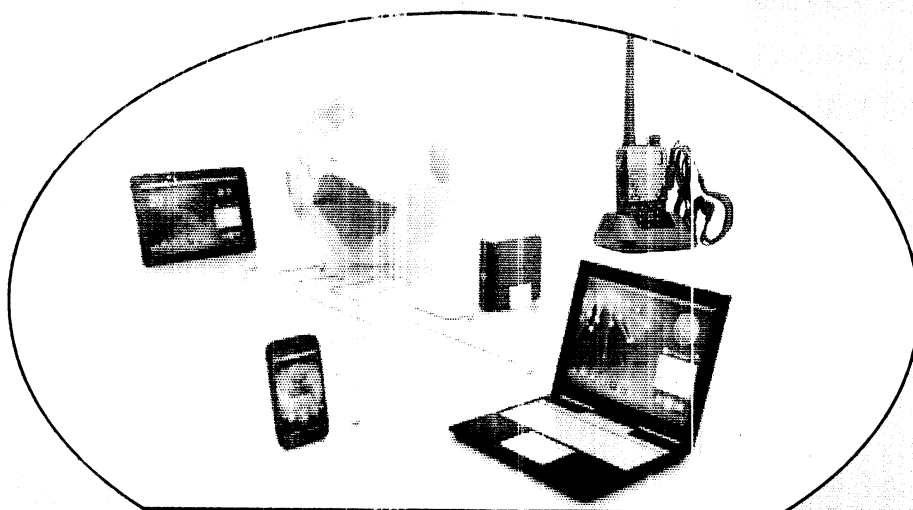


Practical Manual on

Communication, Diffusion and Adoption of Home Stead Technologies



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CERTIFICATE

It is to certify that this is record of the practical work carried out by

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*Reg. No..... in the course of **Communication,**
(CECM-122)*

Diffusion and adoption of Home Stead Technologies

during Second Semester of 1st Year B.Sc.(Hons.) Community Science.

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Individual contact Method- Farm and Home Visit.

Objective: To study the individual contact Method- Farm and Home visit.

In the individual contact method the extension agent communicates with the people individually, maintaining separate identity of each person.

When to use it?

These methods are followed when the number of people to be contacted are few, are conveniently located close to the communicator and sufficient time is available for communication.

What is it?

Farm and home visit, is a direct, face to face contact by the extension agent with the farmer or home maker at their farm or home for extension work.

Objectives:

- ❖ To get acquainted with and enable home makers to gain confidence.
- ❖ To obtain and/or to give first hand information on matters relating to farm and home.
- ❖ To teach different skills.
- ❖ To seek co-operation and participation of the farm women in extension activities.
- ❖ To explain a recommended practice or create desire to adopt an improved practice.

Technique :

- ❖ Decide on the audience and the objective whom to meet and for what ?
- ❖ Make a schedule of visits to save time and energy.
- ❖ Get adequate information about the topic including research findings.
- ❖ Collect relevant publications and materials to be handed over.
- ❖ If possible, send advance information about your schedule of visit by mail or Posters etc.

Implementation:

- ❖ Visit the farm or at home on the scheduled date and time.
- ❖ Greet the person properly and use common social courtesies.
- ❖ Never lower the dignity of farm women and her family.
- ❖ Don't tell immediately and directly the purpose of your visit.
- ❖ Create interest of the farm women by developing purpose.
- ❖ Specific conversation and allow them to talk first and explain her problems freely.

-
- ❖ Present the message or point of view and explain up to the satisfaction of the farm women.
 - ❖ Clear doubts by answering the questions raised.
 - ❖ Provide only sound and technical information.
 - ❖ Hand over publications and convince for reading.
 - ❖ Try to get some assurance for action.

Follow up:

- ❖ Keep appropriate record of visit.
- ❖ Send committed information or material
- ❖ Make subsequent visits as and when necessary.

Limitations:

- ❖ Only limited number of contacts may be made.
- ❖ It is time consuming and costly method.
- ❖ It may create doubts and disappointment among those not contacted.

Practical Exercise:

Students will visit homes in their community to get acquainted with women's problems, will plan and conduct home visits and will write a report of the same in their practical journal.

Preparation of Charts

Charts are visual symbols for *summarizing, comparing, contrasting, or performing* other services, in explaining subject matter. In other words, they are diagrammatic presentations of facts or ideas.

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

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

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

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

The strip tease chart adds sparkle to what might otherwise be drab presentation. It centres attention on the most important fact. The technique increases learning and aids recall.

3. Organization or Flow Charts: These are diagrams used to show organizational or administrative relationships. Boxes connected with lines show levels and lines of authority. You could use organizational charts to show administrative relationship in a ministry, an extension service or a university.

4. Bar Charts: (or Bar graphs) these are used to compare it at different times or under different circumstances. They are composed of *measured blocks spaced along a clearly marked scale*. For instance, the effect of fertilizer for increasing crop yields on test plots in three successive years might be shown in bar charts.

5. Time (or Table) Charts: A railway time table is a familiar example.

6. Job Charts: e.g., Gramsevaks job charts.

7. Tree Charts or stream Charts: Are used to show the development or growth of something in the shape of tree or stream. e.g. Disciplines of Community Science

8. Flip Charts :Consist of series of individual charts which are tacked or bound together and hung on a supporting stand. These individual charts carry a series of related messages in sequence. The teacher flips them one after another, as the lesson or story progresses.

To be effective, a flip chart should deal with only one broad theme and give only the salient points without too much data or details.

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

10. Pie Charts (or pie graphs): These are in the shape of circles and used to show how several parts make up the whole. A pie chart might be used to show the relative proportion of different crop produced by a country. Each section of the pie should have its own colour. A colour key or code in the margin will help the audience remember what the different sections represent.

11. Line Charts (or line Graphs): These are particularly useful in showing trends and relationships. A single continuous line may represent growth or expansion. Multiple lines may show the relation between market price and quantity of a farm product. A cumulative line chart may show relation trends between production costs and market price.

12. Pictorial Graphs (or Pictographs) : To give the view a vivid picture and to create a rapid association with the graph message, cartoons and other types of illustrations may be used. Each visual symbol or “isotype” may indicate quantity, as shown when you compare the number of tractors on farms in different years.

Practical: The student will prepare 2 to 3 types of chart.

Preparation of Posters

The poster is an important visual aid. But like other “aids” the poster is never used alone. It must always be part of a campaign or a teaching programme. It will serve first to inspire the people. Lastly, as long as it remains in the village it will serve as a reminder to the villagers. A poster is a peculiar device designed to attract attention and communicate a story, a fact, an idea or an image rapidly and clearly. It makes them feel a part of the work at hand.

To be useful, a poster must be planned for a special job. It must be planned for the people who are supposed to do the job.

A good poster arouses or urges people to immediate action and highly suggestive.

The following points should be considered in making a poster.

- (i) To do a special job: (a) Promote one point (b) support local demonstrations (c) Support local exhibits.
- ii) To be planned for the people who are supposed to do the job.
 - (a) Contain dramatic pictures that will stop people and make them look
 - (b) Tell the story in a single glance: (1) Have few words (2) Have simple words (3) Have one idea (4) Have bold letters
 - (c) Must picture everyday living (d) Should be in pleasing colours (e) Should be at least 20 by 30 inches in size (f) Must be timely (g) Posters should be placed where people pass or where people gather.

Remember - A poster must be part of a campaign - a Poster will not stand alone.

A B C of posters: Attractive, Brief, Clear.

Components of a poster :

a) Illustration or picture : It should be such as to bring out the message clearly at a glance. If it is a drawing, the actual thing to be shown should be brought out as bold relief. Avoid unnecessary details so that the viewer’s attention is not confused. If you use a photograph, avoid unwanted surroundings and bring out the point prominently. While preparing illustrations keep in mind the experience of the audience and use objects familiar to them.

b) Caption in words : As small as possible. A five word caption is the best. Never write the caption vertically as it creates difficulty in reading. Do not break the caption.

c) Colour: Use bright attractive colours. The center core can be highlighted with a more prominent colour. Even in the caption some prominent word can be given with different colour. Do not use more than three colours, otherwise it may be confusing. Do not use odd combinations of colours.

d) Space: If a poster is loaded with pictures and words the viewer gets lost. So provide adequate space.

e) Layout: It should be well balanced so that the viewer's eyes can travel smoothly and quickly through the caption and illustration. It should hold his attention and clearly bring out the message to the viewer.

f) Check: After the rough layout is complete show it to some people of the level of your audience. If there is any misconception or ambiguity, remove it.

The poster should recommend action. It should be placed where people pass or gather. It should give only one idea and details should be given through other media.

Posters that are produced properly are often not effective because they are put in a poor place or not pasted.

Advantages:

- ❖ Helps in making announcements.
- ❖ Facilitates display of ideas to the audience.
- ❖ Quick communication of message to a large number of people dispersed widely and in remote areas.
- ❖ Facilitates motivating people.

Limitations:

- ❖ Posters give only initial idea and cannot furnish detailed information.
- ❖ Production of good poster is a technical job and requires skill, time and money.
- ❖ Cannot be repeated. For each occasion a new poster is to be made.

Practical:

Student will prepare a poster on Community Science related issue.

Preparation of flash Cards

Flash cards consists of a set of visual message presented on thick cards which are flashed one by one in a logical sequence before the audience to bring home an idea.

Flash cards are another two dimensional low cost non-projected visual aids used in the presentation of illustrations, diagrams and figures with title/ caption in a topic. They are a series of brief visual messages on a card board/ poster card, flashed before a group of audience to emphasis the important point in a presentation.

Planning:

- ❖ Decide a topic which consists of illustrations or digrams. Ex : preparation of soybean products.
- ❖ Decide number of cards, preferably 10-12. Select key/ Impact points for each illustration/ diagram. Finalise appropriate captions/title for each card. Ensure materials required for presentation.

Preparation:

- ❖ Select the size of the flash cards according to number of audience 11" x 14" up to 30 groups of people.
- ❖ 22" x 28" between 30 to 50 people. Generally 11" x 14" flash cards are used.
- ❖ Prepare a rough sketch or layout of each flash card in terms of caption and illustration.
- ❖ Letter size should be 1" (one inch).
- ❖ Use two colors one for caption and another for illustration.
- ❖ Follow informal balance.
- ❖ Impact/ essential points of the first card should be written on the back side of the last card. Similarly the impact points of the second card should be written on the back side of the first card. Similar procedure should be followed for other Cards
- ❖ Flash cards may be prepared by writing, printing or drawing on a plain sheet of white paper and pasting it to the card board. Otherwise use a poster paper for Ivory card and write or draw directly
- ❖ Cards are serially numbered.
- ❖ Test the flash cards before they are used in real situation.

Presentation :

- ❖ Check and arrange the cards serially.

-
- ❖ Hold the cards with one hand to the eye level of audience. If they are large, they may be placed on an easel.
 - ❖ Expose the card for required time.
 - ❖ Flash the card in time with commentary.
 - ❖ Glance at essential points on the back of the card.
 - ❖ Shift the first card to the last after explanation. Then second and so on.
 - ❖ Go to the audience and show the details of the illustration if necessary.
 - ❖ Past or future objects are to be presented.
 - ❖ Physically inaccessible objects like mountains, projects etc.
 - ❖ Unusable reality, such as working of object.

Practical :

- ❖ Identify the topics in different areas of Home Science for preparing flash cards.
- ❖ Prepare set of flash cards & Practice the use of set of flash cards.

Preparation of Folder

A folder is a single piece of paper folded once or twice. When opened, material is presented in a sequence.

How to write

- ❖ Make sure that the sequence appears in a finished folder, if not reader may be confused.
- ❖ Folders are normally printed on paper heavier than flyers so they have a longer life.
- ❖ Folders are usually prepared on 'offset' on a heavier paper.
- ❖ Folders are made more attractive by using photograph line drawing and various colour inks and paper.
- ❖ A four inch x eight inch (4" x 8") folder is quite attractive.
- ❖ There is no set rule in size.
- ❖ A width to length ratio 1:1½ may be more suitable when paper size permits without waste. The basic consideration is that the publication size fits the paper stock, thus eliminating excessive trimming.
- ❖ Folders are not distributed as freely and indiscriminately as are flyers because they cost more.

Purpose

- ❖ To provide precise and reliable scientific information given in simple language about a single practice.
- ❖ To serve the immediate needs of the farm women like control of anemia.

Procedure

- ❖ Write on one simple practice or idea at a time.
- ❖ Select topics related to the urgent needs of the farmer.
- ❖ Write in simple, short sentences and paragraphs, in the local language.
- ❖ Use illustrations and pictures.
- ❖ Give complete directions (after checking on their correctness).

Advantages

- ❖ Can reach a large section of literate people.
- ❖ Can be preserved and used for reference purposes.
- ❖ Comparatively cheap.
- ❖ Accurate information and minute details can be given.
- ❖ Can be easily prepared.
- ❖ Can be used to maintain or increase the tempo of work.
- ❖ Can be used to continue contacts.
- ❖ Can be used to enhance the prestige of local leaders and groups.
- ❖ Can promote literacy.

Limitation

- ❖ It is of little use in areas of low literacy.

Practical:

Student will prepare one folder on the Community Science related issue.

Organization of Method Demonstrations

Method Demonstration aims at teaching new information or a new skill to rural women. It is based on the principles “Learning by doing”. A method demonstration tries to show or teach how to do a particular thing. Through method demonstration skill is taught. It is a short time demonstration given before a group to show how to carry out entirely new practices or old practices in a better way.

Objectives

1. To enable the people to acquire new skills.
2. To enable people to improve upon their old skills.
3. To make the learners do things more efficiently, by getting rid of defective practices.
4. To save time, labour and annoyances and to increase satisfaction of learners.
5. To give confidence to the people that a particular recommended practice is a practicable proposition in their own situation.

Procedure

A) Analyze the situation and determine the need

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

B) Plan the demonstration in detail

- ❖ Gather all the information about the practice; familiarize yourself with the subject matter.
- ❖ Check on research findings.
- ❖ Take over the problem with a few village leaders. Let the villagers help you plan the demonstration. Let them provide land and other requisites.

-
- ❖ Have a time table, depending on how much skill is required and how soon it is to be acquired.
 - ❖ Have a job break down or a demonstration outline giving the operations in logical steps.
 - ❖ Identify the key points to be emphasized under each step.
 - ❖ List out and select demonstration materials and equipment most likely to be available or readily obtainable.
 - ❖ Arrange for diagrams, directions, and other teaching materials to be distributed.
 - ❖ Prepare kits of special material needed by local leaders if they want to repeat the demonstration.
 - ❖ Make sure that the work place is properly arranged (lighting, no odours, no distracting noise).

C) Rehearse the demonstration

- ❖ Practice demonstration until you are thorough with all the steps and know exactly what you should say or do at each step, so that the operation can be performed in a manner to inspire confidence.
- ❖ Make sure steps and points will be clear from audience's point of view.
- ❖ Check time required, to make sure there is opportunity for audience's questions and other expected participation.

D) Give the demonstration

- ❖ Prior publicity should have been given about the place and time.
- ❖ Be at the spot early to check up equipment and material.
- ❖ Make physical arrangements so that all participants can have a good look at the demonstration and take part in the discussion.
- ❖ Explain purpose, and how it is applicable to local problem.
- ❖ Find out what they already know about the practice.
- ❖ Show each operation slowly step by step, repeat where necessary.
- ❖ Use simple words to explain each step of the operation.
- ❖ Make sure the audience can see and hear clearly.
- ❖ Emphasize key points and tell why they are important.
- ❖ Solicit questions at each step before going on to next step.
- ❖ Give opportunity to learners to practice the skill.
- ❖ Distribute supplemental teaching material (bulletins, leaflets etc.) pertaining to demonstration.
- ❖ Summarise steps covered in demonstration,
- ❖ Get the names of participants who propose to adopt the practice. This helps follow-up.
- ❖ If demonstration is given before local leaders who will repeat it, emphasize teaching points to be made. Explain contents of demonstration kit.

E) Follow up

- ❖ Give publicity on the demonstration through press, radio, meetings etc.
- ❖ Arrange for reports on number of and attendance at demonstrations given by local leaders.
- ❖ Make a sample check to assess the extent of use of the skill and satisfaction derived by those attending the demonstration.

Advantages:

- ❖ Effective in teaching skills.
- ❖ Stimulates interest and interaction.
- ❖ Builds confidence.
- ❖ Serves publicity purpose.
- ❖ Convince farmers through the principle of ‘Learning by Doing’.
- ❖ Introduces charges at low cost.
- ❖ Acquirement of skill is speeded.

Limitations:

- ❖ Not suitable to all subject matters.
- ❖ Causes a set-back to the whole programme if conducted in wrong way.
- ❖ May require transportation of material and equipment to the work place.

Practical :

Student will organize one method demonstration. Evaluate the demonstration and offer suggestions for improvement.

Preparation of Transparencies

A sheet of plastic or cellophane paper, are suitable for use on it. We can write or draw sketches on them with a special type of ceramic pencil or crayon available for the purpose. We can write directly on the transparency while the same is being presented to a group. The transparency to be projected should be of 10 x 10 inches size.

Guidelines for preparing transparencies

1. One concept per transparency.
2. Use graphics and text.
3. Use a layout sheet.
 - Draw / write design on paper
 - Trace on to transparency.
4. No more than 8-10 lines.
5. No more than 8 words per line.

Way of producing transparencies

1. **Hand lettering / drawing on plastic.**
 - Can use colours.
 - Need art / lettering skills.
2. **Photo-copying:**
 - Original
 - Types (but lettering is too small unless it is enlarged).
 - Desk to published.
 - Hand drawn.
 - Need special plastic.
 - Can enlarge / reduce.
 - No colour (except on colour photo copier).
3. **Computer plotter**
 - Good quality, colour.
 - Need expensive equipment.
 - Need special transparency.
4. **Stencils**
 - Slow.
5. **Add colour to any transparency**
 - Marker pens
 - Colour.

Hints on hand lettering

1. Use guidelines or a grid (graph paper).
2. Sketch layout and lettering on paper and then trace them on to the transparency,
3. Use simple block lettering.
4. Use lettering size, colour and underlining for emphasis.
5. Do not write, draw each letter.
6. Draw each letter using down strokes.

Types of transparency pens

Water proof (permanent) overhead markers, washable (non-permanent) overhead markers, whatever else works.

Types of transparencies

1. Hand written /Drawn transparency

It is transparency prepared by using a cellophane sheet / acetate sheet on which one draws or writes whatever required to be projected.

2. Typed transparency:

It is a transparency made using the same material (cellophane / acetate sheet) on which the required matter is typed out.

3. Picture transfer transparency

This is a transparency prepared using an acetate sheet on which picture or written matter from source material is transferred with the help of Xerox / copier machine.

4. Strip transparency

It is a transparency prepared using either an acetate sheet or cellophane on which the points/matter to be projected are/is written & concealed with strips of paper, so as to project one point at a time. The advantage is that it enable the teacher to build some suspense as also to focus the audience attention on one point at a time.

5. Pull transparency

It is a slight variation of the strip transparency. In this instead of being fixed with strips of paper to cover the points, they are covered with loose strips of paper which could be pulled out one at a time in the course of presentation. The same effect can be achieved as with the strip transparency.

Other types of transparencies are :

6. Single flap double projection transparency.
7. Window transparency.
8. Rotating, selective projection transparency.
9. Cut-out silhouette
10. Overlay transparency (a) fixed sequence and (b) Random sequence
11. Pivot or circular type of transparency.
12. Flip type transparency.

Practical :

Prepare transparency related to teaching of Community Science related topic.

Types of Projection

Projected Visual aids

Such aids include slides, film-strips and film. Slides are projected by slide projector or magic lanterns. **Film-strips** by film-strip projectors or slide projectors with film arrangement and film by movie projectors. Slides can also be projected by overhead projectors. The projection of these aids involves various types of equipment beginning from the simple magic lanterns to the complicated sound films projectors.

Types of Projection: Projection can be of three types

1. Direct Projection: The slide projector film-strip and the film projectors are based on direct projection. In such projection the rays of light directly come from the projection lamp or some other source of light, pass through the condenser lens, the object (Slide, Film-strip or film) the objective lens and finally the enlarged image appears on the screen. The loss of light in this projection is very negligible.

2. Indirect Projection: This principle is used in the overhead projector. The rays of light come from a projection lamp. Enter one element of a condenser lens unit and are reflected a plane mirror placed at an angle of 45° with either of the axes of this condenser lens unit. The reflected rays enter the other element of condenser unit, pass through the slide or the transparency, enter the objective lens and are again reflected by another plane mirror, placed at an angle of 45° with the axis of objective lens to form and enlarged image of the screen. The source of light in this case is considered to be indirect, so this method is called "Indirect projection." The loss of light in this more as compare to direct projection.

3. Reflected Projection: Opaque projectors are based on this system. In it the light indirectly coming from the lamp hits the surface of the picture (Object to be projected) at an angle and consequently the image of the object is reflected on a large mirror fitted at an angle of 45° with the axis of the object the reflected image is made to pass through the objective lens by the rays of light coming all the way from the projection lamp and finally a magnified image appears on the screen.

Practical :

The student will draw a diagram of the projection systems.

Over Head Projector

OVERHEAD PROJECTION AS AN EFFECTIVE INSTRUCTION AID

Communication plays an important role in development of society. Most of the technologies generated in general and technical education are to be disseminated/ communicated to the concerned clientele for utilization to over all development, for better living condition. In the process of communication the concerned clientele's attention and interest is drawn for better understanding of the technologies.

To arouse the interest and awareness of communicatees the communicator must be creative and imaginative thus, having knowledge on communication media is a must.

There are various extension tools or aids to assists the communicator to present his message effectively and clearly, for easy comprehension of the receiver. These extension tools are : pamphlets, manual, flipcharts, slide series, film strips, video tapes and overhead projector transparency. These are contribu-tory factors to improve communication and learning.

This manual will focus Overhead Projector and Types of Transparencies for use of teachers/ trainers/ extensions officers for effective transfer of technologies either in formal, non/ informal education.

THE OVERHEAD PROJECTOR (OHP)

Knowledge of what the hardware is all about is a must before making the transparency. The hardware is the overhead projector or OHP. It is one of the most important and useful educational aid for demonstration and motivational purposes.

The OHP was discovered during World War II and was widely used in the 1960's. It was used extensively as communication medium since it uses inexpensive materials and easy to operate.

The OHP is a simple equiment in which a projection lamp beams light through a magnifying lens through a mirror and on the screen. A bright projection lamp allows

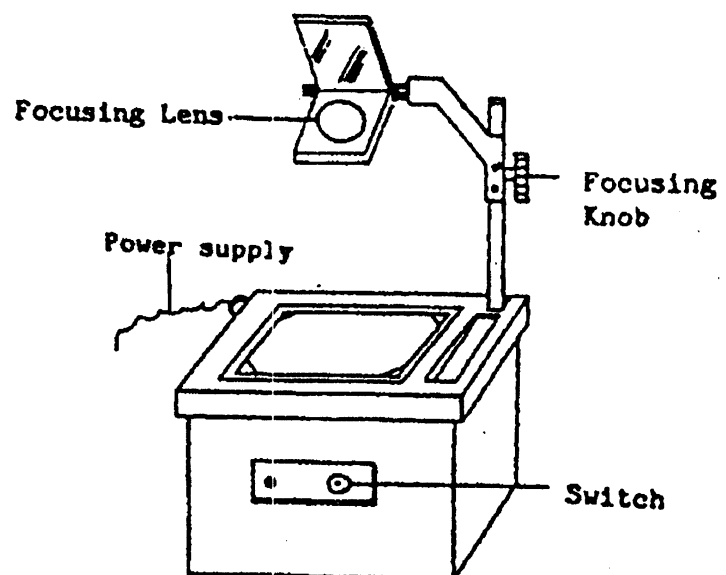


Fig. 1 Parts of overhead projector

the projector to be used in a well-lighted room. Unlike other projectors, the OHP is operated in front of a class thus, a lecturer/communicator faces the audience and maintains eye contact. It is a very flexible equipment because informations can be shown by simply laying objects on the stage; marking, writing or shading can be done on the base of transparency.

Principle of Operation

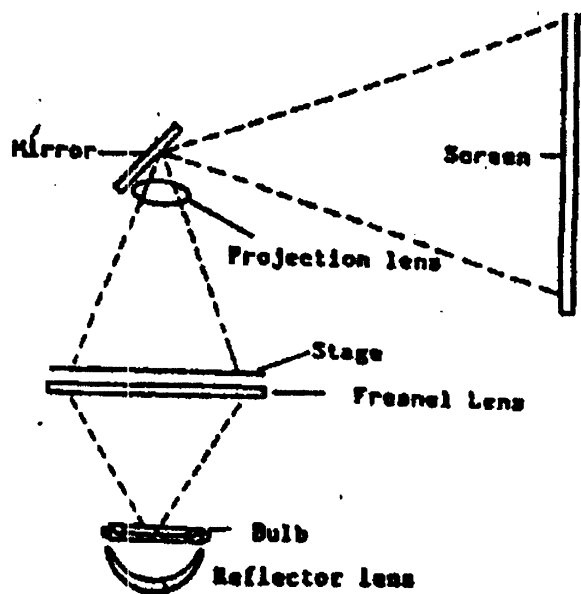


Fig. 2 Operation of overhead projector

Over hand Projector works on indirect projection system. In this system the rays of light which come from the source of illumination will be reflected upward by a reflector, pass through the convex (Fresnel) lens and pass through a plane mirror (glass stage), and through the object the objective (projection) lens, then reflected through another mirror which is arranged at an angle of 45° on either axis of objective lens, then an enlarged image is obtained on the screen. The projection can be made under semi-darkened or well-lit conditions.

Handling of Liquid Crystal Display (LCD)

Liquid Crystals

A thermotropic liquid crystalline phase occurs in some substance in a temperature region between the solid and liquid states. In this state the substance possesses some properties of both liquids and solids. A liquid crystal is a fluid like a liquid.

Liquid Crystal Display Construction

A liquid crystal display is composed of multiple layers. First, a sheet of glass is coated with a transparent metal oxide film, which acts as an electrode. This film can be patterned to form the rows and columns of a passive matrix display or the individual pixels of an active matrix display. Next a polymer alignment layer is applied. This layer undergoes a rubbing process, which leaves a series of parallel microscopic grooves in the film. These grooves help to align the liquid crystal molecules in a preferred direction. Two such sheets of glass are prepared and one is coated with a layer of polymer space beads. The two glass sheets are then placed together and the edges are sealed. A corner is left unsealed so that the liquid crystal material can be injected under a vacuum. After that the corner is sealed.

Introduction to Liquid Crystal Displays

The most common application of liquid crystal technology is in liquid crystal displays from the wristwatch and pocket calculator to an advanced VGA computer screen. This type of display has evolved into an important versatile interface. LCD consists of an array of tiny segment (called pixels) that can be manipulated to present information. LCD consists primarily of two glass plates with some liquid crystal material between them. There is no bulky picture tube.

We can use the LCD Projection panel for many activities:

- 1) Demonstration
- 2) Small group presentation
- 3) Large group composition.

LCD Principle

There are currently two projector technologies being used by manufactures. LCD is the established technology used by most of the leading manufactures. Light from a powerful lamp is split into red, green and blue and then channeled through three panels made up of liquid crystal dots or pixels. Electric currents is used to switch individual pixels off or on in each of the panels, there by letting the different colour light through to make up the image.

LCD set up and projection

1. Place the projector facing wall or screen at required distance.
2. Connect the projector to the computer and plug the power cord into the AC socket on the rear of the projector. Thus plug into AC outlet
3. Remove the lens cap and turn the projector on by pressing STAND BY/ ON button on the remote control.

❖ The power indicated illuminates green.

❖ Then projector is ready to start operation.

4. Adjust the projected image with the setup guide.

❖ After projector turns on, the setup guide appears.

❖ Follow the steps in the set up guides and adjust the focus picture size, and highest angle.

❖ After adjusting the focus, height angle and picture size, press ENTER to finish the setup guide.

5. Correct trapezoidal distortion.

❖ Correcting trapezoidal distortion using key and true correction.

❖ The function for correcting trapezoidal.

❖ Press key stone to enter the key stone correction mode.

6. Select the INPUT mode.

❖ Select the appropriate input mode for the connected equipment.

❖ Press, COMPUTER, DVI, S-VIDEO or VIDEO on the remote control to select the input mode on.

7. Turn the computer on.

8. Adjusting the Projected image

(i) Adjusting the focus

❖ You can adjust the locus with the focus ring on the projector.

❖ Rotate the focus ring to adjust the focus while watching the projected image.

(ii) Adjusting the picture size

❖ You can adjust the picture size using the zoom ring on the projector.

❖ Rotate the zoom ring to enlarge or shrink the picture size.

(iii) Adjusting the height

❖ The height of the projector can be adjusted using the adjustment feet at the front and rear of the projector. When the screen is above the projector, the projection image can be made higher by adjusting the projector.

(i) Lift the projector to adjust the height while lifting the HEIGHT ADJUST lever,

(ii) Remove your hands from the HEIGHT ADJUST lever of the projector after its height has been finely adjusted.

(iii) The angle of projection is adjustable up to approximate 9 degrees from the surface on which the projector is placed,

(iv) Use the rear adjustment foot to make the projector level, and

(v) The projector is adjustable + 2 degree from the standard position.

9. Turn the power off

Press STANDBY / ON the projector or on the remote control and then press the button again while the confirmation message is displayed to put the projector in to standby mode.

Practical : Student will name the different parts of LCD and observe the operation of LCD.

Handling of Camera

The drawing prepared with the help of light is called photography. **Mr. Wedgewood** he discovered that some prints can be prepared with silver nitrate coating on paper or leather with the help of lighting. Problem at that time was making the print permanent. **Sir John Hershed**, he developed 'Hypr' (sodium thiosulphate),. By Hypr the unexposed portion coating of silver nitrate when dissolved in Hypr remains as such. The word photography originated from Greek word Photo - light and Grapho-drawing.

Use of camera

It is easy to understand the working of a camera by comparing it with a human eye. The camera works in much same way as your eye. The lens in the eye focuses the image on to the nerve cells in the retina situated at the back of the eye. Thus, formed image is transmitted to the brain by optic nerve lens of an eye acts like a lens of a camera, Iris of Ana eye is like a diaphragm of the camera lens and it controls the size of lens opening depending upon the intensity of light, retina acts like a film in the camera. Basically this is how a camera works.

Many refinements have been added to increase the ability of the photographer to take good pictures under different conditions. It is important for every photographer to understand about wide varieties of cameras available and when one should be selected for particular type.

Types of cameras

- | | |
|--------------------------------|------------------------------------|
| 1. Box camera / folding camera | 2. Miniature camera |
| 3. 35 mm camera | 4. Single lens reflex (SLR) camera |
| 5. Twin lens reflex camera | 6. Press camera |
| 7. Studio camera | 8. Polaroid camera. |

Principles of photography

1. Casting the image of an object on a photosensitive layer in a dark box (focusing).
2. Recording the image by allowing it to fall for a short time on a layer of light sensitive silver salt (Shot).
3. Rendering the latent image visible by increasing the size of the invisible small silver particles of which it consists (Developing).
4. Dissolving away the unaffected silver salts (silver bromide or silver chloride- for fixing the

image), thus rendering the silver image permanent.

Major parts of camera

1. **Chamber:** To make perfect dark.
2. **Lens:** Its function is to transmit rays of light and focus them to form a sharp image at the back of the camera.
3. **Shutter:** It is a device for controlling the time during which the light is allowed to reach the film in the camera. This control lets you choose any of several shutter speeds marked in fractions of a second. Controlling shutter speed accomplishes two things. It varies the duration of light falling on the film and it determines how much action you can stop.
4. **Light sensitive surface:** film.
5. **Lens aperture or Stop or Diaphragm :** This is an adjustable device which changes the size of the lens opening, thereby admitting more or less light as required. It is marked with a series of setting called 'stops'. Each stop is designated by an f-number (f/3, f/4 etc.). Please remember that the longer the f-number the smaller the opening. In some cameras shutter speed and lens opening controls are linked together.
6. **View finder:** This is for aiming the camera and helps to compose the picture and shows approximately how much of a scene your camera lens covers.
7. **T or B levers:** To for indefinite time exposures -

Attachment on the camera:

1. **Wide angle Lens:** By using a lens of short focal length line cover photography of a wider area. By reducing the size of the image on the film.
2. **Close up lens :** By reducing the focal length we can have a close photograph of small object by using close-up lens which reduces the distance of an object from the lens. There are different types of close up lenses.
3. **Tele Photo lens:** A lens with a larger focal length is known as **telephoto** lens because only a part of the object is magnified on the film.

Loading the camera :

1. Open your camera by lifting the film rewind knob.
2. The film is then placed in the empty chamber just below the film rewind knob.
3. Insert the film end or leader in one of the slots in the take up spool on the right side and wind the advance lever until the film sprockets engage the perforations on the edge of the film.
4. Turn the film rewind knob to rewind film inside the cartridge until you feel a slight resistance. This tightens the film inside the cartridge. Be sure you press the film with your thumb while doing this to avoid the film leader in the sprocket to slip off.

-
5. With the cover closed, advance the lever two times while observing the rewind knob turning, if it's not turning, the film end or leader has apparently slipped off the sprocket. Open the camera back and start again from step 2. Do not be misguided by the film counter. There is no guarantee in most cameras that the film is advancing even as the counter indicates the number of exposures had advanced.
 6. Unloading: After the last exposure has been made, you can no longer advance the film further. Depress the button underneath the camera to disengage sprocket to enable you to rewind film back to its cartridge.

Characteristics of good photograph

1. They are taken with definite and particular purpose.
2. They are sufficiently large.
3. They must have good composition.
4. They must have correct and appropriate caption and title.
5. They must be clearly and timely.

Practical:

1. The student will draw a diagram of the camera and will get acquainted with its parts.
2. The students will also handle the camera.

Preparation of Family Survey Schedule

FAMILY SERVEY SCHEDULE

1. Name, Age, Education of Homemaker :

Name : _____

Age : _____

Education : _____

2. Names of the other family members :

| S. No. | Name of the members | Age | Education |
|--------|---------------------|-----|-----------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |

3. Family size : _____

A) NUCLEAR FAMILY

B) JOINT FAMILY

4. Family type : _____

5. Family Income : ₹ _____

ADOPTION OF HOMESTEAD TECHNOLOGIES

| S. No. | Area | Technologies | | Possession | | Use / adoption | |
|--------|-----------------------------|--------------|----|------------|----|----------------|----|
| | | Yes | No | Yes | No | Yes | No |
| 1. | Vegetable preparation | | | | | | |
| | 1.Knife | | | | | | |
| | 2. Peelers | | | | | | |
| | 3.Slicer | | | | | | |
| | Total | | | | | | |
| 2 | Cooking utensils | | | | | | |
| | 1.Pressure cooker | | | | | | |
| | 2.Rice cooker | | | | | | |
| | 3. Non stick pan and kadhai | | | | | | |
| | Total | | | | | | |
| 3 | Cooking gadget and fuel | | | | | | |
| | 1.Stove | | | | | | |
| | 2.Hot plate | | | | | | |
| | 3. Microwave | | | | | | |
| | Total | | | | | | |
| 4 | Heating water | | | | | | |
| | 1. Geyser | | | | | | |
| | 2. Electric rod | | | | | | |
| | 3. Solar water heater | | | | | | |
| | Total | | | | | | |
| 5 | Cooking food | | | | | | |
| | 1.Rrefrigerator | | | | | | |
| | 2. Cool almirah | | | | | | |
| | Total | | | | | | |
| 6 | Butter preparation | | | | | | |
| | 1. Madhani | | | | | | |
| | 2. Electric butter churners | | | | | | |
| | 3. Mixy | | | | | | |
| | Total | | | | | | |
| 7 | Grinding | | | | | | |
| | 1. Chakki | | | | | | |
| | 2. Grinding | | | | | | |
| | Total | | | | | | |

| | | | | | | | |
|----|----------------------------|--|--|--|--|--|--|
| 8 | Water storage | | | | | | |
| | 1. Cement tank | | | | | | |
| | 2. Plastic tank | | | | | | |
| | 3. Cool jar | | | | | | |
| | Total | | | | | | |
| 9 | Water purification | | | | | | |
| | 1. Water filter | | | | | | |
| | 2. Use of alum | | | | | | |
| | 3. Boiling water | | | | | | |
| | Total | | | | | | |
| 10 | Washing clothes | | | | | | |
| | 1. Washing machine | | | | | | |
| | 2. Coal iron | | | | | | |
| | 3. Electric iron | | | | | | |
| | Total | | | | | | |
| 11 | Separating cream from milk | | | | | | |
| | 1. Cream separator | | | | | | |
| | Total | | | | | | |
| 12 | Sanitation | | | | | | |
| | 1. Soakage pits | | | | | | |
| | 2. Basin | | | | | | |
| | 3. Shower | | | | | | |
| | Total | | | | | | |
| 13 | Knitting | | | | | | |
| | 1. Knitting needles | | | | | | |
| | 2. Knitting machine | | | | | | |
| | Total | | | | | | |
| 14 | Cooling room | | | | | | |
| | 1. Air cooler | | | | | | |
| | 2. Air conditioner | | | | | | |
| | 3. Fan | | | | | | |
| | Total | | | | | | |
| 15 | Taking out juice | | | | | | |
| | 1. Juice manual | | | | | | |
| | 2. Electric juicer | | | | | | |
| | Total | | | | | | |

| | | | | | | | |
|----|--|--|--|--|--|--|--|
| 16 | Stitching clothes | | | | | | |
| | 1. Manual sewing machine | | | | | | |
| | 2. Electric sewing machine | | | | | | |
| | Total | | | | | | |
| 17 | Storage of tea | | | | | | |
| | 1. Thermal jar | | | | | | |
| | 2. Thermos | | | | | | |
| | Total | | | | | | |
| 18 | Garbage disposal | | | | | | |
| | 1. Garbage bin | | | | | | |
| | 2. Vermi composting | | | | | | |
| | Total | | | | | | |
| 19 | Extracting ground water | | | | | | |
| | 1. Hand pump | | | | | | |
| | 2. Motorized pump | | | | | | |
| | Total | | | | | | |
| 20 | Information storage | | | | | | |
| | 1. Computer | | | | | | |
| | 2. T.V | | | | | | |
| | 3. Radio | | | | | | |
| | Total | | | | | | |
| 21 | Processing and retrieval communication | | | | | | |
| | 1. E-mail | | | | | | |
| | 2. Fax | | | | | | |
| | 3. Mobile | | | | | | |
| | Total | | | | | | |
| | TOTAL | | | | | | |

6. BENIFITS OF HOME STEAD TECHNOLOGIES :

7. DIFFICULTIES FACEED BY HOME MAKER WHILE USING TECHNOLOGIES

Conducting family survey for adoption of home stead technologies

Visit to different successful SHGs

SHGs have now evolved as a movement. Mainly, members of the SHGs are women. Consequently, participation of women in the country's economic development is increasing.

They also play an important role in elevating the economic status of their families. This has led boost to the process of women's empowerment

It is true that poor status of Indian women in villages can be transformed with the help of SHG. As the success rate is high at many places of India SHG's are the real path finders in the life of poor Indian women.

Practical :

Students should visit different successful SHGs in Parbhani District.

Visit to entrepreneurs for adoption of home stead technologies

Practical :

Students should visit different entrepreneurs in Parbhani District.

Categories of adopters among SHG members

The research shows significant differences in selected personal and social characteristics when people are classified into categories according to time of adoption, as follows:

I. Innovators: These are the first people to adopt a new idea much ahead of other people. They are very few in number, probably not more than one or two in a community.

Characteristics:

1. Have larger farms.
2. High net worth and risk capital.
3. Willing to take risks. 4. Usually not past middle age.
5. Generally educated.
6. Have respect and prestige in progressive community but not in conservative type of communities.
7. Mentally alert and actively seeking new ideas.
8. Their sphere of influence and activity often goes beyond the community boundaries.
9. They have more formal and informal contacts outside the immediate locality.
10. They often bypass the local extension worker in getting information from the originating sources, and may learn about new things even before he does. They sometimes manage to get samples of seeds or chemical even before they are released for public use.
11. They subscribe to many farm magazines and specialized publications. 12. Other farmers may watch the innovators and know what they are doing but the innovators are not generally named by other farmers as “neighbor and friends “ to whom they go for information.

II. Early Adopters:

- (1) Younger than those who have a slow adoption rate, but not necessarily younger than the innovators.
- (2) They are not the persons who test the untried ideas but they are quickest to use tried ideas in their own situations.
- (3) Have large farms.
- (4) Higher education than those who adopt more slowly.
- (5) High income.
- (6) They participate more in the formal activities of the community.

- (7) They also participate more in government programmes.
- (8) This group usually furnishes a disproportionate amount of the formal leadership (elected positions) in the community;
- (9) They read papers and farm journals and receive more bulletin than people who adopt later.
- (10) They may be regarded as community adoption leaders.

III Early Majority:

1. Slightly above average in age, education and farming experience.
2. They take a few more farm journals and bulletin than the average.
3. They have medium high social and economic status.
4. Less active in formal groups than early adopters, but more active than those adopting later.
5. In many cases, they are not formal leaders in the associations in the community, but they are active in those associations.
6. They also attend extension meetings and farm demonstrations.
7. They are most likely to be informal leaders, but not holders of elected positions.
8. Have more limited resources than early adopters and innovators, and so cannot afford to make hasty or poor decisions.
9. They associate mainly with people of their own community.
10. They value highly the opinions their neighbors and friends hold about them for this their main source of status and prestige.
11. They almostly mentioned as "neighbors and friends" from whom the majority of farmers seek information.

IV. Late Majority :

1. Those in this group have less education and are older than the early majority.
2. They form the major part of formal organizational membership, although they participate less in such formal groups.
3. They take fewer leadership roles than the earlier adopters.
4. They take and read fewer papers, magazines and bulletins, than the early majority.
5. They do not participate in as many activities outside the community as do people who adopt earlier.

V. Laggards : "Laggards" are the last people to adopt new practices.

Characteristics:-1. Least education. 2. Oldest. 3. Participate least in formal organizations, co-operatives and government programmes. 4. They hardly read farm magazines and bulletins.

Identification of change agents in a locality

1. Sociometry : This method is very useful to the Extension Worker in finding out the “natural” or “local” or “informal” leaders in the villages who are the influential persons that help in the introduction and popularization of new improved practices in their communities neighborhoods.

An extension worker goes into a given area and asks the farmers to indicate whom they ordinarily consult for advise on farming (or any particular aspect of farming in which the extension worker wants to introduce some improvement). Usually after few interviews, it becomes apparent which farmer is the influential person or ‘natural leader’.

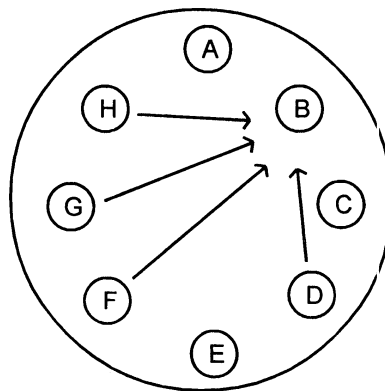


Fig.3 Sociogram

2. Election : Another method widely used in selecting consists simply of the members of the group electing a leader.

The extension worker can guide or assist the local people in electing the right people for the right job by explaining to the group. The functions of leaders in relation to particular problems, and outlining the qualifications of a good leader for the given purpose. It has been found that this election method can also be used for selecting persons to receive leadership training. For example, a group be asked to indicate what members of the group they think would be good leaders and what persons they would be willing to follow after the individuals has received specialized training. It is better for the extension worker to accept the chosen leaders of a group than to try to impose others by any pressure.

3. The Discussion Method :

Through discussions (on any subject) the person with sound knowledge and ability is soon recognised and a mere talker easily spotted. Discussion gives encouragement and assurance to the potential leader to express himself, and over a period of time may make him more confident in accepting some position of leadership, and emerge as a valuable leader.

4. The Workshop Method :

Through this method, where the large group breaks up into smaller groups and the responsibility of the programme and decision-making rests upon the smaller unit, leadership emerges, in each group. Over a period of time, the extension worker can spot certain leaders who come forward in taking responsibilities. The extension worker or professional leader in the workshop has the position of consultant observer, discussion group leader etc.

5. The "Group Observer" :

The extension worker should watch a community or group in action and then he will be able to spot potential leaders. He may observe the community in any type of situation. For obtaining the best results, the group should not be aware of this. Rogers who designates these local leaders as "opinion leaders."

6. Key Informants :

In a community may be asked to indicate opinion leaders in that area. This is cost-saving and time saving when compared to the sociometric method.

7. The Self-designating Techniques :

Consists of asking a respondent a series of questions to determine the degree to which he perceives himself to be an opinion.

8. Structuring of family survey schedule.
9. Conducting family survey for adoption of home stead technologies.
10. Visit to entrepreneurs for adoption of home stead technologies
11. Visit to different successful SHGs.
12. Categories of adopters among SHG members.
13. Identification of change agents in a locality and presentation of report.