A common goal of extension workers is to make presentation vital, alive, and memorable for their learners. This goal can be met most effectively with the use of audio visual aids for communication of knowledge and teaching of skills. In Unit 2 of this block, we discussed extension teaching methods as the tools and techniques used to create situations in which communication of knowledge and teaching of skills can take place between the extension workers and the people. In the same way, audio visual aids also contribute directly in improving the effectiveness of learning through communication of knowledge and teaching of skills.

The major ways by which people learn are by seeing, hearing, and doing – looking, listening, and acting. Audio visual aids offer the extension worker unique opportunities to increase the effectiveness and clarity of developmental ideas being transferred. They enable learners to see and hear, look and listen more fully, and with greater understanding. To a large extent, the extension workers’ success and the degree of progress made by their learners will be determined by their ability to communicate ideas. To achieve progress and development, extension workers must communicate and their learners must understand. Audio visual aids play a crucial role in this communication, so as to take the learners through the steps in teaching learning process. Keeping this in view, important audio visual aids that are helpful in extension teaching are discussed in this unit for your understanding.

After studying this unit you should be able to:

- Discuss the meaning and functions of audio visual aids;
- Classify audio visual aids, with examples;
- Describe important audio visual aids; and
- Select audio visual aids for various teaching occasions.
3.2 THE MEANING AND FUNCTIONS OF AUDIO VISUAL AIDS

3.2.1 What are Audio Visual Aids?

We learnt from Unit 1 in the section on the Teaching Learning Process that the attention of people is attracted by various senses in the proportions of: seeing - 87.0%; hearing - 7.0%; smell - 3.5%; touch - 1.5%; and, taste - 1.0%. Thus, seeing and hearing are the major senses involved to attract attention and increase learning.

"If I hear – I forget
If I see – I remember
If I do – I know”
- An old Chinese proverb

‘Seeing is believing’
- Famous extension quote

‘The best way to peoples’ heart is through their stomach, but the best way to their brain is through their eyes and ears’
- An old proverb

Audio visual aids are instructional devices in which the message can be heard and seen simultaneously.

*Examples:* television, video films, documentary films, etc.

Audio visual aids help in stimulating the ears and eyes. Hence, in the strict sense a teaching aid is any device that can be used to help reinforce new information or skills. Instructional aids are devices that assist an instructor in the teaching-learning process. Instructional aids are not self-supporting - they are supplementary teaching devices.

What do the above proverbs, definitions, and discussion suggest to you? They suggest that, hearing alone is not enough, in the learning process, to result in action. The use of audio visual aids in extension teaching is based on the principle that one must see and try to do, along with hearing, in order to go through all the six steps in the extension teaching learning process.

<table>
<thead>
<tr>
<th>7 Rs of Audio Visual aids</th>
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<tbody>
<tr>
<td>1. Right aid</td>
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<td>2. Right place</td>
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<td>3. Right way</td>
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<td>4. Right time</td>
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<td>5. Right people</td>
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<tr>
<td>6. Right message</td>
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<tr>
<td>7. Right extension worker</td>
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</tbody>
</table>

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<tr>
<td>6. Right message</td>
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<tr>
<td>7. Right extension worker</td>
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</tbody>
</table>

60
3.2.2 Functions of Audio Visual Aids

When properly used, audio visual aids contribute one or more of the following functions.

i) convey meaning clearly
ii) capture attention, arouse and sustain interest
iii) increase the correctness, clarity and effectiveness of the idea and skills being transferred
iv) help in learning more, faster, and with thoroughness
v) help in remembering longer
vi) reach more people, irrespective of their level of literacy, or language
vii) save the instructor's time
viii) reduce the possibility of misinterpreting concepts
ix) clarify the relationship between material objects and concepts
x) supplement the spoken word – the combination of audio and visual stimuli is particularly effective since the two most important senses are involved
xi) highlight the main points of the message clearly.

Audio visual aids offer extension workers a fast, accurate, and direct approach to understanding on the part of learners. They give the extension workers a reliable assurance that they are making their:

Expression = Impression and Impression =Expression

3.2.3 Limitations of Audio Visual Aids

i) Learners may sometimes form distorted impressions, unless audio visual aids are supplemented with required explanations
ii) They may tempt the extension worker to narrow down his teaching to only a few big ideas, not giving the complete picture of a subject
iii) There is the possible risk of 'spectatorism' instead of the attitude of thoughtful enquiry. Some extension workers acquire the mistaken idea that they have little to do when audio visuals are used.

Activity 1: Visit a nearby development department and enquire about how audio visual aids are helpful in their extension work. Write your observations.
Check Your Progress 1

Note:  a) Use the spaces given below for your answers.
       b) Check your answers with those given at the end of the unit.

1) Write what you mean by audio visual aids.

2) Write four functions of audio visual aids.

3) Write two limitations of audio visual aids.

---

3.3 CLASSIFICATION OF AUDIO VISUAL AIDS

There are many ways to classify audio visual aids

- according to progress
- according to sense involved
- according to projection, or show

Figure 3.1, gives a general classification involving the above three types for your comprehensive understanding.

3.3.1 According to Progress

First Generation: handmade charts, graphs, exhibits, models, etc.

Second Generation: printed or illustrated texts, printed graphics, workbooks, etc.

Third Generation: photographs, slides, films, radio, tape recorder, telecast, etc.

Fourth Generation: television, language laboratories, information communication technology based aids like computers, multimedia, touch screen kiosks, mobiles, etc.
3.3.2 According to Sense Involved

Audio Aids: instructional devices through which the message can only be heard are known as audio aids. Examples: radio, tape recorder, CD player, etc.

Visual Aids: instructional devices through which the message can only be seen are known as visual aids. Examples: posters, flashcards, charts, etc.

Audio Visual Aids: instructional devices through which message can be heard and seen simultaneously. Examples: television, video film, documentary film, etc.

3.3.3 According to Projection, or Show

Non projected Aids: Visual instructional devices which are simply presented without any projection equipment are non projected aids. Examples: blackboard, chart, etc.

Projected Aids: visual instructional devices which are shown with a projector are called projected aids. Examples: slides, filmstrip, silent films, cartoons, etc. projected through an opaque projector (epidiascope), or an over head projector.

Display Aids: visual aids which are spread before the audience for viewing information, and instruction. Examples: poster, bulletin, board, models, exhibits, etc.

Presentation Aids: visuals aids presented or projected before the audience for viewing, and at the same time explain, or present the message of the visuals, so that the audience get meaningful understanding of a subject. Examples: flashcards, slides, filmstrips, etc.

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**Classification of Audio-Visual Aids**

<table>
<thead>
<tr>
<th>Audio Aids</th>
<th>Visual Aids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>Symbolized</td>
</tr>
<tr>
<td>Tape</td>
<td>3 Dimensional</td>
</tr>
<tr>
<td>Recorder</td>
<td>2 Dimensional</td>
</tr>
<tr>
<td>Public Address</td>
<td>Models</td>
</tr>
<tr>
<td>System</td>
<td>Mockups</td>
</tr>
<tr>
<td>MP3</td>
<td>Objects</td>
</tr>
<tr>
<td>Folk Songs</td>
<td>Animation</td>
</tr>
<tr>
<td>Literature</td>
<td>Pictures</td>
</tr>
<tr>
<td>Leaflets</td>
<td>Non-Projected Aids</td>
</tr>
<tr>
<td>Bulletins</td>
<td>Chalkboard</td>
</tr>
<tr>
<td>News letters</td>
<td>Bulletin board</td>
</tr>
<tr>
<td>Circular letters</td>
<td>Photographs</td>
</tr>
<tr>
<td>News articles</td>
<td>Flash cards</td>
</tr>
<tr>
<td>Wall news</td>
<td>Posters</td>
</tr>
<tr>
<td>Newspapers</td>
<td>Pictures</td>
</tr>
<tr>
<td>Calendars</td>
<td></td>
</tr>
<tr>
<td>News Stories</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 3.1: Classification of Audio Visual Aids**
**Activity 2:** Visit a nearby development department, and identify and write the audio visual aids they are using in the extension work.

Check Your Progress 2

**Note:**

a) Use the spaces given below for your answers.

b) Check your answers with those given at the end of the unit.

1) Write the three ways of classifying audio visual aids.

2) Write examples for:
   
   i) Audio aids:
   
   ii) Visual aids:
   
   iii) Audio visual aids:
   
   iv) Non projected aids:
   
   v) Projected aids:

### 3.4 AUDIO AIDS

Audio aids are the instructional devices through which message can only be heard. It is said that we spend more than 50% of our time in hearing. This shows the importance of audio media in our life. Therefore, as an extension worker, it is necessary for you to understand important audio aids and their application in extension and development work.

**Advantages**

- Flexible, inexpensive, simple to use, and readily available.
- Recorded and used again and again - Editing and duplication is easy.
- Useful in individual, group, and mass teaching methods.
- Overcomes the illiteracy barrier.
- Audio messages are more dramatic than print messages.
- Portable and can be used in field situations.
Limitations

- The sequence of presentation is fixed.
- Comprehension of the presentation can be a constraint.
- The development of audio aids is time consuming.
- Storage and retrieval of audio tapes and records is tiresome.

Important audio aids that are useful for extension work, along with their specific advantages and limitations, are discussed next for your understanding.

3.4.1 Tape Recorder

A tape recorder is suitable for extension work in meetings, training programmes, campaigns, recording radio programmes, etc.

Advantages

- Facilitates on-the-spot recording of sound.
- Helps in duplication and dissemination of sound.
- Recorded tape can be immediately played back without any processing.
- Helps in synchronization of sound with picture.
- Easy to operate and preserve.
- Low operational cost, as the same tape may be used again.

3.4.2 Public Address System

A public address system amplifies sound so that it is audible to a large audience, over a distance. It may be run on dry or wet batteries, or AC/DC power supply. It consists of three segments, viz., microphone, amplifier and speaker. The microphone converts sounds into electrical waves which are fed into an amplifier. The amplified electric current is fed into a speaker to convert into sound waves, and the magnified sound is heard through speakers. It is very useful in meetings and campaigns to disseminate information.

3.4.3 Telephone and Mobile

The telephone allows people to talk to each other, from distant places. It provides for instant interpersonal communication, in which the communicator and the
person who is communicated to change roles while giving and getting information. This improves speed of communication and involves considerable saving of time, money, and labour. Though, usually, only two persons can communicate at a time through a telephone, the system serves many people in a given area if a speaker is attached to it, like Cell Phone Operated Mobile Audio Communication and Conference System (COMBACCS, Fig.3.3). This technology is seeing a phenomenal growth in many developing countries. Short Message Service (SMS) and Wireless Application Protocol (WAP) enabled cell phones with cameras can be effective in offering 'always available extension' between experts and people. COMBACCS can help community members at different locations build relationships and understanding.

### 3.4.4 Digital Audio Player

A digital audio player is sometimes referred to as an MP3 player, and has the primary function of storing, organizing and playing audio files. Some digital audio players are also referred to as portable media players as they have image-viewing and/or video-playing support.

*Example*: iPod (fourth generation audio aid).

Digital audio players are playing a major role in Information and Communication Technology based extension work in all development sectors due to their very compact size, use of very little power, and extremely small designs with long battery life.

**Activity 3:** Visit your nearby development department and enquire about the audio aids that they use in extension and development activities. Write your observations.

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**Kisan Call Centers for Agriculture Development**

The Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. of India launched Kisan Call Centers on January 21, 2004 across the country to deliver extension services to the farming community. The purpose of these call centres is to respond to issues raised by farmers, instantly, in the local language. There are call centres for every state which are expected to handle traffic from any part of the country on the number 1551. Queries related to agriculture and allied sectors have been addressed through these call centers since 2004.

![Kisan Call Center](image-url)
Check Your Progress 3

Note: a) Use the spaces given below for your answer.
   b) Check your answer with that given at the end of the unit.

1) Write any three advantages of audio aids.

3.5 NON-PROJECTED VISUAL AIDS

Non projected visual aids are those aids which are used without projection.

Advantages
- Abundant and are easily obtainable.
- Requires no electricity and appropriate for low budget extension work.
- Not much artistic ability is required in the use of these visual aids.
- Useful in small group situations.
- Many of them can be converted into projected aids. For example, charts, flannel graphs, and flash cards can be photographed or scanned and converted into slides.
- Some of them can be projected through an opaque projector.

3.5.1 Chalkboard or Blackboard

The chalkboard is probably the simplest, cheapest, most convenient, and widely used non projected visual aid in extension teaching. A black wooden board is mostly used, hence, it is also known as blackboard. However, ground glass, roll-up materials, coloured in black, olive green, or blue may also be used. Roll-up materials are made of heavy cloth canvas coated with chalkboard paint. For extension teaching under field conditions, inward folding wooden boards or roll-up materials are convenient. The chalkboard is suitable for use in lectures, training programmes, group meetings, etc. As one of the oldest aids to teaching known for the past four hundred years, the chalkboard is known for its ubiquitous presence in classrooms. It is a vehicle for a variety of visual materials.

Purpose
- To write important points to support oral presentation.
- To put illustrations for visualization of facts.
- Serve as base for recording learner’s inputs and help them in practice.
- Serve as surface for displaying other non projected visuals such as photographs, charts, graphs, diagrams, etc.
Guidelines

- The letter size should be large enough so that viewers in the last row can see the text clearly. The recommended letter sizes are
  a) 3 cm tall can be read up to 10 meters distance from the board
  b) 6 cm tall can be read up to 20 meters distance from the board
  c) The thickness of the letters should be $1/5^{th}$ of the height of the letter.
- Write slowly with even pressure on the chalk in a straight line.
- Don’t speak while writing on the board.
- The lower edge of the chalkboard should be at the level of the viewers’ eyes.
- The closest viewer should be about 3 meters from the chalkboard.
- No other teaching aid should be in front or beside the chalkboard to avoid distraction.
- Always clean the chalkboard when starting a new subject.

Advantages

- Step-by-step presentation of the topic creates a dramatic impact and sustains audience interest.
- A colourful effect may be produced by using coloured chalk.
- Presentations may be adjusted according to the receptivity of the audience.
- Helps the audience to take notes.
- Helps in comprehension and retention of knowledge.
- Economic, simple to construct, use, and maintain.
Limitations

- Bad handwriting of an extension worker may confuse the audience.
- The blackboard communication is temporary.

3.5.2 White Board

Modern classrooms are equipped with boards, also called marker boards or multipurpose boards. They can be used for more than one purpose. They are dustless and hygienic. They are preferred around computers as dust can harm computers. They require special erasable markers. A felt eraser is required to erase the surface soon after use. Markers are available in different colours.

Purpose

- It can be used for the same purpose as a blackboard, with more clarity.
- A variety of colour markers can be used for effectiveness.
- It may be used as a surface for projecting films, slides, and overhead transparencies.
- A white board with a steel backing can be used as a magnetic board for display.

3.5.3 Bulletin Board

A bulletin board displays messages. It is a surface on which bulletins, news, information, announcements, or specific or general interest can be displayed. Bulletin boards are of different sizes with provisions to hold pins, books exhibits and other materials. A bulletin board may be covered with soft insulation or perforated masonite, and may or may not be covered with glass. Fixing, dismantling and re-fixing message is very convenient on both types of boards. The message on the bulletin board may be in the form of words, graphs, charts, photographs, illustrations, publications, etc.

Purpose

- To decorate the office with photographs, pictures, or tastefully selected materials for the benefit of office visitors.
- To announce film shows, demonstrations, visits by extension workers.
- To remind people to get inoculations, spray their houses, weed their crops.
- To make comparisons. Example: Photographs of well-nourished and poorly nourished children

Desirable Features for Bulletin Boards

- Writing should be legible from a distance.
- The materials should be related with the objectives.
- A combination of facts, pictures, drawing and other materials can add variety.
- Decorative materials, such as coloured papers, tapes, pins, etc., should be used to enhance the attractiveness of the board.
- Highlight the main theme with a catchy illustration, caption, or text, or it may be the brightest or largest item on the board.
- Simplicity and brevity are keys to good arrangements. In addition, timeliness, variety, continuity, order, colour, spacing and balance are important.
- Keep the bulletin board neat and clean; remove the old materials promptly when no longer required.

**Advantages**
- Draws attention to important extension announcements.
- Facilitates the display of graphic and pictorial matter.
- Highlights current extension and development activities and achievements.

### 3.5.4 Pictures and Photographs

A picture is a representation made by drawing, painting, or photography which gives an accurate idea 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 enlarged photographs have more appeal. For extension photography, a good quality 35 mm. single-lens reflex camera with some essential attachments like a flash gun, lens hood, filters, close-up lens, etc. are useful. However, due to processing and preservation problems of negatives, as well as with the advancement of technology, now digital cameras are more popular.

**Purpose/Uses**

Pictures and photographs are used in various ways in extension work such as training programmes, publication, campaign, exhibition, slide, filmstrip, motion picture, television, newspaper and display etc. Photographs pasted with synthetic adhesive on thick board and cut to shape by ferret machine can produce good display material with 3-dimensional effect.

### 3.5.5 Rope Board

Rope, wire, heavy string can be used to create a background for pictures or exhibit materials. The rope can be stretched from floor to ceiling. Pictures mounted on cardboard or three dimensional objects can be taped in place. A heavy wire screen can also be used as a background.

![Fig.3.6: Rope Board on Malnutrition in Health and Family Welfare Extension](image)

### 3.5.6 Flannel Board and Flannel Graph

A flannel board is a visual aid in which messages are written or drawn on thick paper and presented step-by-step by the extension worker to the audience to synchronize with the talk. The board is a flannel covered flat surface. Flannel is stretched and then glued to a piece of plywood or heavy cardboard.
The name of the board comes from the kind of cloth that covers it:

- Flannel board - If covered with flannel cloth.
- Felt board - If covered with felt cloth.
- Khaddar board - If covered with *khadi* cloth, and so on.

![Flannel Graph](Source: RAGACOVAS, Puducherry)

Graphic materials like cut-out pictures, photographs writing on a piece of paper and backed by sand paper or flannel cloth are known as flannel graphs. When these flannel graphs are placed on a flannel board, they stick to the surface. Under field conditions, a rough cloth, a bed sheet, old blanket, khaddar, or flannel can be spread on any flat surface such as a chalk board, which also works like a flannel board. By pasting strips either of flannel or sandpaper to the backs of pictures, or to other instructional material, they can be made to cling to the flannel board.

**Purpose**

The appeal of a flannel board demonstration is that a progressive story can be unfolded before the learner’s eyes. The action of the moving parts attracts attention and stimulates interest. It can be of particular interest to illiterates for telling many kinds of educational stories. Clever extension workers can place interesting pieces on the board, and keep the audience wondering how the story will end, until the final piece is placed. Its capacity for building up suspense is the chief advantage in using a flannel board or flannel graph.

**Preparation**

- The board should be at least 30 × 40 inches and much larger if needed.
- Flannel must be light in colour for most uses – light grey, light tan, or green are good colours for the purpose.
- If the board is to be carried about, it should be cut into two and hinged at the centre.
Lean the board back slightly when in use so that materials stick easily to the board and are less likely to fall.

The title of the story should be in large letters at the top of the board.

The story materials can be drawings, photographs, or printed illustrations with sequence numbers.

Keep the story simple.

Use large and bold illustrations.

**Advantages**

- Facilitate presentation of the talk as important points are already noted.
- Helps in clarifying concepts.
- Helps in showing the cumulative process.
- Produces a dramatic effect on the audience.
- Helps in summarizing the talk.
- Saves time in the presentation of a talk.

**Limitations**

- Suitable for a small group.
- Requires some preparation and practice.

### 3.5.7 Flash Cards

Flash cards are brief visual messages on poster board cards flashed (turned over at short intervals) before the audience to emphasize important points in a presentation. Flash cards are held like a pack of cards and are flashed to the audience, one at a time, in a sequence, along with the talk.

**Preparation**

- A simple flash card is prepared by writing, printing or drawing on a plain sheet of white paper and pasting it to the cardboard.

- Limit the number of flashcards to 10 – 12.

- The size of the flash card should be:
  
  - 22"×28" for the group of 30 – 50 audience
  - 11"× 14" for small group.

- Letter size should be at least 1".

- Finish with a line drawing, or a cartoon.

Brief notes about the contents of the first card should be written on the back of the last card; notes about the second card should be on the back of 1" card; notes about the third card should be on the back of second card, and, so on, till the end of all the cards.
Presentation

- The complete story and parts of the story on each card should be familiar to the presenter.
- Stack the cards in their proper order.
- Hold the card with one hand close to the chest against the body if the cards are small. If they are large, they may be placed on a high table. In any case, display the cards so that people can see them clearly.
- Flash the card in time along with the notes. For notes on the first card, you may quietly look at the notes written on the back side of the last card, and continue the sequence till the end.
- Slip the front card to the back of the set to change the card, or to illustrate the new point.
- Expose the card long enough for comprehension, or a glance.
- After the story is completed, display the cards on a bulletin board, or pass them on to the audience for glance.
- Use other teaching tools for comprehension.

Advantages

- Can be made easily and quickly.
- Very simple to use and carry.
- Helps the speaker to emphasize the main points using the notes on the back of the cards.

3.5.8 Poster

A poster is displayed in a public place with the purpose of creating awareness amongst the people. A poster is generally seen from a distance and the person glancing at it seldom has the time or inclination to stop and read. The job of the poster is to stop the persons hurrying past, thrust the message upon them. A
poster may contain a written message, diagram, map, picture, or a cartoon. A few hand-drawn posters may be used in extension training programmes, group meetings, etc. Printed posters may be used in large numbers in campaigns, exhibitions, etc.

Purpose

The purpose of poster is to make a public announcement of a special idea with a few words and an illustration. A good poster is expected to take the learners through the first two steps in extension teaching, i.e., attention and interest. It is not expected to educate, but to stimulate action—either immediately or eventually. This requires a forceful idea, strongly presented by the content of the poster. It must be always a part of other teaching methods, viz., campaigns, meetings, demonstrations, etc.

**Kangaroo Method**

*For Care of New Born Baby*

<table>
<thead>
<tr>
<th>Benefits to Baby</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Maintain body temperature.</td>
</tr>
<tr>
<td>* Prevents low body temperature.</td>
</tr>
<tr>
<td>* Facilitates breastfeeding.</td>
</tr>
<tr>
<td>* Improves mother-infant bonding.</td>
</tr>
</tbody>
</table>

Fig. 3.9: Poster on Newborn Care in Health & Family Welfare Extension

Source: NIHFW, New Delhi

Preparation

While preparing posters consider the following points.

- Promote a single idea or message.
- Must be timely.
- Follow ABC principle—Attractive, Brevity, and Clarity.
- It must be able to attract attention. The persons hurrying past must be stopped by some attractive feature in the poster to take a look at it. The design and use of a poster as a visual aid in extension teaching is based on this principle.
- It must be brief enough to convey the message clearly. The wording must be brief and illustrations easily understood, so that the message of the poster is quickly absorbed.
- Use simple colours—no more than three.
- Must be large enough to be seen easily—22" × 28", 28" × 44", etc.
Advantages

- Helps in making announcements.
- Facilitates the display of ideas to the audience.
- Quick communication of a message to a large number of people.
- Easy to prepare and present.
- Highly economical.
- Highly versatile in use.

Limitations

- Posters give only an initial idea and cannot furnish detailed information. They need to be supported for further information by another aid or method, e.g., leaflets and demonstration.
- The production of good posters is a technical job and requires skill and time.
- Cannot be repeated – for each occasion a new poster has to be made.

Note: Remove the poster after the programme, or when they have served their purpose.

3.5.9 Charts

A chart is a symbolized visual aid with pictures of relationships and changes used to tabulate a large mass of information, or show a progression.

Purpose

Charts can help communicate difficult, often dull subject matter in an interesting and effective way. They make facts and figures clear and interesting, show or compare changes, show the size and placement of parts. They are also helpful in summarizing information and presenting abstract ideas in visual form.

Types of Charts

There are many varieties of charts. Some common types of charts are briefly discussed below for your understanding.

**Bar Chart:** Bar charts are made of a series of bars along a measured scale. They are used to compare quantities at different times, or, under different circumstances.

**Pie Chart:** Pie charts are in the shape of circles, and are used to show proportions and percentages.

**Tabular Chart:** Tabular charts are used to bring together mass related data in compact form. Example: timetable.

**Tree Chart:** Tree charts are used for showing development or growth of a programme or project. The origin is shown in a single line, or as a tree trunk, and various developments are shown as branches.

**Flow Chart:** Flow charts show organizational structure of departments, institutions, resources with lines and arrows.

**Pictorial Chart:** A pictorial chart gives the viewer a vivid picture, and creates a rapid association with the use of graphic messages, such as cartoons, and illustrations. Each visualized symbol indicates quantities. This type of chart is more useful for illiterate audience in extension work.
Overlay Chart: Overlay charts consist of a number of sheets which can be placed, one over the other, conveniently. On each individual sheet a part of the whole is drawn. This enables the viewer to see not only the different parts, but also how they appear when one is placed over the other. After the final overlay is placed, it shows the full view of the whole picture. This type of chart presentation is dramatic and effective.

Pull Chart: A pull chart consists of written messages on a large sheet. Messages are hidden by strips of thick paper held in position by the slits provided on either side. The messages can be shown to the viewer one after another, by pulling out the concealing strips. The same strip can be replaced in the slits after showing the message. This type of chart presentation is dramatic and creates suspense for the viewer.

Strip Tease Chart: They are similar to the pull chart, however, messages are concealed by strips of thin paper instead of thick paper. The ends of thin paper strips are pinned or pasted at both ends of the message. Whenever the message is to be exposed, one end of paper strip is stripped off. This has the advantage of surprise and anticipation.

Flip Chart: A flip chart is a series of visuals drawn into large sheets of paper or cardboard, fastened together at the top. These are turned over or flipped, one at a time by the extension worker. This kind of chart exposes the audience to segments of the subject in sequence, and holds attention remarkably well.

Window Chart: In this, flaps cover the messages and when the message is to be shown, the presenter open the flaps like windows. It creates suspense in the audience.

Preparation: While preparing any type of chart, consider the following points.

- Keep it simple.
- Promote a single idea or message with important details.
- Maintain logical order.
- Use symbols, words, or colours to explain the chart.
- Use lines and bars in only one dimension.
- Compare units and avoid comparing unrelated units.
- The chart title must emphasize certain parts of diagrams. The title for 8" × 10½" sheet should be about ½" height, and for 30" × 40" charts, the height should be about 2½".

Activity 4: Visit your nearby development department and observe their bulletin board and some of the posters prepared by them. Compare their features with those given in this unit. Write your observations.

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Check Your Progress 4

Note: a) Use the spaces given below for your answers.
       b) Check your answers with those given at the end of the unit.

1) What do you mean by non projected visual aids?

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2) Write any three advantages of non projected visual aids.

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3) Write the salient points to be considered while preparing a poster.

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4) Write the names any four types of charts.

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3.6 PROJECTED VISUAL AIDS

Any visual aid which is used for magnification of image on a screen in dark or
semi-dark conditions can be called a projected visual aid. There are three important
methods of projection:

• Direct projection - slide and film projectors
• Indirect projection – overhead projector
• Reflected projection – opaque projector, epidioscope.
Advantages

- Very effective aids to classroom teaching with a characteristic appeal of their own for influencing learners.
- When combined with audio aids or on the spot commentary, they prove to be very useful.

Limitations

- Require special equipment for display.
- The equipment is costly, needs meticulous care and training for operation.
- Electricity/backup power is required for operation.
- The transportation and storage of equipment needs special attention.
- The quality of projection depends on the kind of screen, placement of the audience in relation to the screen, and, the size of the image, and its brightness.

However, the above limitations don’t lessen the importance of using these visuals wherever suitable, due to their specific and definite advantages in extension and development work.

3.6.1 Slides

A slide is a transparent mounted picture which is projected by focusing light through it. The projection may be made on a screen or on a white wall. Slides of 35mm films, mounted on individual cardboard or plastic frames are common, and are extensively used in extension work during training programmes, seminars, workshops, group meetings, campaigns, exhibitions, etc.

3.6.2 Overhead Projector

The overhead projector projects the picture over the head of the speaker on the screen. Drawings, diagrams, letterings, etc., are made on transparent sheets and are put on the glass platform of the overhead projector, through which a strong light is passed. The rays of light are made to converge with a lens, and are 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 polythene rolls with a special marker pen, in colour or in black and white. Transparencies can also be made through photographic, xerox, or electronic processes as well. Overhead projection is used in training programmes, group meeting, seminar, symposium, workshop, etc.

Fig.3.11: Overhead Project (Source: RAGACOVAS, Puducherry)
Advantages

- Projection may be synchronized with the talk by facing the audience and observing their reaction.
- The presenter can also write, make sketches, and erase while projecting.
- Covering a portion of the transparency with a sheet of paper and making progressive disclosure, and superimposing diagrams may be achieved effectively.
- Makes the talk dynamic and sustains audience interest.
- Complex ideas may be clearly presented.
- Saves time in presenting the talk.
- Easy to prepare and project the instructional materials.
- Materials for transparencies are cheap and easily available.

3.6.3 Handheld Projector

The handheld projector is also known as a pocket projector, or a mobile projector, or a pico-projector. It is an emerging technology that applies the use of a projector in a handheld device. It is a response to the emergence of compact portable devices such as mobile phones, personal digital assistants and digital cameras, which have sufficient storage capacity to handle presentation materials with an attached display screen. Handheld projectors involve miniaturized hardware and software that can project digital images on to any nearby viewing surface, such as a wall or screen. A handheld projector has the ability to project a clear image, regardless of the physical characteristics of the viewing surface.

Check Your Progress 5

Note: a) Use the spaces given below for your answers.
   b) Check your answers with those given at the end of the unit.

1) Write what you mean by projected visual aids.
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2) Write about different methods of projection, and give an example under each projection.
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3.7 AUDIO VISUAL AIDS

Audio visual aids are those devices through which messages can be seen as well as heard, simultaneously. Synchronization of these two important senses leads to more learning and more retention when compared to the use of visual and audio senses separately. We learnt from the previous section that the two senses, sight and hearing, together, attracts 94% of audience attention. This is clear cut evidence that audio visual aids can play an important role in extension teaching.

Advantages

- Convey meaning clearly in a condensed form and clarify ideas better.
- Supplement spoken word.
- Supply a concrete basis for conceptual thinking.
- Attract the attention, arouse, as well as sustain, the interest of the audience.
- Make learning more permanent.
- Overcome limitations of space, time, and distance.
- Develop continuity of thought with motion pictures.
- Stimulate self activity, and motivate people for action.

3.7.1 Motion Pictures

Motion pictures are extremely useful in motivating and teaching any learner. Yet educational films are not being widely used by extension educators in many development sub sectors. The reasons usually given are:

- The expense of films and projectors.
- Non availability of suitable films.
- Transportation and maintenance of films and projectors.
- Dominance of entertainment over educative function of films.
- Lack of skills, on the part of extension workers, to operate projectors.

Seating Arrangements for a Motion Picture Show

The farthest seat from the screen should not be more than 6 times the width of the picture on the screen. Don’t seat learners closer to the screen than twice the width of the picture. With a canvas/matte screen, the viewing angle should not exceed 300, and with a beaded screen the angle should not exceed 250. The bottom of the screen should be about one foot above the heads of the audience.
Preparation

- See the preview of the educational film and assure yourself that it is suitable for the planned extension activity and intended audience.
- Note down important teaching points and difficult words that audience might not understand.
- Compose a few questions which are answered in the film.
- Make sure that the projector and film are in good condition and that there is sufficient darkness in the presentation area, before the arrival of the audience.

Presentation

- Make your audience aware that the purpose of the film is educational and not entertainment, and that they will be expected to learn the messages from it.
- Tell them the title of the film and say, generally, what the film is about.
- Explain why this film is important and relate it to their own self interests.
- Write the questions that you composed on the chalkboard and inform them that these questions will be answered by the film.
- Try to show the film without any breaks or distractions.
- Immediately after film screening, encourage the audience to discuss it, freely.
- Distribute relevant literature, and provide contact addresses for further information.
- Demonstrate the skill, if any, showed in the film.
- If required show the film again.

Advantages

- Combines sound and sight, acting on two senses at the same time.
- Attracts and holds attention due to illuminated screen in semidarkness.
- Overcomes the barrier of illiteracy – it communicates extension ideas to anyone who can see and hear.
- Audiences identify themselves with the story on the screen, thus producing highly emotional responses.
- Brings audiences closer to the objects, places, and situations that they cannot ordinarily see in their daily lives.

Limitations

- Requires a lot of planning and preparation on part of extension workers.
- The audiences' focus may be on entertainment rather than education.
- With the advent of television, video, and digital technology, the importance of motion pictures has been reduced.
3.7.2 Video Projector

A video projector is also known as a Digital Projector, now popular for many applications for extension and development. All video projectors use a very bright light to project the image. Projected image size is important because the total amount of light does not change - as size increases, brightness decreases. They are widely used with, or without a connection to an interactive white board for presentations, training, demonstrations, etc. CRT projector that uses cathode ray tubes is the oldest system still in regular use, but falling out of favour largely because of the bulky cabinet. An LCD projector using LCD light gates is the simplest system, making it one of the most common and affordable, currently.

3.7.3 Interactive White Board

An interactive white board is a large interactive display that connects to a computer and projector. A projector projects the computer’s desktop onto the board’s surface, where users control the computer using a pen, finger, or other device. The board is typically mounted to a wall, or on a floor stand.

Purpose

- It is a replacement for a whiteboard, flipchart, or video, or, other media system, such as a DVD player and TV combination.
- Can interact with online information from anywhere.
- Captures notes written on the whiteboard for later distribution.
- Some interactive whiteboards allow recording the instruction as digital video files for review – a very effective instructional strategy for learners who benefit from repetition, for those who need to see the material presented again, those who are absent, for struggling learners, and, for future review.
- With its integrated audience response system, presenters can get feedback.
- Helps to teach abstract, difficult concepts and complex ideas – visual tools help learners concentrate for longer and understand more fully.
- Technology has the capability of bringing lessons to life and making the lessons much more enjoyable for the learner.

Limitations

- Can be useful in the classroom situation with advanced facilities, but not under field conditions.
- Permanent markers, for example, can create problems on some interactive whiteboard surfaces. (Punctures, dents and other damage to surfaces are a risk, but do not typically occur in the normal course of classroom use).
• The technology was initially welcomed by learners, however, it seems that any boost in their motivation is short-lived.
• It is possible that learners focus more on the new technology rather than on what they should be learning.
• In lower ability groups, it could actually slow the pace of learning of the whole class, as individual learners take turns at the board.

3.7.4 Multimedia and Multiple Media
Multimedia is a combination of more than one media, but it could include several forms of media - audio, text, still images, animation, graphics, video, and film. The use of more than one aid is increasingly common. Even earlier, multiple media presentations were assembled with the available traditional audio visual aids resources.

Example: Combinations of overhead projectors, flipcharts and slide projectors.

Multimedia in a more current context generally implies a computer based media. The term, computer based multimedia, has become very popular. Interactive video is one form of computer based multimedia. With computer based multimedia, information access is simplified. Sophisticated databases can organize vast amounts of information which can be quickly sorted, searched, found, and cross indexed.

Example: Through information kiosks, a lot of developmental information is being accessed in remote and rural areas.

![Figure 3.12: Interactive Information Kiosk](image1.png)

![Figure 3.13: A Rural Women Livestock Farmer with Interactive Information Kiosk](image2.png)

Source: RAGACOVAS, Puducherry

The advantage of using multiple media is that it can greatly increase the impact of presentation. It can also lead to a confused presentation, if not planned very carefully. The best advice is to use multiple media only if needed.

**Activity 5:** Visit the nearest development department and collect the titles and educational objectives of films, multimedia if any.
Check Your Progress 6

Note: a) Use the spaces given below for your answers.
   b) Check your answers with those given at the end of the unit.

1) Write few examples of audio visual aids.
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2) Write what you mean by multimedia and provide an example.
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3.8 FACTORS THAT INFLUENCE THE SELECTION OF AUDIO VISUAL AIDS

Audio Visual aids will supplement the extension and development worker but cannot replace them. All aids cannot be used for all occasions, but for every occasion, there are aids which should be carefully selected and properly used. No single rule-of-thumb can be given for the selection and use of various audio visual aids to ensure effectiveness in all situations. In order to get the most effective results, the extension worker should:

- select the appropriate aids
- have a suitable combination of the selected aids
- use them in proper sequence.

<table>
<thead>
<tr>
<th>Extension Worker vs Effectiveness of AV Aids</th>
</tr>
</thead>
<tbody>
<tr>
<td>The extension worker and audio visual aids are considered as ‘1’ and ‘0’ and if they are properly associated as ‘1’ followed by ‘0’ (10), the effectiveness of extension worker increases 10 – fold. If they are improperly associated like ‘0’ followed by ‘1’ (01), then, there is no effect.</td>
</tr>
</tbody>
</table>

Audio visual aids are used singly, or, in combination, taking into consideration the following factors

*Nature of Audience*: Printed media are for literate people, whereas exhibits, pictures and symbols are for less literate people.
**Size of Audience:** A video show or white board cannot be used effectively when the number of participants exceeds 30; leaflets, bulletins, or handouts can be used for a single reader at a time, while a public address system, or messages via the internet can be used for large audiences.

**Teaching Objective / Expected Nature of Change:** Select the audio visual aids based on the objective of extension teaching, i.e., to bring about a change in

- thinking or knowledge?
- attitude or feeling?
- actions or skill?

*Example:* if you want merely to inform, or, to influence a large number of people slightly, use mass media such as radio or television.

**Nature of Subject Matter:** where the new practice is simple, or familiar (i.e., similar to those already being followed) a news article, radio message, or, circular letter will be effective, whereas complex, or, unfamiliar practices will require audio visual aids.

**Availability of Aids:** media such as newspapers, telephones, radio, etc., will also have a direct bearing on the extent to which these methods can be used.

**Relative Cost:** effective aids need not be necessarily costly. The amount expended on audio visual aids, in relation to the extent of effectiveness, is also an important consideration in their selection and use.

**Extension Worker’s Familiarity:** familiarity of the extension worker with the use of audio visual aids, skill in selection, preparation, and use of aids will also influence the selection and use of the aids.

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**Questions for Evaluation of Audio Visual Aids**

- Do the aids give a true picture of the idea they present?
- Do they contribute meaningful content to the topic under study?
- Is the aid appropriate for the age, intelligence, and experience of the learner?
- Is the physical condition of the aid satisfactory?
- Do they make the learners better thinkers, critical minded?
- Is the material worth the time and effort involved?

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**3.8.1 Audio Visual Aids for Different Extension Teaching Methods**

The extension and development worker’s main job is to communicate information to people. How well they do their job is indicated not by the number of people they reach, but by the amount of change they produce in those they reach. From the discussion presented in Unit 2 on ‘Extension Teaching Methods’, we understood that most effective extension work can be done by the individual contact method. We all know that the personal approach is an effective way of solving problems, since the solution can be clearly planned to meet the needs of individuals. However, urgent development needs in different sectors in rural and
Extension Teaching Methods and Audio Visual Aids

urban areas demand that extension workers reach and influence many more people than can possibly be reached by the individual contacts. Many kinds of developmental problems can be solved well in a group situation, too. Group methods bring together a number of persons with common problems and suggest solution. Personal and group methods cannot reach everyone who wants and needs information. So, mass methods must be used to reach a large number of people quickly. Audio visual aids have a vital place in each of these three methods.

Audio Visuals in Individual Contact Methods: models, specimens, mock-ups, objects, animation pictures, etc., work well in individual contacts

Audio Visuals in Group Contact Methods: chalk board, flannel graphs, flash cards, motion pictures, film strips, overhead projector, etc., can be used well in group methods.

Audio Visuals in Mass Contact Methods: television, radio, public address system, all printed publications, photographs on bulletin board, posters, etc., can be used well in mass methods.

Combination of Aids

Dear learner, from the discussion presented in this unit it is clear that when a larger number of sensory organs are engaged in the learning process, the greater will be its effectiveness. Hence, more than one form of aids will have more influence on learners. Extension work plans must include aids that enable them to see, hear and do the thing to be learned. The use of various aids needs to be arranged in proper sequence to get effective results in the teaching-learning process. For instance, a personal contact is made through a telephone. The meeting is advertised by circular letters. A news story is written on the results and is broadcast over the radio. Pictures are taken and a slide story is shown at a meeting. One aid helps another, and many of them are used in combination and sequence to repeat the story.

Activity 6: Visit your nearby development department and enquire about the different combinations of audio visual aids that they use in their work. Write your observations.

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Check Your Progress 7

Note: a) Use the spaces given below for your answers.
   b) Check your answers with those given at the end of the unit.

1) Write the audio visual aids useful in the following teaching methods.
   i) Individual contact method : .................................................................
   ii) Group contact method : .................................................................
   iii) Mass contact method : .................................................................
2) Write the factors to be considered while selecting audio visual aids.

3.9 LET US SUM UP

In the preceding pages, a wide variety of audio visual aids and their use in extension and development work were discussed. From this discussion, we understood that the preparation and use of audio visual aids for extension teaching is not an easy way, but it does make learning more effective, interesting and permanent. The forgoing discussion, when properly understood and applied by you, along with suitable teaching methods, should take your learners through the steps in teaching—learning process. In this unit, we started by looking at the meaning, functions, and limitations of audio visual aids and understood that they will supplement the extension and development worker, but cannot replace the development worker. Later, we classified and discussed important audio visual aids along with their preparation, merits, and limitations. At the end, we discussed the factors influencing the selection of aids, and aids suitable for different extension teaching methods. Overall, from this discussion, we realized that all aids cannot be used for all occasions, but for every occasion, there are aids which may be carefully selected and properly used.

3.10 KEYWORDS

Audio Aids : instructional devices through which message can only be heard.

Visual Aids : instructional devices through which message can only be seen.

Audio Visual Aids : instructional devices in which the message can be heard and seen simultaneously.

Non projected Aids : visual instructional devices which are simply presented without any projection equipment.

Projected Aids : visual instructional devices which are projected and magnified by focusing light.

Display Aids : visual aids which are spread before the audience for viewing, who get the message by looking at them.

Presentation Aids : visuals aids, presented or projected before the audience for viewing, which explain, or present the message of the visuals, so that the audience understands of them.
### Extension Teaching Methods and Audio Visual Aids

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chalkboard/ Blackboard</strong></td>
<td>probably the simplest, cheapest, most convenient, and widely used non projected visual aid in extension teaching.</td>
</tr>
<tr>
<td><strong>White Board</strong></td>
<td>modern class rooms are equipped with white boards which are also called as marker boards, or multi-purpose boards.</td>
</tr>
<tr>
<td><strong>Bulletin Board</strong></td>
<td>a board for displaying messages.</td>
</tr>
<tr>
<td><strong>Flannel Board</strong></td>
<td>a visual aid in which messages are written or drawn on thick paper and presented step-by-step by the extension agent to the audience and are synchronized with the talk.</td>
</tr>
<tr>
<td><strong>Flash Cards</strong></td>
<td>brief visual messages on poster board cards flashed (turned over at short intervals) before the audience to emphasize important points in a presentation.</td>
</tr>
<tr>
<td><strong>Poster</strong></td>
<td>a printed message displayed in a public place with the purpose of creating awareness amongst the people.</td>
</tr>
<tr>
<td><strong>Charts</strong></td>
<td>a symbolized visual aid with pictures of relationships and changes used to tabulate a large mass of information, or to show a progression.</td>
</tr>
<tr>
<td><strong>Multimedia</strong></td>
<td>a combination of more than one media, but it could include several forms of media and audio, text, still images, animation, graphics, video, and film.</td>
</tr>
</tbody>
</table>

#### 3.11 REFERENCES AND SELECTED READINGS


#### 3.12 CHECK YOUR PROGRESS - POSSIBLE ANSWERS

**Check Your Progress 1**

1) Audio visual aids are instructional devices with which the messages can be heard and seen simultaneously. *Examples: video film, documentary film, etc.*

2) The functions of audio visual aids include: helps to convey meaning clearly; capture audience attention and arouse their interest; increase the correctness, clarity, and effectiveness of an idea and skills being transferred; helps to sustain the interest of the learners, etc.
The limitations of AV aids include: learners may sometimes form distorted impressions unless audio visual aids are supplemented with required explanation; temptation for the extension worker to narrow down his teaching to only a few big ideas, not giving the complete picture of a subject, and; possible risk of ‘spectatorism’ instead of the attitude of thoughtful enquiry.

Check Your Progress 2

1) The three ways to classify audio visual aids are according to evolution, sense involved, and projection.

2) (i) Audio aids: radio, tape recorder (ii) visual aids: posters, flashcards, charts (iii) audio visual aids: television, video (iv) Non projected aids: black board, chart (v) projected aids: overhead projector, slides

Check Your Progress 3

1) The advantages of audio aids include: recorded, so that it can be used again and again; flexible; editing and duplication is easy; inexpensive; and, readily available.

Check Your Progress 4

1) Non projected visual aids are those aids which are directly used as they are without projection.

2) The advantages of non projected visual aids are: abundant and easily obtainable; very useful in places where there is no electricity, and in low budget situations; not much artistic ability on part of extension workers is required; useful in small group situations; and, many non projected aids can be converted into projected aids.

3) While preparing a poster consider: promotion of single idea or message; ABC principle - attractive, brevity and clarity; ability to attract attention; use simple colours - not more than three, and; must be large enough to be seen easily.

4) Different types of charts are bar, pie, tabular, tree, flow, pictorial, overlay, flip, strip tease, pull, and window charts.

Check Your Progress 5

1) Any visual aid which is used for magnification of an image on a screen in the dark, or in semi-dark conditions can be called a projected visual aid.

2) Different methods of projection includes: direct projection - slides and film projectors; indirect projection – overhead projector; and, reflected projection – opaque projector, epidioscope.

3) In overhead projection, the rays of light are converged by a lens and reflected by a mirror held at an angle on the screen at the back.

Check Your Progress 6

1) Motion pictures, video, interactive whiteboard, and multimedia are a few examples of AV aids.
2) Multimedia is a combination of more than one media, but it could include several forms of media-audio, text, still images, animation, graphics, video/film. *Examples:* combinations of overhead projectors, flipcharts and slide projectors. In recent years, the terms computer based multimedia, have become very popular. Interactive video is one form of computer based multimedia.

**Check Your Progress 7**

1) *Individual Contact Methods:* models, specimens, mock-ups, objects, animation pictures; *Group Contact Methods:* chalk board, flannel graphs, flash cards, overhead projector; *Mass Contact Methods:* television, radio, public address system, all printed publications.

2) The factors to be considered include: The nature and size of audience; teaching objective; nature of subject matter; availability and relative cost of aids, and; extension worker’s familiarity with aids.