

Data Management and Preservation of AV Materials in Private Satellite TV Channel Library of Assam: A Case Study

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The paper highlights the present scenario of organization and management of private satellite TV channel libraries of Assam. It also highlights different electronic materials used in the media libraries as well as their preservation. Data Management of Private satellite channel libraries is discussed with different tables and figures.

Keywords: Management, Electronic Media Library, Data Management, Preservation, Library Service, Electronic Material

1. Introduction

The electronic media libraries with their holdings of different Audio Visual (AV) materials have been playing a vital role in dissemination different useful information to the society. The information from different disciplines are collected, recorded and stored in the libraries for the purpose of telecasting with the help of satellite service throughout the world within seconds

2. Scope of the Study

The study covers the management of the private satellite television libraries in Assam. The satellite TV channels maintain the audio and video tapes in the library. The whole study has been limited within the private satellite television libraries located at Guwahati, Assam.

3. Methodology

For gathering information related to organization and management of private satellite TV channel library, following techniques were used:

- Distribution of Questionnaire,
- Discussion and Face-to-face interview of the library personnel, and
- Observation.

Keeping the above scope and objectives in mind, data required for the study were collected through a questionnaire. Libraries of the TV channel within the Guwahati were visited physically for collecting relevant data. On the basis of the data and information collected through the questionnaire, it was analyzed on different scales.

4. Materials used in Private Satellite Television Libraries

The materials used in satellite television libraries are as follows-

4.1. VHS (Video Home System)

It is a universal and widely used method of recording audio and video into magnetic tape. The VHS standard was developed by the Japan Victor Company (JVC) and was made available to the public market in 1976. The newest form of the VHS standard is Digital VHS (D-VHS)



4.2. Tapes

The most widely used audio-visual material in AV media library is the tape. The library receives information mainly in tapes and disseminates through tapes only. There are various types of tapes used in AV library having various lengths. The types are as follows -

- a) **Hi-Band:** It is a type of digital cassette (tape). This is huge in size (about 30cm) and capture or record only up to 30 minutes. These types of tapes are not in use these days.
- b) **Beta cam:** It uses metal formulated tape as opposed to Beta cam's oxide tape. Beta cams are popular professional video tapes that are used by many production companies. It is available in brands like Sony, Maxell, Fuji, etc. It comes in various lengths, 5, 30, 60 and 90 minutes.
- c) **DVCPRO:** It is also one kind of digital video cassette and the cassettes come in different lengths like 66, 94 & 126 minutes of Panasonic and Fujifilm.
- d) **DVCAM:** The DV Cam tape format is the most compact professional digital recording media. DV Cam also comes in various lengths like 41 & 184 minutes (Sony), and 66 & 127 minute (Panasonic).

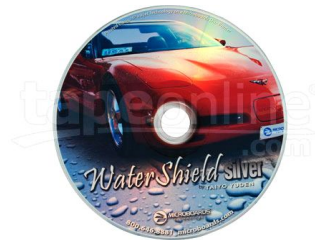


- e) **MiniDV:** Mini DV is one of the three common digital formats used in sound and picture recording using digital technology Mini DV captures video and audio on high density cassette tapes. This format is very popular as it delivers sound and videos of sharp and high quality. The length of the tape is 90 minutes (LP Mode), 60 minutes (ST Mode), and 41 minutes (DV Cam mode).



4.3 CD

The full form of CD is Compact Disc. It burns mp3's and other data on this blank CD-R Disc from major manufacturers like Maxell, Prodisc, Taiyo, Yaden etc. The maximum length of a CD is 700 MB. It may be Audio or Video in form.



4.4 DVD

The DVD (Digital Versatile Disc) can record our favorite movies, T.V. Shows, etc. and backup any important programs or data on it. The available brands of DVDs are Sony, Maxell, Prodisc, Apple etc. It has the capability to capture the pictures (video) in digital format. The maximum length of DVD in single layer is 4GB and Double layer is about 8 GB.



5. Management of Private Satellite TV Channel Libraries

5.1 Acquisition

The electronic media libraries do not follow the traditional acquisition system of libraries. The libraries acquire blank tapes directly from the authority. The tapes are procured monthly as per the library requirement from the companies such as Sony, Panasonic, and Fuji etc. by the office, where library needs to verify the number of tapes.

After procuring, the tapes are provided serial numbers that is basically treated as "Accession number". The tapes are pasted with two labels, one for the tape number and another for future use. The cover page of

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the tape has a label pasted having information pertaining to tape's duration (in minutes), company name, etc. Additional information such as Accession number, programme name, number of episodes, etc. can also be recorded in the same label.

The library also receives tapes from the outside producers and advertising agencies. These tapes are not recorded in the library collection and being returned to the producer and advertising agency after the use. However, some inventory are maintained for future use for these tapes.

5.2 Classification

In the TV channel libraries of the Guwahati materials are classified according to their content. Program tapes are kept in program shelf in alphabetical order separated by source and edited tapes. News tapes and DVDs are kept in news shelf in chronological order. Tapes of archival values and stock shots are kept in archival shelf. The song, cinema, and advertisement tape gets separate shelf. General source tapes are kept in source shelf followed by the tape number. This system helps the entire library staff for easy and speed retrieval of materials.

The library gets problem in classifying the multi-subject material as a single tape, CD and DVD can store multiple programs together such as interviews on different subjects, songs based on program, current affairs and sports. The library receiving several materials in a day causes serious problem in arrangement.

5.3 Cataloguing

Mostly, media libraries in Guwahati are closed accessed library and do not follow defined cataloguing format such as AACR-II or bibliographic format such as MARC-21 for rendering the information in library system. Although the libraries does not prepare any catalogue card and keep them separately, but they keep one piece of paper having some general information inside the cover of the tape named as Doop sheet or Log sheet.

Table No.- 1 : Sample of Program Log sheet

Title:						
Tape No.:			Producer/Reporter:			
SL No.	Episode	Content/Name/ Topic	Telecast date	TC IN	TC OUT	Remarks
1	EP-					
2	EP-					
3	EP-					
4	EP-					
5	EP-					

6	EP-					
7	EP-					

Table No 2 : Sample of Log sheet / Doop sheet for News and Archive

LOG SHEET/ TAPE NUMBER				
SL No.	News/Story/Slug	TC in	Date	Reporter

5.4 Circulation

The general concept of circulation cannot be applied in electronic media libraries. The materials of electronic media library are not issued for personal use. The materials have to use for some activities like editing News Bulletin or program which are mainly related to the organization and most importantly the issue materials are not allowed to take beyond the organization area. Therefore, like the other (acquisition, classification) the circulation system of the electronic media libraries is also differ from the circulation system of the general libraries.

There are many record registers maintained for transaction or circulation of the materials. The records are maintained both manually as well as in computer. Some of the registers that are maintained by the electronic media (specially the private satellite channel) libraries for circulation of the materials are as follows -

Table No 3 : Issue Register of blank tape

Sl. No.	Tape No.	Issued to	Place	Purpose	Story/ Slug/ Program	Out sign	Out date	In sign	In date	In-charge sign	Remarks

Table No 4 : Editing tape issue register

Date	Tape No.	Quantity	Story/ Slug/ Program	Place	Purpose	Issued to	Out sign	In sign	In date	In-charge sign	Remarks
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5.5 Arrangement

In traditional library, the arrangements of library resources are made according to the class number and accession number of the material, but, in the media libraries in Guwahati region, the librarians provide class number and accession number according to the suitability of their system. Therefore, the arrangements of the library materials are made accordingly.

In satellite channel libraries, the materials are arranged according to their content. Program tapes are kept in program shelf in alphabetical order separated by source and edited tapes.

The tapes are kept upright in the wooden racks in NETV; in drawers & glass stacks in News Live and in DY365 in Glass Stacks. The arrangement of the materials are made making tag (having accession number) visible.

6. Data Management

It is a broad field of study, but essentially is the process of managing data as a resource that is valuable to an organization. One of the largest organizations that deal with data management, DAMA (Data Management Association), states that data management is the process of developing data architectures, practices and then expecting these aspects on a regular basis.

There are many topics within data management, some of the more popular topics include data modeling, data warehousing, data movement, database administration and data mining.

6.1 Definition of Data Management

The definition of data management are as follows- (Source: <http://www.techfaq.com/datamanagement.>)

- The part of the operating system that manages the physical storage and retrieval of data or a disk or other device.
- Software that allows the user to create, store, retrace and manipulate files interactively.
- The management of all data/information in an organization. It includes data administration, the standards for defining data and the way in which people perceive and use it.
- The function that manages data as an organization resource.

6.2 Data Management of Private Satellite Channel Libraries of Guwahati

Data management helps in data retrieval with maximum speed and accuracy. There is a vital need of data management in electronic media libraries because their collection increases very speedily. Three of the

electronic media libraries of Guwahati (viz. - NETV, News Live & DY365) used CDS/ISIS library software for data management. The example of NL library data management is given below.

There are four steps of CDS/ISIS to make the database. These are -

- **1st Step:** FDT (Field Definition Table),
- **2nd Step:** Worksheet,
- **3rd Step:** FST (Field Select Table), and
- **4th Step:** Display format.

The four steps that are followed by News Live library to make the data base are briefly discussed below. The NL library creates database by using own defined tags.

1st Step : FDT

Tag	Name	Lent	Typ	Rep	Delimiters/Pattern
10	Tape No.	100	X		abc
20	Category	100	X		a
30	Title	100	X	R	ab
40	Note	100	X		a
50	Location	100	X		a
60	Content	100	X	R	abcde
70	Keyword	100	X		
80	SL No.	100	X		a
90	Reporter/Producer	100	X		ab

Delimiters of FDT (Help Messages)

10. Tape No: a = Tape no.
b = Old tape no. (If any)
c = Type of programme
20. Category: a = Type of programme (current affairs, entertainment, Game show etc)
30. Title: a = Title of tape, CD etc.
b = Mix final, unmix, source etc.
40. Note: a = Important footnotes
50. Location: a = Location
60. Content: a = Content (story, slug, episode name etc.)
b = Episode/Telecast date
c = TC in (Starting time)
d = TC out (Ending time)
e = Tape no. in case stock shots.

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Second Step - Worksheet

TAPE NO:		TITLE:	
CATEGORY:			
REPORTER/PRODUCER			
NOTE:			
SL NO		LOCATION	
CONTENT			
KEYWORD:			

Third step - FST

ID	IT	Date extraction format
10	0	mhu(v10/)
20	1	v20 ?a
30	0	mhu(v30/)
50	1	v50?a
60	0	mhu,(v60/)
70	2	v10
90	0	mhu(v90)

Fourth step - Display format:

```
C15,mhu,"TAPE No: "V10?a,","V10?c,("V10?b)"/C5,"SL.No: "V80/C5,
"CATEGORY: "V20?a,","V20?b/C5,mhl,"LOCATION: "V50/C5"TITLE:
"V30?a,","mhu,V30?b/C5,"REPORTER/PRODUCER: "V90?a,","V90?b/C25,
"CONTENT: "/C12,mhl,! * !V60(11,7),!:#C5,"NOTE: "V40?a(4,5)/#C5,
"KEY WORD: "V70(4,5),C56,mfn(5)#
```

Example: Data entries of a tape on the programme Yuba live. Telecast date 25/11/09. Produced by Rosy Sarma. Kept in Mix Shelf of library.

Data entry in the worksheet -

TAPE NO: ?aMDV-01234?bYuba Live			
CATEGORY: ?aYouth		TITLE ?aYuba Live?bMix final	
REPORTER/PRODUCER: ?aRosy Sarma			

NOTE: _____	
SL NO:	LOCATION: ?aMix Shelf
CONTENT:	?aYuba Live?b09/11/25 ?c00:00:45:00?d00:27:18:00
KEYWORD:	<Yuba Live><Youth-Yuba Live>

Display of Data After Browsing

TAPE NO: MDV-01234 (YUBA LIVE)
CATEGORY: YOUTH TITLE: YUBA LIVE; Mix Final
REPORTER / PRODUCER: Rosy Sarma
LOCATION: Mix Shelf
CONTENT :
Yatra, 09/11/25, 00:00:45:00, 00:27:18:00
KEYWORD: Yuba Live, Youth-Yuba Live
00001.

The librarian makes correct identification of the material by using dictionary search of CDS/ISIS Software for tape no, category, title and location. Like the other software, the CDS/ISIS has good feature of bibliographic data storage and retrieval for media libraries.

7. Preservation of electronic or Audio-visual Materials

7.1 Factors of deterioration of the electronic materials

The factors of deterioration of electronic materials can be categorized as:

7.1.1 Environmental Factor

The environmental factor includes the followings:

- a) **Temperature:** Extreme variation of temperature and relative humidity is occurred in summer and winter. High temperature causes more damage.
- b) **Light and Darkness:** The sunlight mainly the ultra-violet rays coming directly from the Sun are very harmful to AV materials. On the other hand, darkness creates a favorable condition for breeding of different insects which causes maximum damage to the materials.
- c) **Humidity and Moisture:** Humidity is the gaseous phase of water. High humidity increases the moisture content of the atmosphere which is very dangerous for all kinds of library materials.

Micro film, microfiche, magnetic tape etc are also damage with the touch of moisture. It helps in growing of microorganisms like fungus, which causes deterioration and damage.

d) Water: Water may come from various sources like negligence of human accident or natural calamities. Water helps in the growth of fungus, rusting, etc.

7.1.2 Chemical Factor

Various chemical factors are responsible for damaging of library materials some of them are:

a) Smoke: It is a destructive factor to library materials which contains un-burnt particles of burning coal, carbon parties of burnt fuel and any other particle suspended in the air. Library materials become darker day-by-day if it is exposed to smoke.

b) Dust and Dirt: Dust is means of suspended particles carried out by air Dust and dirt is not only harmful to audio- visual materials like tapes and discs etc. But also damage the equipment meant for using the audio-visual materials.

c) Air Pollution: The impurities of air and the sources of air pollution causing damages to library materials are mainly Sulpher dioxide, Hydrogen Sulphide, Ammonia, Nitrogen-dioxide, Carbon-dioxide, Ozone etc.

7.1.3 Biological Factor

The library materials are affected by the micro organisms like fungi and bacteria if they are not use for a long time.

a) Fungi: Fungi are the most numerous living things, occurring wherever there is organic matter upon which they can subsist. Darkness and dampness in a library also leads to growth fungi. Alternaria, Aspergillus, Penicillium, Macor, Fusarium etc, are come important fungus.

b) Bacteria: The bacteria bring about discoloration and staining of books and other allied materials. Cytophaga, Cellvibrio, Cellfascienla and Myscobacteria are some important bacteria.

7.1.4 Human being as a Damaging Agent:

The human being is one of the major agents of deterioration of library materials. Due to mishandling and mismanagement library materials are found for immature death.

7.2 Methods of Preservation and Conservation

7.2.1 Environmental Control or Storage Condition

The library materials are deteriorated mostly by the physical and chemical factors such as heat, light, darkness, moisture, acid reaction, dust, harmful chemicals and so on. The causes of deterioration can be controlled to a great extent by the environmental control. The easiest but costly method of environmental control is the use of Air-conditioned (AC) without break for 24×7. The Silica gel is also used for environment (humidity) control. For storage of AV materials followings are control some conditions-

- a) **General** - The discs and tapes should be kept upright on edge.
- b) **Environment** - All storage and use areas should be kept clean.
- c) **Medium Term Storage** - (material to be preserved for a minimum of 10 years) storage areas should be kept at a constant 65 to 10⁰F and 45 to 50% Relative Humidity (RH) widely fluctuating temperature or RH severely shortens the life span of all recordings.
- d) **Long terms storage** - (Materials having permanent value) storage areas should be kept at a constant 45 to 50⁰F or colder (do not store magnetic tape below 46⁰F as it may cause lubrication separation from the tape binder) and 20 to 30%. RH for magnetic tapes (open reel and cassette) and 45 to 50% RH for all others.
- e) **Tape Demagnetization** - In general demagnetization is not a problem in most situations. For an added margin of safety to prevent demagnetization the tapes should be keeping away from potential sources of demagnetization such as loudspeakers care should be taken about operating machines with electric motors (e.g., vacuum cleaners) next to tape storage areas.
- f) **Discs** - Must be shelved have full high and full depth dividers, spaced 4 to 6 inches apart and secured at top and bottom.
- g) **Tapes (Open reel)** - Boxes should be stored vertically. Dividers are not essential but the boxes must be secured with a bookend and not allowed to fall.
- h) **Tapes (Cassettes, Audio and Video)** - Cassette in water repellent plastic containers should be stored vertically "on edge" not flat.

7.2.2 Smooth Handling

For handling of AV materials there are also some conditions, they are-

- a) **General** - The playing surface/of any recording should not be touched and hands should be kept clean before handling the recordings.
- b) **Discs** - Handle all grooved discs (18s, 45s, LPs and acetate discs) by their edge and label areas only. Handle compact discs by outer edge and center hole only.

c) **Tape (open reels)** –Handle by the outer edge of the reel flanges and center hub areas only. Do not squeeze flanges together it will damage tape edges.

d) **Tape (Cassette, Audio and Video)** – Handle by the outer shell, only. Do not place fingers or any other materials into openings.

7.2.3 Cleaning

Cleaning solution for Audio Records, CDs and DVDs: The solutions like Acetate, Lacquer, Shellac and Tiny for records as well as CDs and DVDs. The film strips or films are cleaned by using CCl₄ (Carbon tetra chloride), DDT powder is also used for cleaning. Vacuum cleaning or dusting is another way of cleaning the AV materials.

7.2.4 Migration

Migration means transferring the recorded materials (Viz. News, Programs) from one cassette to another. It helps in moving the longevity of the cassette more. NETV & News Live use this method.

7.2.5 Rewind Forward

Rewind Forward of cassettes in a regular interval is the easiest method of preservation. With this method also the longevity of the cassettes can be increased.

8. Private Satellite Television Libraries of Assam: A Survey

The history of private satellite channel in NE region is very new. There are three private satellite television channels in Assam viz. NE Television (NETV); News Live (NL) and DY365.

8.1 Electronic Media Libraries of Assam

The following table shows the private satellite TV channel libraries of Assam and arranged in chronological order. (Table No. – 5)

Table No 5: Private Satellite TV Channel of Guwahati with Name of the Organization, Year of Establishment, Name of the Librarian and Qualification

Sl. No	Name of the Organization	Year of establishment	Name of the Librarian	Qualification
1	Positive Television Pvt. Ltd. (NETV, NEHiFi)	16 th March 2004	Mr. Naba Saikia	M L I S c .
2	Pride East Entertainment Pvt. Ltd. (News Live & Rang)	21 st January 2008	Mrinmay Kr. Das	B .S.c., M L I S c .
3	Brahmaputra Telecom Pvt. Ltd. (DY 365)	30 th October 2008	Pabitra Das	M L I S c

8.2. Library Staff and the Training Programme

Table No.-6 shows the strength of staff:

Table No. - 6 : Number of Library Staff and the Training Programme

Sl. No.	Name of the Library	Number of Professional	Number of Non-Professional	Training Programme attended by the Staff	
				Yes	No
1	NETV	4	-	-	✓
2	NL	3	1	-	✓
3	DY 365	4	-	-	✓
Total & Average (in%)		Total=10	Total=1	Nil	100 %

8.3 Collection

The survey reveals following different categories library collection

Table No 7: Library Collection

Name	CDs		DVD	Tapes					Audio Cassette	Book	Others
	Video	Audio		Hi-Band	Beta	DVC Pro	DV Cam	Mini DV			
NETV	650	200	150	500	1,500	15,000	-	18,000	300	-	-
NL	382	30	2,120	-	450	-	500	7,500	-	25	Govt. Commission Report=12
DY 365	250	10	6,000	-	--	--	100	2,600	-		-

8.4 Arrangement

As mentioned above the media libraries in the region do arrange their library materials according to the suitability with their system. The arrangements of the three private satellite channel libraries are listed in Table No. - 8

Table No. - 8: Arrangement of Library Materials

Sl. No.	Name of the Library	According to Acc. No.	According to type of the material	According to duration	According to programme category	According to date of telecast
1	NETV	-	-	-	✓	✓
2	NL	✓	✓	-	✓	✓
3	DY 365	✓	✓	-	✓	-
Average (in %)		66.67	66.67	0	100	66.67

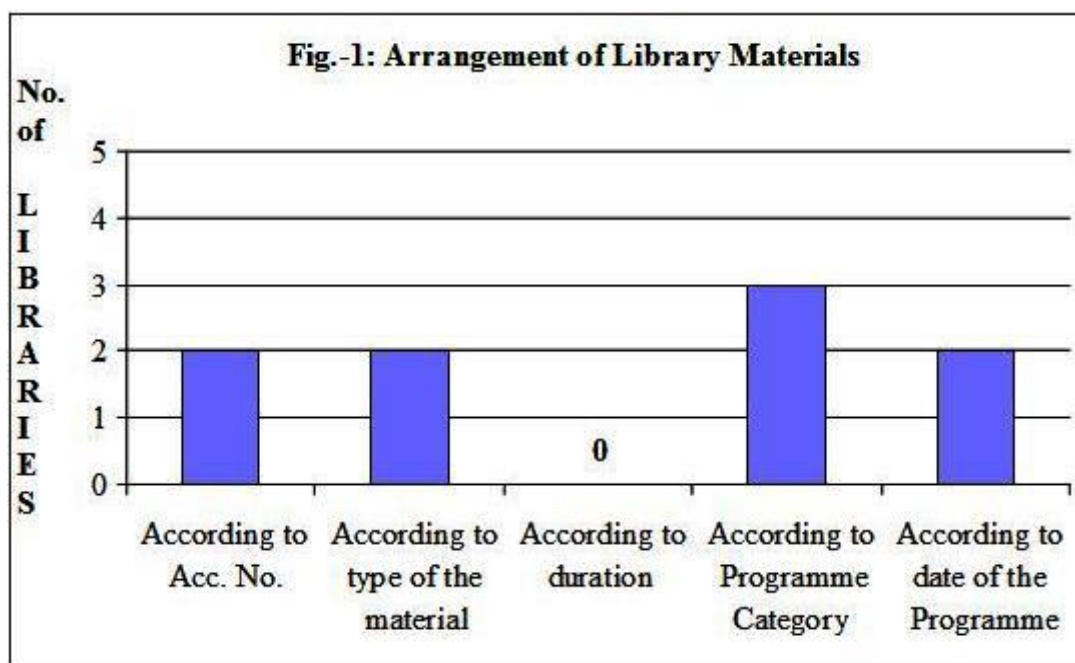


Figure 1: shows the diagrammatic representation of arrangement of library materials

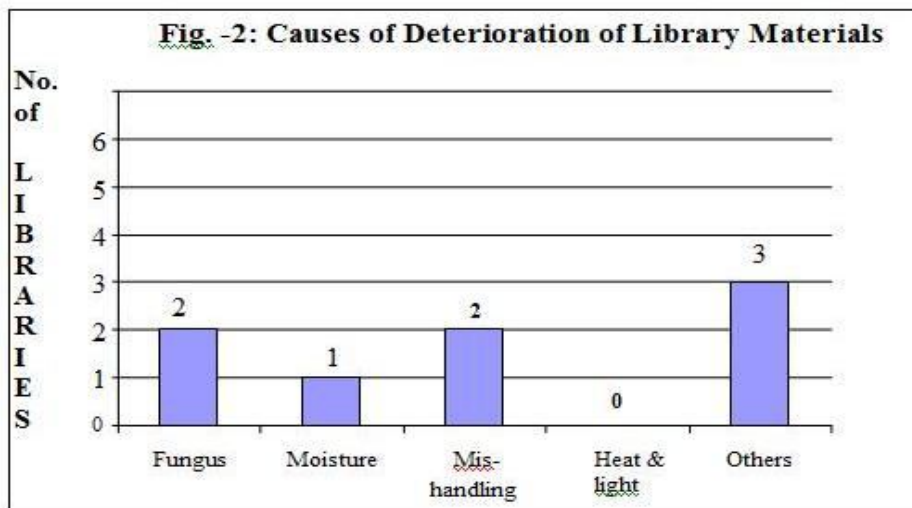
8.5 Causes of Deterioration of Library Materials

There are many factors of deterioration that can be categorized as physical, chemical and biological factors and most importantly the mishandling of the human beings.

The causes of deterioration are listed in the Table No.- 9.

Table No. - 9: Causes of Deterioration of Library Material

Name	Causes of Deterioration					
	Fungus	Moisture	Mishandling	Light	Heat	Others
NETV	-	✓	-	-	-	Bad quality of the cassette
NL	✓		-	✓	-	Dust
DY365	✓		-	✓	-	Dust



8.6 Preservation

Preservation is the important aspect of media libraries. The preservation techniques in general are fumigation, de-humidification, de-acidification, dusting etc. But in AV media libraries some another methods are also followed. The findings of the survey on methods of preservation are listed in the Table No. 10:

Table No. - 10: Methods of Preservation

Name	Methods of Preservation					
	Chemicals	Dusting	Migration	Rewind Forward	AC	Other
NETV	-	✓	✓	✓	✓	-
NL	-	✓	✓	✓	✓	Vaccum cleaning
DY365	-	✓	-	-	✓	-
	0 %	100%	66.67%	66.67%	100%	33.33 %

9. Principal Findings

Principal findings of survey are briefly discussed below:

- (i) The libraries mainly deal with the AV materials.
- (ii) The 10 personnel are having professional qualification of MLISc except News Live library having one non-professional as Technical Assistant.
- (iii) 66.67% libraries used to arrange library materials according to accession number, types of material and date of programme. It reveals that libraries arrange materials according to the programme category.
- (iv) Interesting, it is revealed that all libraries use CDS/ISIS software for record and data management.
- (v) The libraries use AC as a method of preservation. Migration and Rewind Forward are the most popular methods that are practiced in media libraries for preservation of library materials.

10. Suggestions

The following suggestions are made to improve the library and its services:

- (i) The building of the electronic media library should have adequate space and infrastructure to preserve the AV materials
- (ii) The librarians should be deputed for the training programmes and workshop on regular interval.
- (iii) The authority should pay attention to preservation of materials and the staff should be given special training on it.
- (iv) Library management software should be used in the library especially for the circulation which is very much essential.
- (v) Awareness is needed in the area of cleanliness of library materials.
- (vi) User orientation programme should be introduced to avoid mishandling of AV materials.

11. Conclusion

Electronic media libraries or AV media libraries are dealing with the management of non-print materials. The users of the media library are of special type who usually asked for instant and ready information. Thus, proper management and easy retrieval of information are very essential for libraries of the private satellite television channel of the Guwahati region in order to serve the need of the users.

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