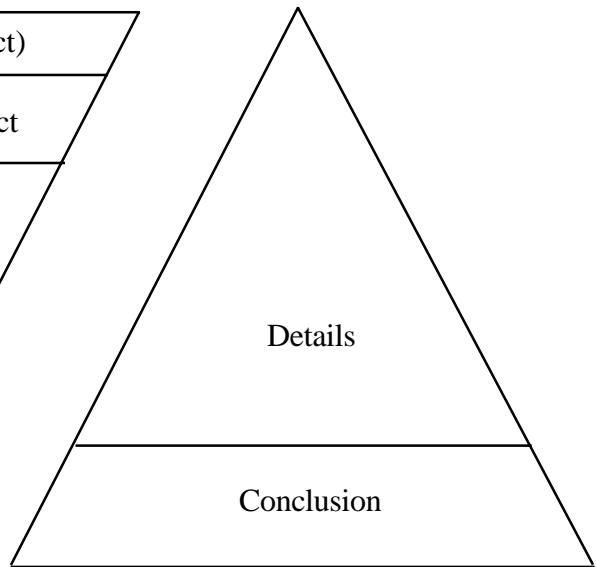
3. Forms of News Writing

Different kinds of writing take different forms. Each kind serves a definite purpose and hence, there is no exception for the news story or news report. A news story follows a certain pattern of writing since the purpose of writing a news story is to present the news and it differs from other forms of writing.

The writing of a news story follows a certain pattern. The most interesting part of the story, the most unusual and the most striking facts, which are the most related to the reader, or the climax of the story comes first. The remaining facts are presented in the descending order of importance. The starter of the news story is represented in the form of an inverted pyramid with the lead or the summary or most important facts forming the case at the top and the more important details in one or two paragraphs, followed by minor details and less important facts at the bottom of the news story.



Inverted Pyramid Format for News story



Upright Pyramid Format for Novel Story

The analogy of the 'upright' pyramid explains the format. A short story or novel follows the format of an upright pyramid, where the basic is at the bottom. In this type of format the reader begins with preliminary or introductory facts in the case of a murder mystery. The author finds out "who did it" in the last chapter. In the news story format the lead is able to catch the readers interest. It gives the reader briefly the most important facts about the story. It enables the reader to decide whether the news is of interest to him and whether it will be rewarding for him to go through the rest of the story. If the news is not interesting to him, he need not waste his time going through the entire story. By reading only the lead, the reader can get essential points of the story. If the editor of the newspaper does not have enough space for printing the whole news story, he will cut down its length by removing end paragraph without loosing essential facts of the story. He would be cutting off the less important details. The lead of the news is much similar to the first few sentences with which one would be telling his friend the outcome of some event which one has witnessed. The news story should answer the questions, which the reader will want to ask 'What', 'When', 'Who', 'Where', 'Why' and 'How'.

The body of the news story is an elaboration of the lead.

The lead may be regarded as an outline for the body of the story. When the facts are clear and well organized, the body will expand each of the points intended in the lead in the same order in which the lead has started them. This plan of organization can be followed most definitely, when the story deals principally with expository material. Minor details not included in the material outlined by the lead may be presented in the order of their interest, those of greatest value being reported first and those with least appeal being used last.

Example of news story writing : 200 tonnes of sugarcane per hectare

Lead { Kashinath Patil, a farmer from Digras village in Rahuri taluka harvested 200 tonnes of sugarcane per hectare what is considered highest yield in Ahmednagar district.

Body { He tried a well established variety Co-740 as Adsali crop. But intensive cultivation with proper fertilizer schedule and irrigation paid him rich dividend. Kashinath Patil is an ordinary farmer, but he took advice from Mahatma Phule Krishi Vidypeeth scientists in every step from soil testing to proper stage of harvesting.

Tail { The chairman of the co-operative sugar factory, Rahuri Shri Prasad Tanpure congratulated him on his wonderful farming efforts.

13.2.2 Patterns of News Writing

The newspaper formulates its own style and patterns. While lead of a news story attracts attention of the reader, the remaining part must hold interest by furnishing details clearly and concisely. The reader will lose interest in the news story when details fail to justify the lead. After an appropriate lead, the body of the story should be accurate, use names, qualify sources, follow the rules of good grammar, and above all, be understandable.

1. The use of the Third Person : All news and feature stories are written in third person. This is because to maintain fairness and objectivity which would not be present in the first person story. News stories therefore do not use “I”, “my” “we”, “us”, “me”, “our”, or similar personal references. The exception to not using these words would be in direct quotations.

2. Write for the Reader : The reporter must remember that he will not be present with the reader to explain any vagueness, confusion, conflict or references in his story. The reader’s understanding and impressions will come only from that story.

3. Readability : The reporter should avoid words, phrases, quotations and sentences that he does not understand. If the writer lacks comprehension of his own story, it is doubtful that the reader will get the meaning. The reporter gathers many facts and sorts the meaningful ones, translating this information into words and sentences that the average reader will understand and enjoy.

4. Avoiding Lengthy Sentences and Paragraphs : Lengthy sentences are undesirable for journalistic writing because they create difficulty in reading. A skillful

news writer can delete unnecessary words from a sentence as well as phrases to make the writing more readable. There should be short and concise paragraphs than long ones. Dr. Rudolph Flesch showed that short sentences with not more than 15 words each have maximum readability. Editors do not expect reporters to count words or follow formulas for writing, but they rightfully demand that their writers construct sentences so that they will be readable. The writing should be such that an average reader can grasp at first reading. Every lead and subsequent paragraphs should be clear, incisive and interesting so that the reader will be impelled to continue. The writer must not delay him with wordiness, confuse him with imperfect sentence structures or discourage him with dull, technical phraseology. It is better to use words that are generally used in everyday conversation. But, if you have to use a word that is unfamiliar to an ordinary reader, explain it.

Here is an example of a sentence which is too long - “There are many soft materials and unwholesome combinations of food in our meals which result in mal-adjustment of gastric process.”

The rewritten form of this is “Eat soft food; by eating wrong combinations of foods, you will have stomach upsets”.

Another example

“It is of course obvious that an average Indian farmer can hardly afford to invest money required for weedicide application, nor it seems more economical, under existing conditions, than weeding with a hand-hoe, if he could command the assistance of his family members or agricultural labour.”

The purpose would have served if this was written as:

“It is clear that the average Indian farmer cannot afford to spend money on chemicals for killing weeds. Nor will it be a paying practice these days if he can get his family members or cheap labour to help him weed the field with hand-hoes.”

Short sentences are used to give clarity and to emphasize an idea. The average thought is to be presented in a sentence of medium length. But such sentences are used sparingly. If too many of them are used, the writing becomes monotonous. A long sentence is used to give details or to summarize the points.

5. Use of Words : Words are tools of writing. There are numerous words but a writer must know how to select the right ones to construct the story in such a manner that it would be liked. The writer should use usual or common words which the reader uses in his own daily conversation. Sometimes unfamiliar words are used, when writing on a technical subject is undertaken. Normally, the unfamiliar technical word cannot be replaced by a familiar word because the technical word is the right word and says exactly, what the writer wants to say. Short words have a lot of force in writing. The short words like ‘love’, ‘hate’, ‘kill’ are forceful.

Use of specific words say definite things specifically. Avoid too many adjective and adverbs. Use verbs like ‘dig’, ‘plant’, ‘sow’, ‘mix’, ‘bake’ which denote action. Active verbs create mental pictures of action in the reader’s mind. The verb is the soul of a sentence. Always prefer concrete word (e.g. plough) to the abstract words (tilling the soil). It creates exact picture in the mind of the reader. Use active voice in writing which helps converse with the reader. For example.

“It was said by the Agriculture Minister that the electricity bills will be reduced by 25 per cent on agriculture”. (Passive voice)

This is rewritten as : “Agriculture Minister announced a reduction of 25% in the electricity bills on agriculture”. (Active Voice) Certain kinds of words are avoided which are unnecessary in journalistic writing. Here are few examples:

Instead of	Use
In the field of	In
In the majority cases	Mostly
Owing to the fact that	Because
In spite of the fact that	Although
Red in colour	Red
In order to	To
In the year 2000	In 2000

Repetitions of the same word should be avoided, which results in boredom. Consider the following paragraph :

“Better sow your summer vegetables early as it is found that early sown vegetables, escape the red pumpkin bug attack. The vegetables, cucumber, bitter

gourd, musk melon and water melon should be sown before winter is over. Sow two or three seeds of these vegetables in pits, four or five feet apart.”

This paragraph is rewritten by avoiding the word vegetable in every sentence :

“Better sow your summer vegetables early. If sown early, they escape the red pumpkin bug attack. Sow Bitter gourd, Cucumber, Musk melon and Water melon before winter is over. Sow only two or three seeds of each in small pits, four or five feet apart”.

13.2.3 Leads in News

The lead summarizes the news story. It serves three functions.

1. It answers the questions Who, What, When, Where, Why and How.
2. It emphasizes the news feature of the story by placing it in the initial position.
3. It provides such quick identification of persons, places, and events as is necessary to the understanding of the story.

1. Types of Leads

(i) Inverted Pyramid or Summary Lead : It presents pertinent facts in the first paragraph of the news story, This type of lead is used for most of the news stories where the format is in inverted pyramid form.

Example

Pune – Aug. 15

Rajaram Patil, a forty five year old farmer of Kamthadi village in Bhor taluka said here that ‘Indrayani’ variety of paddy gives twenty five per cent more yield than the present Ambemohor variety, which is largely cultivated in the area, and urged the farmers to try it.

(ii) Direct Quotation Lead : Direct quotation lead is composed of words that add an element of interest such as drama, pathos, humor, astonishment, or some other factors that will reach out to the reader. A direct quotation that is “wordy” contains abstract ideas, or is unclear. It may turn the reader away, whether used in the lead or body of a story.

Example

Manila :

“Terrorism needs to be condemned, whether it is the attack on the World Trade Centre and the Pentagon on September 11 or in the state of Kashmir” said Megasaysay award winner Indian educator Sandeep Pande, who was given Megasaysay award for his work promoting social change.

(iii) Punch Lead : One method of attracting attention is concentrating with a brief, to the point lead sentence and developing it later in the story.

Example

An attractive 35 year old woman executive was arrested today on charges of being the “queen” ruling a multi-million-rupee narcotics ring.

Unfolding a bizarre story, Police said.....

(iv) The “1-2-3-4” Lead : Often a story situation contains a number of news making elements which the reporter would like to emphasize. By listening to them in “1-2-3-4” order, the writer accentuates them all. It is useful, when a news situation involves many angles.

Example

In order to alleviate traffic problems the city council approved these measures

1. Widening of main streets.
1. Construction of new approach roads.
2. Stopping new licenses to *auto-rickshaws*.
3. Announcing one way routes in certain crowded streets.

(v) The “Crowded” Lead : An alternate way of writing “1-2-3-4” lead is to present a portion of it into a single but crowded paragraph.

Example

The city council, seeking to reduce the traffic problems, today decided in the meeting to widen the main street, construct new approach roads, stop new license to auto-rickshaws, and announced one-way routes in certain streets.

(vi) The “Shirt Tail” Lead : An alternative to the above two methods of handling situations containing several news elements is including them in two or more brief paragraphs or adding a “shirt tail” for information. This kind of lead can

be used as a compromise to the “crowded” and “1-2-3-4” leads; it permits the combining of a number of news elements without using a great deal of space.

Example

Widening of main roads in the city and construction of new approach roads were main decisions taken in today’s city council meeting in order to alleviate traffic problems. The council also approved stopping of new licenses to auto-rickshaws and one way routes in certain crowded streets.

(vii) **“Cartridge Lead”** : This lead is brief and contains one single news incident to be expanded later in the story. It becomes most handy when an event of earth shaking importance takes place, when Mahatma Gandhi was assassinated or president Kennedy was killed. In the case of later the lead appeared as.

Example

The president is dead

(viii) **The “Question” Lead** : A lead that comes easily and is highly popular. It is one that starts with question addressed to the reader.

Example

What will happen to kharif crops, since there are no rains for last two months?

(ix) **The “Suspended Interest” Lead** : Instead of starting with the climax of the story as in the summary lead, the reader find it later in the story which is known as suspended interest lead. This type of lead is not used unless the story lends itself well to this treatment. It calls for a certain amount of imagination, sense of suspense and ability to think out a good and interesting way of writing.

Example

Those who cut the stem of the mother banana plant after harvesting the bunches are cutting out their profit too. The practice is found to have a very bad effect on the follower plant, which produces smaller bunches and fewer fruits, This was found in experiments at Banana Research Stations in Kerala.

13.2.4 Manuscript

Writing or preparing a manuscript is a pains taking activity. One’s experience might be exception to it. We write for one target audience. One must get the feedback

of what happens to the writing at the readers level. The reader's response to your writing might be any one of the following types depending on your competency as a writer

1. Reader observes cover page and throws away the publication.
2. Reader opens publication and ceases reading after going through few paragraphs or pages.
3. Reader sleeps while reading and discontinues it.
4. Reader reads only selected chapter / pages.
5. Reader eagerly reads the whole publication.
6. Reader thinks on reading material and is motivated for action.
7. Reader preserves publication for future reference.

If your publication gets positive response on the points mentioned above, you are a good writer. Everybody who is educated or even literate can write. But everybody cannot become a writer. Not to speak of good writers. They are few in number. Writing for farmers is still more difficult for two important reasons

1. The farmers in general are illiterate, primary literate or low educated.
2. Writing for farmers involves technical subject that demands accuracy.

Extension specialist or a scientist, often needs to write for farmers or edit the farm publications. You have to face a challenge to produce effective publications as writers. Further, when you shoulder the responsibility of editing and compiling publications, you have to face double challenges. As editor or compiler, you get the articles from those who are not trained in the field of writing. Writing for farmers need simplicity. Simple writing is a difficult task, then how to make this difficult task simple ?

You can do it by following some simple tips and techniques and through your conscious, deliberate and constant practice in writing.

First of all remember that clear writing comes from clear thinking. If you think with clarity, you will realise that two clear steps are involved in writing activity viz, planning and writing. Hence plan your writing and write according to plan.

1. Plan your Writing

(i) Define purpose of writing : The purpose may be single or combination of the following

- (i) To inform or make aware
- (ii) To impart knowledge
- (iii) To peruse
- (iv) To motivate for action

If your purpose is not clear, do not start writing until it is clear. Try to define what you want your readers to know or do after reading your piece of writing.

(ii) Define Your Audience : Following types of audience are there :

- (i) Potential audience
- (ii) Available audience, and
- (iii) Active audience

Understand your audience in terms of their number of characteristics (farmers) as age, level of education, level of knowledge, level of understanding, socio-economic status, skills, available resources to them, and their needs and aspirations.

(iii) Decide the Subject Matter : In the light of the clearly defined purpose, decide the subject matter to be included. Also consider the level of knowledge and understanding, needs and resources available and other characteristics of audience, before deciding the subject matter to be included in your writing.

(iv) Understanding Yourself : Judge your abilities as a writer. Appraise yourself, your mastery over the subject matter. Identify your weaknesses and then decide whether you need help of others. Do not hesitate to seek the help of experts.

(v) Decide the Form of Writing : Many forms like articles, news stories, feature writing, leaflets, folders, pamphlets, booklets etc. are available for writing. Decide the form of writing considering the nature and quantum of subject matter as well as purpose of writing.

(vi) Select the Skeleton of your Final Publication : Decide chapters, main headings and sub-heading to be included in your document. Write these on paper and that is skeleton. The skeleton gives you an idea of subject matter required for your writing.

(vii) **Collect the Required Subject Matter** : Collect the information required for subject matter from library, experts, research stations and other sources. Ensure that you have gathered more information than required. Do not start writing until you have collected adequate information and data on the subject. Also be sure of the standard and reliability of the subject matter collected.

2. Writing of the Draft of Manuscript

While writing the manuscript keep in mind the following points :

1. Your content should be need based, timely, adequately covering the subject and useful to the audience.
2. Follow the basic principles of journalism viz., accuracy, brevity, clarity and directness of writing.
3. Write in natural sequence and maintain continuity in writing.
4. Make use of appropriate proverbs, phrases and words.
5. Supplement your content with suitable illustrations like pictures and photographs; one picture is said to be worth more than thousand words.
6. Ensure readability of your content by using familiar words.
7. The sentences should not contain more than 15 words from the readability point of view.
8. The article should be short running through 2 to 3 pages. More than 5 pages article is perceived as lengthy.
9. Use active voice. Active voice gives more force to your writing.
10. Your writing is meant for decision making on the part of readers. Hence, bring important points at surface emphasizing them to facilitate in decision making.
11. The writing should motivate readers. Hence make appeal to readers to act upon.
12. Read first draft and revise it to make more effective. Revise the draft until you are satisfied.
13. If you are writing a booklet or a folder, the cover page is essential. Make the cover page attractive with good illustrations, layout and design and using natural colours. See that short and appealing title is given. The title should be readable and understandable as well as representative of content.

13.2.5 Manuscript Editing

The inaccurate written material loses its credibility, and ultimately its readers. All types of literature undergo editing process such as news, leaflet, bulletin or book. Particularly for the newspaper there are special editors who edit all the news they receive from their reporters. In other publications depending upon the staff concerned with publication the copy is edited. Many times the author himself or some technical persons are involved in the editing process. The editor ensures accuracy in the copy. He has to refer various source materials *viz.*, library, stylebooks, dictionaries and other references to check the facts. The editing process helps in the following ways :

1. Ensuring accuracy.
2. Trimming unnecessary words.
3. Protecting and polishing the language.
4. Correcting inconsistencies.
5. Making the story as per style.
6. Removing confusing statements.
7. Eliminating passages poor in taste.

The agricultural magazines and newsletter are being published by many organizations. They put together stories received from agricultural advisors, subject matter specialists, and field workers in each issue. The material sent by these persons is normally not written in a manner as desired by the editor of publications. Therefore, the material to be printed should be brought into proper shape before printing.

The editor or the person concerned with printing has to rewrite or reshape each written material into finished form i.e. editing the materials.

The editing process consists of the following aspects

1. Correcting spelling, changing appropriate words, putting commas or semicolon i.e. grammatical corrections and punctuation.
2. Editor should read the story or written material entirely and get the overall picture about what the writer wants to say.
3. Editor should find out whether the story is written properly or anything is missing.
4. Does it answer all questions about the subject the readers might ask?

5. One should find out whether it contain more information.

Keeping all these points in view, the editor should make notes in the margin. Then he thinks of the general standard of education and understanding of the readers of the magazine or publication. The story should be written at their level of understanding. The editor should mark all the difficult words which are confusing to the farmer readers. The next step is to decide about the length of the story. What space or paragraph is to be shortened. It is better to rewrite than cutting the draft into some parts.

1. Aspects of Editing

(i) **Organization of the Story** : Logical sequence, complete, proper order, step by step information.

(ii) **Weeding out Unnecessary Things** : Material not supporting the central theme, confusing items, unnecessary words, phrases, sentences and even paragraphs should be removed.

(iii) **Giving Life to the Story** : Providing attractive title, if it is not properly written; appropriate lead, if it is not written properly. Breaking long sentences into short, similarly breaking long paragraphs into smaller and easily readable ones. While doing all these changes as far as possible the main theme of the story and writer's style should not be disturbed.

(iv) **Retyping and Getting a Clean Story** : Ensure that the necessary corrections have been made in the edited copy. If it is possible, show it to the author. It will ensure that the facts given by the author have not been changed or left out in editing. If any thing is changed or left out, he will be able to point it out.

(v) **Printing Instructions** : Marking out column width to be composed, type faces to be used for titles, sub-titles, sub heads, the text and captions of illustrations. Write out special instructions if any for the printer e.g. dropping initial letter, italics, bold type, setting in small or capital letters, etc.

(vi) **Using Proof Reading Symbols** : In reading proofs, use symbols to carryout corrections. There are standard symbols which all printers understand. Examples of copy reading symbols and proof reading symbols are shown as follows:

Marks	Meaning	Marked in Manuscript	Set in Type
Size and Style of Type			
<i>lc</i> /	Lowercase	<i>lc</i> It was the best of times	It was the best of times
<i>caps</i> ≡	Capital	<i>caps</i> <u>It</u> was the best of times	It was the best of times
<i>clc</i> or <i>cap & lc</i> or <i>ll & lc</i>	Initial caps and lowercase	<i>clc</i> It <u>was</u> the <u>best</u> of <u>times</u>	It Was the Best of Times
<i>ital</i> <u> </u>	Italic	<i>ital</i> It was the <u>best</u> of times	It was the <i>best</i> of times
<i>bf</i> <u> </u>	Boldface	<i>bf</i> It was the <u>best</u> of times	It was the best of times
<i>ifital</i> =	Boldface Italic	<i>ifital</i> It was the <u>best</u> of times	It was the <i>best</i> of times
Position			
] or]	Move to right	It was the best] of times	It was the best of times
[or L	Move to left	It was the best [of times	It was the best of times
] [Center] It Was the Best [] of Times	It Was the Best of Times
⋈	Ragged margin	It was the best of times, } it was the worst of times, } it was the age of wisdom }	It was the best of times, it was the worst of times, it was the age of wisdom
<i>tn</i> / or <i>Q</i> or <i>or</i> or <i>or</i>	Transposition	<i>tn</i> It was the best of times	It was the best of times
<i>over</i> or <i>over</i>	Run over into next line	It was the best of <u>o</u> times	It was the best of times
<i>back</i> or <i>back</i>	Run back into preceding line	It was the best of <u>o</u> times	It was the best of times
Spacing			
○	Close up entirely	It was <u>o</u> the best of times	It was the best of times
#	Extra space	# It was the best of times	It was the best of times
~ or <i>some</i>	Close up leaving some space	It <u> </u> was the best of times	It was the best of times

Marks	Meaning	Marked in Manuscript	Set in Type
↓ or (↘)	Delete and close up	It was the best of times↓ it was the worst of times	It was the best of times, it was the worst of times
Let stand as was Let stand as was	Let stand as was	Let It was the very best Let It was the very best	It was the very best It was the very best
^	Insert copy in margin	It was the best of times	It was the best of times
Paragraphing			
¶ or ¶ or]	Begin a paragraph	It was the best of times¶ It was the worst of times.	It was the best of times. It was the worst of times.
≥ or run in	Run together as one paragraph	It was the best of times. It was the worst of times.	It was the best of times. It was the worst of times.
[or L or flush ¶	No paragraph indentation	[It was the best of times. It was the	It was the best of times. It was the
Punctuation			
○ or ⊙	Period	It was the best of times○	It was the best of times.
↗ or ,/	Comma	It was the best of times↗	It was the best of times,
⋮ or :/	Colon	It was the best of times⋮	It was the best of times:
⋮ or ;/	semicolon		
′ or ′	Apostrophe	It Was the Best of Times′	'It Was the Best of Times'
↘ or ↘	or single quotation mark		
“ or “	Quotation marks	It was the best of times“	"It was the best of times"
?/ or ?/	Question mark	?/ It was the best of times,^	It was the best of times?
!/	Exclamation point	!/ It was the best of times,^	It was the best of times!
-/ or =/	Hyphen	-/ It was the age of wis- dom	It was the age of wisdom.
() or ()	Parentheses	(It was the best of times)	(It was the best of times)

6. Checking the First Proof : Compare galley proof with the original (i.e. edited) copy to see that no word, sentence or line is missed in composing. Give attention to names and figures. There is always a chance of these being composed wrongly. Do not make major corrections or changes in the proofs. This will cost additional money. Proof reading correction should be made in the margins only.

7. Preparation of 'Make Up' or 'Dummy' : Paste the proof of text and illustrations in the dummy as per the page decided. Printer will make the pages according to the dummy. Go through the page proofs carefully. Check the spellings and figures. Ask for second page proof if necessary before giving print order.

13.2.6 Readability Test

The print media have been accepted as an important means of communication by specialists in the field of agriculture and rural development. These methods provide a very good opportunity for communicators to convey precise and timely information to a large section of their clientele. Further, the readers can go through the printed matter at their own pace and also preserve it for their future use. Moreover, print communication is found to be one of the most credible sources of information.

The number of literates are increasing in India.. Hence they can make use of the print materials effectively. This poses a greater challenge to extension communicators in designing and operating educational programmes aimed at literate rural population. The effectiveness of printed materials depends largely on the extent to which they are readable. According to UNESCO, a piece of writing is readable, if it could be read and understood by the readers for whom it was intended (Anonymous, 1963). Readability is closely related to the understanding of the message. One cannot understand the material which is not readable.

The reader may find most reading material very difficult to read and understand. According to Bormuth (1966), many adults fail to understand, what they read, not because the concepts are too difficult or because they lack basic reading skills but simply because of the complexity of the language in which the concepts are presented.

Among the various stylistic factors in writing, the use of words and sentences

are the two basic considerations. Dealing with these two factors, Klare (1963) stated that selection of words in terms of their frequency of occurrence and familiarity is important. With regard to the sentence, it is felt that, it was necessary to keep the average sentence length as short as the need of the moment demand. The best style of writing usually dictates a mixture of long and short sentences. The size of the readership audience depends to a very large extent upon the readability of writing. The writer can manipulate words and sentences to make his writing more readable.

1. The Concept of Readability

Readability as a concept came into usage in the beginning of this century, owing to the growing importance attached to the print communication. Since then, it has attracted the attention of experts in the field of education, psychology, linguistics and mass communications.

According to Klare (1963), the term readability has come to be used in three ways : a) to indicate legibility of either handwriting or typography, b) to indicate ease of reading due to either the interest value or the pleasantness of writing and c) to indicate ease of understanding or comprehension due to style of writing.

Readability attempts to measure various aspects of style that are used in communication of message. The readability means reaching the widest possible readership with a writing that would inform and inspire the readers without difficulty. Cowing (1961) stated that people read the writing, that would tell them in concrete words, would relate to their interests and needs, and that which is readable, reliable, realistic, relevant and recent.

2. Readability Test

Measurement of readability started after 1930, and through careful research various readability formulae have been developed. The following are the four readability formulae.

1. Flesch Formula(1948)
2. Dale-Chall Formula(1984)
3. Farr-Jenkins-Paterson Formula(1951)

4. Gunning Fog Index (1952)

Flesch Reading Ease Formula (1948) is one of the most widely used formulae, as it is easy to apply.

$$R. E. (\text{Reading Ease}) = 206.835 - 0.846w_1 - 1.015 s_1$$

where, w_1 = number of syllables per 100 words

s_1 = average number of words per sentence.

The score obtained from the formula can be used to classify broadly the writing as academic and scientific standard, etc. The writings can also be classified as school grade level.

The formulae are only the means of rating a piece of writing after it has been written. The score obtained can only help the writer to know whether the writing is of the level of understandability of the reader. All the above mentioned formulae use some mechanical character such as :

1. Words per sentence.
2. Syllables per 100 words.
3. Percentage of non-dale words.
4. Percentage of monosyllables.
5. Percentage of polysyllables.

Apart from these, there are also other mechanical details which affect readability such as :

1. Line width and leading
2. Type and size of letters used
3. Legibility of print
4. Colour of paper and ink used
5. Quality of paper

To find out whether a piece of writing is readable, the following points should be kept in mind.

1. The fewer the words in a sentence, easier it is to understand.
2. The fewer the syllables in a word, easier it is to read and understand.
3. The more the words about people, the more interesting the writing will be.

4. The more sentences addressed to the reader, the more interesting the writing will be.

The best test for readable writing is whether the reader will be able to understand and like the writing. He is the master. He selects what he wants to read or rejects what he does not like.

13.3 Glossary

Copy : Matter to be printed, news manuscript, advertising text, picture or illustrations.

Proof : An imprint of type on paper taken so that errors may be corrected.

Media : Plural of medium referring to means of communicating; newspapers, magazines, radio and TV, books, films, cassettes etc.

Format : The size, shape, style and appearance of a book or publication.

Rewrite : To write a story again in order to improve, lengthen or shorten it.

Stylebook : A booklet or list of rules stating a newspaper's performance, when there are choices, of spelling, punctuations, capitalization, abbreviations and use of numerals.

13.4 Summary

The information to be communicated to the general public as well as farming community through news story and feature writing should be in specific format. News story writing differs from other forms of writings such as novels and stories. The news story writer has to know the concept of news, characteristics of news and specific forms of news writing. The news is mostly written in inverted pyramid format. There are different types of leads used for news stories as per the event to be reported.

In print media, the manuscript writing is the first step. It involves planing and writing of draft. In order to ensure improvement in writing the writer should always think, plan, write and then rewrite. All types of literature undergo editing process. The editor ensures accuracy in the copy. Editing process helps in trimming unnecessary words, polishes the language, removes confusing statements and eliminates passages

in poor taste. The effectiveness of print materials depends largely on the extent to which it is readable. Readability of print material is measured with the help of tests viz., Flesch Formula, Dale-Chall formula, Ferr-Jensons -Paterson formula and Gunning Fog Index.

13.5 Exercise for Practice

Answers the following questions in 200 words each.

1. Define the news and explain the characteristics of news with suitable examples.
2. Discuss news writing format and present a model news in this format.
3. What is readability test and explain by using Flesch reading ease formula ?
4. What is the manuscript editing ? Explain various aspects of manuscript editing process.

Unit 14 : Feature Writing

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14.1 Introduction

Feature writings are becoming increasingly an important part of newspapers. Features provide a light touch of humour or added perspective for the important news of the day. Publishing through features is more effective as more difficult too. It is more than news writing as to attract interest, center attention, and fascinate the emotional senses of the average reader. In order to do this, the feature usually centers around some emotion. The reader's attention is impelled by the human touch which builds the feature around one of the emotions which may be love, hate, curiosity, fear or humour. The feature article usually satisfies one of the three purposes 1) it entertains; 2) it informs; or 3) it teaches.

After the study of this unit, you will be able to know and understand :

- λ The importance and types of feature writing
- λ Writing sequence and Importance of Illustrations in feature writing
- λ Layout of farm literature.

14.2 Content

14.2.1 Importance of Feature Writing

In order to understand the feature writing or feature, we must distinguish between news story and feature story. News is an objective and factual account of the events where the reporter sticks to facts and tries to answer questions *viz.*, who, what, when, where, why and how- which makes a news story. The reporter weighs and evaluates the relative value of different ingredients in the story and presents most important facts in the lead. The feature, on the other hand goes much beyond the scope of the news story. It gives new dimension to the news. It dissects the news and throws new light on different aspects. It is not just narration of facts but tries to explore the background, probe in depth an idea or the events. The purpose is to inform and entertain and also arouse curiosity, sympathy and humour among the readers.

For example, a news regarding hike in petrol prices. This news item gives the extent of increase, the need for it and possible consequences. A feature writer on the other hand, tries to find out the reaction of the users, taxi drivers, transporters, so as to find out how they have been affected in their day-to day life. The car users switching over to scooters, scooter users taking to cycles, the reactions of petrol dealers etc. can be probed by a feature writer. Even social effects due to increase in the cost of transportation can be interesting subject for the feature writer.

The style followed in a news writing is generally an inverted pyramid or summary format. It is concise, terse and matter of facts. The lead or introduction in the news story attempts to present, as far as possible, all important facts. News writing has certain set format pattern. The feature on the other hand, follows an altogether different style. The feature writer has more freedom. He can freely react to situations, events, and people with emotion and imagination. The feature can be written in a colourful and fiction style depending on the subject and circumstances. The feature writer communicates his thoughts in an effective, interesting and entertaining manner.

The introduction or lead in a feature need not be summary format as in news

reporting. It may be simple and direct beginning, creating interest in the readers in the subject. The style and length of the feature will also depend on the newspapers and periodicals for which the feature is written. The style will have to vary depending on the type of paper. A feature writer can make use of wider vocabulary than used in news writing. Style may be literary, ornamental and colourful in a feature.

The purpose of the news story is to inform, educate and enlighten the readers about certain happenings. The feature on the other hand entertains, guides and instructs the readers

14.2.2. Types of Feature Writing

Feature can be written on every possible subject, provided the writer has imagination and skill. These qualities can be acquired and developed in course of time, if the writer has the necessary aptitude for such writing. It is extremely difficult to classify features into different types. However, a rough classification of features into various types indicates the scope of wide range of subjects, and helps in the location and collection of material. There are five types of features given as below :

1. News Feature

Many feature stories which appear in newspapers or magazines have a news quality, they are based on news, or related to something that is news. These features are also called news follow-up, or news in depth, or news behind news. The features are connected to current events. The fact that a farmer has won a prize for producing the best crop in the district, goes as a news story soon after it is known. This news is used to get more details about the cultivation practices which lead to the prize crop. But the background of the farmer's decision to raise such crop, the farmer himself, his farming history, the feature writers impressions about the farmer and his crop, what lesson the author's experience has to offer to the readers and such other details will go to make a good news feature. One will find ample opportunities and material to write feature. Achievements of farmers or communities, farm production, campaigns, research findings, pest and disease outbreak, farm meetings, fairs and

shows, home science research results all afford rich and interesting material for writing news features. Daily newspapers can suggest several subjects on which to write news features.

2. Process Feature

This type of feature explains 'how to do' a definite, concrete piece of work or 'how to build' some specific things that will be in home or on the farm. The utility or process features give direction and guidance on doing something such as repairing or assembling of radio or television sets, gardening, child care, health and hygiene, preparation of new dish etc. Such features should be on a definite and concrete piece of work. The directions should be simple, clear and in logical sequence, so that they can be followed by readers without specialized knowledge or skill.

Writing a process story is to give the reader step by step directions for performing some helpful process. Selection of a subject for writing this type of feature should be based on the interest and use to a large number of readers. The process described must be new or at least have the touch of novelty. The process story is very helpful to farm readers, as they would like to know how they can prepare or construct many things. If the farmer has to spray a pesticide against a pest or disease, he would like to know how he can prepare the pesticide for application. The feature writer has to clearly describe the steps involved in their proper order, and without omitting any essential details needed for trying them out, if the readers were to do it.

3. General Information Feature

The purpose of general information feature is to tell the reader about some problem of every day interest and its significance to him, and how it is to be solved.

In writing such feature stories, the topics will be of interest to the reader, and provide him with the details, which he does not know but will be very much interested to know. Such stories can help him to improve his living, to become successful in his farming, to try and do himself what others have done, and do the every day things better.

Information story is somewhat like a short story. Facts, ideas or information is presented by making good use of dialogue, action description, and suspense which

highlight its effect on the reader. Well-written information feature should be vivid. Human interest aspect is also involved in general information feature e.g. “*A day in the life of a common man*” such as a policeman, sweeper, gardener or a 90 year old man marrying the fifth time. The emphasis in these features is on the unknown views of life or on unusual occupations.

4. Experience Feature

It is popular with readers which makes good use of human interest. Experience features are of three types: based on own and other's experience, experience of group of people and experience amounting to confusion.

Personal experience features are based on the actual testimony of a person, who has undergone the experience. Such features are based on the experience of a pilot, whose plane has been hijacked or on the experience of a farmer, who had a bumper harvest by following the package of practices. The readers will vividly read it and like it. The experience should entertain or provide additional information to the readers. A number of persons are interviewed and a feature is prepared on their experience, such as the terrifying experience undergone by the passengers in a train accident as group experience feature. Confession features are more personal. In such features, the person narrates his intimate experience success, omission and failure. In writing for farm audience, there two types of experience features are mostly effective, while the confession story is written rarely.

5. Personality Feature

The personality feature is always written about a person, who is interesting. These features are based on well-known persons and their achievements. The emphasis is on what has made the man great rather than cataloguing his achievements. Personality features may be written not only on news-worthy personalities, but also on little known persons, such as beggar who has become a millionaire. The objective is to tell the readers about the qualities of the person and how he has achieved the position of eminence.

14.2.3 Writing Sequences

Writing a feature depends on the selection of subject, collection of material, visiting of places, conducting of interviews with people, drawing up a blueprint or selection, decision in regard to title, sub-title and the lead, revision and physical appearance of the manuscript, illustrations and finally, placement. These are some of the necessary stages as given below :

1. Selection of Subject

There are certain criteria for selection of a subject for a feature article. The subject should be definite and specific and not of a general nature. It should be further limited to one or two aspects of the problem. Also a special angle is to be given depending on the purpose for which the feature is to be written. Farm people too have varied interests. Life and living, health and disease, making money and spending it, home and family, crops and farm animals are some of the important topics. While selecting the subject, one has also to be careful about the availability of material, written or otherwise.

2. Collection of Material and Interviews with People

For this purpose the feature writer would need access to relevant material such as reference books-encyclopaedias, directories, year books and government publications and reports for getting latest information, and also for checking the facts and figures.

Feature writer may refer to press clippings, files and indexed articles in some library. He may build up his own reference collection over a period of time on special subjects, or areas of his interest. The collection, however, should be organised in a systematic manner and in some logical order, so that retrieval of information is easy and handy. The next stage for the feature writer is to decide about the places to be visited and persons to be interviewed for his feature.

3. Blue Print, Title and Sub-Title

After initial preparation regarding selection of subject and collection of material, the feature writer has to sit down for writing. It will be a good idea to make

a blue print or a plan to serve as a guide. At this stage a tentative title is to be decided. The title may be of few chosen words put together in an unusual and effective manner. There may be sub-titles, but always not necessary. Sub-title supplements and strengthens the title.

4. The Lead

The purpose of the lead is to arouse further interest of the readers in the feature. The lead also tells the readers about central idea of the feature and its boundaries and limitations. The lead in the feature may be simple or direct and need not be in a style followed in a news story. The introduction may be made interesting either by inserting material in an interesting form. One may use anecdote, dialogue, interesting conversation, striking statement, but all this should be connected with the feature and must have bearing on the subject.

The most difficult part of feature writing is lead writing. For example a feature on diseases of dogs may begin with “Diseases among dogs are common in our country. In spite of good care in feeding, they get diseases”.

5. Style and Illustrations

The style of the feature depends on a number of factors such as the newspaper, how the feature writer reacts to the situation, people and places. Feature writer should develop his own style. Unlike news writing, the style of feature writing need not be specific as a matter of fact. It may be more colourful, narrative and imaginative.

The length of the feature depends on the newspaper for which the feature is written. The paragraphs may be longer than in a news story. Feature should contain more use of active voice, less punctuation marks or abbreviations. There should be clear and simple writing. The end of feature should make lasting impression on the reader and support the theme of the feature. Photographs and illustrations are a ‘must’ for the feature.

6. Revision

It is necessary that the finished product should not have any loose ends. To ensure this, it is not enough to revise the draft in a routine fashion. The feature writer

should give critical look and should be tough and if necessary, rewrite and rearrange the whole thing till he is fully satisfied. Self-criticism while revising the feature is of crucial importance, so also the checking of facts, figures and quotations and correcting grammatical, spellings and punctuations.

7. Physical Appearance / Placement

There is less importance for physical appearance of the feature. The use of standard paper, neat typing, wide margins on top, bottom and side; suitable heading and sub headings, clean copy are some of the points which should receive careful attention of the feature writer. Getting the feature into newspaper columns is the ultimate objective of any feature writer.

14.2.4 Importance of Illustrations in Feature

Illustrations include photographs, cartoons, maps, graphs, diagrams, chart, sketches etc. The publisher can make use of illustrative material while sending news release, features, and articles to the newspapers and periodicals.

1. Advantages of Illustrations

Illustrations have many advantages over the written words. It enhances the meaning of a news story or a feature or article. It is more effective. The hurried reader may miss a news story or feature but he would hardly miss a picture. Through pictures, the readers absorb the message at a glance. Also, unlike news releases, the photos can seldom be altered by editing at newspaper offices. Most of the pictures clarify, support and explain feature stories. The reader learns faster and remember longer through pictures. The publisher can make his subject-matter more lively and realistic, if it is accompanied by photographs. With the help of pictures, he can even cut down the length of his story or feature.

2. Using Illustrations in Feature

The planning of news story or feature writing and the planning of photo coverage is to be done simultaneously. There should be perfect coordination between

the publicist and the photographer. Since illustrated material is an important tool in the hands of publisher it requires very careful planning and advanced preparation. The publisher should extend all help to the photographer including writing of captions. He should, however, allow the photographer full freedom in taking photographs. The publisher himself may take photographs or hire a photographer for specific assignment or on a long-term basis. During his travel a publisher can take pictures on unusual subjects, crafts, etc. which can be used for illustrating features.

The technical quality of photographs should be of high order. The best pictures are those that can either be used in full or cropped (part of the picture cut off without hurting the remainder). There are different types of pictures: (1) news events- prize distribution, rain, accident etc, (ii) portrait-picture; (iii) cheese cake–sex, women, romance; (iv) action shots – harvesting field crops; (v) pattern shots–views of inanimate object used for industrial publicity; (vi) product shots–show of a product.

Picture should be sharp and have one dominating and certain point of interest. In case of features, the photograph should explain the theme of the feature. It should be clear in its details which the publicist would like to project. Since editors generally have space for small picture, it is a good strategy to send pictures to fill up small space. Most publicity pictures are printed on glossy 8” x 10” paper.

Caption is a must for a photograph. It should be effective and striking. A caption can be pasted under the print, so that the editor can look both at the photograph and caption without turning the photograph. Caption to a picture should be given in present tense.

Well drawn illustration may be selected to form an interesting story. This provides a very great communication value. When there are pictures, the reader’s eyes get to them first. When there is a picture story, the reader would like to read it first. Picture story can be used for explaining a process, or to give directions in carrying out an important practice. In agricultural or home extension, a picture story can also be used for describing the ‘then and now’ and ‘with and without’ types of subjects. A meaningful picture story is like an essay. It has to be planned, with a theme or a central idea.

14.2.5 Layout of Farm Literature

Layout is the placement of various elements in a limited space in a way that is striking, eye catching, pleasant and meaningful. The elements that go to make a layout are the illustrations, scripts and colours.

1. General Principles of Layout

In order to achieve its purpose a layout has to be balanced, rhythm, clear, contrast and yet harmonious and colourful.

- (i) **Balance** : It is a restful effect obtained by grouping the elements in such a way that the eye can flow over it easily and there is equal attractions on each side of the center. One can have formal or informal balance. Formal balance is usually adopted for serious subjects, where as informal balance is mostly used to dramatise the layout.
- (ii) **Rhythm** : Rhythm in the layout can be obtained by placement of the elements in a way that there is a regular and pleasant repetitiveness.
- (iii) **Clear** : A layout has to be clear, so that the most emphasis is brought out on the object you want to show. It has to be at the level of understanding of the readers and obscure and abstract.
- (iv) **Contrast** : Contrast in layout is necessary to bring out certain elements which deserve the attention of the reader most. While trying for contrast use of colour may be very helpful. You may have to sub-due certain parts of the layout and highlight the others. Besides colour, clear drawing or placement of the object to be highlighted is also important.
- (v) **Harmony** : Whatever one might try to layout, one must be careful that the entire thing is harmoniously tied together as one.
- (vi) **Colour** : Colour is one of the most powerful element in the layout. Never use colour without proper thought, as it can completely spoil your layout due to choice of wrong colours. Colours used judiciously can no doubt be very pleasing and help in making the layout attractive.

A communicator has an advantageous position to know better than the artist. So check it and scrutinise it from the point of the reader, or whom it is meant. If you are

satisfied pass it for printing. While checking a layout and its colour scheme, it is necessary that you check it for economy and the time that you can spare for getting it printed, if it is layout for printing job. Too many colours in a layout may be more attractive but will also cost you more money and time for printing. See if you drop any color without killing the layout. You have to keep in view the facilities you have.

These are in brief the general principles of layout but a layout has to vary with the type of printed material you have in mind. For example the layout for a news letter will have to be different from that of a leaflet, folder or bulletin. Each of them has a different purpose to serve at different situations of the viewer. So each one has to be tackled for layout separately.

2. Artwork for Publications

Writing of a book is an important work but printing and presentation are not less important. Even if the text of the book is excellent, if it is not printed well, and given a good look, it will not be popular and will not attract the reader. The art work is therefore, very important. It has several important components i.e. size of the book, cover design, illustrations, photographs etc.

- (i) **Size of the Book :** The size of the book is decided by the layout artist on the basis of paper to be used and the type of the book.
- (ii) **Cover Design :** The layout artist and the author of the book discuss and decide about the cover. After that the artist prepares the cover design keeping in view the size of the cover, colours to be used and setting of the photographs if any. The name of the book / publication, author(s), printer / publisher or that of the institution are also given due importance and properly set while preparing the cover design of a book or other publications.
- (iii) **Illustrations :** It is not necessary that all the books/ publications should have illustrations. However, some times in books illustrations are required but are not given. The author remains unable to explain or make out the sense clear to the readers. These illustrations may be coloured or in black and white. In some books illustrations alone donot serve the purpose, therefore, they have to be combined with photographs so that the illustrations and photographs may appear

together in the publication.

- (iv) **Layout of the Book / Publications :** Layout is an essential part of the book. Unless the layout of the publication is attractive, the presentation will not be appealing. There are various components of the layout i.e. selection, type, size of the heading, sub-heading, placement of illustrations, photographs and space to be left blank.
- (v) **Photographs :** Photograph also is an important part of any publication. Sometimes the matter cannot be made clear without the photograph. Photographs serve two purposes i.e. making the sense clear to the reader and making the book interesting and attractive. The quality of the photographs should be excellent otherwise the very purpose will be defeated. The photographs with poor quality of reproduction are not at all suitable for making blocks. Sometimes the photographs are used as such but at the some time they are used in cut out form. Occasionally the photograph is reduced or enlarged keeping in view the printing measure of a publication.

14.3 Glossary

Feature : A story which, though timely, and interesting, is not exactly news. “To feature” a story is to give prominence to it.

Caption : Explanation of a photograph, illustration or diagram.

14.4 Summary

Feature is a presentation of some interesting subject in a popular form. It deals with various subjects like daily news, timely or seasonal subjects or any topics that appeal to a large number of readers. Its purpose is to entertain, inform or to give practical guidance. Features are written on every possible subjects. These are in the form of news feature, process or utility feature, experience feature and personality feature. Writing of feature is mainly concerned with the selection of subject, collection of material, visiting of places, conducting of interviews with people, drawing up a

blueprint or skeleton and various other aspects. The interest of feature writing increases when illustrations in the form of photographs, cartoons, diagrams or sketches etc. are added. The pictures clarify, support and explain feature stories. The reader learn faster and remember longer through pictures. The attractiveness of farm literature increases by good layout of cover and content pages.

14.5 Exercise for practice

Answer the following questions in 200 words each.

1. What is feature writing and differentiate between news story and feature story.
2. Discuss the types of feature writing with example.
3. State and explain general principles of layout of farm literature.
4. Describe importance of illustrations in feature writing.

Unit 15 : Writing for Audio and Video Media

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15.5 Exercise for Practice

15.1 Introduction

Audio-Visual Aids are the instructional devices which are used to communicate messages more effectively through sound and visuals. Such aids help in stimulating the sensory organs like ears and eyes and facilitate quick comprehension of the message by the audience. These may be used for literate. As well as for illiterate people. The use of audio-visual aids has a number of advantages such as: capturing the attention of audience and arousing their interest, highlighting the main points of the message, clarity, structuring the learning process more effectively, reach many people irrespective of their educational level and language with speed and in low cost etc.

After the study of this unit, you will be able to know and understand :

- λ Preparation and presentation of audio talk
- λ Preparation and presentation of video talk and
- λ Limitations of Audio-Video presentation.

15.2 Content

15.2.1 Preparation and Presentation of Audio Talk

Currently available learning materials are capable of carrying much of the teacher's responsibility for imparting information with a variety of technological devices and new materials now available. The teacher is free to work more often with individuals or small groups and to serve in tutorial capacity or as a necessary catalyst in small group discussion. The teacher frequently uses media to perform these functions which do not require human touch, while he devotes his attention to systematically organizing the total learning environment. Media carefully evaluated and used in optimum fashion, media can be tools of a truly professional teacher.

Prior to preparation and presentation of Audio talk, we will try to understand what is meant by Audio Aids and Visual Aids. The instructional devices through which the message can only be heard are known as Audio Aids. The instructional devices through which the message can only be seen are known as Visual Aids. The instructional devices through which the message can be heard and seen simultaneously are Audio-Visual Aids.

The examples of Audio aids are tape recorder public address system, and telephone. The radio is an electronic audio-medium for broadcasting programmes to the audience. This medium is cosmopolite in approach and is suitable for communication to millions of people widely dispersed and situated in remote sites. Availability of low cost transistor sets has helped radio to penetrate deep into the rural life.

Radio is suitable for creating awareness amongst the people, help, change their attitude and reinforce learning. It reaches a large number of people at a very low cost. The accessibility of farm radio depends on the extent of radio ownership, the reception of radio signals, understandability of the message and convenience of listening time.

The visual aids are of two types i.e. (i) Non-projected and (ii) projected. The chalk board, bulletin board, picture and photograph, flannel graph, flash card, flip

chart, poster, diagram, map, chart, graphs, specimen, model, diagram, transslides are covered under non-projected type of visuals while slides, filmstrips, opaque projector, overhead projector (LCD) are covered under projected visual aids. In respect of Audio-Visual aids there are again classified as (i) non-projected Audio-Visual aids and (ii) projected Audio-Video aids. The non-projected Audio-Video aids are drama, puppet show, talking doll and the projected Audio-Video aids are motion picture (cinema) and video.

Audio-Visual aids are used singly or in combination with other aids and extension methods by the extension workers. The extension agent should be well conversant about audio-visual aids and acquire sufficient skill in handling them, before using them in the extension programme. In case of teacher also, he has to prepare for using audio-visual aids like extension agent in the teaching programme. The choice of audio-visual aids shall depend on a number of criteria:

1. Teaching objective,
2. Nature of subject matter being taught,
3. Nature of audience,
4. Size of audience,
5. Availability of the equipment, materials and funds,
6. Skill and experience of the extension agent or teacher, in preparation and use of audio-visual aids.

Research has shown that the visual and audio-visual aids help a learner to :

1. Learn more,
2. Learn faster
3. Remember longer and
4. Learn more thoroughly.

Besides these there are other advantages of using visual and audio-visual aids in the communication process they help :

1. The teacher to organize his teaching material in a systematic order.
2. Impress ideas more indelibly on the minds of the audience.
3. Vitalize and make teaching more real.

4. Picture experiences outside one's own environment.
5. Reduce unnecessary or meaningless form of words.
6. Arouse and hold interest.
7. Attract and hold attention.
8. Stimulate and motivate action and thinking.
9. Change attitude or point of view.
10. Save time because they make learning easier.
11. Clarify ideas being presented and
12. Overcome the language barrier.

Audio Aids

The record player, tape recorder and radio are some of the common audio-aids. They are useful because:

1. They influence a change of attitude,
2. They report spot news or accomplishments,
3. They can extend the voice of well known person or a person of authority
4. They create and stimulate interest in the programmes,
5. They can be used to reproduce information in regional language or dialects,
6. They can be used as direct teaching aids.

Some of the Audio aids are discussed for their preparation and use as under :

1. Tape Recorder

A Tape Recorder is an instrument for recording sound on magnetic tape by electro-magnetic process, which may be played back when needed. The tape may be made up of Celluloid, plastic or high tensile polyester film. These have an ultrathin coating of iron oxide on one side. The tape is magnetized as it passes through a recording head. To play back, the tape is passed again through the magnetic head. The recording and play back process is accomplished by the same head. Tape recorder is suitable for use in meetings, training programme, campaign, recording radio programme etc.

Advantages

1. Facilitate on-the-spot recording of sound.
2. Helps in duplication and dissemination of sound.
3. The recorded tape can be immediately played back without any processing.
4. Facilitates editing of sound by adding, deleting and adjusting tapes back and forth.
5. Helps in synchronizing of sound with picture.
6. Preservation of recorded sound in tapes for future use.
7. Easy to operate.
8. Low operational cost, as the same tape may be used over and over again.

A tape recorder for extension work should have the following *features-*

1. Simple with minimum number of buttons and knobs.
2. Light weight and easy to carry.
3. Battery operated, but can also be used on AC/DC power supply.
4. Variable speed with 1 to 2 recording tracks.
5. Sturdy in construction and moderate in cost.

Once an American teacher used a tape recorder for presenting his talk on some important subject matter to the students. Since he had an appointment outside, at the time of class, he recorded his talk on tape and for playing it on tape recorder for students, he kept his tape recorded talk in class room, where students were to attend the lecture. He made the tape recorder on in the class room and left the class for his appointment. The students came in to class only find, instead of their teacher's talk in person, there was this tape recorded talk of their teacher going on. The students were clever; they too kept their tape recorders in the class room for recording the talk of their teacher and went away from the class. After finishing the outside appointment teacher entered into class room and he saw with wonder that there were equal number of tape recorders on position recording the played talk of teacher and no students was in the class.

2. Public Address System

Public Address system is a set of equipment to amplify sound that is available to a large audience over a distance. It is useful for extension programmes involving a large number of people such as mass meeting, training programme, field days or farmers' day, campaign, exhibition etc.

The public address system has three components- microphone, amplifier and loud speaker. The microphone is connected to the input terminal of the amplifier and loud speaker to the output terminal. It may be run on dry/wet battery or AC/DC power supply. Test the microphone before use. Place it at a distance about 25cm. from the person or instrument producing the sound. The distance should be maintained to get a good clear sound known as 'Hifi' meaning thereby the high fidelity-true to the original sound without any distortion.

3. Telephone

Telephone is a system of equipment through which people can communicate both ways to distant places. It provides for instant interpersonal communication, in which the communicator and the communicatee change their roles while giving and getting information. Though only two persons communicate at a time through a telephone, the system serves many people in a given area. By using telephones, people can keep contacts with the outside world, without physically moving out. This improves the speed of communication and involves considerable saving of time, money and labour. With the establishment of telephones in each Gram Panchayat office at the village level, rural telephone has become a reality in India. Subsequently telephones are installed in other villages also. In areas where electricity is not available, telephones are operated by setting up solar panels.

15.2.2 Preparation and Presentation of Video Talk

As has been discussed in above pages, the visuals are of two types namely, projected and non-projected visuals. Here we are discussing the non-projected visual aids namely; Chalk Board, Bulletin Board, Picture and Photograph, Fennel Graph, Flash Card, Flip Chart, Poster, Diagram, Map, Chart and Graph.

1. Non-Projected Visual Aids

(i) Chalk Board : Chalk Board or Black Board is board for writing with chalk. It is simplest, cheapest, most convenient and widely used visual aid. Here wood board, coloured in black is mostly used, and hence, it is called as Black Board. However, ground glass, roll up materials, cloth canvas, coated with chalk board paint slating are also used. At indoor, chalk board is generally fixed on a heavy frame or wall. It may be used to have a longer board, one side of which may have painted square with red lines to facilitate drawing of graphs, illustrations etc. For field use, folding wooden board or roll-up material is convenient. Chalk board is suitable for use in lecture, training programme, group meetings etc.

For effective use of chalk board one should have planning ahead by keeping layout of the teaching plan ready. The material required for use of board is white and colored chalk, duster, ruler, pointer etc. The teacher, can erase the board for next use or he may draw complicated/time consuming illustrations/tables before hand. The following guideline may be useful for presentations

1. Write a few points on the board. Brief statements are more effective than lengthy ones.
2. Write in clear, bold letters, avoid crowding, Scribbling and overwriting.
3. Use illustrations, graphs etc to clarify important and complex points.
4. Use colored chalks wherever necessary.
5. Underline statements and use pointer to focus attention.
6. Stand on one side of the board and avoid covering the written material,
7. Erase unrelated materials at frequent intervals and keep the chalk board clean and tidy.

(ii) Bulletin Board : Bulletin Board is a board for display of message. Bulletin Board may be made of soft insulation board or perforated Masonite board and may or may not be covered with glass. Paper containing the message may be fixed by board-pin on the soft insulation board. On commercially available perforated boards, the message on the bulletin board, is displayed by pressing plastic letters and symbols on the perforations. Fixing, disseminating and re-fixing, dismantling and re-fixing message is very convenient on both the types of boards. The message on the bulletin

board may be in the form of words, graphs, charts, photographs, illustrations, publications etc. and may be used in the communication center and various types of extension programmes and teaching programme.

(iii) Picture and Photographs : It is a presentation made by drawing, painting or photography which gives accurate ideas of an object. A good picture may tell a story without using a single word. Pictures may be in black and white or in colour. Colour pictures and blow up photographs have more appeal.

For teaching and extension education, a good quality 35 mm single lense reflex camera with some essential attachments like flash-gun, lens-hood, filter, close up lens etc. are enough. The processing may be done at a good photographic studio. For further use, the negatives may be preserved in negative-album, after properly indexing them. Pictures and photographs for display should be selected according to the specific purpose, enlarged and properly mounted. These should be labeled and series of them should be given a good caption. For making series of photographs on field activities, prior planning is essential. Sometimes one or two years may be required to complete a series. e.g. series of photographs on cultivation of cereal crops, cash crops and fruit crops.

(iv) Flannel Graph, Flash Cards, Flip Chart : Flannel Graph, Flash Cards, Flip Chart are visual aids in which the messages are written or drawn on thick paper and presented step-by-step by the teacher or extension agent to the audience to synchronize with the talk. This produces a dramatic effect on the audience.

In flannel graph, papers containing the message are prepared with sand paper backing and are placed one-by-one in a sequence along with the talk, on a board covered with flannel or hand woven thick cloth. In flash card, messages are presented on paper measuring about 30 cm x 25 cm. A number of them are held like a pack of cards and are flashed to the audience, one-by-one in a sequence along with the talk. In flip chart, the message is written or drawn on big size papers and are arranged like a calendar, the leaves of which are turned over one-by-one in a sequence as the talk proceeds. These are generally used in class room situation, rather than in the field extension work. Effective use of flannel, flash card and flip chart is made for group of people generally not exceeding 30. These Should be rehearsed with the talk before

presentation. For flannel graph avoid windy places. In the presentation of the visuals there should be perfectness in order along with the talk and you should use limited number of visuals ranging from 10 to 15 in a single presentation.

(v) Diagram, Map, Chart and Graph : Diagram, Map, Chart and graph are the visuals, where information is summarized and presented in more or less abstracts form for example, a diagram is line drawing of an object or an idea, map is an informative diagram of an area, a chart contains information in tabular form and a graph is a diagrammatic representation of the relationship between variables.

Effective use of diagram, map, chart and graph : The visual should be scientifically prepared on the basis of the data available for the purpose, and should convey the message for which these are intended. These should be simple, clear, colourful, bold and devoid of unnecessary details. Charts and graphs may be of different types. To serve different purposes, pictorial chart, organizational chart, flow chart, tree or stream chart and suspense chart or strip tease chart may be used. Graphs may be area graph, bar graph, pie graph, line graph and pictograph. For effective use of the visual the steps such as planning, preparation are essential for presentation. For presentation, the following points should be kept in view.

1. Arrange and display all items in proper sequence.
2. Use display rack and place the materials at eye level.
3. Explain the visuals so that the intended message is clearly communicated to the visitors. If required, engage trained demonstrators.

(vi) Translides : These are transparent big size photographs which are displaced by providing light at back. Transparent photographic sheets are known as translides, which are inserted in two glass sheets from the backside. Lights are put on, when there are visitors. These are used at the communication centers, information centers, and exhibitions.

2. Projected Visual Aids

The slides, opaque projector, overhead projector are made use of as the projected visual aids. These are discussed one-by-one as under:

(i) Slides : Slide is a transparent mounted picture, which is projected by focusing light through it. The projection may be made on roll-back screen or on white wall. Slides of 35 mm films mounted on individual card board frames are more common and are extensively used in the teaching and extension education programme. Glass slides are generally used in cinema halls. There are two types of slide projectors. One is manually operated, in which every time the projected slide is taken out and a new slide is inserted in the slot and pushed by hand in position. The other one is automatic slide projector in which large number of slides are serially inserted in the magazine slots before hand and are changed one by one at the time of projection by a remote control device. Automatic slide projector is costly, but produces good quality images and is extremely convenient for a slide show.

Photographs of selected objects and activities may be taken by extension agent by a 35 mm camera using colour slide film. These may be processed and the selected photographs may be converted in to slides at a good photographic studio/laboratory. Standard slides of important topics may also be procured from different national and international institutes and organizations. Slides are used in training programmes, seminars, workshop, group meeting campaign, exhibition, television etc.

Effective Use of Slides : Slide is a visual medium for communicating message conveniently to the audience. The use of slides involves the inter related functions such as taking of good photographs and making slides and projecting slides to the audience as a part of the teaching/extension programme.

If the presentation of slides is coupled with talk, the following steps are suggested for proper presentation of a talk with slides.

1. Keep all arrangements for projection of slides ready.
2. Introduce the topic and explain briefly about the major points, so that the audience get on overall idea of message.
3. Announce about projection of slides. Darken the room. Put on the slide projector. Take the microphone in one hand and a pointer in the other.
4. Project the slide one by one and explain them to the audience. Emphasize important points by using pointer. If required, a slide already shown may be brought back.

5. After the presentation of slides put on the lights and make the concluding statement.
6. Invite questions from the audience and answer them.

(ii) Film Strip : Film strip is a continuous strip of film consisting of a small number of individual frames or pictures arranged in a sequence. Each strip may contain about 30 to 60 frames of photographs, diagrams, drawings or lettering. The pictures may have explanatory titles. The entire length of the strip has perforations on both the sides, which facilitate forward or backward movements of pictures. Some of the slide projectors have facility for projecting filmstrip also. Filmstrips on some fixed topics may be available from commercial firms or scientific organizations. These may also be made according to one's own requirement with the help of a good photographer or photographic studio. Filmstrips are generally used in training programmes. It has the advantages such as (a) Condensed information in a small package, (b) projected pictures may be synchronized with the talk, (c) light, easy to handle and store and (d) less expensive than sound film.

(iii) Opaque Projector : In opaque projection a large-apertured projector is used to project opaque materials. This projector is also known as epidiastope. Pictures, drawings, diagrams directly from books, magazines etc or drawn on sheets of papers can be projected. The size of the projected material should be around 25 cm x 25 cm. Materials for projection are inserted into the projector by lowering the platen. This lowering of platen results in a light flash, which may disturb the audience. To eliminate this problem, series of pictures may be prepared on paper rolls. The projector may have a built-in pointer. Opaque projection may be used in training programmes, group meeting etc. pictures relevant to talk should be selected in advance and arranged in proper showing order.

(iv) Over head Projector : In overhead projection, the picture is projected over the head of the speaker on the screen. This is accomplished by an overhead projector. Drawing, diagram, lettering etc. are made on transparent sheets and are put on the glass platform of the overhead projector, through which strong light is passed. The rays of light are converged by a lens and reflected by a mirror held at an angle, on the screen at the back.

The instructional items may be written or drawn by hand on transparent sheets, transparent cellophane or polythin rolls with a special pen or wax crayon. These may be wiped clean with a draw cloth. Printing on transparencies may be made through photographic, Xerox or electronic processes. The transparencies may be in colour or in black and white, and may be repeatedly used. Overhead projection enables the speaker to simultaneously deliver talk and project the instructional materials, while facing the audience. The speaker can also write, make sketch and erase while projecting them. Important psychological techniques like covering a portion of the transparency with a sheet of paper and making progressive disclosure and superimposing diagrams may be achieved in overhead projection at ease and in an effective way. A thin object may be placed on the transparency and used as pointer by the speaker. Overhead projection is used in training programme, group meetings, seminars, symposiums, workshops etc.

Advantages

1. Make the talk dynamic and sustain interest.
2. Complex ideas may be clearly presented.
3. Save time in presenting talk.
4. Projection of pictures may be synchronized with the talk.
5. Enables the speaker to face the audience and observe their reactions.
6. Enables the audience to take notes.
7. Easy to prepare and project the instructional materials.
8. Materials for transparencies are cheap and easily available.

3. Non-projected Audio-Visual Aids

Drama, Puppet show, Talking Doll : Drama is theatrical performance around a theme by some people who have rehearsed for it. In puppet show the dolls are made to perform by controlled movements of the puppeteer from outside. Both the media require adequate preparation and rehearsing. Talking doll is an innovation and may be used to create general awareness of group of people about the extension programme. Drama, puppet show and talking doll provide dramatic experience to the

audience and may be used to communicate the messages on broad social themes pertaining to rural life.

4. Projected Audio-Visual Aids

(i) Motion Picture (cinema) : Motion picture is the projected image of apposite print of a sound film taken by a movie camera, which produces synchronized movement of picture with sound.

Motion picture involves two distinct but interrelated functions- production of the film and projection of film. The production of movie film involves selection of a topic, making script, selecting location, and actors, arranging movie camera and raw film, making arrangements for lighting and sound recording, exposing the raw film shot by shot by expert technicians, processing, editing, printing positive copies, safe storage and distribution of films. Motion picture is used in training programme, group meeting, method demonstration, campaign, exhibition, mass meeting, and television.

Presentation of Movie Film

1. Present the film after the main extension programme is over.
2. Before starting the film, introduce the topic to the audience and emphasize on the important points to look for and concentrate.
3. Have the film show without any interruption.
4. After the show, discuss with the audience and check up whether they have got the message or not.

(ii) Video : The term video is derived from the Latin word 'Videre' meaning 'to see'. Video is an electronic audio-visual system for preparing video tapes of programme and events, which could be projected through receiving set with moving images and synchronized sound.

Video Technology : Video is a modern technology which is constantly being improved. To get the best out of it, one has to be conversant with latest development in equipment and methods. The main objective is to get good quality video tape with pictures and sound recorded on theme, which could be viewed as and when needed. For extension, simple systems for making video production and play back should be evolved. These include identifying a theme for video production, time frame needed

for production, team support required, equipment needed, choice of locations, cost involved etc.

15.2.3 Limitations of Audio-Visual Presentation

In the organization of an Audio-Visual programme the general procedure may be adopted such as planning, preparation, presentation, follow up and their limiting factors. (1) Because of cultural differences the audience may form a mistaken or distorted impression about the audio-visual aids and their presentations, (2) Teaching may be scratchy instead of being complete. (3) Over-reliance on audio-visual aids may convert teaching to showmanship. (4) Some of the limitations of Audio-Visual aids are discussed hereunder by the nature of their use and presentation.

Here we are going to discuss the limitations of the Audio-Visual presentation as under:

1. Chalk board

- (i) Use of chalk board may appear to be drab to some persons.
- (ii) Clumsy handwriting of the speaker may confuse the audience and
- (iii) Writing is very temporary.

2. Flannel graph, Flash Card and Flip Chart

- (i) No suitable for large audience,
- (ii) Require lot of preparation and practice.

3. Diagram, map, chart and graph

- (i) Abstract and symbolic visuals may be difficult to understand,
- (ii) Requires good amount of planning and preparation.

4. Slides

- (i) Understanding the projected pictures which requires 'live' narration by the presenting person
- (ii) Extension agent or teacher has to develop skills in preparation of slides and their presentation.

5. **Filmstrip**

(i) Commercial filmstrips may not be relevant to a particular programme.

6. **Overhead Projector**

(i) Projected pictures may not be of superior quality.

(ii) Opaque projector is bulky and difficult to carry.

(iii) Lot of preparation is required to be made by the speaker.

7. **Movie, Film Projector**

(i) A good deal of preparation and technical skills are needed in having the film show.

8. **Video**

(i) Application of video technology requires trained personnel.

(ii) Launching and sustenance of a video project require favorable attitude and involvement of key personnel of the organization.

15.3 Glossary

Audio-Visual Aids : These are the instructional devices which are used to communicate messages more effectively through sound and visuals.

Audio-Aids : The instructional devices through which the message can only be heard.

Visual Aids : The instructional devices through which the message can only be seen.

Public Address System : It is a set of equipment to amplify sound so that it is available to large audience over a distance.

Bulletin Board : It is a board for display of message.

Diagram, Map, Chart and Graph : These are visuals, where information is summarized and presented in a more or less abstract form.

Slide : It is transparent mounted picture, projected by focusing light through it.

Filmstrip : It is a continuous strip of film consisting of a small number of individual frames.

Motion Picture : It is the presented image of a positive print of a sound film taken by a movie camera, which produces synchronized movements of picture with sound.

Video : It is an electronic audio-visual system for preparing video tapes of programmes and events, which could be projected through a receiving set with moving images and synchronized sound.

15.4 Summary

An old Chinese proverb says: if I hear; I forget; if I see; I remember; if I do, I know. This proverb suggests that hearing alone is not enough in the learning process. One must see and try to do along with the hearing in order to gain understanding.

Good visual and audio-visual aids, therefore, are good communicators. They help a teacher get his ideas across to learners. “The best way to a man’s heart is through his stomach but the best way to his brain is through his eyes and ears.” Some evidence indicates that 85 per cent of what is learned is through the eyes and ears. Therefore, the use of audio-visual aids in teaching cannot be over looked. It must be pointed out, however, that contents of the A-V. Aids must be explained if they are to be effective. Thus for effectiveness of the A-V aids one must consider the audience. The aid must be easy to see, easy to understand, simple and direct, and easy to handle and transport. After all the audio or visual or both audio-visual aids or tools have their limitations on the part of the speaker and the audience but these supplement the teaching and enrich the learning experience of the learner effectively.

15.5 Exercises for Practice

Answer the following questions in 200 words each.

1. What are the Audio-Visual Aids? Explain them in relation with farm communications.
2. Enlist projected and non projected visual aids used in extension education.
3. What is the role of tape recorder? Enumerate its advantages and features.
4. What are the merits and limitations of audio-visual aids in teaching and learning ?

Unit 16 : Audio Media

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16.5 Exercise for Practice

16.1 Introduction

Teachers and professors are interested in the development of audio materials and their capabilities for enriching class room learning. So is the case with the extension educationists who are engaged in the informal educational programme which is also called as out of school education. Various audio forms contain a truly wondrous collection of sounds, with them, it is possible to involve students as well as the adults may be farmers emotionally, thus adding effective tunes to learning which other media may not produce. With them, we can present factual documentary information in a meaningful way, often through actual voices of the individuals involved. And with them, we can provide experiences to help the students improve skills of listening or of speaking and understanding languages their own or those of other cultures.

A suggested teaching procedure with video involves 5 steps namely;

(a) Preparation for teaching the audio material by a teacher in the classroom,

- (b) Development of student's readiness for listening and getting the appropriate learning experience,
- (c) Encouraging good listening of the students,
- (d) Discussing with the student after or post listening and
- (e) Follow up the programme pertaining to the use of audio materials and their effective use by teacher for effective listening of students which in turn may enrich their learning experience.

After the study of this unit, you will be able to know and understand :

- λ Audio process and its involvement in the instructional audio programmes.
- λ The nature of the audio programmes.
- λ Process of the audio recording.
- λ Evaluation of the audio programmes for their effectiveness and
- λ The added advantages and the limitations of these programmes?

16.2 Content

16.2.1 Instructional Audio Programme

The teacher of today realizes that motivation to learn is the key to the excellence in instruction. The role of teacher and student are changing as we aim towards individualization of instruction. Every class room can have the best instructional materials now produced. Excellence in learning involves use of many educational media as the student learns to read critically, listen critically and observe critically.

Changing Instructional Pattern

A variety of new instructional patterns, based on ideas originally in the Trump Plan sponsored by The Association of Secondary School Principals has spread widely. This plan provides for three types of instruction in high schools:

Large group instruction for approximately 40 per cent of time, small seminar class instruction (20 per cent) and individualized instruction (40 per cent). So is the case with adult and distance learning instructional programme in the extension

education specifically in the training programmes for the extension agents and/or farmers. The team teaching, with the master teacher/trainer incharge of the team, is implicit in this organization. Another plan is the ungraded pattern which allows each student to progress at an individual place. In extension education programme in India and Maharashtra, Training and Visit system which is re-organized extension education programme emphasizes on individual teaching, where in the extension education worker pays visit on farm/home at an interval of 15 days to motivate a farmer (student) to progress at an individual place which may vary by the nature of farmer and his situation.

To be specific in such programme there must be greater use of 'new media' of instruction. Audio visual media are increasingly available in the resource centers. A massive support for such centers may be given by information center, libraries to enable them to buy the instructional materials. The media carefully evaluated and used in optimum fashion are the tools of a truly professional teacher.

The world of sound provides an exceptional variety of useful resources for schools today. While improvements in stereophonic recording and reproduction are perhaps the most dramatic of recent technological advances in this field, further examples of progress are seen in the myriad electronic language and listening laboratories and listening centers, radio broadcasting stations, audio tape recording and duplicating facilities, telelecture equipment, and similar devices now found in schools, colleges and extension education centers all over the country.

As with other type of instructional materials and resources, the value of many learning experiences classified as 'audio' is determined to a considerable extent by the manners of their use. Here we have emphasized the importance of identifying the purposes to be served by listening experiences. The recommended procedures for the teacher, extension educationist are that he :

- (1) Prepare himself thoroughly to use audio materials,
- (2) Develop student's readiness to listen- a step which includes explaining the objective of experience,
- (3) Makes students listen to the materials,
- (4) Lead the post listening discussion or analysis, and

(5) Follows up with appropriate activities.

Among the sources of tape recordings for classroom use or training programme record companies like His Master's Voice and others often produce and supply numerous recorded materials valuable in instructional programme.

Student and teachers made tape recordings can fulfill important educational functions properly used; such recordings can lighten teacher loads, removing some of the drudgery of repeating directions or drill material. They can also provide means of objectifying and measuring of students growth over a period of time through samples of "before and after" performance. Other important advantages may be derived from taped students productions, including improved skills in writing, speaking and other forms of communications.

Some of the quotients and activities here under are posed to enrich the student's learning experiences as well as listening behavior of the students. Even in the extension educational programmes of the instructional nature these can be applied by situational modified conditions. These are as under:

1. Organize a committee to develop and exhibit catalogs available from producers and distributors of tape and disk recordings. Even they can make the use of compact discs for the instructional and educational purpose, which will be useful to the students taking distance education. Yashwantrao Chavan Maharashtra Open University, Nashik, in Maharashtra has already entered in this field.
2. Develop a plan for teaching a lesson using one or more recordings, follow the procedural suggestions.
3. Prepare a tape or C.D. recording containing exerts form number of educationally valuable disk and recordings, which will demonstrate the range of offerings in these media. Be sure to provide a bridging commentary between selections to identify, what is to be heard.
4. Make a recording of all or part of a lesson you teach. Listen to it several times. Make a series of generations, based entirely on this one recording, considering the strength and weaknesses of your teaching techniques.
5. List several ways in which you can use the tape recorder in your subject field or at your grade level to :

- (a) Provide drill exercises,
 - (b) Present content experiences and
 - (c) Measure growth and achievement.
6. Write to the World Tape Education and request for loan of a sample tape programme produced by a school group in a foreign country. Listen to the tape with your college class. Evaluate worthwhile outcomes which might develop from tape exchanges, and discuss ways to motivate student's involvement in the activity.

16.2.2. Types of Audio Programmes

Prior to discussing the types of Audio programme, we need to discuss the programmed instructions. In this process, the question then arises is what is called as programmed instructions? Before answering this question, we would try to answer what is process? A process can be defined as a controlled sequence of events leading to a desired outcome. In the tape recordings for example, the recording process of hifi is intended to be controlled according to sequences of events. Loss of control usually leads to poor recording with lots of physical and electronic distortions or no recording at all. The point is that the tape recording for broadcasting process is designed to lead a specific result. Programmed instruction is a process. It is a sequence of events leading to a set of desired instructional outcome; each time the sequence occurs as designed.

We may define an instructional programme as a reproducible sequence of instructional events designed to produce a measurable and consistent effect on the behavior of each acceptable student.

(a) Developing Programme Materials

In the process of developing programme material the following steps are followed:

1. Analyze and specify intended results.
2. Analyze and pretest the student population to be taught.
3. Develop and write down appropriate instructional objectives.

4. Specify the criterion tests.
5. Write the programme.
6. Evaluate the success of the programme.
7. Rework and improve the programme.

(b) Audio Materials

Following aspects of audio-materials in their use in teaching and learning are important :

1. The psychophysical facts of listening.
2. Conditions requisite to good listening, skills of listening and ways of improving those skills.
3. A brief history of radio, and description of its current uses in the classroom.
4. A suggested teaching procedure for using audio materials in the classroom.
5. Characteristics and uses of several types of listening center facilities,
6. Techniques of editing tapes to conform to educational requirements.
7. A brief over view of the uses of telephonic audio communications devices in teaching and learning.
8. Possibilities and techniques of using tapes and letters international exchange.

The audio programmes can be classified by the purposes served through listening. Teachers who believe that listening skills should be ‘taught, not caught’ may act upon this belief in several ways. First, they may consider the purpose to which the act of listening is put in every day life. These are some times categorized as ‘practical’ and ‘recreational’. A few examples of practical uses of listening are:

The farmers first hear the information about agricultural innovation is called as getting aware of them. Then develop interests about some suitable innovations of agriculture and collect the additional information and then try it after their evaluation and finally act upon it covertly or overtly. This is called adoption of agricultural innovations in terms of time and space (area) or rejection. This is called the adoption process which is started with hearing about an innovations.

In case of students, after hearing about teachers instructions in question forms or assignments like exercises and they follow the directions in following way :

1. Obtaining answers to specific questions.
2. Gathering additional information due to development of interest and liking to judge the consequences and select the alternative courses of action.
3. Learning how to act in new situations.
4. Identifying and evaluating the accuracy or bias of the content of speeches.

(c) Several Reactional uses of Listening

1. Enjoy music
2. Detecting humor, understanding the meaning, and enjoying it.
3. Enjoying escape from real life by becoming absorbed in themes and events portrayed in audio materials.
4. Enjoying sensory images by grasping the meaning of what is heard and by visualizing in imagination some ideas acquired.
5. Experiencing and enjoying vicariously the emotional reactions and expressions of feelings and ideas in romantic tales, sentimental verses, or dramatizations of mysterious stories.
6. Enjoying the rhythm, quality and suitability of expression in prose and poetry.

(d) Listening Skills

A second way in which teachers and extension agents may concern themselves with listening is to analyze what skills the efficient listener must develop. Dukar (1963) identified six tasks, essential in the “process of listening”. The good listener is expected to:

1. Prepare himself for the act of listening approaching it with attitude of inquiry and focusing upon it his previous knowledge of the subject at hand.
2. Know what was said- separating this from, what he is expected to hear, or what he believes he ought to have heard.
3. Retain selectively what he hears- as to its objectivity, bias, authority or logic.

4. React to what he hears- using it selectively in ways originally intended in the general plan of its presentation.

(e) Recording for Teaching and Learning

Today, prerecorded disk and tape materials continue to increase both in scope and quality. There is such wealth of disk and tape recordings, that problem of selecting and distributing them assume great importance in the management of our schools, colleges as well as in the field of extension education.

(f) The Information about Pre-recorded Tapes

The pre-recorded information tapes comes from different sources such as:

1. Schools, extension departments or adult education divisions of the universities including farm universities,
2. Commercial producers and distributors of the prerecorded tape programme,
3. Small number of associations, governmental agencies and the business concerns which distribute taped programmes like T-series, and
4. Radio stations of All India Radio. Even in your own school or college and at your home you may start collection of pre-recorded tapes which can be used for your teaching programme.

(g) Radio in Class Room

Radio broadcasting continues to be recognized as the useful means of providing learning experiences for large number of students and farmers. It is especially helpful in remote, isolated areas and schools although special radio programmes like lessons for high school students on different subjects like Biology, Physics, Chemistry, languages and the agricultural school on air have been developed by All India Radio with the help of school and college teachers, agricultural educationists, specialists, agricultural development personnel of state department of agriculture and relevant development departments.

However there is one problem in respect of radio broadcasting, that it is one way communication. Usually comments and questions cannot be interchanged between

the broadcaster and listeners. This problem can be solved by correspondence through letters to Radio Stations, who can handover these letters for comments, answers to the specialists, who in turn can clarify them in the subsequent broadcasting book on such material can also be published as reference material to the listeners or answer recorded tapes can be made available to the listeners.

(h) Tape Recording in the Curriculum

The versatility of tape-recording techniques gives them a wide range of application to instruction in such fields as social studies, speech, music, business, and foreign languages as well as biological, physical, and chemical sciences including the agricultural sciences.

Telelectures and Telewriting

It involves the use of long distance telephone service to transmit a lecturer's remarks from one location to several interconnected classrooms generally widely separated locations. Telelecture presentations are sometimes accompanied by 'telewriter' or slide or filmstrip projection in receiving classrooms. 'Art of Telephone' has now been in operation in western world. This method of teaching is just as effective as the traditional classroom style. Even in India a housewife gathers information about recipe of food item on long distance phone call like STD or ISD, for her preparation of new food items. 'Art by Telephone' has now been in operation, for last two years. In U.S. students expressed that this method should be continued in their programme.

16.2.3. Process of Audio Recording

(a) Tape Recording

Tape recording of sound has become a very useful teaching tool. In the hands of extension workers and radio programme directors, it has reduced the cost, increased convenience and improved programme quality greatly. Extension Services in the States are rendering valuable service through tape recordings and loan libraries. Such

recordings are used to save the day in emergencies as well as to provide carefully planned educational programmes. Extension workers can purchase the recording equipment and also check with their local radio station regarding details of transferring and broadcasting materials. For example, portable recorders often use double track magnetic tape. Station equipment usually broadcast from single track but may still pick up one track of the double track tape. There are various speeds and reel sizes. For most educational programmes tape recordings have eliminated the use of relatively expensive direct wire pick-ups. Magnetic tape is the acceptable recording medium. Carry your recorder anywhere with you and look for interesting programmes. Use it for purposes like training, demonstration, speech and voice correction.

(b) Tape Speed and Tracks

Two track, four track and one track tape recorders are available. Four track recorders are more complicated in use, Recording done on this tape recorder cannot be played on two-track machine, if all the four tracks have been utilized, it is now standard practice to make all recordings from left to right. For field work a two track machine is simpler to use and may cost less than four track machine.

As the quality of both tape recording heads and drive motors have been improved, the need to use different speeds for special purposes has diminished. A tape speed of 9.5 cm per second is now accepted for non-professional recordings. However, some battery recorders still run at half of this speed for reasons of economy.

Tape recorders can be operated skillfully if one understands the principles involved in it. The tapes used in the tape recorder may be on the spools or they may be cassettes, In both cases the tapes are dull on one side. This is a working side having a thin coating of iron oxide. There are different operating speeds for spool tapes but modern cassette tape recorders have fixed operating speeds.

The production of magnetic recording and reproduction is divided in three parts, namely; erasing process, recording process and playback process.

In the erasing process the tape runs fast and erasing head wipes off any previous recording on the tape. In this case the head is engaged by an alternating current of

high frequency subjecting magnetic particles in reversing the magnetic field resulting in demagnetization of tape.

In the recording process the tape runs and passes over the recording head which carries a high frequency current upon which is superimposed the amplified phonic currents. The frequency currents set magnetic particles vibrating which are then more easily infused by the varying magnetic fields produced by the phonic currents. The moving current is then magnetized and residual magnetization along its length fluctuations is recorded on the tape in the form of the phonic current which represent sound message. This magnetic pattern recorded on the tape can be retained for long time. The machine is stopped after recording by pressing the red button fully. After recording on one side of the tape, turn over the tape and record on the other side. The tape can be played back by pressing the 'play' button. Adjust the volume control until the level is appropriated and then adjust the tone control.

The tapes/cassettes may be preferably stored in the boxes provided by the many factories. Extreme temperatures should be avoided in the storage of tapes. Similarly the tapes should be kept away from strong magnetic fields like electric motors, transformers etc.

16.2.4 Evaluation of Audio Programme

Recording and Evaluating : It is simple but rewarding activity to tape-record discussion verbatim. The result will be usually being enlightening to the teacher or discussion leader, as they are to discussants. Teacher-lead discussion, analysed from tape, often turn out to be surprisingly one-sided with preponderance of the "discussion" coming from the teacher. If you are serious about improving your leadership techniques, a tape-recorded session provides an excellent basis for a beginning.

A tape recorded discussion session also provides an objective basis for analyzing the participation pattern of an entire class. Students themselves will gain considerable insight concerning their place in the discussion structure by making the tabulated analysis of number and kind of their discussion participations and the extent to which their ideas were agreed with or accepted, disagreed with or rejected, or reinforced or

altered by others. They may see themselves as ‘subject changers’ as ‘sticklers for detail’, as ‘arguers’, as ‘negative critics’, as ‘influential’, as the type who ‘never has a word to say’, or in some other light.

Teachers interested in demonstrating the extent to which their classes improve in their ability to discuss problems have also made tape recordings near the beginning and towards the end of school year. This allows students to see their own progress-or lack of it-in an activity which cannot be evaluated adequately by usual paper-and-pencil or teacher-observation methods. A tape recording is also means of helping a class to review, what was said at some previous time, making it possible to ‘take up where we left off’ or evaluate discussion after a cooling-off-period.

16.2.5 Advantages and Limitations

1. On the Farm Recording

Many radio stations and extension offices have portable recording equipment that can be operated by station personnel or by the farm and home broadcaster. On the field recording requires immediate preparation known as planning at site and then recording the events through interview technique and/or discussion at site of farm. Altogether the preparation and recording take a short time. However, an on-farm recording can be cumbersome thing, if an attempt is made to use the script. Veteran farm broadcaster has discovered it as far better just to let farm people talk; and the people will do it without hesitation when they are in the farm kitchen or on the edge of the field of tall growing crop. But there remains the need for a thorough discussion of the subject involved before recording is made.

2. Advantages of Tape Recorder

1. Facilitates on the spot recording of sound
2. Help in duplicating and dissemination of sound
3. The recorded tape can be immediately played back without any processing.
4. Facilitates editing of sound by adding and adjusting tapes back and forth.

5. Helps in synchronizing of sound with pictures.
6. Preservation of recorded sounds in tapes for future use.
7. Easy to operate.
8. Low operation cost as the same tape may be used over and again.

3. Limitations of the field recording

1. Lack of radio receiving sets may hinder communication
2. No control of the extension agent over radio broadcast,
3. Generalized recommendations limit their applicability
4. Lot of editing of the recorded discussion and/or talk is required to be made
5. Time budgeting and planning for transport to the field with equipment is a limiting factor.

16.3 Glossary

Audio Material : Instructional materials that use listening as the primary process of communication. In this category are phonograph records, recorded tapes, sound tracks from motion pictures, sound from television, and other reproduced sounds.

Audition : Implies listening and is commonly used to identify the experience of appraising an appraisal of audio material or oral performance for instructional value and quality.

Cassette : The container or ‘cartridge’ used to contain film or tape which will operate continuously without rewinding or without removal of the film or tape from the container during rewinding.

Distortion : (in recording). Any difference between original sound and the way it is reproduced by a recording machine.

Erase : (in audio-video-tape recording). To remove the magnetic pattern on a tape by placing the tape in a strong magnetic field. On the tape recorders this is done by an ‘erase head’. Tapes are also erased in a few moments on a ‘bulk eraser’.

16.4 Summary

'Audio' is determined to a considerable extent by the manner of their use. In this unit, we have reemphasized the importance of identifying the purposes to be served by listening experiences. We have also discussed the recommended procedures for the teacher or extension worker These are (1) Prepare himself thoroughly to use audio materials, (2) Develop student's or farmer's readiness to listen, (3) Lead the post listening discussion or analysis and (4) Follow up with appropriate activities.

Sources of tape recordings for classroom or for field use that are mentioned in this unit. The sources of Audio Tapes are educational institutions, Universities and private business organization for commercialized audio tapes.

How additional audio activities can be promoted for developing audio materials has been discussed in this unit. For this guidelines are given for the educational and commercial organization and how this material can also be collected and used for promoting learning and enriching the learning experiences.

Some mentions have also been made about the advantages of selected audio materials with their limitations form the practical view points.

16.5. Exercise for Practice

Answer the following questions in 200 words each.

1. Describe the types of audio programmes.
2. Describe the process of audio recording and evaluation.
3. How you can use radio for classroom teaching ?
4. What are the advantages and limitations of audio materials in farm communication ?

Unit 17 : Video Media

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17.1 Introduction

The span of ten years between 1960-1970 will be remembered as an era of ‘technological expression’. The spectacular expansion of commercial television in the United States attracted the interests of educators to the potential of this pervasive medium of communication. The initial enthusiasm of both the educators and the public about possible applications of television to education has been followed by a gradual adoption of the medium in number of different forms and for a variety of educational purposes in many school systems.

For over a decade the Government of India managed to hold out against vehement demands from educational institutions, industries, politicians, and indeed the middle classes in urban areas for the introduction of television. The Government gave in, with the aim of employing it on experimental basis to train personnel, and partly to discover what TV could achieve in Community Development and formal education.

After the study of this unit, you will be able to know and understand :

- λ Instructional Television (TV) and Video.
- λ Video script preparation, development and use.
- λ Understanding the use video equipment for instruction and entertainment.
- λ Instructional programming and
- λ Types, advantages and limitations of video in learning processes.

17.2 Content

17.2.1 Instructional Television and Video

This unit is considered with two kinds of television, each having implications for teachers.

Educational Television : Sometimes it is also called as the community television which serves multiple role of providing general education, extension education, enrichment and recreation for increasingly large audiences as well as direct formal education for students of all ages and the farmers' families comprising of the members with having different educational status, age differences and the socio-economic statuses.

Instructional Television : It is a field of immediate and increasing concern to the teachers and the scientists and also extension agents. It assumes several recognizable forms. Simple television cameras used in classrooms for example, serve as image magnifiers to aid demonstrations; small portable video tape recorder and camera systems permit review the evaluation. The equipment can also be used for farmers and their families to review and performance of farmers by their knowledge, skills and adoption behavior covertly as well as overtly. Other close-circuit or broadcast systems are used in various configurations to facilitate instructions in single school or in school systems, in the school of the entire region, in a whole state, in several states, or throughout the nation. Many teachers are quick to see the special advantages of broadcast television and to appreciate its potential contributions to education and to the public entertainment. They also see and appreciate the striking similarity of the

purposes of television in helping to achieve these purposes as follows:

1. It is convenient and economical means of reaching enormous cross sections of the population with simultaneous presentations.
2. It combines the best elements of radio with the potency of motion pictures.
3. It is capable of helping to overcome the learning barriers for many persons- by presenting important ideas, helping to mould attitudes and providing information in a way which demand neither high verbal proficiency nor physical presence at the scene of action.
4. It is a means of multiplying “personal” contacts for outstanding television instructors with students and adults all over the country or the world.
5. It is capable of helping to bring about needed social improvements and developments.
6. It capitalizes immediately, upon the “here and now” aspects of communication.
7. It combines with other media to bring more and different kind of information to the classroom for individualized study, programmed instructions and number of new teaching learning techniques.

1. Educational Television (ETV) in India

One of the primary aims of radio and television in India is education of the masses. The other aims are: information, entertainment and improvement of the economy. The distinct use of television is that large numbers can be reached by experts in the various fields of education and extension education. Doordarshan, Delhi took the decision in 1961 (when it covered only the twin cities and was just 2 years old at an experimental stage) to broadcast curriculum-based lessons on selected subjects, particularly on science. The aim was to improve standards in teaching of science at the secondary level. Teachers and students responded with much enthusiasm to the new teaching aid. The experiment was evaluated in 1969 by a UNESCO expert, Dr. Paul Neurath, and he concluded that ETV had amply proved its usefulness as ‘an aid to the teaching of science subjects’. The project was continued in the last 3 decades without much change in format or presentation.

According to a recent NCERT (National Council for Educational Research and Training) survey on utilization of educational TV in schools under Delhi administration, only 35 per cent of the 500 schools provided with receivers in the secondary classes for which 16 lessons were telecast every week, hardly ever switched on to the programmes.

Mumbai's TV center transmits educational programme in English and Science for secondary classes. The transmission is hardly for two hours a week and each lesson lasting for a mere 20 minutes, twice the same day.

2. SITE (Satellite Instructional Television Experiment)

In 1967, UNESCO expert in co-operation with Indian Government conducted a study on the use of a satellite for national development. It recommended that since conditions were favorable such a start should be made. Accordingly in 1975 the Department of Atomic Energy entered into an agreement with the National Aeronautic and Space Administration (NASA) of the United States for a loan of a satellite free of cost for one full year starting from August, 1975. It was the first experiment ever to relay educational television programmes directly from a satellite to receivers in 2400 villages scattered over six selected regions in Orissa, Madhya Pradesh, Bihar, Rajasthan, Andhra Pradesh and Karnataka. Besides conventional receivers in 2500 villages and towns got the programmes through earth transmitters which picked up the satellite signals through Receiving Stations.

(i) Programmes : The 4-hour telecast beamed every day from earth stations at Delhi and Ahmedabad concentrated on programmes on education, agriculture, health and family planning. These were planned and produced by AIR at Production Centers set up in Delhi, Hyderabad and Cuttack, with the help of Committees which included Central and State Government representatives and experts from universities, Teachers Training Colleges and social workers. Besides, the ISRO (Indian Space Research Organization) set up its own Audio-Visual Instruction Division to plan and produce programmes according to the schedule.

However, as the satellite had only one video channel and only two audio channels it could transmit just one picture at a time with synchronized sound in two different

languages. So it was possible to beam programmes to only two linguistic regions at a time.

(ii) School Telecasts : The goals of school broadcasts were two fold namely; (1) To make school more interesting and so reduce the drop-out rate. (2) To 'improve children's basic concept and skills, promote aesthetic sensitivity, instill habits of healthy living, bring awareness of modernization of life and society'.

However, the social evaluation report on 'SITE' in two volumes published by ISRO, in September, 1977, observes on page 5 of the forward that : 'The fact that the school enrolment or that drop-out rate was not affected by the introduction of television in school proves that these factors depend primarily on social and economic parameters and not on the attractiveness or otherwise of the school curriculum; the children do not have an independent choice in the matter. So unless circumstances are changed, parents do not have to make use of child labour for economic reasons, television in schools is not going to affect enrolment or the drop-out rate'.

(iii) Agriculture : The Ministry of Agriculture set out the following objectives for SITE :

1. Discussion on information and demonstrations of dryland farming systems etc. advice on poultry and animal-husbandry, recommendation of practices of crops and their management and so forth.
2. Broadcasting information regarding organizations which are responsible for supply of agricultural inputs such as seeds, fertilizers, implements and for services in marketing, credit and so forth.
3. Giving advice and demonstrations on pests and their control measures.
4. Broadcasting of weather forecast and market trends.
5. Narration of success stories of farmers, preferably within the regions and other relevant news.

SITE had ambitious goal in promoting new agricultural practices like dry land farming and use of fertilizers, pests control, market trends and weather forecast. Broadcast programmes on agriculture were for 30 minutes each day for each linguistic group plus-30 minutes entertainment programmes in Hindi.

The ISRO Report stated that there was 'some gain through it but not statistically

significant. It pointed out that' some case histories of these innovations indicate that the farmers adopted only those practices which did not demand additional expenses on infrastructure. They were also selective about their intention till the time that they achieved success.

Similarly the studies on Health, Family Planning, were made to measure and evaluate the impact of SITE broadcasts. Thus, P.C. Chattarjee, former Director-General, of All India Radio sums up the achievements of SITE as:

'In the practical aspects of nation building on which the programmes were telecasted during SITE. that is agriculture and animal husbandry, health and family planning and telecasts for schools, we find that gains were rather meager'.

17.2.2 Video Script and its Development

'Script' is a style of types designed to resemble hand writing. Let us assume that you got the subjects worked out and have decided on the style of presentation. Let us also assume that you have decided to do it from the script. Your script may look little strange when you read it. But if you hear and see, it would sound and look pretty much as though someone may be actor or actress or both were talking, acting in a lovely manner in case of their love matters. They may be friendly and informal to each other. There might be other relevant aspects like a success story of a farmer on the field. For example, 'Hariyali and Rasta' a cinema where the field and the relevant farm scenes shown with a young loving couple enjoying in the travel line bullock cart at country side.

Well, the first thing to do is to collect the material, may be you have made notes after a visit in the village and farms. You may collect or have to get additional material from books, magazines or bulletin etc. or from the Film and Television Institute or Communication department of the University. Line up all the material you think and you want to cover in your entire programme then you cut and try. You may end with some material unused, but it is better to have too much. Be sure to include supporting and illustrative facts and scenes to backup your main points. Then figure out whether you should cover the subject by a straight talk or two way viz. discussion and actions. The main thing to remember is that when using television receiving set or video you

are dealing with the viewer or audiences as the case may be.

1. Video Teachers

In audio-visual research, Dean Wilber Schramm of the University of Illinois, USA makes certain prediction about educational TV and may be applicable to video also.

“For one thing, it will command attention as perhaps no other teaching medium will and certainly people will learn for it, the learning results of the Army and Navy studies were very impressive. People will learn not only facts, but also attitudes, some motor skills, sometimes critical thinking and problem solving. Properly used educational TV and video may be expected to impart facts and demonstrate procedures at least as effectively as an average classroom teacher, perhaps as effectively as an excellent teacher. Effective use of educational TV and Video, however, is considerably different form effective use of commercial entertainment centered TV and Video and will require different methods. Basically it will require application of principles of good teaching. The most effective use will employ TV and Video as the part of educational package and as educators learn to use it, they will pass beyond the stage of photographing illustrated lectures, and master the blending of the auditory with the visual communication which is the essence of both instructional film, and instructional TV and Video”.

Television is a ‘natural’ for popular ‘how-to-do-it’ programmes. People are interested in seeing it or things done or grow into something. You can use your ability to plan, to show, to explain, working with actual objects, tools and things from the farm and home. Further more you will be reaching out to a new and increased audience. Begin your acquaintance by visiting a television studio or attending a workshop of extension workers or you may visit the Film and Television Institute, Pune where the students, teachers, cameramen and the studies will be available and how the scripts are written, presented though the process of development. By observing the actual programme production, you will learn not to be overcome by the cable, lights and camera. Get a copy of Television Script or the relevant literature for your use or for the use of extension agents.

In general, there are three types of approaches (1) Method demonstrations are close up, short and striped of all distortions, stress the key points (2) Illustrated story- This is your chance to tell and show a success story or report. It will deal with actual conditions and activities on the farm and in the home and community. It may appeal to a wider audience than a demonstration. But you must illustrate tools, such as cartoons, live objectives, models, actions of actors and actresses, models, still pictures etc.

2. Script Writing

Film and video scripts may be called screen plays. These are of various kinds. They may be written before the shooting begins or during the shooting itself. Satyajit Ray for instance has every day dingle detail of the dialogue, the design and composition of each shot, the type of camera angle, the lighting, the music and sound effects, the costumes etc. written down or sketched before making the film or before shooting for TV or video. The film scripts are sketched as the production proceeds, with much improvisation depending upon the availability (and moods) of stars, cameramen, and rest of the team. The argument is that you can make a bad film from a good script or a good film from a shoddy script. So it is the film, not the script that matters.

The person who keeps a check on the script during shooting is called the script supervisor. In practice generally the story writer submits his story or his story idea to the producer or director, who in turn hands it over to a screenplay writer who has a lot of experience in writing for films. He rewrites the story, dividing into sequences and scenes and then in consultation with director, sketches a screen play. The director passes on the screen play to a dialogue writer. This has to be done because in many cases the story-writer and screenplay writer do not know the language. Stories for film or video and screenplays are usually written in English, which makes it possible for people with different linguistic background to participate in the making of films or video cassette. Central Broadcasting Service (CBS) has video direction (cues) on the left page, and audio directions and narration on the right page. Video and audio cues in both are written in capital letters, narration in caps and lower case. The CBS style, however is widely used and is also easier to follow.

3. Guidelines for Script Writing

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

1. The script should synchronize with the kinds of audience and due care should be taken of age-group, socio-cultural background psychological profile, interests, attitudes, needs and homogeneity or heterogeneity.
2. The title of the script should be short, attractive and direct.
3. The script should be clear, precise, objective and brief. Descriptive words which are easily understood should be used in the script.
4. For holding attention local examples, visual and sound effect should be used.
5. The sentence composition should be simple, clear, short and direct, but colourful. There should be proper sequence of script contents.
6. There should be one idea showing immediately in a script. The ideas should be feasible and practicable. The information should be genuine and factual.
7. The script should involve and address the audience directly through a personalized message and ensure impact, through the use of words like 'you' and 'we'.
8. Recapitulating and underlining stress points should be used. Repeat the ideas to improve retentivity.
9. The speed of presentation should be between 125-160 words per minute. Avoid pausing by completing paragraph at the end of each page. Do not forget to give page numbers.
10. The information in the script should have humour and light-hearted tone to maintain interest of the audience.
11. There should be balancing of vision and sound. The script should be flexible to suit the audience and yet put across ideas clearly and meaningfully. Keep in mind the limitation of time, space and resources.
12. Summarize the script with appropriate visual presentations.

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

4. Procedure for Script Writing

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

(i) Selection of stimulus

- (a) Cognitive Domain (for apprehending, knowing or perceiving)
- (b) Affective Domain (related to interest, attitude and values pertaining to emotional aspects rather than thinking)
- (c) Psychomotor Domain (practical aspect)

(ii) Decision about mode of presentation:

- (a) Straight talk
- (b) Demonstration
- (c) Dialogue
- (d) Interview
- (e) Panel discussion
- (f) Puppets
- (g) Animation
- (h) Combination of the above

(iii) Decision about the format of contents:

- (a) introduction
- (b) body
- (c) conclusion

(iv) Decision about the type and timing of visual shots:

- (a) close-up (CU)
- (b) Medium shot (MS)
- (c) Medium close shot (MLS)
- (d) Mid long shot (MLS)
- (e) Extra close-up (XCU)
- (f) Extreme close-up
- (g) Point of view (POV)
- (h) Zoom in / Zoom out
- (i) Dolly in / Dolly out
- (j) Pacing left/Pacing right or tilt up/tilt down
- (k) Fade in / Fade out
- (l) Dissolve/lap dissolve
- (m) Crane shot
- (n) High/low angle shot
- (o) Master shot
- (p) Aerial shot
- (q) Establishing shot (wide)
- (r) Reverse/false reverse shot
- (s) Front/rear projection
- (t) Jump out
- (u) Moving /walking shot
- (v) Reaction shot

- (w) Still shot
- (x) Running/run-through shot (Trucking)
- (y) Super imposition
- (z) Wide shot

(v) Decision about the type of sound and narration:

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

(vi) Decision about the shooting scripts:

- (a) Studio based (mostly live): interview, discussion etc.
- (b) Outdoor shooting/film based shooting (field based documentaries)
- (c) Combination of a studio and outdoor shooting based/studio-cum-film based.

(vii) Decision about sets:

- (a) Brace-a support for standing up flats.
- (b) Clamp-a device designed for binding two flats together
- (c) Flat theatrical scenery used for walls (4' x 8')

(viii) Decision about lighting:

- (a) Black light (spot light to separate subject from set)
- (b) Cameo/limbo, (pool of light to eliminate set)
- (c) Fill-a soft light to lighten shadows
- (d) Ellipsoidal spot (liekeo light for giving shadows)
- (e) Set light-to reveal only the set
- (f) Silhouette back ground lit to show subjects form
- (g) Scoop-broads with no beam
- (h) Hair light/back light

5. Specimen of Scripts

Normally, it is prepared on 8.5"x11" sheet of paper divided in half with the vertical line. On right hand side of the audio side (speakers text) and on left or video side is a small miscellaneous column for penciling special notes. In the larger video column the camera shots are penciled, which are subject to change. For fast sequence shots set up column is added.

There can be three kinds of scripts such as :

- (a) Studio based
- (b) Outdoor shooting based
- (c) Combination of studio and outdoor shooting based :

Shooting Script

Topic _____

Duration _____

Script by _____

Producer _____

Sr.No.	Shot No.	Shot Description	Description of Script Narration
Sequence			
Sound Effect			
_____	_____	_____	_____
_____	_____	_____	_____

17.2.3 Video Equipment and their Use

Video technology is a modern technology which is constantly being improved to get the best out of it, One has to be conversant with the latest development in equipments and methods. The main objective is to get good quality video tapes with the pictures and sound recorded on them which could be viewed as and when needed. There may be various formats of video. For extension, simple systems for making video production, time frame needed for production, steam support required, equipment needed, choice of locations, costs involved for preparation and use of video cassettes need considerations.

A video tape recorder records sound and pictures which may be black and white or colour, on magnetic tape more or less similar to that used with audio-tape recorder. A television camera is used to convert the picture into electrical current which are recorded by Video Tape Recorder (VTR) on a magnetic type. A microphone

is one form of transducer and a TV camera the other. Magnetic tape is composed of a plastic base coated with minute particles of metallic oxide, around the tape and so align the particles of metallic oxide in a specific pattern.

Most of the video-tape recorders use 0.5", 1", 2" tape instead of 0.25" tape used by audio tape recorders. The magnetic pattern placed on the tape is as below:

1. Top line of the tape is for audio recording called audio track.
2. Diagonal lines are for the video recording called as video track.
3. Bottom vertical lines are the synchronizing (control track) signals necessary to recreate the picture.

On some video recorders the audio-track is at the bottom of the tape and syne signals at the top. Also some video recorders can record on additional audio-track, called a cue track.

1. TV Camera

The simplest television camera consists of a lens, a box of electronics with built-in automatic controls to give a good picture, an electric cord for power, and a socket called video-out. A video cable is connected to this or to the video-in of either a monitor or tape recorders (VTR). Light reflected from the object to be telecast goes though the lens and strikes video on tubes. The tube changes the light in to the video-out socket at the camera's rear. Through A75 OHM course cable with appropriate connectors the signals are carried to the Monitor or VTR.

View Finder : It is compact and portable video camera attachment. This is miniature TV monitor. It is mounted on the camera and the operator can have immediate view

of the subjects angle, illumination etc. on the view finder which facilitates him to televise a little of the video signals before it goes to the video-out socket and shows you what your camera is looking at.

Zoom Lens : The front end of television camera forms the eye of any closed circuit-television system. It picks up the image of the required scene and focuses it on the pick up tube face plate. It is the lens which decides the area of view and characteristics of the picture such as magnification, sharpness of details, brightness

and contrast. The zoom lens has got mainly following three adjustments:

1. Focus: Turning this part of the lens makes the picture sharp or blurred.
2. Zoom: Turning this part of the lens makes the picture look closer or further.
3. Iris: Turning this in one direction allows lots of light to pass through the lens and increase the contrast in your picture. Turning it on the other direction restricts the amount of the light allowed through and decreases the contrast making the picture look grayer. In general, adjust the iris so that the picture looks good.

Cameraman will be using focus and zoom all the time. Usually Iris is adjusted in the beginning of the programme and it is not touched thereafter.

2. Portable Video-Tape Recorders

Some low cost models of video-tape recorders produce black and white pictures that are adequate for many schools for instructional applications among which are:

1. Recording local production of simple instructional demonstrations that can be available for reuse.
2. Recording instructional programmes from the air to be reused at convenient class hours or to be repeated to meet class schedule.
3. Playing instructional programmes obtained from the several national libraries of tapes for classroom use or independent study by students.
4. Recording student (or teacher) performance for immediate replay, analysis and evaluation or comparison with recordings of later performance to determine levels of improvement.

3. Video Conference Unit

Video conference unit consists of a Television or Computer Monitor. A video camera connected through a Satellite or ISDN Lines or Internet. This unit enables communication between people from at a distance place. The cyber space created is so close that farmers from any village, can talk to any scientist anywhere in the world. Classes can be very effectively conducted without any moving out of the room from any part to any other part of the world.

This unit is the most powerful unit in the cyber era for the extension workers. It can be accomplished now with Wireless in Local Loop (WLL), besides using the satellite. The Digital Video Broadcasting (DVB) is the most upcoming technology in this field.

17.2.4 Instructional Programming

Producing Instructional Television Programmes : Sooner or later-and possibly sooner than you might imagine-you may be asked to help produce an instructional television programme. Television teachers are usually selected because they are good classroom teachers and have pleasant personalities and voices. But even more important, perhaps, they are willing to work hard-extra hours, if needed-to prepare the best possible presentations. They are also adaptable, flexible and willing to adjust to the special requirements and limitations of television. They are creative and imaginative, able to bring new ideas to bear upon the problems they are soon to encounter. And after all work involved in planning and rehearsing a programme, is over they are able to go on the air with pleasant, relaxed and confident manner. These things may strike you as impossible to achieve-especially for you. But they are being done every day by more and more teachers.

Starting with the objectives of the programme you will do preliminary planning to clarify what you wish to accomplish, and you will analyze the precise audience for whom you are preparing.

Such planning is usually followed by a conference with the programme producer, who will give you valuable suggestions concerning effective visuals and methods of presentations of your material. Then you will begin the serious and time-consuming work of developing a ‘run down sheet’ or ‘television lesson plan’, which describes in a simple, uncomplicated way how the lesson will be taught. It may include what the announcer will say in introducing you, your assistants, and your class group. It will certainly include “gist” statements of the comments to be made by each participant. If extemporaneous speaking is preferred, key points or questions will be listed to guide the programme towards the desired outcome.

As you develop the programme plan, you will decide upon specific visual materials, demonstrations or dramatizations which will be used to make your points. You will decide also what will be said to clarify and expand the ideas you want these vehicles to convey.

Throughout planning, considerations of timing will be crucially important. Timing really has two dimensions, one is the placing of the programme itself, the second is speed with which it proceeds and develops. Since you have not immediate contact with the viewing audience, this may be the problem. Some times a studio class will help you determine the proper programme pace. But your own experience and the mental visualizations you make of your unseen class are often your best guides. You will also need to plan a programme which ends within the time limits imposed by station and class schedules. These are usually definite, set, and determined in advance. Time limitations is another reason why it will be necessary for you to rehearse your programme-probably several times your script will be timed-and-marked-so that you can be cued at various times, if you need to speed up or slow down, or cut out parts to meet the schedule.

17.2.5 Types, Advantages and Limitations of Video

Developments within the broad field of television are, at best, difficult to predict. However, some specific ones do seem probable. Following are several type/areas in which new developments and trends are expected :

1. Types

- 1. Video-tape recorders :** video tape is now used commonly to produce both commercial and educational telecasts.
- 2. Educational television :** The number of educational television stations on the air rises each year and appears likely to continue to do so for some time. Central, State and local support of television for education is constantly increasing. Existing television stations are well linked to each other by National Television Centers and channels through exchange of video tapes, kines copies and motion picture programmes. State and regional networks are on the increase.

3. **Colour television:** For general broadcasting, colour has fully arrived; for educational television it remains a promise. A number of stations/centers are capable of transmitting colour programmes, and some can produce such programmes. The main obstacle to the use of colour television in local schools is substantially higher cost of colour equipment.
4. **Closed-circuit television:** Because of its proven usefulness, school systems will markedly increase their closed circuit facilities.
5. **Pay-television:** Though several pay television systems have been proposed, few have been tested. If cable systems of pay-television are ultimately adopted, education may benefit.
6. **International television network:** Communication satellites have been successful, and government and business are sharing in the development of international television communications. The class room of tomorrow will have access to programmes that come from all parts of the world, as events actually happen.

2. Advantages

The flexibility of video makes it eminently suitable for use in extension education and schools for education, training and motivating students, teachers and people.

1. Video tapes can be prepared in advance and specifically to suit the requirements of individuals, groups or mass of people and students.
2. It may be viewed through a single receiving set or integrated with television network for broadcast to millions of people and the students over the country.
3. It increases the viewer's control over learning, as programmes on video can be viewed repeatedly with pauses and replays according to one's own pace of learning. Video may be used by linking its player with computer, which overcomes the drawback of any delay in searching for specific material in the video programme.
4. It provides for interaction and analysis of programme with the instructor and fellow viewers.

5. Video can be viewed independent by at of fixed transmission times of television.
6. It can stimulate and present real life situations effectively.
7. In addition to educating and motivating, video can also be used to inform and entertain the people.

3. Limitations

1. The application of video technology in extension and schools requires suitable trained personnel and teachers.
2. The equipment and materials are costly and need careful handling and maintenance, preferably in a dust-free, temperature-controlled conditions.
3. Video tapes have less storage life in comparison to motion picture films.
4. Constraint of funds may also be a limitation.
5. Launching and sustenance of a video project requires favorable attitude and involvement of key personnel of the organization.

17.3 Glossary

Dubbing: A copy of tape recording made by recording on one machine what another machine is playing.

Erase: To remove the magnetic pattern on a tape by placing the tape in a strong magnetic field.

Positive Film: Film upon which images are reproduced for projection and in which all their elements are presented in normal relationships or observed by the eye.

Instructional Media : Materials which present a body of information and are largely self supporting rather than supplementary in the teaching-learning process.

Synchronization: In motion-picture projection refers to the proper relationship between the sound and the picture on the screen.

Programmed instruction: Utilization of programmed materials to achieve educational objectives. Synonyms to autoinstruction, automated teaching or programmed self instruction.

17.4 Summary

As a teacher you must understand and be prepared to use television and video as the additional source of giving education. We have discussed the types of television programmes known as educational television and the community television and also instructional television which is used directly in formal education as well as in extension education.

Certainly you should be aware of unique advantages of last kind of instructional television as the educational medium. Another responsibility you have is to help students learn to evaluate at home television programmes and to benefit from these relating to class activities.

In the courses the script writing for video is essential for development of the instructional programmes at school level. This special guide line with producer and specimen of scripting has been given. This is essential and useful for the instructional programmes and their development to overcome the problems of teaching-learning processes.

17.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Write note on the Instructional Television and Video for education.
2. What is SITE project and state its salient finding for agriculture and education ?
3. What is a script ? Describe procedure for script writing.
4. Enlist types of television and their role in programmed instructions.

Unit 18 : Computer Literacy and Programming

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18.1 Introduction

Computer literacy and programmed instructions are two different aspects. Literacy is concerned with education. Literate person knows reading and writing irrespective of his educational level. Regarding computer literacy the persons handling computer should have basic knowledge about the computer. There is use of computers in every field of life e.g. education, science, medicine, entertainment, banking, communication etc.

Programmed instruction is educational procedure, where information to be taught is broken down into small units and presented to the students in a carefully planned sequence. This method is found to be advantageous over traditional method. It has been universally acknowledged in recent years that programmed instruction is a more efficient method of teaching-learning for the accomplishment of the objectives of education.

After the study of this unit, you will be able to know and understand :

- λ Computer Literacy
- λ Principles of Programmed Instruction
- λ Types of Programmes, and
- λ Evaluation of Instructional Video

18.2 Content

18.2.1 Computer Literacy

In most places of business, a computer is a standard feature. Bank uses computers to check up your account information; In an auto repair shop computer is used to assess your car. You can't find books in the library by looking in a card catalogue you must use a computerized database. Hospital use computers to store patient's information. The point is no matter, where you find employment, there is a good chance a computer will be a basic tool, you will have to use. It is in your best interests to become a computer literate. It will help you to get a job and it will help you to advance in your career. Computer literacy does not mean you need to know how to use every single piece of software, that you might encounter. It does not mean you need to know how to write programmes or network computers. You just need to know some basics – how to save and open a file, how to use word processing programme, and how to send and receive email – for starters. It means having some sort of level of comfort around computers rather than a look of fear and a feeling of foreboding.

1. How to become Computer Literate ?

Basic computer courses are offered by most continuing education programmes. They are usually priced and conveniently scheduled. These courses can usually be found in local institutes, schools and colleges. The decade 1990-2000 witnessed a revolution in communication particularly in telecommunication. In the present decade major developments are taking place in computers and internet systems. Hence one

should understand the need towards computer literacy. A new thought is emerging towards computer literacy and more job opportunities are created. It is feared that unemployment situations may develop due to computer illiteracy. It is realised that computer literacy is an essential thing both at urban and rural situations.

In all managerial activities, use of computer is an essential thing. Also use of computers is becoming popular in various fields. In future our day-to-day life, telephone, TV and computer will be very handy and essential things.

2. Computer Literacy Campaign

Considering the importance of computers in our various activities, the Government, private organizations, industrialists and others should undertake computer literacy drive. This drive should include the following activities.

(i) Computer culture : When computer is becoming an important aspect of our life, the computer culture needs to be developed. Inline and online activities are expected to establish computer culture.

(ii) Baseline facilities for computer use : Computer may be treated as an essential thing and means of communication which is concerned with towards basic facilities. Computer is not a luxury item, but it is a media of development, without which our routine life will be disturbed. By developing baseline facilities the computer use can be increased and ultimately the computer prices will fall down and they will be within the reach of common man.

(iii) Employment generation through computer literacy : Computer use is needed for employment generation in agro based industries like sugar factories, agriculture, food distribution organizations, village bazar, finance organizations. These fields will absorb many computer literate personnel.

(iv) Computer and Government : Like e-commerce, a concept of e-governance is becoming popular at government sector. Computer based activities are undertaken by various State Governments like revenue records, ration cards, driving licenses, electricity bills, various certificate, admission process etc. Various public services are also possible through computers.

(v) **Computers for everybody** : Indian Prime Minister said ‘Computer means India’s Tomorrow’. If this is to be brought into real situation i.e. 70 to 80 per cent of population should use computers. This increasing need for computers may be achieved either by making computers cheap as well as establishing cyber cafes at each village and town corner.

(vi) **Growth of Computer Industry** : During last eight years (1995-2003) the computer industry has increased twelve times. There was a financial turn over Rs.48000 crores in computers during the year 2001-02 in computers. At present 12 lakh employees are working in the computer field in the country. This figure will increase to about 2 crores personnel and computer industry will have turnover of about Rs. 6 lakh crores during 2010.

18.2.2 Principles of Programmed Instruction

Programmed learning and programmed instruction have been used interchangeably in literature. The English writers prefer the use of word programmed learning since it is learner-oriented with emphasis on the method by which material can be presented, so as to be auto-instructional. The term programmed instruction is used by American writers who define it as “a process of arranging material to be learned in a series of small steps designed to lead a learner through self instruction from, what he knows to the unknown of new more complex knowledge and principles. In other words, programmed instruction is a method of instruction. The subject to be taught is broken down into small units which are presented to the students usually in written form in a carefully planned sequence. Each unit, or ‘frame’, contains not only information but is also terminated with a question. The first psychologist E.L. Thorndike’s (1874-1949) findings bear direct relevance to programming. His well known law (Law of Effect) states that learning which is accompanied by satisfaction on the part of student, is likely to be more permanent than learning which is accompanied by dissatisfaction. The real milestone in the development of educational technology came in the mid-fifties with the work of Prof. B. F. Skinner, who developed a theory of learning concerning the apparent conditioning of human beings. He evolved a teaching-learning model which is popularly known as programmed instruction.

Programmed instruction has been developed at a tremendous speed in the developed countries of the world with great success. It is a relatively new strategy in teaching-learning which has outweighed the traditional teaching techniques that have become obsolete in the technologically developed societies.

Comparison between programmed instruction and traditional method of teaching:

<i>Programmed Instruction</i>	<i>Traditional Method of Teaching</i>
1. It makes teaching principles that have been known for years.	Traditional instruction has always endured these principles but has found them difficult to apply in crowded classrooms.
2. It is individualised technique of instruction, presenting the subject matter step by step in logical order.	It is a group technique.
3. Immediate feedback is given to the learner.	Immediate feedback is not given to the learner.
4. Objectives are specifically defined in operational terms.	Objectives are vague and not well defined.
5. Subject matter is well organised. The programmer plans his presentation with care and precision.	Little provision is made for the students to respond actively to the information presented by thinking of examples, testing, himself, summarising and reviewing.
6. The student is forced to participate actively by continually making responses.	The student remains quite passive during the process when exposed with material and there is no assurance that he is assimilating the information.
7. The size of the units of information presented to the student is a small bit of information.	There is no provision for response from the students in the form of answers to the questions.
8. A programme is developed empirically through a series of tryouts on typical students. Programme is repeatedly refined with effective sequences of frames being retained and ineffective ones discarded.	Although it is also possible to modify traditional instruction on the basis of student reaction, this cannot be accomplished with the same precision that is achieved by programmed instruction.

Basic Principles of Programmed Instruction

Five basic principles of programming, basically emerged from the experimental studies conducted by Prof. Skinner, are given below :

1. Principle of small steps : According to this principle, the subject matter which is to be programmed is analysed thoroughly and divided into meaningful segment of information. One segment of information is presented at a time to the learner. This piece of information is called 'frame'.

2. Principles of immediate confirmation or feedback : The second basic principle of programming is immediate confirmation of the results. When a learner proceeds through a linear programme, he is provided with the knowledge of results immediately. After writing his response of the frame, he can compare his response with the correct response of the programmer provided in the text book. If the learner is correct, his response is confirmed, and in case he is wrong, he has at least read the correct response which raises the probability that he will give correct response next time, when he is asked a similar question. It is true that learning which is accompanied by success and satisfaction is likely to be more permanent than learning accompanied by failure and dissatisfaction. Skinner devised a mechanism of controlling the behaviour of the learner in his teaching method popularly known as linear model. The learner goes through each step of his instructional sequence, gives a response and then receives immediate confirmation of his correctness of the answer.

The need for providing immediate confirmation is important for two reasons; first, in any systematically developed programme, the learner will not guess wildly, and second, when the learner is unsure of his response, he needs it to be confirmed or corrected whenever he is wrong but thinks he is right.

3. Principle of active responding : The third basic principle derived from learning experiments on which programming is based is that in order for learning to occur, a response must be made by the learner. It does not only present the material to the learner, but it also induces sustained activity. The learner remains busy and active, when he work on a programme either in a book form or teaching machine presentation. A good programme requires a thorough understanding of previous frames before moving to the next frames. Active responding on the part of the learner means

involvement in the learning process. It does not mean a small response to a small bit of information.

A further confusion about active responding is overt responses. Overt response means an observable response and covert response means unobservable response. Some people think that only overt response is an active response but this notion is wrong. Both types of responses may be active responses.

4. Principle self-pacing : The fourth and important principle of programming is self-pacing. The learner proceeds at his own pace when he works through a programme. He is not forced to move with the other member of the class. Programming by providing self-pacing has incorporated the principle of individual differences in the teaching – learning process.

5. Principle of student testing : The fifth and the last principle of programming is student testing. The teacher can regularly assess the progress of his students. He can find out the weakness of programming in student testing. The teacher can regularly assess the progress of his students. He can find out the weaknesses of his programme and can modify the weak portion of his programme. The student can also continually evaluate his performance on the programme.

18.2.3 Types of Programmes

Several types of programming which have been developed so far can best be classified in two broad groupings :

1. Linear Programming

Linear programming is based on either 1) recognition or recall of information, as developed originally by Skinner. The recognition plan allows the student to choose a correct answer from among several answers (multiple choice) before continuing to the next problem. Skinner's plan requires the student to recall this information and to demonstrate his competence mainly by filling in blanks ("constructed" or "written" response) with the correct words or phrases before proceeding to the following items. With both kinds of linear programming, all students are required to complete the same items in the same order of progression through the programme.

Learning tasks are presented in such small steps and with so many, and varied, learning cues that correct answers are expected and nearly always obtained. The object is to use few cues as possible and to force the student to derive his answers from understanding the frames. Reinforcement of correct answers is the primary concern. The programme must be completely self contained and adequate to carry the student from start to finish without aid from other sources. In either subtypes of linear programming, adaptation to individual is not carried out by the programme itself, but rather, by allowing each learner to take whatever amount of time he requires to complete it.

2. Adaptive Programming

Adaptive programming, also called “branching” provides for individual differences in quite a different way. With this pattern, students are required to recognize and to choose correct answers, if they are to proceed without “relearning detours” or “corrective assignments” or if they are to skip programme portion which require performances for which they already possess sufficient skill or knowledge. Branching programmes are provided in books (“Scrambled books”) or on machines (which use filmstrips and present information and task on individual frames). Either way, student responds to a question and is directed to another page or frame, where this response is evaluated. (A different page is usually used for each response choice.) There, if his response is correct, he is given further information (including, usually, some elaboration and explanation of why he is wrong). He may then be told return to the original page and to try again, or he may be asked to proceed to a new page for more information before trying a somewhat different version of essentially the same question. Branching questions are not always dichotomized as “right” or “wrong”. Some questions or problems call for options, trouble shooting, or more than one appropriate answer. The students may be “branched” into side studies to prepare them to next steps in the “main line of programme”.

18.2.4 Evaluation of Instructional Video

Several videos were identified that might be adapted for use in educational programmes. That need resulted in the research and development of an evaluation instrument.

1. Need for Instructional Video Evaluation

Evaluation methods are needed to help extension workers and video producers to arrive at better decisions based on reliable, accurate and complete information. Evaluation is needed to provide the industry with more direction about what constitutes effective, high quality educational and agricultural video products.

Evaluation becomes an integral part of the video design and production process. In the design and production process evaluation can be accomplished by Extension Worker to decide whether a tape is suitable for a particular instructional programme. The instructional video should be a realization of the fact that there is a need for moving visual material in a particular instructional situation either in a supporting role or as a main vehicle of instruction and that no suitable material is already available.

2. The Instructional Video Evaluation

(i) Content : Content is the prime concern in an instructional setting. The video must be accurate, useful and free from bias. If the content is not correct and up-to-date, then the video would not be ideally usable for learning. The video must portray current and useful situation in today's world. The content of video must be useful. The video should stimulate, motivate and inform the learner to act on the information.

The video should be bias-free; if the video is not free from bias, the educational objectives may be greatly affected or compromised. Individuals depicted in the video should not be shown as a role stereotype for task being enacted or illustrated.

(ii) Instructional plan : Instructional design models are used to control the design process. These models generally include five steps: analysis, design, development, implementation and evaluation. During analysis the instructional designer might perform a need assessment and create a problem statement. The design entails creating a plan of operation that would guide the designer in setting competencies

and outcomes, writing objectives, creating assessment strategies and selection of the proper media. Development means turning that plan into reality by creating study guides, session plans, workbooks etc. needed for delivering the instructional programme. When programme is ready, it is implemented on a trial basis and evaluated so that improvements can be made.

Selection of proper video to use in a learning activity is at design phase. During design, a plan must be established that results in learner's needs being met through the use of the video. This plan can be outlined as having an introduction, a body and closure. The introduction consists of objectives and benefits of the session and some sort of 'attention getter'. The main body consists of presentation and application of the content. Closure should review what has been learned and motivate the learner to apply the content to their lives. Quality indicators for instructional design are organized around this structure and are considered important, when evaluating a video's worth for instructional purposes.

(iii) Technical considerations : The video industry is charged with producing materials that give quality methods to the instructional process. The characteristics inherent to the medium are :

- a) Products foster involvement between viewer and subject matter,
- b) Video viewing provides one way communication that transcends space and time,
- c) The viewer is enveloped with sound with visual perspectives,
- d) Video viewing involves all of the senses simultaneously.
- e) Video demands participation from viewers.

(iv) Supplemental material : The information accompanying a video is important in the instructional design of the product. It must be accurate and useful to the learner and facilitator. It must state the purpose of the video, give a summary of the content of the video, clarify the terms and provide the learner and facilitator with a guide to using the video. Video is not 'magic bullet'. For the product to be of high quality and effective, a programme can require considerable facilitation and support materials. Programmes that achieve the most successful educational results are known to have supplemental materials that correspond to the video.

3. Use of the Instructional Video Evaluation Instrument

The main purpose of the evaluation instrument is to allow extension agents and other reviewers to establish baseline information related to a video before a decision is made to recommend the product for inclusion in a learning event. The instrument can be copied and distributed to several extension agents, subject matter experts, instructors, and end users for independent review of the video. Each quality indicator is normally weighted the same, however, an evaluation coordinator could weight higher one or more indicators to add emphasis. With this information, the value of the video for instructional purposes can then be qualified.

Illustration :

Instructional Video Evaluation Instrument

Video Title : _____

Name of Evaluator: _____

Phone : _____ Date viewed : _____

Please rate the video according to the following quality indicators by encircling one response for each item as 1 : poor, 2 : satisfactory, 3 : good, 4 : very good, 5 : excellent. Give comments where appropriate.

1. Accuracy

1 2 3 4 5

Was the content of the video accurate and up-to-date? If not, then the video is not ideally suitable for learning. There may be portions of the content that should not be used, as well as sections that are usable. Please note unusable content in the space provided or on a separate attachment.

Comments: _____

2. Usefulness

1 2 3 4 5

Was the content of the video generally useful? The video should stimulate, motivate and inform the learner to act on the information that was being presented. Will you incorporate the ideas presented into your life?

Comments: _____

3. Bias-free

1 2 3 4 5

Was the video bias free, including stereotyping with regard to age, sex, ethnicity, race, physical impairment, values, dress, language, or social class?

Comments: _____

4. Stated the objectives

1 2 3 4 5

Did the video begin with a motivating introduction to stimulate interest? Were the objectives or key elements made clear in the introduction?

Comments: _____

5. Content presentation

1 2 3 4 5

Was the content detail controlled to promote understanding? Did the video simplify complex task and avoid introducing extraneous information? Did it try to cover too much material or introduce too much detail?

Comments: _____

6. Learner application

1 2 3 4 5

Did the video suggest methods for the learner to apply the newly acquired knowledge? Were suggestions for practice of what’s being discussed considered? Practice can be designed into the overall program design as well as into the video itself.

Comments: _____

7. Learner reflection

1 2 3 4 5

Did the video allow for learner reflection? Was reflection, silence, or time allowed for the learners to react to a scene or statement? It is also important for the facilitator to interact with the student to provide feedback on the learner’s application of the material.

Comments: _____

8. Meet the objectives

1 2 3 4 5

Did the video meet the learning objectives and needs of the learner? Did what was being visually depicted fit the learning objectives? As in the introduction, people also remember the last things that are presented in a programme, therefore did the video have the key learning elements repeated in the summary or conclusion.

Comments: _____

9. Learner interaction**1 2 3 4 5**

Was the video conducive to learner's interaction? Videos can often be used to promote active learning.

Comments: _____

10. Integration into the learning environment**1 2 3 4 5**

Can the video be easily integrated into the learning environment by adding emphasis to or supplementing more traditional methods? Did the video bring remote experiences and places to the learner?

Comments: _____

11. General video design characteristics**1 2 3 4 5**

Was the video well planned, organized, and structured? Was the technology transparent and non-threatening to the learner? Did the video demonstrate its ability to transcend space and time? The camera can go where the learner cannot and the video is an excellent media for presenting information or demonstrations. However, timely care must be taken to prevent giving a false idea of reality.

Comments: _____

12. Focused on intended content**1 2 3 4 5**

Did the video avoid content not related to the subject matter stated in the introduction? Digressions could lead to confusion and may be a waste of video time.

Comments: _____

13. Visual quality**1 2 3 4 5**

Is the camera looking at the scene from the learners' point of view? This is especially important when psychomotor skills are being taught. Did the scene changes appear to be appropriate? Were special effects used to enhance learning by drawing attention to attributes of what is being seen? Were varying types of camera shots, close-ups to lone shots used to provide variety in the video?

Comments: _____

14. Audio quality**1 2 3 4 5**

Was the vocabulary of the narration appropriate for the intended audience? Was the speed of narration slow enough to be understood? Was the music fitting for the visual effects or audio narration? Were background noises used to add emphasis to

the visual tract of a video to enhance learning?

Comments: _____

15. Audio-visual relationship **1 2 3 4 5**

Was the audio-visual combined well? The audio and visual components should not contradict one another but complement each other. Were there a variety of differing types of sounds and visuals to attract and hold attention?

Comments: _____

16. Provided introductory information **1 2 3 4 5**

Did the supplemental materials include the purpose and objectives of the video? Did the video accomplish what is stated in the supplemental materials?

Comments : _____

17. Clarifies and summarizes content **1 2 3 4 5**

Were job aids or diagrams provided to help in understanding the material? Were terms defined? Were sources for further investigation included? Are there suggested activities in the materials to aid in understanding such as, discussion-question role plays or simulation exercises? Is the summary useful in understanding the nature of the video and does it match with what is on the tape?

Comments: _____

Total (Sum of the Scores, 85 Max.) _____

Additional Comments : _____

18.2.5 Advantages and Limitations

Programmed instruction is more efficient method of teaching–learning for the accomplishment of the objectives of education. It has been empirically tested in almost all subjects at different levels and its superiority has been established in comparison to traditional methods of teaching in the advanced countries of the world. The developing countries are also following the footsteps of developed countries and

have trying the use of this new technique in their educational system. In India some universities are doing pioneering work in developing programmes in different subjects for various levels of education. Though at present the fruit of their hard labour and researches has not reached the class-room teacher, in the near future, it is expected that the movement of programmed instruction will spread among the teachers.

1. Advantages

Programmed instruction has many advantages which are summarized as follows:

1. There are certain intellectual abilities and some psychomotor skills, normally taught by role and frequent drills as well as drills and motorisation function in various disciplines, which can be very efficiently taught by self-instructional devices.
2. It is generally agreed upon by all the programmers that programmed instruction is even more successful than current methods, in teaching the discernment of logic of various disciplines and inspiring students to creative thinking and judgement.
3. One important advantage which has been acknowledged by all programmers is that good teachers are freed from the humdrum of routine class-room activity and they are in a position to devote their time to more creative activities. They are also assisted in bearing a larger student load without sacrificing the quality of instruction. The fear of some educators that programmed instruction will deteriorate the quality of instruction is baseless. On the other hand, the use of programmed instruction has improved the quality of education in general, as reported by researches conducted in other countries.
4. The programmed instruction in the West on a mass scale has brought a revolution in the social setting of the class-room. Many emotional and social problems have been eliminated and problems of discipline have been automatically solved by the use of self-instructional material.
5. Programmed instruction is a great trust in the direction of individualised instruction. A well-programmed self-instructional device is tailored to cater to the needs of individual students of the class.

6. Programmed instruction enables the teachers to diagnose the problems of the individual learner. Scoring is done item by item diagnostically, thus reducing the need for testing and allowing the teacher to determine the exact problems of each learner. Knowing the bottlenecks, the teacher can correct them by a modification of the programme. The teacher can give classroom explanation, if the error is common or he may arrange individual conferences on specific points.
7. Programmed instruction or the self teaching device presents the learning material in such a way that learning becomes an interesting game in which the learner is challenged by his own capabilities. The novelty of learning by a device provides extra motivation to the learner. Continued success on a programme augments this motivation, a motivation so powerful that B.F. Skinner in one of the experiments sought to reduce it in order to ease the student's anxiety.
8. A great deal of epistemological research may be done through programming. Komoski of the Center of Programmed Instruction says "The creation of programmes is a remarkably effective teacher-training tool. Experience of programming even one lesson taught the teachers more about their own teaching and instruction in general than any other teacher training they had. There are many reasons for this such as analysis of methods and approaches and the practical experience of seeing students trying to learn through programmes. All of these constitute a rigorous training ground in sound pedagogy". He concluded that teachers' colleges might well investigate the possibilities of programming is an effective teacher training.

2. Limitations or Criticism

Programmed instruction as a teaching methodology has been in use for the last two decades in the advanced countries to improve the quality of education and other allied problems of education. During this period thousands of research studies have been conducted to test its applicability and usefulness in classroom teaching. Some researchers have criticised programmed instruction and pointed out the following weakness of it.

1. Programmed instruction produces regimentation and limits creativity of the learners.
2. The impersonal form of programmed instruction causes to student to experience dehumanization in school.
3. It limits the student's line for reflecting guessing and feeling like a person.
4. It is a single answer approach, which makes knowledge fixed and orderly which is wrong.

18.3 Glossary

Epistemological Research : It is the research concerned with the philosophical study of the nature of knowledge.

Evaluation : It is the process of finding out value of certain activity.

Motor Skills : Skills developed through different muscles of the body.

Motorisation : Development of skills towards physical activities.

Pedogogy : It is the science of teaching and learning

18.4 Summary

In every activity of life computer has an important role. Precious time is being saved in doing tedious accounts work in office, business. Computer is the best tool for storing as well as searching information. It is the basic tool that everybody should use. Hence, there is need for computer literacy. One should have basic knowledge about operation of a computer. Basic courses are offered by most continuing education programmes and local institutes. Computer literacy campaign should be undertaken by developing computer culture, providing baseline facilities, employment generation through computer literacy, awaring people about computer.

Programmed instruction is a method of instruction to be taught. The lesson is broken down into small units, which are presented to the student in a carefully planned sequence. Programmed instruction is more advantageous over traditional method of learning. The five basic principles of programmed instruction are (i) Principle of

small steps, (ii) Principle of immediate confirmation, (iii) Principle of active responding (iv) Principle of self-pacing and (v) Principle of student testing. There are two types of programmes : 1) linear programme 2) adaptive programme.

Evaluation methods are needed to help extension workers to select effective, high quality educational agricultural video products. The contents of instructional video evaluation instrument must be accurate, useful and free from bias. The instructional design models generally include five steps: analysis, design, development, implementation and evaluation.

The advantages of programmed instruction are : intellectual ability and motor skills are taught, creative thinking and judgement, improvement in quality of education, trustworthy towards individualized instruction, diagnose the problems of individual learner, provides extra motivation to the learner and effective teacher training tool. The limitations of programmed instruction are limits creativity of the learners, impersonal form of instructions, limits student's guessing and feeling, single answer approach makes knowledge fixed.

18.5 Exercise for practice

Answer the following questions in 200 words each.

1. Explain how computer literacy campaign can be successfully organised.
2. Discuss the basic principles which constitute the foundation of programmed learning.
3. Describe linear and adaptive programming in programmed instruction.
4. State the advantages and limitations of programmed instruction.

Unit 19 : Instructional Print Materials

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19.1 Introduction

The chambers dictionary meaning of ‘instruction’ in the adjective form means to teach, to prepare: to inform and instructional meaning by relating to instruction: educational in nature and not by command or order in this unit. In the modern society of the day the changes in the society are taking place in respect of instructions including education. Practically our schools and colleges are active in the field of education since independence of India. The learned educationalists like Dr. J. P. Naik expressed their views about the formal as well as informal education in their reports known as Dr. J. P. Naik Commissions Report submitted to the Government of India. They emphasized on innovations in education such as: Grouping Students, Designing curricula, Organizing time, Utilizing staff, Improving administration, Expanding resources and media. In other words they gave emphasis on the innovative process in improving schooling of today’s educational research.

There have been changes in the instructional patterns. A variety of instructional

patterns based on ideas have been spread in the educational world. Moreover, there is increasing individualization of instruction which reflected in varied uses of computers concerning to students-their interests, capabilities, previous experiences, performance or special needs. It is widely believed that the dream of “the best for each” may only be achieved through such means. Moreover, these are support to instructional pattern by greater use of “new media” of instructions.

The use of multimedia has made instructional education possible in different need based areas. This revolution in the field of education has widened the scope of application of various technologies. Managing a need based on instructions in education is the aim of every educational institution and university in the world.

After the study of this unit, you will be able to know and understand :

- λ The characteristics of instructional text.
- λ Preparation for writing.
- λ Growing need of teaching concepts, processes and the instructional text.
- λ The educational theories for adult learning with basic philosophies and the instructional text, and
- λ Writing of an instructional text.

19.2 Content

19.2.1 Characteristics of Instructional Text

Communication through writing is a ‘writing text’ for language learners. It is intended for high-intermediate and low-advanced students in preacademic programmes and for advanced students in adult programmes. Communication through writing reviews the paragraph and then introduces the short essay and basic writing patterns used in the short essay (such as illustration, comparison and contrast, and persuasion). The instructor’s manual that accompanies the text gives more detailed suggestions on how to use the material in each unit?

The objective of the text is to make clear that writing- in this case the short essay- is an effective means of communication. It is common experience in the

classroom that students learning language writing either “scary” or “just something to put up with” until the end of their language training. This text hopes to change these notions by showing that writing is a form of communication in which one meaningfully expresses, for example, ideas, hopes, opinions, and findings to other people. In addition, the text attempts to teach students that writing is the end result of a process in which one thinks, discusses with others, writes, gets feedback on the writing, and then rewrites one or several times. It is hoped that through lots of actual writing experience, students will begin to see that the writing process is fun rather than painful and results in meaningful communication.

Significant Features of the Text

The sections that follow provide an overview of the significant features presented in Communication through writing.

1. *Writing as a Process* : Communication through writing gives a clear presentation of the steps in the writing process, so that students can identify and begin to use them. When writing in English-as-a-second-language (ESL) many students feel a great sense of frustration, when asked to compose a piece of writing, because they know quite a bit of grammar and vocabulary and are able to formulate complex thoughts in English, yet have a difficult time translating this information onto the written page. This may be because they have not learned three important steps in the writing process: the careful and deliberate formulation and organization of the information before writing and the editing of information once it has been written. Communication through writing provides students with the opportunity to complete these three often missing steps. In each writing activity, they think about the writing assignment, work with peers to gain important information and feedback on ideas, and outline the acquired material before they ever start writing. Once the first draft is composed, students follow a specific step in which they check their material with an outside source in a section called “Peer Editing”. Here, students are expected to reevaluate formally, what they have written before producing a final draft. By presenting all the steps in a writing activity, the text gives students a realistic idea of how to compose an essay.

2. *The Interactive Nature of Writing* : Writing is interactive in nature; one's peers can be a good source of information and feedback. Students too often have the idea that writing is a kind of "two-dimensional" activity that occurs only between student and the instructor: The student writes and the teacher evaluates what is written. Communication through writing provides a better approach by showing that the best writing comes after one has had a chance to think about and discuss pertinent ideas with other people. These other people can be anyone able to provide helpful information: a classmate, a librarian, an instructor, even a next-door neighbor. This interaction is one means of exciting a student about essay writing. The student begins to realize that the reason one writes is because one has something valuable to express, because one has first formulated worthwhile ideas, while thinking and working with others.

3. *Writing Strategies* : A third significant feature of 'Communication Through Writing' is its presentation of basic writing strategies commonly used to gather information and ideas for a writing assignment. Preceding the text, in the section entitled "Strategies for Gathering Information," is A glossary of the strategies that can be used for successful writing are brainstorming, interviewing, list making, observing, role playing on paper, and WH-questioning. The glossary defines each strategy and then explains why and how the writer uses it. In the guided writing activity in each chapter, students are asked to use one or more of these writing strategies to gather ideas for their paper. This is a very important feature of the book because it teaches students how to get over the hurdle of "writer's block" when they simply cannot come up with any ideas. Learning the writing strategies helps eliminate much of the fear or mystery in writing. It shows students that there are systematic devices that writers use to generate information.

4. *Final Instructor -Writer Discussions* : A fourth distinctive feature of this text appears at the end of each guided writing activity. Here, students are deliberately asked to discuss their composition with their instructor, once it has been evaluated. The author realizes that this may not be easy to accomplish, particularly in large classes. However, it will probably not be as difficult as one might first imagine because in the writing process students will be relying more on each other than on their teacher.

Also, students will most likely not be finishing writing assignments at the same time. This should free the instructor to meet with students on an individual basis, even during class time. If at all possible, finding time for this step is strongly encouraged because it provides an opportunity for student and teacher to communicate directly and regularly about the student's writing strengths and weaknesses. It is a means by which teachers can be sure that students are really examining the written material. It reinforces the instructor's care of the student's writing. In addition, it provides further emphasis that writing is an interactive process from beginning to end.

Supplemental Writing Assignments : Herewith the students are given first thesis statements, then essay topics, and finally categories of subjects that can be developed into short essays. There is no guidance as to how this is to be done. It is the student's responsibility to apply, what he or she has learned in order to write valuable, interesting essays. This is a strong feature of writing.

19.2.2 Preparation for Writing

It is common experience that writing is pains taking activity. Your experience might not be exception to it. We write for our target audience. Have you got the feedback of what happens to your writing at the level of your readers? The reader's response to your writing might be any one of the types as follows depending upon your competency as writer.

- λ Reader observes cover page and throws away the publication.
- λ Reader opens publication and ceases reading after going through few paragraphs or pages.
- λ Reader sleeps while reading and discontinues it.
- λ Reader reads only selected pages/chapter/unit.
- λ Reader eagerly reads whole publication.
- λ Reader thinks on reading material and is motivated for action.
- λ Reader preserves publication for future reference.

If your writing gets higher and higher positive response as above, you are probably a good writer. Everybody who is educated or even literate can write but everybody cannot become writer. Not to speak of good writer. They are few in number.

Writing for farmers is still more difficult for two important reasons: one that farmers in general are illiterate, primary literate or less educated and two the writing for farmers involves technical subject that demands accuracy.

A few tips to improve writing : First of all remember that clear writing comes from clear thinking. If you think with clarity, you will realize that two clear steps are involved in writing activity viz. planning and writing. Hence, plan your writing and write according to plan.

Plan your Writing

1. Define purpose of writing : The purpose may be a single or combination of the following:

- a. To inform or make aware.
- b. To impart knowledge.
- c. To pursue.
- d. To motivate for action.

If your purpose is not clear, don't start writing until it is clear. Try to define what you want your readers know or to do after reading your piece of writing.

2. Define your audience : Following types of audience are there;

- a. Potential audience.
- b. Available audience and
- c. Active audience.

Understand your audience in terms of their number of characteristics as age, level of education, level of knowledge, level of understanding, their needs and aspirations.

3. Decide subject matter : In the light of the clearly defined purpose, decide the subject matter to be included. Also consider the level of knowledge and understanding, needs, and other relevant characteristics of audience before deciding the subject matter to be included in your writing particularly for farmers.

4. Understand yourself : Judge your own abilities as writer. Appraise your mastery over the subject matter. Identify your weaknesses and then decide whether you need help of others. Do not hesitate to seek the help of experts.

5. **Decide form of writing :** Many forms such as articles, leaflets, folders, booklets etc. are available for writing. Decide the form of writing considering the nature and quantum of subject matter as well as purpose of writing.
6. **Prepare skeleton of your final writing :** Decide chapters, or units, main headings, sub headings to be included in your document. Write these on paper and that is skeleton. The skeleton gives you an idea of the subject matter required for your writing.
7. **Collect the required subject matter :** Collect all the subject matter required from library, experts, research stations and other sources. Ensure that you have got little more than required content. Do not write until you collect adequate information on the subject. Also be sure of the standard and reliability of the subject matter collected.
8. **Writing the draft :** While writing the draft you have to keep in mind the following points:
 1. Content should be need based, timely, adequately covering the subject useful to the readers.
 2. Keep in mind the accuracy, brevity, clarity and directions in writing.
 3. Your writing should be in short paragraphs.
 4. Writing should be natural and in sequence with the continuity.
 5. Use of appropriate proverbs and mottos should be made.
 6. The writing of the subject should be supplemented with illustrations such as pictures, photographs.
 7. Written content should ensure the readability; for this the use of simple sentences and familiar words needs to be made.
 8. Use of active voice should lead to creating force in writing as well as use of personal words like I, you, he, they, we etc. should be made.
 9. Your writing after reading should be made for decision making to the audience.
 10. Suggestions and recommendations should be practicable and feasible.
 11. One should write in a way that the reader should be motivated to act upon.
 12. Revise the written draft until you are satisfied.

Avoid this

1. Avoid tables, technically difficult words, words with more than three syllables.
2. Avoid unnecessary subject matter content.
3. Avoid use of more than three colours.
4. Avoid, global, national, state statistics.

19.2.3 Teaching Concepts and Instructional Text

1. **Teaching Process :** Teaching is directly the learning process, the process by which one through his own activity, changes in his behavior. It is also creating the situations that facilitate the learning process. Creating situations includes providing activities, materials, and guidance needed by the learners. The situations created should help in bringing the desired behavioral changes in learners (students). The situations created may be formal as well as informal but suitable to the learner's ability. Thus, the job of teachers is to create learning situations.

Teaching for acquiring knowledge by problem solving includes the careful planning and preparation on the part of the teacher and the students. This is essential for learning the knowledge of a subject.

2. **Teaching as the process should include the following steps :**

1. Introduction of the problem by the teacher.
2. Stating the problem i.e. getting the statement phrased from the student's view point so that they think over it.
3. Finding the facts that have bearing on the solution of the problem. Teacher introduces the pertinent facts that have been considered. This may be done by any or combination of the following ways:
 - (a) Illustrated lectures supported by charts, by using illustration on epidiascope, overhead projector, slides and film strips on slide projector.
 - (b) Using flash cards, exhibits, specimen etc.
 - (c) Taking the group of students on field trips, tours etc.
 - (d) Having resource person speak to the student's group.

4. Reaching conclusion: all facts are weighed as to their importance to the solution of the problem and the conclusion is reached as to the method of correcting the difficulty that causes problems. This is done by the students.
5. Implementing the decisions.

These may be:

- (a) The plan of attack,
- (b) The materials needed, and
- (c) The skills the students should have for learning. Implementation of decision should take into consideration the following points:
 - (i) Classroom teaching and discussions.
 - (ii) Learning of the skills.
 - (iii) Application of solutions.

In addition to above, there are points which concern teaching. These are:

(i) Teaching Manual Skills : this includes thinking on the part of learner, perfection to be attained and the rate of progress made. Learner should feel for skill which can be depending upon the actual practice of the things to be done. Actual materials, tool and time for each learner need to be provided. Additionally the student should have the perfect object and goal for learning skill. Teacher should teach skills by whole method, he should see that practice is not done in incorrect way. The skills and interest should go together. Teacher must have a time table, break down of job-list key points, should have equipment and materials ready before actual training begins and have the workplace properly arranged.

Reviewing the teaching-learning process through tests, examination, home work, exercise for practice, class discussion, different types of tests such as essay type, true and false, multiple choice tests etc.

(ii) Success in Teaching : Since efficiency of an educational system is primarily determined by the efficiency of teachers, the identification of able and efficient teaching personnel constitutes one of the most important of all educational concerns. If the teachers are incompetent or indifferent to their responsibilities, the whole programme is likely to be ineffective and largely wasteful. This points to the need for efficient teaching personnel in our educational institutions.

(iii) Criteria of Teaching Success : Among the various criteria of judging the success in teaching, the more frequently used are students teaching grades, ratings by superintendents, principals or supervisors, pupil growth, self-evaluation, peer rating and objective tests. Among the research studies on criteria of teaching success, the most comprehensive study on teacher characteristics by direct observation has been carried out by Ryans. According to him, the major behavioral characteristics should be described or measured in order to determine the extent of relation of this and effectingness of teacher. He grouped the behavioral characteristics of the teachers into two major categories:

- (i) Those involved in teacher's mental ability and skills, his understanding of psychological and educational principles and his knowledge of general and special subject matter to be taught.
- (ii) Those qualities stemming from the personality of teacher, his interests, attitudes and beliefs, his behavior in work relationship with pupils and other individuals.

(iv) Factors Associated with Teacher Effectiveness : The following are some of the variables which can be considered for relationship with teaching success:

- (i) Intelligence,
- (ii) Personality,
- (iii) Interests,
- (iv) Clarity of expression,
- (iv) Attitude towards education and teaching;
- (v) Biological data such as age, sex, martial status, etc.
- (vi) Previous academic record and
- (vii) Creativity.

There are two factors, external and internal, that make teachers mentally ill and maladjusted and thereby, they have negative effect on their teaching efficiency. The external factors include poor salary, heavy workload and lack of professional freedom. Internal factors include inferiority complex, self-centeredness and over-ambitiousness. For promoting the mental health of teachers, it is necessary to develop in them a wholesome attitude, professional competence, social efficiency, democratic outlook

and good living habits. Additionally a number of environmental factors are related to teaching efficiency.

(v) Guidelines for Teacher :

1. The teacher should know his subject matter, be enthusiastic about his subject and about teaching it.
2. The teacher should state where the learner is.
3. The teacher should have a sympathetic attitude towards the students.
4. His method of teaching should be appropriate and varied.
5. The teaching plan should be flexible.
6. The teacher should stimulate and guide rather than dominate.
7. The teacher should practice, what he teaches and must set right examples.

(a) *The teacher* : “Today our great and pressing need is for great teachers. This cannot wait. Our greatest need at the moment is not for more and better information, it is for more and better dissemination of the information we already have, it is to hold students, to prevent him from becoming a drop out, a welfare recipient. We educators succeed or fail in the first great opportunity that society has given us to prove the cause of education; and it must be education for the 21st century. A great educator who said educate his students for the future.

(b) *Instructional text* : Sometimes when you write a paper, you want to give a set of directions explaining how to do something. You might, for example, want to explain how to roast a chicken or how to change the oil in your car. When you state step by step how to do something, you are providing an instructional process.

An important point to be remembered is that your set of directions should be clear and easy to follow. If person cannot understand your directions, there is really no point to writing them. Here are some suggestions to help you write clearly, easy-to-follow directions:

- (a) Make each step of directions as simple as possible. Remember you are trying to instruct and not confuse your reader.

- (b) Be sure to include every necessary step. If you leave out an important step, your directions won't work.
- (c) Remember to put your steps in chronological order. In other words, list the steps in the exact order in which they happen. If necessary, review the information you learned about chronological order.
- (d) Be sure to tell your students (readers) about any specific equipment or materials, they might need in order to complete this set of directions.

Developing course syllabus means organizing the contents and amount of instructions in the subject designed to achieve specific objectives on the basis of course syllabus. Teacher/trainers should conduct various teaching/training activities. There are factors which should be considered in planning a course of study which include:

- (i) Aim or purpose of the course to be offered
- (ii) The need of students
- (iii) The educative environment of students/trainers
- (iv) The demand for profession to which learning is to be put.

(c) *Developing course objectives* : The objectives may be :

- (1) Objectives based on needs of students
- (2) Objectives and interests of the class or group of students
- (3) Objectives of the class as citizen of community.

For teacher the objectives are a combination of the three. In some cases, we have to start with the individual needs and interests of learners.

(d) *Essentials of a teaching plan* : This includes the followings:

- (1) Identifying plan heading,
- (2) Teacher's objectives,
- (3) Background of the learner,
- (4) Materials, tools and equipment,
- (5) Introduction, which includes link, motivation and overview,
- (6) Presentation,
- (7) Application and Summary,
- (9) Evaluation and References.

19.2.4 Adult Learning Theories and Instructional Text

(a) Learning

The receiver is the intended audience of messages. The receiver's learn through seeing, hearing about and doing the things to be learned. Learning is the process by which a person changes his behavior through his own efforts.

(b) Principles of Learning

In the adult education the emphasis is on providing effective learning experience to the adults. While doing so the teacher or communicator should know the characteristics or principles of learning.

- 1. Learning is continuous growth :** the teacher should understand the level of the adult learner and should develop his understanding. The relationship between the things, the adult knows and the new ideas should be clarified with the help of adult education. The subject should be presented in such a way that adults should understand it. The new idea may be repeated intermittently to emphasize its importance.
- 2. Learning should be meaningful:** the adult learner will understand the value of things learned or taught to him only when he can see its utility in practical life. Hence, the teacher or extension agent should therefore place the objective of learning very clearly and meaningfully before the adults. While doing this, care has to be taken to see that the subject does not go over the heads of the adults. The clear objectives will serve as a guide in undertaking the educational programmes and also at the time of evaluation.
- 3. In learning maximum senses of the learners should be used:** senses are the gateways to mind. Seeing, hearing, touching, smelling and tasting are the five senses through which an individual learners learns new ideas. For making the teaching effective, the learners maximum senses should be utilized. The capacity of learning is mainly dependent on the use of the senses by the learner. Demonstrations, visual aids and other symbols help in making the picture of new ideas more vivid in order to make the learning experience effective.

4. **Learning should be challenging and satisfying:** the motivation to learn comes out of the interest of the learner but the learning becomes useful and effective if the teacher arranges good learning situations.
5. **Learning should develop functional understanding of learners:** It is not enough for the teacher to provide knowledge in teaching, but the knowledge imparted should be understood by the adults. After understanding new ideas the adult learner should be able to utilize them in real life situations. Memorizing is one way of acquiring knowledge but unless this knowledge is used in everyday life it will be forgotten. To develop the functional understanding of the adult it is necessary that he should understand the whole subject as well as different topics and their interrelationships.

In learning why a particular thing is to be learned its utility in life be emphasized. After understanding the need of new information, it may be divided into parts. The function of each part, its relation with other parts and finally the relation of each part to whole topic should be clearly understood.

6. **Learning is affected by physical and Social environment:** The physical and social environment creates a favorable background for effective learning. The teacher should create a suitable environment.
7. **Learning ability varies widely among individuals:** The subject should be within the capacity of adult's ability to learn. There should be a balance between the level of understanding of the adults and the level of communication. Educational programme should be organized by taking this individual variation into account.
8. **Learning is a gradual process usually requiring several exposures before change is noticed:** The new ideas have to be vividly presented through different media in order to make the learning fruitful. Depending upon the nature of new idea or an innovation, demonstration and distribution of material will have to be undertaken. Research shows that for convincing the necessity of innovation, it has to be presented at least six to eight times through media.
9. **The adults have learning capacity:** Your educational programme should be based on the assumption that the adults have the capacity to learn new things.

Learning capacity, starting about at the age of 6 increases rapidly until age of 20, then it begins to level until around 50. The rate of learning decline by about 1.0 percent per year, after the age of 35. The main reason for this declining capacity is low external motivation. In addition to this, there is reluctance for learning, because of fear of failure, old habits and impact of particular ideology.

- 10. Learning is an active process on the part of the learner:** For learning skills the adult must practice them. He must relate the facts in order to understand them. For creating new attitudes, he must change the present attitudes. Similarly he has to develop appreciation for new things. All people do not learn at a time and at the same rate, but if they are taught together then the learning process becomes easier for them.
- 11. Learning requires effective communication:** Through communication new ideas are carried to people. In the process two or more people communicate their feelings, ideas, thoughts and opinions. They share the similar experiences. Communication is necessary for effective education.
- 12. Theory and practice should be related in learning:** Theory explains the why and how of an idea. Sometimes though the student understands theory, which he cannot use it in practice. On the other hand in some instances the student knows how to do a particular thing, but does not know the theory behind it. There should be balance between the two.

(c) Adult Educational Psychology

In the educational psychology the teachers are more concerned with the adult or grown up people. There is a difference in the behavior of an adult and child. The ego of an adult is more developed than that of a child and therefore, he is more sensitive to the social atmosphere around him. The social freedom that an adult enjoys is greater than that which is allowed to a child and therefore, a friendly and congenial atmosphere is more imperative in the education of adults.

An adult is more sensitive to success and failure than child. He is concerned with acquisition of mastery over something or is more power hungry. It is, therefore, advisable to allow him occasional experiences which will give him the glow of success.

(d) Factors Affecting Adult Learning

There are certain factors which influence the learning of adults. These are:

- (a) Age,
- (b) Environment,
- (c) Political conditions,
- (d) Lack of leisure,
- (e) Misuse of leisure,
- (f) Lack of mental peace,
- (g) Lack of physical comfort,
- (h) Lack of meaning,
- (i) Boredom.

To sum up, it is necessary to base educational programmes on the psychology of the adult people (i.e. on their basic interests, urges and capacities) for making them effective.

19.2.5 Writing of an Instructional Text

A few guiding principles for writing a primer for adult education:

(a) Content

1. The purpose of adult education is not only to teach skills of reading and writing to the participants but to make him conscious about his problem of life so that he may take steps to solve them. It is, therefore, desirable that primers to be used in Adult Education Centers should have content directly related to the problems and interests of adult life. Care should be taken that the primer for adult education does not end only in teaching the mechanics of reading and writing, using the words and sentences mainly for drill purposes or have childish content or information for its own sake.
2. If the content is of a technical nature e.g. it is related to agriculture, animal husbandry, horticulture, fisheries, forestry, health etc. the information should be factually correct. It is better for the writer to become a “temporary specialist” himself than to consult the relevant subject matter specialist. He

can become temporary specialist by studying one or two authentic books on the subject.

3. If the content is non-technical e.g. cleanliness, social evils, citizenship etc. it would be better to present both sides of the coin and let the learner judge himself. Offering advice, sermonizing and use of the word 'should' may be avoided. You will see that it is not easy to give a message without using the word 'should'.
4. Let the message be of some immediate value to the learner and of a nature that it is not too difficult for him to act upon it. For example the following message is axiomatic :“If blood is less, or, if there is anemic condition, eat green vegetables, eat amla, karonda”.
5. Avoid at least in the beginning, confusing messages, the intent and meaning of which is not quite clear without perhaps far fetched explanation.

Take the following example for instance:

- (a) Firstly, if a person is so poor that he eats only rice, what can he do about it after getting this message? It may be argued that he could grow vegetables. This presumes that he does not even if he could. Therefore, this message may require more explanation to become a useful message.
- (b) Trees and soils are helpful to cut part of the message is clear. It can be explained that people can plant trees to check soil erosion. But it is not quite clear what can they do about 'ghura' (refuse dump). The farmers generally make the 'ghura' as near to their homes as possible, otherwise the refuse has to be carried from homes and sheds on head. Now if the message if the writer is that “to stop soil erosion the 'ghuras' should be spread far and wide, would be rather impracticable.

Language : Letters/syllables/words/phrases/sentences should be developed in a manner, so that they may be read at site. Sight letters: Letters should be recognized instantaneously and should be such that these are it is easily understood both by the teachers and students. Consider the following example: “To protect child from diseases is in our hands”. The sentence in this example is known as “lead sentence”. It is expected to be a starting point for discussing the message. In the discussion the

words in the sentence to be used teaching letters are highlighted. Such words are called 'key words'. The appropriate letters are to be taken from the lead sentence.

(b) Minimum Standard of Literacy

The literacy course should aim to achieve there standards namely: reading, writing and numaracy. In respect of writing the following points should be considered:

- (a) Copying with understanding at a speed of at least 10 words per minute;
- (b) Taking dictation at a speed of not less than 7 words/minute.
- (c) Writing with proper spacing and alignment.
- (d) Keeping record of income and expenditure relating to day-to-day affairs.
- (e) Writing independently letters, applications, filling up cheques, forms etc.

(c) Important Usage and Important Vocabulary

While writing an instructional-process paper, it is very important to make clear that you are going from one step to the next. Here are three ways to we do this:

1. by using expressions of time
2. by repeating important words and phrases
3. by using pronoun reference

1. Expressions of time : One way to show that you are moving from step to step is to use the expressions of time that you have learned. There are some other expressions of time that help you link one step to the next. Here are a few:

Expressions for actions happening at the same time

While, as, the minute that, when

At the same time, meanwhile

Examples -

While he is dieting, he is exercising every day.

He is exercising every day while he is dieting.

Mary is learning English; at the same time, she is typing.

Mary is typing English; at the same time, she is learning English.

Expressions for actions happening one after the other

When, after, before, until

Afterwards, then, following that

Examples -

After Ram cut his hand on the broken glass, he had to get stitches in it.

Ram had to get stitches in his hand after he cut it on the broken glass.

Sita will finish her bachelor's degree next May, following that, she will begin working on her master's degree.

Sita will finish her bachelor's degree next May. Following that, she will begin working on her master's degree.

2. Repetition of Important Words and Phrases : A second way to show your readers that you are going from one step to the next in your process paper is to repeat key words or phrases several times throughout the essay. This gives a feeling of continuity to your ideas. Look at the following paragraph. Notice which words are repeated: frostbite, step, warm, victim. Why are these particular words mentioned several times?

Injury to a part of one's body from exposure to extreme cold is called frostbite. The parts of the body that are hurt by frostbite are generally quite small: the nose, cheeks, ears, fingers, and toes. One should follow several steps when treating a victim of frostbite. The first step one should follow is to cover the frozen part of the body. In the next step one should give the victim extra clothing and blankets to help him or her warm up. Third, bring the victim indoors as soon as possible. Then give him or her warm drink. The most important step is to rewarm the frozen part quickly by putting it in warm, but not hot, water. This allows the frozen part of the body to warm up slowly. The last step in the treatment of frostbite should be to get medical help for the victim as soon as possible.

3. Pronoun Reference : A third way to show your reader that you are going from one step to the next in your process paper is to use pronoun reference. This means simply that you write a word and then repeat it later in the sentence or essay in pronoun form. Like the repetition of important words, pronoun reference gives a feeling of continuity and unity to your ideas. Look at the following sample sentences: "I wanted Laxam to keep the flowers, but he gave them to his mother instead." "In order to get an I-20 from our school, you must ask for an application and an Affidavit

of Support form. Once you receive these, you fill them out and mail them back to us.”

4. Practice Process Paragraph : The following instructional process paragraph makes use of expressions of time, repetition, and pronoun reference to help clearly explain the different steps in opening a cheque account. Read the paragraph carefully and then answer the questions following it.

- λ Opening a cheque account at a bank is fairly a simple process, if you understand the different steps involved. The first is to find a bank that is convenient and provides the specific banking services you need.
- λ The next step is to : Sit down with a bank officer to discuss which type of cheque account is best for the kind of deposits you will make. For example, he or she can open one for you that doesn't give interest and doesn't require a minimum balance. Or, you can have one that gives interest, but requires a daily balance of five hundred to a thousand rupees.
- λ The third step is to complete a cheque account application. It will generally ask you basic questions about such things as your place of employment, your home address, and your social security number.
- λ As soon as you do this, you will make your first deposit into your new cheque account. The step after this one is fun. At this point you get to pick out which colour and style cheques you want. They can be blue, yellow, pink, or green. Most banks even have some with a picture printed on them.
- λ Now comes the last step. You have to wait until this first deposit in your cheque account clears. After it is cleared, you can begin to write cheques!

19.3 Glossary

Demonstration: A presentation characterized by showing how to make or do something (operate or perform), includes use of materials, equipment or real things.

Direct experience: A term used to mean a learning process based upon actual experience with real things in a real situation.

Instructional media: Devices or materials which present a body of information and are largely self-supporting rather than supplementary in the teaching-learning process.

Attitude: It is feeling or perception of a person acquired after many times same experience.

Need based education: Because of technological advances a wide variety of educational needs have emerged.

Educational psychology: It is one of the branches of applied psychology concerned with the application of the principles, techniques and other resources of psychology to the solution of the problems confronting to the teacher.

Teaching: It is a process of arranging situations that stimulate and guide the learning activity towards the goals that specify desired change in the behavior of learners.

Learning: It is process by which a person changes his behavior through his own efforts.

19.4 Summary

In this unit the emphasis is given on preparation for writing for our readers. They may be students and adults and is mainly concerned to instructions. In modern world there is changing pattern of instructions which are supplemented by electronic media called multimedia approach. In the process of instruction the communication through writing is a text used for promoting learning through learning experience by the instructor (teacher) wherein significant features of text have been discussed. While explaining this a few tips to improve writing have been given like planning in writing, defining the audience, deciding the subject matter, form of writing, etc. A battery of points have been given for writing draft.

In the teaching concept the process has been explained and effective teaching is explained such as acquiring knowledge for solving problems and to act upon it. Moreover, the success in teaching has been explained with criteria and the factors

responsible for effective teaching have been enlisted.

Under the instructional text there are some suggestions given for teachers and relevant aspects like developing course syllabus with objectives. In this unit the adult learning has been explained with the help of the principles and the factors affecting the learning. Finally the writing of instructional text has been explained with examples.

19.5 Exercise for Practice

Answer the following questions in 200 words each.

1. Enlist and explain significant features of text in communication.
2. State and describe principles of adult learning.
3. What are the factors which affects adult learning ?
4. What are the features of good text book for adult learning ?

Unit 20 : Dimensions of Modern Communication

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20.4 Summary

20.5 Exercise for Practice

20.1 Introduction

Development communication stems from the communication for development which is purposive, pragmatic, goal directed and audience oriented. It has ‘popular participation’ as an essential component. Development communication is used to inform and motivate all levels and sectors of poor or developing country, to use new skills and equipment in accordance with their needs. Without social aspect, development will remain detached from the intended population because of the cultural gaps of the society.

Mere acquisition of information will not result in development. Thus, communication as the process needs to be used in the programme form and can be said as the communication programmes which are timed and that these facilities are available to audience almost simultaneously. Thus, the communication should be able to function for providing through its process effectively. Hence, so far different dimensions of the communication are invented and are used for the purpose of

development of the community, society and their organizations. Thus, communication is a need based in every spere of life of an individual and more so in educational organizations through management and so on.

After the study of this unit, you will be able to know and understand :

- λ Non-verbal communication.
- λ Two way communication.
- λ Communication used for distance learning.
- λ Tele teaching and
- λ Internet.

These aspects range form the traditional ways of communication to the modern dimensions of the communication i.e. electronic communication.

20.2 Content

20.2.1 Non-Verbal Communication

Non-verbal communication is the process, where people communicate through symbols, writings, visualizing, dramatizing without words and the communication is silence between the communicator and communicatee. Adisankaracharya from his 'math' the place of worshipping through 'Dhyan yoga'. Located at Kanchi Kam Koti in Southern India communicated through meditation known as 'Dhyanyoga' (the word 'Oum') to all the four mathas of India located at Dwarka (Gujarat), Jagganath Puri (Orisa), Banaras (Kashi) in Utter Pradesh. The word 'Oam' known as 'pranava' based on inhalation during meditation, wherein no word is spoken but 'Oam'. As a result people in worships started pronouncing 'Oam' and then meditating and put 'Oam' at the entrance of their homes, in the beginning of holly stanzas or mantras. So 'Oam' as the message was effectively communicated for its utility for psychological development of the people by Adi Shankaracharya from the Kanchi Kama Koti through meditation without uttering the word by mouth. This is called the 'Communication in Silence'. Our 'Vedanta' has given all this methods in the books, which are the cultural base of the 'Hindus' of India'.

In 'adivashi' (Tribals) the individual use the symbolic language which is non verbal in nature and they use this language to communicate through actions, paintings, cultural values and beliefs. Their symbolic communication become the part of their life for day to day activities.

The power of the 'folk media' in taking development communication to rural masses cannot be over emphasized. They involve the local people in a way that no mass media is possible through face-to-face communication. The Song and Drama Division of Government of India presents programmes of dance, puppetry and stylish narration thorough its developmental troupes and trough over 400 private troupes.

Another non-verbal way of communication is the paintings, Ancient paintings and sculptures of the Indian Culture and religion is displayed by the ancient artists as well as modern artists on the temples and buildings. This is non-verbal communication. The use of visual aids like pictures, photographs, exhibits, specimen etc. are the material of non-verbal communication. All the writings in published forms may be books, magazines, and other types literature is the means of non-verbal communication. Thus, all these symbolic matters may be in the form of actions without sound.

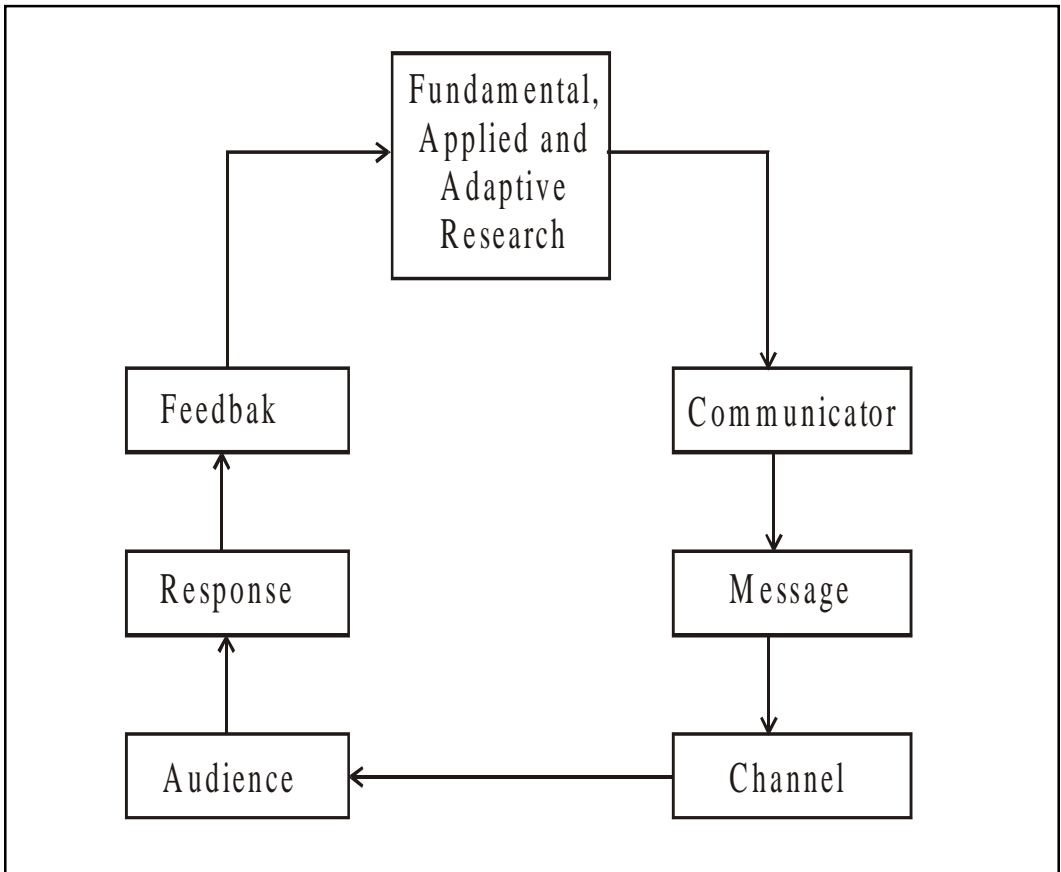
All the electronic media of audio instructional types may be classified in the non-verbal communication dimensions. The signals used by these media like satellites, post and telegraphs, defense, radio and television are based on electronic waves can also be classified as non-verbal communication devices. The various instruments like harmonium, horns, vana, sitar, tabla, tal, mridung, dholki, halgi, dup, nagara, flute etc. Communicate through their respective sounds known as music. All the non-verbal communicating devices which are creating aesthetic senses are accepted by the individuals of the society

The various 'thoughts' thinking and movements of minds are expressing their desires and motivate an individual for actions and interactions is the non-verbal communication dimension. Even the natural happenings like waves of air, sounds of rainfall, thundering of electricity in clouds, sound of the clouds create the atmosphere and work as the symbols for communication. All these are non-verbal communication dimensions.

20.2.2 Two Way Communication

Communication as a process involves various elements like communicators, (source), encoding. The message, sent through media and/or channel : It s received after decoding of the message to the receiver or communicate is reflective and creating reaction in the form of the feed back from the communicate to the communicator and is called as the two way communication. This has been presented and explained with the help of diagram. (Leagans 1963).

Two way communication system



Thus, the various elements namely; communicator, message, channel, treatment of message, and audience have been depicted in the above diagram wherein audience response is the ultimate objective of communication function. Response of audience

to messages received may be in the form of some kind of, mental or physical action. Until the desired action results, the possible kinds of responses to messages received are almost infinite. The response may be: (i) Understanding knowledge, (ii) acceptance versus rejection, (iii) remembering versus forgetting, (iv) mental versus physical action and (v) right versus wrong. Thus, without response the communication is never complete i.e. without response (feedback) information. Feedback means carrying some significant responses of the audience back to the communicator. Communication work is not an end itself. The extension educationist should (communicator) know what happened to the audience (farmers) after the message has reached them.

(a) Characteristics of Feedback

1. Feed back is source oriented.
2. It varies in different communication situations.
3. It affects the source or communicator.
4. It exerts control over future messages.
5. It affects communication fidelity and
6. Feed back maintains the stability and equilibrium of a communication system.

Feed back should be a continuous process as the audience and communicators are neither always the same persons, nor they are interacting in the same situation. If the message is pertaining to the research, the problem should be referred to as the feed back information to research station, to find out solutions for the same. If the problem does not relate the research, the extension agent (communicator) shall find out whether the message has been relevant to the audience (Communicatee) or whether the channel, treatment, audio-visual aids have been appropriately used! If not, corrective steps should be taken without any loss of time.

If there is a favorable response to the messages by the audience, the communicator can find out what next is to be done to reinforce the learning already made by the audience. At this stage, supporting aids like material supply and services including credit are important for developmental programme in which two way communication works successfully.

Adequate and correct feed back are essential for purposeful communication. Feed back information provides the communicator an opportunity to take corrective steps in communication work, helps in identifying subsequent activities, and acts as a pathfinder for need-based research.

(c) Critical Factors in Extension Communication

The critical factors in extension communication are as follows:

1. Communication is limited by one's concept of the communication process.
2. Communication is a two way process involving interaction between the communicator and the receivers.
3. One must have ideas before one can communicate with others.
4. The system of symbols used to present ideas, objects or concepts must be relevant, accurate and skillfully used.
5. Cultural values and the social organization of communication.
6. The environment created by the communicator influences one's effectiveness.
7. To make the sense, the communication efforts must be organized according to some specific form or pattern.
8. Cooperation, participation and involvement are essential to communication.
9. The standard of correctness, effectiveness, good tastes and social responsibility of communication influence its success.
10. Evaluation is necessary to improve communication.

Some messages are transmitted non-verbally also. Non-verbal or 'second order messages' provide for receivers the context in which the specific verbal and vocal cues are interpreted. Because some of these cues are culture-specific, they are hard to decode without knowledge of the cultural context in which they are used.

The two way communication is easily effected between two-or more individuals what we call them as action-reaction on the subject or purpose of communication. It may be technology in the form of materials and equipment supply or may be the provision of service by the communicator to the audience like sales agent (communicator) and the customers or extension agents and the farmers or at

organizational level, organization and the personnel in the organization or people concerned to organization, may be Government, Co-operative or Non-Government Organization and their members. In oral communication and in group situation two way communication is effectively and successfully used for desired results. Whereas in case of masses the two way communication is based on inferential feed back such as communication through print media, electronic media like radio, television, video, cinema etc.

20.2.3 Distance Learning

(a) Psychology of Learning

Acquisition of knowledge and development of understanding are important aspects of learning. People learn a lot from their own experience/experiments, from watching other's actions and from discussion with others. Some important concepts relating to learning are discussed here following Vanden Ban and Hawkins (1996). These are the Law of Effect, which is concerned to learning which states that an action which leads to a desirable outcome is likely to be repeated in similar circumstances, others are self-efficiency, observation, analysis and interpretation, learning through others 'experiences and motivation to learning.

In 1990 the term 'distance learning' has grown in usage. Many authors use it in an administrative sense or for the field as a whole. This emphasizes the students-centeredness of the process, with 'distance education' being regarded as too bureaucratic and 'distance teaching' too teacher-centered. In this unit, however, phrases like 'the funding of distance learning' are regarded as metaphorical, as learning is considered to be internal to student. Governments can support open and distance education; they can fund open and distance teaching but they cannot cause learning to occur.

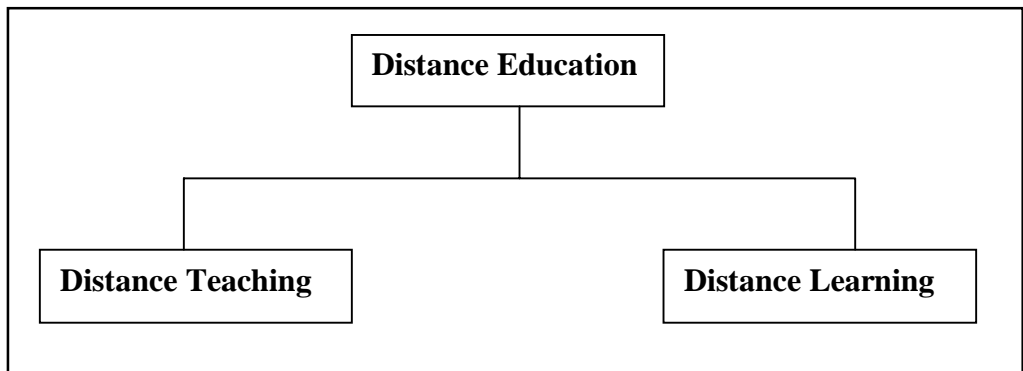
In the United States, the term 'distance learning' has come to be used as a global term for the use of electronics technologies in distance education. Portway and Lane (1994) used it to cover audio conferencing, audio graphics, teleconferencing, business television (one-way), video teaching and also desktop video conferencing.

In this unit ‘distance learning’ is used for the learning half of the distance education process and not for the field as a whole.

(b) Distance Education

Distance teaching and distance learning are only half the processes we are seeking to describe. ‘Distance teaching’ indicates well the process of course development by which a distance institutions provide learning material for students. In the same way wide currency has been given to the term ‘distance learning’ or ‘learning at a distance’ for the progress as seen from the student’s perspective. There is a peculiar necessity in distance systems that the perspective of student learning, as well as distance teaching, should be encompassed within the term chosen. ‘Distance teaching’ often does not teach with costly distance teaching materials, prepared over months and some times years, often lie unopened and discarded in the homes of prospective students. The essence of the education process has not occurred.

‘Distance education’ is a suitable term to bring together both the teaching and learning elements of this field of education. The relationship of ‘distance teaching’ and ‘distance learning’ may be illustrated as under :



Distance education in the past has held on to terms like ‘correspondence’ or ‘home study’ because, it was claimed, they were comforting to students. There is every evidence that citizens of the late 1990’s will cope with distance in a way previous generations could never dream of. Students too are coming to choose distance rather than backing off from it.

(c) Flexible Learning

Closely allied to the concept of ‘open learning’ is the concept of ‘flexible learning’. Van den Brande (1993) calls her study for the European Union in Brussels, Flexible and Distance learning. She defines ‘flexible learning’ as:

Enabling learners when they want (frequency, timing, duration), how they want (modes of learning), and what they want (that is learners can define what constitutes learning to them). These flexible learning principles may be applied to distance learning also. In such cases, the learners can choose, where they want to learn (at home, at an institution or company, at a training center etc.)

The choice of this terminology may indicate a desire to move on from the vagueness of ‘open learning’ or ‘open’ and ‘distance learning’ to ‘flexible learning’ and ‘flexible’ and ‘distance learning’. Similarly, in Australia one can see a movement from external studies in the early 1990’s to Distance Educational Centers, and then to Open Learning Networks and to flexible Learning Centers by the mid-1990. For our purpose distance education is a form of education. It is neither flexible nor inflexible per se and it seems impossible scientifically to decide whether an Open University course is flexible or inflexible or whether it would be more flexible or less flexible with different structures.

(d) Towards the Open Learning

Open learning is not synonymous with distance education; nor is distance education a sub-set of open learning. Distance education is a mode of learning with certain characteristics which distinguish it from the campus-based mode of learning. It has been defined, in various ways, and there is often a tendency to develop definitions which encompass desirable as well as necessary features, For example, in Australia, the Victorian Technical and Further Education off-campus Network (1985) has produced a list which contains both:

- (1) Independent study, which, as far as is appropriate, provides students with the means to progress through sets of structured learning experiences at their own pace, at times and places of their own choosing.

- (2) Self-instructional study materials which, as far as possible, are based on media and technologies most appropriate to the teaching/learning objectives and to the students' situations.
- (3) One-to-one interaction between students and teachers operating at a distance.

The next extent to which these characteristics incorporate phrases such as 'as far as appropriate' and 'as far as possible' should be noted. This could be seen as a realistic acceptance of the limitations of these characteristics which are imposed by:

1. The knowledge, skills and attitudes of students and educators.
2. The curricula and syllabuses of institutions.
3. The accreditation and licensing requirements of courses.
4. Community and industry attitudes towards education.
5. The resources which are available to those responsible for the design, development, production and presentation of courses.
6. The resources which are available to students.

Alternatively, it could be used as a self-protecting device by institutions which are most concerned with their own convenience than with serving their students. Institutions might accept distance education characteristics in principle but find that circumstances were such that unfortunately it was necessary to require distance education students to submit assignments according to a rigid schedule; to follow a predetermined sequence of instruction; to use one prescribed medium; to attend compulsory seminars or summer schools; and to sit for examinations at set times and places. As a result, there would be only two of the distance education characteristics listed above which are necessary:

- (1) The design, production and delivery of structured, self-instructional study materials.
- (2) Regular one-to-one interaction between students and teachers operating at a distance from one another.

The other characteristics would be desirable ones to be achieved where possible. So, with sufficient will, ingenuity and capacity of self-justification, the distance education mode can be very closed indeed.

(e) The Characteristics of Open Learning

Open learning is a state of mind. It is an approach taken to the planning, Design, Preparation and Presentation of courses by educators, and an approach taken to the selection and use of learning strategies and associated resources by students are important consideration. This approach seeks to provide students with as much choice and control as possible over content and learning strategies. In an open learning approach, therefore, a number of factors must be taken into account :

The Size and Content of Open Learning Modules : To allow maximum choice, the basic unit of learning should be as small as possible without undermining the educational integrity or logic of its content. Usually this will be a module based on a particular theme or topic- the basic unit or assignment of a distance education subject tends to correspond to this. Only rarely will it be a complete subject, and never a complete course. Such modules can then be combined in a variety of ways, or stand alone, to meet the various needs of students.

The content of the modules should be based on identified educational objectives which seek to meet the needs of students. This could require consultation, not only with industry, the community and fellow educators, but also with actual or potential students.

(f) Learning Strategies

Educators must enable a range of learning strategies, each of which will achieve stated educational objectives, so that students have the opportunity to select the ones which best suit them. An important dimension alongwith strategies differ in the degree and nature of student/teacher interaction. On a continuum which ranges from no interaction to total interaction, three main types can be identified:

1. Teacher-independent learning occurs when students learn without interaction with teachers, for example, working through a series of assignments or practical exercises at home, at work, or in the library.
2. Delayed student/teacher interaction occurs when there are messages between students and teachers, but they are not delivered and received simultaneously. In other words, they are delayed due to the means of

transmission, for example, the mail service, audio and video recordings, and so on. Delayed student/teacher interaction may be one-way or two-way.

3. Immediate teacher/student interaction occurs when the messages between students and teachers are delivered and received at the same time, or virtually at the same time. This does not mean that they are necessarily involved in a face-to-face situation (although this could certainly be the case). They could be communicating by means of the telephone, electronic mail, facsimile, or semaphore.

20.2.4 Tele Teaching

The processes of distance education comprised of ‘the distance teaching’ and ‘the distance learning’ by which ‘Teaching as well as Learning Situations’ can be created. Here the emphasis has been given on how the teaching is done to the students located at distance. Some of the electronic media have been used by the teachers for the distance teaching to the students, who are also taking lessons at their homes, educational centers etc. The selected electronic media namely; Videotext and Teletext system, Tele-Conferencing System, Slow-Scan Television, Tele-Lecture System, Tele-writing and Tele-Write-Vision, and the Integrated Video-Computer System are discussed for the teaching.

(a) Videotext and Teletext System

Videotext or viewdata, as generic terms, apply to interactive systems for transmitting text or graphics stored in a computer data-base, via telephone network. For display on a television screen or other relatively inexpensive terminals. Unlike other video systems, here the textual information is of primary significance, and graphics play a complementary or, in some cases, decorative role. While animation is possible, videotext information typically consists of simple graphics dealing with specific topics. Videotext systems are simpler to use and cheaper catering to large number of users when compared with complexity and cost of accessing information

from large computer centers on time sharing basis.

The concept of Teletext is similar to that of Videotext. However, the information is transmitted as a part of the broadcast TV service in a digitally coded form, instead of through the public telephone network used for videotext transmission. The viewer needs a modified TV receiver or a separate teletext decoder to display the Teletext information on the TV screen. The information may be seen in place of normal programme or super-imposed on the normal programme as desired by the viewer. The ability to deliver digitally coded information through standard broadcast TV channel opens up new possibilities of delivering computer software to remote locations in the future. At present the Teletext information is sent as indexed and individually accessible pages of text/graphics which are updated at frequent and regular intervals. The user of the videotext system has the freedom to choose any of the information stored in the central computer at any time, in any sequence and at any desired speed. Teletext user can choose between the pages of information which are being transmitted. The freedom is limited in terms of content, sequence, speed and timing.

(b) Tele-Conferencing System

Tele-conferencing can be used for audio, for video and audio as well as computer data. The interaction takes place between geographically separate groups of people through verbal exchange of opinions and ideas in the case of audio tele-conferencing and through additional visual contact in the case of video tele-conferencing. Computer tele-conferencing allows a number of users to exchange information with each other using telematics, i.e. a combination of computer and communication technology. Each of these tele-conferencing systems can play their due part in supporting a modern education system. It is possible to visualize a time when a group of international experts can address several class-rooms in several countries using interactive video conferencing system through geo-synchronous communication satellites.

(c) Slow-scan Television

Communication engineers have long been aware that the information content of a scene with no movement still picture is much lower in comparison with the scene

which has a lot of movement. Since the bandwidth and the cost of transmission of information is directly proportionate to the rate of information flow (amount of information/unit time), great saving in cost and complexity of transmission systems can be made, if instead of using the standard broadcast televisions scanning rate, slow scan is employed for pictures with little or no movement. A careful analysis of majority of the common teaching-learning situations shows that most images used for teaching (including graphics, textual information, numeric data) are of the still-frame type. Even when movement is involved, as in animated casuals, the movement is relatively slow. Because of a drastic reduction in cost and complexity, it is perfectly feasible to use even ordinary domestic telephone lines to transmit/receive still pictures at slow rate. In addition to the above, various data compression techniques such as DPCM, delta modulation, transform coding etc. can be used to reduce the bit-rate (if digital transmission is used) to a very low figure. Such techniques hold great future promise for education application.

(d) Tele-lecture System

A tele-lecture system connects a number of specially equipped classrooms in the same city or in different cities through the public telecommunication network as in audio tele-conferencing. A teacher can address a large number of class-rooms scattered over a wide area from his/her own institution/home/office by connecting to the tele-lecture network. Students from any of the tele-lecture class can choose to interact with the teacher at any time through microphones provided on their desks. It is possible to conceive of a situation, where the major institutions of learning in the country are provided with say, one tele-lecture class-room each; and all connected to a common telelecture network, to allow top specialists to address a large number of students together. The possibility of availing the services of renowned experts from outside, by a large number of institutions simultaneously makes this concept an attractive one, provided the telecommunication network is able to support such systems.

(e) Tele-Writing and Tele-Write-Vision

The Telewriting medium transmits two components: the voice of an instructor and his handwriting. The telewritten image appears on a screen. Originally known as tele-autograph, the telewriting has been used as a substitute for instructional television satisfactorily in teaching courses, where the visual element generally consists mainly of chalk board writing. When a large number of schools are scattered over great distances, telewriting can be economically more viable than instructional television. In many technologically advanced countries tele-witing is used on a regional basis to share the instructional resources of high schools in the presentation of subjects, such as physics, for which good teachers are not easily available. When telewriting is combined with local visual materials, the combination is referred to as telewritevision. Telewritevision makes possible the inclusion of still pictures and nearly all other types of graphic materials along with the transmitted elements of sound, writing and drawing. Furthermore, in the case of telewriting and television, it is very easy to provide through installation of microphones in the classroom and telelines between classrooms and teacher, audio-feed-back from the students.

(f) Integrated Video-Computer System

The video media is highly suitable for showing complex, multitone dynamic colour images. Video films on tape or cassettes offer a cheap way of providing instructions, when used for large number of students, particularly in broadcast situations. One of the drawbacks of the video is its inability to interact with the learner in a meaningful way. Taped video films present the recorded instructions to the learner in the sequence and manner in which the original recordings are made. The students do not have much active role to play.

The use of computers in conjunction with video can result in a system where the advantage of each media counteracts the disadvantage of the other. An integrated video-computer based system can be used very effectively for the

qualitative and quantitative improvement of the educational system. The computer can take care of textural and complex dynamic graphics requirement, and provide opportunities for distance teaching.

20.2.5 Internet

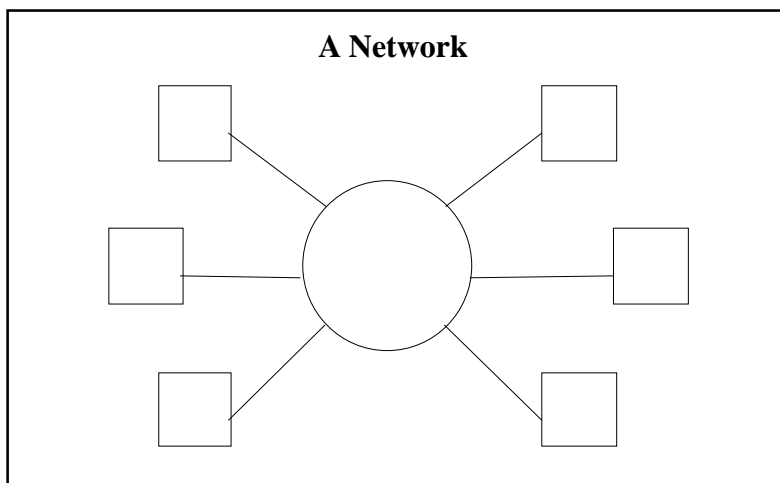
(a) Objectives

At the end of the unit, you should be able to:

- λ Explain what is Internet.
- λ Have a brief knowledge of the history of the Internet.
- λ Explain what can you do on the Internet.
- λ Explain some Internet Terminology.

1. What is Internet ?

The term Internet has been coined from two terms, interconnection and network. A network is simply a group of computers that are connected together for sharing information and resources.



Several such networks have been joined together across the world to form what is called as the Internet. Thus, it is a network of networks.

Nobody owns the Internet. Although there are organizations that help manage different parts of the networks, there is no single governing body that controls what happens on the Internet.

2. History of the Internet

In 1969, the ARPA (Advanced Research Project Agency) created ARPANET to help the researchers communicate with each other. ARPA's task was to develop a geographically dispersed, reliable communication network for military use that would not be disrupted in case of partial destruction from a nuclear attack. They accomplished this by splitting the data being transmitted into small packets, which could take different routes to their destination. The packet-switched network could resist a nuclear attack in that the packets could take a different route, if one route was knocked off. This main feature of Internet technology also makes it almost impossible to listen to the messages.

Other private networks came up soon following the design of APRANET, such as BITNET, CSNET, etc. In 1986, the NSF (National Science Foundation) created NSFNET, a network with five supercomputers to help establish effective communication amongst universities. In 1990, the ARPANET was dismantled and other networks came up to substitute for it.

To provide services to Internet users, and in an attempt to standardize the working on the Internet, NSF created an organization called InterNIC in 1993. InterNIC is a collaborative project between AT&T and Network Solutions, Inc. (NSI) supported by the National Sciences Foundation.

Although the Internet was originally meant for research purposes, it has now changed drastically and is used mainly for commercial purposes.

3. Applications of the Internet

In the simplest terms, you can do following three things on the Internet.

- λ Communicate with other people.
- λ Get information.
- λ Connect to the other computer systems.

(i) Communicating with Other People

There are many ways by which you can communicate with people on the Internet. Some of them are as follows:

E-mail : The most common use of the Internet is electronic mail (popularly known as e-mail). Using e-mail a user can send text, pictures, sounds, programmes, or even movies to any other person on the Internet anywhere in the world. Each user on the Internet has a unique address. This address helps you in identifying a user to whom you wish to send e-mail. An example of a typical e-mail address could be suryagun@hotmail.com

There are two main advantages of using e-mail over normal mail (nowadays called snail mail).

The first is the speed at which delivery takes place (almost instantly), and the second is that it costs almost the same regardless of the fact you are sending mail to someone next door, or to someone living 10000 kilometers away. You pay only for the connected time necessary to transmit the message.

Internet News : Another method of communicating on the Internet is called the Internet news. There are a number of newsgroups on the Internet. These newsgroups are different from e-mail. The messages sent to a newsgroup are simply posted on the electronic notice board. Anyone can see these messages. You can place your own items or can access the news items placed by others.

There are thousands of newsgroups. These newsgroups are organized by their content type. For example, the COMP groups are computer related while the REC groups are recreational in nature. The wildest and most unpredictable groups are the ALT, or alternative groups.

Chatting and Conferencing : Yet another method of communicating on the Internet is known as Internet Relay Chat (IRC). Using IRC you can speak to other users around the world virtually in real time as though you were in the same room. Using appropriate chat software you simply join the room that allows the discussion to take place. Nowadays you can also have audio and videoconferences using appropriate software.

(ii) Getting Information

Internet provides a tremendous wealth of information. With thousands of systems connected on the Internet, there are millions of computer programmes and data that have been made available to the users. These files may be text files, graphics files, full motion video files or even programme files.

There are number of ways in which you can obtain the desired information. Different approaches are taken in the storage of information to make it easier to locate and transfer information when needed.

FTP and Archie : One of the methods of getting information via internet is called File Transfer Protocol (FTP). Using FTP a user can copy computer files (games, utility programmes, etc.) from a remote computer to his computer. This process is called file downloading. Similarly, a user can also send files from his computer to a remote computer. This is known as file uploading. FTP is a standard protocol, i.e. it consists of a standard set of commands for file downloading and uploading.

The remote computer from which you are transferring (i.e. copying) files is called the FTP server. The ETP is the most common protocol used, when transferring files on the Internet though FTP servers, are not the easiest places to find what you want. A search tool known as Archie can be used to search for the desired FTP server. There are some special computers called Archie servers that maintain indexes of what files are stored on FTP servers around the world and are updated regularly.

Gopher : This is yet another approach used to search for the desired information on the Internet, developed by the University of Minnesota. They named this approach as Gopher after their soccer team. Gopher systems are more structured and easy to use.

Veronica : This search tool can also be used to search for the desired information. These tools have proven to be effective for years. The Windows versions of these tools have further simplified the things for the native users. However, they still require a level of expertise and commitment that non-computer professionals rarely possess.

WWW : There is another approach to offering information on the computers on the internet, the most popular one is called World Wide Web (WWW).

A WWW computer system consists of a computer called web server. The information that is to be offered is stored on the web servers in the form of web pages. These web pages can be created using a number of tools. The most common of these tools is the language called **Hyper Text Markup Language (HTML)**. A user can view these web pages using a web browser. A web browser is just a programme such as Netscape Navigator, Microsoft Internet Explorer or Mosaic.

A web page can simply be a block of text, but typically also includes graphics. Sound clips and full motion video might also be part of a page. Anything on the page can be linked to another page of information. The user who accesses the first page simply clicks the mouse pointer on any of these linked spots and can receive additional information on his screen or transfer files to his computer.

The amazing part of the whole process is that a single HTML document can be linked to WWW pages that exist on other computer systems anywhere in the world. A user can therefore surf the Internet all over the world without any more effort than clicking a mouse button!

Connecting to Other Computer Systems : We can link to a remote computer via the Internet and gain access to the data and programmes stored on it. Computer can be linked to remote computers using other communication media such as direct connection using a cable, but in such cases the cost of communication is too high and most people cannot afford it.

Using an appropriate programme such as Telnet, an Internet user can use the Internet's transmission medium to connect to other computer systems directly. Once a connection is established with a remote computer the user can use that remote system as if his computer were a hard-wired terminal of that system. While acting as a dumb terminal to the remote system, Telnet allows the user to do their work without running up high priced long distance charges. The only cost would be your regular fees to your Internet service provider.

Using the above mentioned features, a user can do almost anything he/she wants to do on the Internet like:

- λ Sending messages to, and receiving messages from, other Internet users through electronic mail (e-mail).

- λ Receiving news updates about specific events or topics.
- λ Posting and reading public messages to exchange news and information about certain topics or areas of interest.
- λ Reading or copying information stored on other computers.
- λ Finding books and other resources stored in libraries all over the world.
- λ Reading newspapers and magazines
- λ Downloading computer software.
- λ Operating your bank account (transferring money, transactions for deposit and withdrawal related operations, reports).

4. Users of Internet

The users of Internet are a varied lot ranging from researchers to bored ten years old kid looking for entertainment. As a research tool, it is incomparable. Using Internet, a business organization can watch its competitors more closely. New customers can be found and existing customers can be better supported. Many online shopping malls exist on the Internet, where one can place order for something by pressing just a few keys and some mouse clicking.

For individuals, the Internet is a great way to keep in touch with friends or relatives around the world. It can be used to keep up to date on any hobby or topic of interest. As an educational resource, the Internet is virtually limitless. It can also be used as an entertainment media.

5. Internet Terminology

You need to be familiar with the following terms that are used very frequently before going any further.

6. Modem

The term modem stands for MOdulator/DEModulator. A modem is a device that enables a computer to transmit data over telephone lines. Computer information is stored digitally, whereas information transmitted over telephone lines is transmitted in the form of analog waves. A modem converts between these two forms.

7. Network

A network is a group of computers connected to each other, for communicating and sharing resources. Networks can either be local (Local Area Network or LAN), which are generally contained within one building, or quite dispersed (Wide Area Networks or WAN), which are computers that are connected to each other over long distances. Internet can be thought of as a huge Wide Area Network.

8. Client

Client is a computer or programme that requests a service of another computer or programme. For instance, if you wish to download a file from a remote computer using FTP, then your computer will be the client and the remote computer will be the server.

9. Server

Server is a computer or programme that provides services to other computers or programmes.

10. Baud Rate

The baud rate is the speed at which your modem can transfer data. Baud rate is also called BPS (bits per second). The higher the baud rate, the faster your modem works. For example, a 300 bps modem is very slow as compared to a 28800 bps (i.e. 28.8kbps) modem.

11. TCP/IP

A protocol can be defined as a standard set of rules to be followed by all computers wanting to talk to each other. This enables different types of computers running different types of operating system to communicate efficiently. The de-facto standard today is TCP/IP. The acronym TCP/IP stands for Transmission Control Protocol/Internet Protocol. It is a standard set of protocols that lets networked computers communicate with each other, regardless of the type of computer connected to the network.

12. Hyper Text Transfer Protocol (HTTP)

This is a protocol that World Wide Web (WWW) clients and servers use to communicate, popularly known as HTTP.

13. Universal Resource Locator (URL)

A standardized way of representing different documents media, and network services on the World Wide Web.

For example, <http://www.ycmou.com/agri> is a URL which refers to a hypertext item.

20.3 Glossary

Development communication: It is a communication which is purposive, pragmatic, goal directed and audience oriented. It has ‘popular participation’ as an essential component.

Audience response: Response of the audience is the ultimate objective of any communication function. Response of audience to messages received may be in the form of some kind of action, mental or physical.

Feedback: It means carrying some significant responses of the audience to the communicator.

Treatment of message: Treatment of the message by the communicator shall depend upon to a greater extent on choice of the channel and the nature of audience.

Non-verbal: It is not oral communication but is of symbolic in nature may be in the forms of actions, dramatizations or visuals.

Tele-teaching: It is the teaching of a teacher given through instructional text to the students located at distances with the help of electronic media. This is practiced in the distance education system.

Internet: The term internet has been coined from two terms, interconnection and network. A net work is simply a group of computers, that are connected together for sharing information and resources.

20.4 Summary

In the discussion of the dimension of modern communication the emphasis has been given on developmental communication as well as electronic devices required for communication for effecting the communication process for the development of the society at individual as well as community levels.

The concept of non-verbal communication has been in practice from ancient era prior to the development of language. This is mainly based on symbols and action behaviour of the communicator and the communicatee where adequate empathy exists. Even the concept of 'communication in silence' has been explained with the help of meditation.

The two way communication process has been explained with the help of model which has been applied for development. The emphasis on the concept of feedback is given for successful interactions between communicator and the communicatee for development.

The applied part of communication has been explained through the concept of distance learning and open learning in the education at various levels. In the modern communication the 'Internet' through electronic devices like computers has been discussed which is applied in various ways for effective communication. Additionally tele-teaching through tele-lecturers, tele-conference etc has been discussed.

20.5 Exercise for Practice

Answer the following questions in 200 words each.

1. What is communication? Explain 'Non-verbal communication'.
2. Why and how two way communication is a must for effective and perfect interaction?
3. What are the critical factors in extension communication?
4. What is feedback? Explain its process with the help of paradigm of communication.
5. Write note on distance learning, flexible learning and telelearning and its significance in modern learnings.

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