Chapter 3

Audio Visual Materials and the Television Media

3.1 Audio Visual Materials

The ever increasing amount of information covering educational and recreational interest as well as information needs is being produced in a wide range of AV formats. Access to these materials should be as open and as free as access to print based materials.

AV media are part of our cultural heritage, carrying a huge amount of information that needs to be preserved for future use. The rich variety of media expressions in society should be reflected in the services offered to users by the libraries.

Library professionals as information providers should be concerned with the provision of information in the formats most suited to the differing needs of various types of users, each of which must be clearly differentiated. AV materials can reach out to sections of the public for whom the traditional print based materials have little impact, e.g. to those who are reluctant to use the printed word and to those with visual and other handicaps.

In developing countries the provision of AV materials and their associated equipment might be regarded as of greater importance than the printed word because the level of literacy is such that oral and visual expressions are essential for the purposes of communication.

In no circumstances should AV materials be regarded as additional luxury materials but rather they should be considered as necessary components in a fully integrated library service. But in case of the libraries of the electronic media, the AV materials are the main components where the books and other printed materials seem to be additional items ("Guidelines for Audiovisual and Multimedia Materials in Libraries and other Institutions" 2004)
3.1.1 Needs and Advantages

Considerable evidence has been accumulated on the effectiveness of AV materials as compared with conventional means of instruction. In TV media the AV materials are used to help speakers get their message effectively communicated to their audience. In addition there are other reasons for using these materials, (Cheek & Beeman, 1990) such as:

- AV aids make us more persuasive. It is found that presenters using visuals conduct meetings in less time, increase audience retention and get proposals approved more often. Also the presenter appears clearer, more concise, more professional, more interesting and make better use of supporting data.

- The message with the help of AV aids is transmitted more efficiently. The proverb “A picture is worth a thousand words” is true. If we want the audience to understand new trickle irrigation used in vegetable gardening, the message will be transmitted better if the audience can see the components of trickle irrigation.

- The audiences’ attention is focused more completely. The ebb and flow of the audiences’ attention is inevitable. The challenge for the speaker is to direct the audiences’ attention at strategic periods. AV aids provide one mechanism to direct and focus attention.

- The receivers retain the message better. Research has clearly shown that people retain more of what they see and hear compared to what they learn only orally. Research again has found that retention of messages after three days is only 10 percent following an oral presentation, but is 65 percent following an oral and visual presentation.

- People have come to expect visuals. Today’s world is used to visual compared to just a few decades ago. The average person is visually oriented and accustomed to visual presentation. Thus, a strictly oral presentation is boring to the majority of the people.

- Visual materials help establish organization for presentations. One of the most effective uses of visual materials is establishing overall organization for the presentation. Audiences look for order in everything they experience. If the structure of a presentation is shown at the beginning of a presentation, a cognitive framework is established for what is to come.
• Visual materials add variety and emphasis to the presentation. A variety of different teaching methods and techniques are useful with the help of AV materials.
• Messages are presented both aurally and visually. People process information best by hearing and seeing. With the help of AV aids, people can communicate at best.
• Visuals help us to be concise. We are forced to distil our ideas down to their essence when using visuals, force us to order and sequence the ideas to be presented.

Advantage

Space saving
The AV materials are space saving. A long story can be kept in the form of a drama or any other else in a single video tape. The Video tapes are being smaller in size day by day. At present it can be stored in a file format in the hard disk.

Security
The AV materials used in TV media rarely leave the studio campus because of the special equipments required for their use. One copy of the programmes can be kept permanently (Master Copy) and on the other hand, one duplicate copy can be used so that it can reduce considerably the destruction or loss of vital information.

Reproducibility
The AV materials can be reproduced in other tapes at nominal cost within a short time and in the studio complex itself.

Accessibility and portability
The AV materials generally take up little space; very small libraries can provide access to thousands of documents. These documents can easily be transported from one place to another.

Economy in transportation
The AV contents can be transported easily via Internet. In case of DD network, feeding system is the best practice for transportation of visuals. Feeding system is that the sender DDK transmitted the message in air in a particular frequency and the receiver DDK captures the message in a tape. So it is very quick and urgent in transportation of news items.
3.1.2 Features of AV Materials
The TV media transmit all information with the help of audio and video. So good message design is also important matter. It can be defined some principles (Cheek & Beeman, 1990) as below:

**Simplicity**: The audio and video should be very simple, easily understandable by all common people.

**Harmony**: The elements of the visual should fit together in a harmonious relationship. Colour layout, style of presentation, background should be balanced.

**Emphasis**: Emphasis should be given as per spectator’s interest as such that the programme can attract a good number of spectators.

**Organization**: The visuals should be arranged in a pattern that is easy for the viewers to comprehend.

**Balance**: The elements of the visuals should be arranged in a manner which is interesting but not destructing.

**Clarity**: The audio and video should be mixed in a logical manner as such the message to be provided to the people can be made more clearer.

3.1.3 Types of AV Materials
AV materials are available in large variety and quantity. Rumpf (1963) pointed out that the Maps, Color slides, Objects/artifacts, photographs, Flat pictures, Records, Film strips, Sound filmstrips, Motion pictures, Bulletin boards, Flip charts, Charts, Opaque projectors, Time lines, Chalk boards, posters, Symbols, Field strips, Sketches and Cartoons, Overhead projectors, Aperture cards, Atlas, Cassette records, Clay tablets, Flash cards, Globe, Micro films, Microforms, Monographs, Punch cards, Placards, Slides, Sound recordings, Video recordings, Video disc etc are some examples of AV materials, out of which only a limited number of AV materials are used in TV media organizations. Mainly the video tapes of different kinds have been used in TV media organizations. These tapes are of following kinds:
1. Composite analog formats (All reel/spool type, e.g. 8mm, 16mm, 35mm, BCN etc.)
2. Heterodyne format (U-matic High band/ Low band, SP etc)
3. Component analog format (Betacam, Betacam SP etc)
4. Digital composite/component formats (Digital Betacam and DCT, ampex)
5. Heterodyne domestic (VHS, SVHS, Betamax etc)
6. Digital format (DVC-pro, Mini DV etc.)

With the advancement of information technology the digital tapes have almost replaced the magnetic tapes. The 8mm, 16mm films, BCN, Umatic H/b, L/b, VHS are completely obsolete whereas the betacam tapes are still in use. These magnetic tapes are made of very fine particles of metal oxide, such as iron oxide, as a coating on one side of a plastic ribbon. Typical widths were 1, 3/4, ½ inch or 8mm. The 1 inch tape was used longer reels, such as those used in studio equipments or for TV broadcasting. The ¾ and ½ inch were also sometimes used in broadcasting.

DVC pro, D-9, Mini DV, CD & DVDs are the digital versions of tapes. The first two kinds are generally used in Doordarshan whereas the DVC pro, Mini DV, CD & DVDs are widely used in private electronic media. All the tapes are of different time length.

A video tape is played only from left to right when viewed from the front of the VCR. The supply reel is at the left and the take up reel is at the right. The cassette can be started or stopped at any point on the tape, also there is no ‘turnover’ of the tape because the full width of the tape is used for recording each programme. The same tape can be used over again. The old programme contents are automatically erased when it records a new programme.
Different Types of AV Materials

Photograph 3.1.3(A) : BCN Tapes

Photograph 3.1.3(B) : Spools

Photograph 3.1.3(C) : Betacam Tapes

Photograph 3.1.3(D) : Umatic Tapes

Photograph 3.1.3(E) : Mini DV

Photograph 3.1.3(F) : CD/DVD
Durability

It is difficult to say about the fixed durability of the video tapes. The magnetic video tapes have a short life span. Though the magnetic properties of a tape last a long time and its magnetism does not decrease with time, the stray magnetic fields and excessive heat can cause demagnetization. Life span depends on quality of the tape stock, quality of the recording, how many times the tape was broadcast, storage condition, playing equipments and playing operators etc. Longevity estimates are: 8 mm video- 2-10 years, VHS- 5-10 years, U matic- 20 years, Betacam- 25-40 years, ½ open reel- 20-30 years, 2″Quad-35-50 years (Tadic,2001).

The digital video tapes are supposed to be of longer durability although it needs to be proved in coming days.

Practically experienced library personnel denied the above estimation as a standard; rather they want to say that the longevity cannot be estimated.

Because of the short life span of video tapes, transferring video contents is the only way to preserve video contents for the future. Some sources recommend making new copies every 5 years. Conservation practices can slow down the video tapes deterioration.
3.2 Television Media

Experiments in TV broadcasting were initiated during 1920s in the United States and Europe. These experiments used a mechanical scanning disc that did not scan a picture rapidly enough. In 1923, however, came the invention of the iconoscope, the electric television tube. The invention of the kinescope or picture tube, the electronic camera and TV home receivers arrived in rapid succession during the next few years and by 1930s the National Broadcasting Corporation (NBC) had set up a TV station in New York and BBC had set up a TV station in London, offering regular telecast programmes. Germany and France too established TV stations around the same time. By the late 1940s and early 1950s TV had become a feature of life in most of the developed countries. In 1948, for instance, there were as many as 41 TV stations in the United States covering 23 cities through half a million receiving sets. Within a decade, the figure jumped to 533 stations and 55 million receivers. Canada, Japan and European countries did not lag very far behind.

The age of satellite communication demand in 1962 with the launching of Early Bird, the first communication satellite. The two big international satellite systems, Intelsat and Intersputnik began operating in 1965 and 1971 respectively and since then the progress was phenomenal. Today, almost every country in the world has earth stations linked to satellites for transmission and reception. Communication satellites have literally transformed the modern world into what Marshall McLuhan, the Canadian media sociologist, liked to call “a global village”.

In 1970s more sophisticated transmission techniques were invented employing optical fiber cable and computer technology. The audio visual cassette and the video tape recorder, closed circuit TV and cable TV, pay TV and DTH (Direct to Home) TV have changed the course of the development of TV in new and unexpected ways. DTH and digital compression technology has enhanced the number of channels which can be accessed, as also the quality of picture and sound transmission.

3.2.1 The Story of Indian Television

Doordarshan the national television service of India is one of the largest broadcasting organizations in the world in terms of coverage and the infrastructure of studio and
transmitters. Today’s broadcasting service had a modest beginning with the experimental telecast starting in Delhi on 15th September, 1959 with a small transmitter and a makeshift studio. The regular transmission started in 1965 as a part of All India Radio. The television service was extended to Mumbai only in 1972. Till 1975, only seven cities were covered by Television. Doordarshan was separated from AIR in 1976.

The first experiment with satellite technology in India was conducted in 1975-76 under the programme Satellite Instructional Television Experiment (SITE). This was incidentally, the first attempt in the world to use satellite broadcasting for social education. Colour transmission was introduced during Asian Games held in New Delhi in 1982. Doordarshan then proceeded to install transmitters nationwide rapidly for terrestrial broadcasting.

In order to keep All India Radio and Doordarshan free from political interference and to provide functional autonomy, there was a long term exercise to find some way out by constituting the Chanda Committee, the Verghese Committee, Joshi working group on software for Doordarshan etc and the Prasar Bharati bill(1989) became an act in 1990. To reexamine the Prasar Bharati act, Varadan Committee (1991), Ram Vilas Paswan Committee (1995), Nitish Sengupta Committee (1996) were set and ultimately Prasar Bharati (the Broadcasting Corporation of India) was brought into existence on 23rd November, 1997.

Recently, on 29th January 2013, the Ministry of Information & Broadcasting has constituted an Expert Committee under the Chairmanship of Sh. Sam Pitroda for the purpose of reviewing the institutional frame work of Prasar Bharati including its relationship with Government, its continuing role as a public broadcaster and measures needed to ensure technical upgradation of the organization.

**The decade of satellite television**

Satellite television can be defined as television broadcasting using satellite technology. Satellite based services are popularly known as Direct-To-Home (DTH) due to their capability to reach the viewers without an intermediary (operator / distributor). Viewers need a dish antenna and a satellite receiver (STB) to receive DTH services. Television came to India in 1959 and satellite television in form of Satellite Instructional
Television Experiment in 1975. After 1982 when Indian National Satellite (INSAT) was launched there came a sharp rise in number of transmitters, colour television began and telecast of Asian games increased private investment in television sets. Following the Gulf war, satellite channels began to sneak into Indian homes in the name of cable and satellite television with variety of news and entertainment programmes. Today one third of Indian TV households have access to cable and satellite television. DD responded to the satellite TV challenge by launching the entertainment oriented metro channel in 1984 and increasing entertainment content on the national network as well.

Beginning of satellite television in India was marked by world first techno-social experiment SITE-Satellite Instructional Television Experiment for education and development purposes. That followed number of other experiments like SITE continuity, school television, UGC countrywide classroom, Jhabua Development Communication Project, Indira Gandhi National Open University transmission and lately channels like Training and Development Communication Channel and Gyan Darshan for educational and social development purposes.

Technologies per se provide the scope of democratization, at the same time creates issues related to control and access for others who do not own it. The notion of the “Satellite Television” as democratizing force and concept of community television sets as one important component of all development communication experiments in India (Desai, 2003).

**Doordarshan network**

Doordarshan operates 30 channels- five National channels, one Parliament channel, one International channel, one Educational channel (Gyandarshan), eleven Regional language satellite channels, eleven Hindi belt networks. Besides these, DD has DTH service “DD Direct Plus”.


**Regional language satellite channels** : Malayalam, Tamil, Oriya, Bengali, Telegu, Cannada, Marathi, Gujarati, Kashmiri (Kashir), North East and Punjabi.
State (Hindi Belt) networks: Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar, Himachal Pradesh, Jharkhand, Chhattisgarh, Hariana, Mizoram, Tripura and Uttarakhand.

International channel: DD India

Parliament channel: DD Rajya Sabha

Educational channel: Gyandarshan

Television and national development
Public Television in India has the following social objectives:
1. To act as a catalyst for social change.
2. To promote national integration.
3. To stimulate a scientific temper in the minds of the people.
4. To disseminate the message of family planning as a means of population control and family welfare.
5. To provide essential information and knowledge in order to stimulate greater agricultural production.
6. To promote and help preserve environmental and ecological balance.
7. To highlight the need for social welfare measures including welfare of women, children and less privileged.
8. To promote interest in games and sports.
9. To create values of appraisal of art and our cultural heritage.

Television programme genres
Television news: News bulletins, general news magazines and panel discussions of public affairs are some of the popular news programmes on Doordarshan. All these are either in hindi or english, like most other programmes on the national network. Visuals include slides, film clips, maps, diagrams, charts and other visual devices. PTI and UNI are major sources for national and local news footage and reports. Doordarshan depends largely on Reuters and Asia vision for film clips of foreign news. The Asian Broadcasting union helps out with its international news exchange system. Yet another important source is the Asia News International (ANI).
**TV documentaries and features:** Television documentaries feature any subject of interest to a number of viewers, such as the state of pollution, poverty, famine, the cultural scene, or the plight of construction workers. The aims of documentaries are to enlighten, arouse and motivate or simply to entertain. The stress is on portraying real people and real situations and on activity rather than on talk and commentary. In a documentary, it’s the story that dictates film technique, not vice versa; film is exploited here as a tool to document reality and not to display gimmicks of the cameraman or editor in shooting reality, even though the documentary is in essence a “social construction” of reality.

The format of a TV documentary takes the form of a “direct presentation” of the substance of a problem or an experience of a situation, by contrast with the “discussion” in which a situation or problem may be illustrated, usually relatively briefly, but in which the main emphasis falls on relatively formal argument about it.

**Interview programmes:** Interview programmes are of various types: Personality interviews, content interviews, group interviews etc. in which the attempt is to probe well known personalities, current issues/events.

**Quiz programmes and game shows:** These are very popular because of active audience participation. Youths are the main target audience of these shows.

**Children’s programmes:** These are defined as programmes specially made for and offered to children, at certain special times. Cartoons, puppet-shows, “live” stories and plays, and educational items are some of the items that make up a children’s show. Some children’s programmes have been produced in the form of quiz show, feature films, drawing & painting shows etc.

**Agricultural programmes:** The agricultural programmes are telecast with a special interest on urban and rural farmers. Generally some instructional discussions, field based documentaries, interviews of successful farmers are telecast from all the local, regional and national kendras.

**Music and Dance programmes:** The national programmes of Dance and Music and the standard format of these programmes is an elaborate introduction in Hindi and
English of the performer and his or her style, followed by a “live” recital of various items.

**TV commercials**: A TV commercial arrests attention immediately and holds it for few seconds. The structure of TV commercials is varied. The opening sequence is always of prime importance. The message presented is easy and simple.

**Soap operas**: Indian TV was dominated by Hindi feature films and film based programmes. But the only “sitcoms”, soap operas, detective or other TV genres telecast were from British, United States or German TV. In later periods, Indian programmes that proved popular were quiz shows, talk shows and the sports programmes.

3.2.2 Cable Television

In cable TV, programmes are “piped” to viewers set from an ideally placed common antenna, instead of each viewer individually receiving signals from his/her private antenna. In this mode, various programmes from broadcasters are received at a central location and then modulated, combined, amplified and distributed via co-axial cable to the viewers. Such rediffusion systems have now become fairly common in urban and rural India. The analogue distribution was the most common, but digitization of cable distribution is also making rapid strides. This is increasing the capacity in terms of accommodating multiple channels and providing much better quality and reliability. At the close of the 1990s, there were over 200,000 cable networks in India. SitiCable (of the ZEE TV Network) and INCABLENET (of Hinduja Group) are the two largest consortia in the Cable business.

However, direct-to-home (DTH) technology which takes cross border satellite programmes direct to viewers’ home without the intervention of cable operators, which threatens to ruin the cable operators business. DTH TV is digital and interactive, and offers up to a hundred subscription channels. Rupert Murdoch’s News Corp is leading the DTH revolution.

3.2.3 Mobile Television

The mobile phone has now become fourth screen for video after cinema, television and computer. Mobile TV is the true convergence of telecom and broadcasting sectors. Due to very high mobility support, viewers can be reached anywhere. Mobile TV is also
capable of providing interactivity using the cellular phone network and this enables broadcasters to engage more with the viewers, giving a more personal and richer viewing experience (Wadhwa and Kumar, 2008).

3.3 Conclusion
While discussing various issues relating to AV materials and TV media it is found that a number of complicacies has to be addressed by the library personnel in order to make the media libraries more scientific and useful. It is to be mentioned that the facilities to be extended in the media libraries should be at par users' satisfaction so that optimum use of the resources is made by them. This is dependent on the management system how much it has been user friendly. The frequent changes in AV materials and diversity of newly emerging satellite TV channels have compelled the library professionals to cope up with the new changes and challenges. As much as the TV programmes reach the remote areas and new TV programme genres evolve day by day, the importance of AV materials also enhances and need of preservation of these materials is also realized better.

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