CHAPTER 6:

CONCLUSIONS AND SUGGESTIONS -

A library is a storehouse of needful information available through the documents. So, preservation of documents is as essential as purchase of books and other documents in a library. Actually, to keep documents in safest position, the preventive steps of the preservation work should start at the very beginning, that is, at the time of birth of a document. Every library should be cautious in this regard.

Preservation is not only a mechanical procedure; it is an understanding of the purpose of libraries. Ensuring the preservation of materials housed in West Bengal college and university libraries, is a hard work due to the variety of the nature of constraints, such as, environmental hazards, lack of fund and trained staff etc., but, it is the work well worth doing and must be done with all sincerity and devotion.
The geographical position of West Bengal shows a special environmental characteristic, that is, various types of climatic patterns have been noticed all over the state throughout the year. This state can be divided into four major climatic divisions, viz, super-humid, humid, semi-humid and sub-humid region. For this variation in climatic characteristics, it is not possible for the researcher to develop one common standard model regarding preservation system, which can be implemented to all college and university libraries of this state. Here, the researcher has tried to give some suggestions regarding preservation policies and inexpensive preservation techniques (climatic zonewise). Hopefully, these techniques may throw some light to overcome these hurdles.

The design and construction of library building plays an important role in preservation field. In practical situation, most of the college libraries of West Bengal have no opportunity to design a new appropriate building or to make substantial changes to an existing building. In such a case, the environmental deteriorating factors will be beyond their control, but they have to try towards the best possible solutions. In case of university libraries, this picture is quite better.

Every document starts to decay mainly due to climatic factors and the rate of deterioration vary (may be a little bit) from one climatic zone to other. The following tabular presentation highlights a direct relationship between climatic patterns of different districts of West Bengal and causes of deterioration (climatic factors) of documents, exist in college and university libraries of this state.
<table>
<thead>
<tr>
<th>Name of the climatic zone</th>
<th>Climatic location</th>
<th>Coverage</th>
<th>Climatic factors causing deterioration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a / S1</td>
<td>Super-humid montane southern slope</td>
<td>Central part of Darjeeling, Northern part of Jalpaiguri</td>
<td>Humidity (major)</td>
</tr>
<tr>
<td>1b / S2</td>
<td>Super-humid terai</td>
<td>Coochbehar, rest of Jalpaiguri, southern part of Darjeeling and northern part of North Dinajpur</td>
<td>Humidity (major) and temperature (minor)</td>
</tr>
<tr>
<td>2a / H1</td>
<td>Humid montane northern slope</td>
<td>Northern part of Darjeeling</td>
<td>Humidity (major)</td>
</tr>
<tr>
<td>2b / H2</td>
<td>Humid interior</td>
<td>Part of North and South Dinajpur</td>
<td>Humidity and Temperature (medium)</td>
</tr>
<tr>
<td>2c / H3</td>
<td>Humid Coastal</td>
<td>Southern part of South 24-parganas (Sunderbans) and part of Midnapore.</td>
<td>Humidity (major) and Temperature (minor)</td>
</tr>
<tr>
<td>3a / S3</td>
<td>Semi-humid north</td>
<td>Part of South Dinajpur and part of Malda</td>
<td>Humidity (major) and Temperature (major)</td>
</tr>
<tr>
<td>3b / S6</td>
<td>Semi-humid south</td>
<td>East Midnapore and part of West Midnapore, Howrah, Hooghly, Kolkata, North 24-parganas, Southern part of Nadia.</td>
<td>Humidity (major) and Temperature (major)</td>
</tr>
<tr>
<td>4a / S4</td>
<td>Sub-humid east</td>
<td>Southern part of Malda, Murshidabad, northern part of Nadia</td>
<td>Temperature (major) and Humidity (medium)</td>
</tr>
<tr>
<td>4b / S5</td>
<td>Sub-humid West</td>
<td>Birbhum, Bankura, Purulia, Burdwan and part of West Midnapore.</td>
<td>Temperature (major) and Humidity (minor)</td>
</tr>
</tbody>
</table>
There are some other factors also, viz, presence of biological agents, air-pollutants etc., accidental factors e.g. fire, etc., and other man-made factors e.g. improper handling, improper shelving etc., which may or may not be indirectly related to climatic condition, deteriorate the library documents to a large extent.

From the report of the survey, it is found that the college and university libraries, selected as sample in this study, are located in different climatic zones of West Bengal viz., (S1 – Super-humid montane southern slope; S2 – Super-humid terai; H1 – Humid montane northern slope; H2 – Humid interior; H3 – Humid coastal; S3 – Semi-humid north; S6 – Semi-humid south; S4 – Sub-humid east and S5 – Sub-humid west) of West Bengal. Studying the findings of the survey report, the conclusions can be grouped into the following two categories –

For college libraries –

Books, including textbooks and different kinds of reference books, printed journals and newspapers are the major constituents of the total collection of these college libraries. On-line journals are not present in these libraries. Other paper documents, viz., annuals are present in more than 35% college libraries located in different climatic zones of west Bengal, but, monographs exist in less than 12% college libraries situated in S2, S5 and S6 climatic zones of this state and other documents e.g., reports, conference proceedings etc are available only
in 4% college libraries located in S6 climatic zone and more or less 50% college libraries situated in different climatic zones of this state. Non-book materials viz., audio and video materials, micro and electronic materials are present in less than 50% college libraries. Maps, globes, atlases, charts, pictures, models, geographical instruments exist in most of the college libraries of West Bengal.

The user strength mainly constitutes students. Other teaching and non-teaching staff are also members of these libraries, but, the rate of their use is very poor. From survey report, it has been noticed that below 35% users have visited the library per day. It indicates that there is a high probability of most of the documents of the library remaining unused.

The stacking arrangements are not properly followed by most of the libraries. In most cases, books are kept in open shelves and almirahs. The probability of damages caused by deposition of dust, dirt, smoke and other deteriorating factors is high in open shelves. Maps are maintained properly by most of the college libraries. Micro-documents and electronic materials are stored scientifically in college libraries situated in S1, S3, S5 and S6 climatic zones of West Bengal.
Analyzing the data related to climatic condition of West Bengal, it has been seen that the relative humidity level of the air reaches at a maximum level in the months of June, July, August and September of a year. This climatic character i.e. maximum moisture increases the dampness within the library building and simultaneously, the growth of the biological enemies, which causes a great damage to all kinds of library documents. The climatic condition in the months - January, February, October, November and December remains cold and dry, which are not too much harmful for library documents and in the months - March, April and May, the climate remains hot and humid to some extent, which may also increase the possibility of decay of the documents. It may be interpreted that all documents are mostly damaged in monsoon season and sometimes, in dry summer also.

The data related to infrastructure of library building shows that the numbers of library rooms (below 50%) are insufficient to accommodate the whole library collection properly. All college libraries situated in different climatic zones maintain proper ventilation and lighting system. Proper air circulation through electrical fans and ventilation ducts are also present in most of the college libraries of West Bengal.

The climatic factors, which are responsible for deterioration of documents in most of the college libraries of West Bengal, are excessive
humidity, high temperature and light. Other factors - air pollutants, dust, dirt, smoke, biological agents etc. also deteriorate library documents. Sometimes, accidental factors may also cause deterioration of library documents.

Only a small number of college libraries situated in different climatic zones of West Bengal follow some predetermined preservation policy to do an effective preservation work. Preservation units exist only in the college libraries situated in S1 and S6 climatic zones for proper preservation work. Fumigation chambers to destroy biological agents are present only in S6 climatic zone.

The most effective measure to protect library documents from any kinds of deteriorating agents is installation of air-conditioner (fully or partly) within the library building. But, air-conditioning system is absent in almost all college libraries of this state. More or less 8% college libraries situated in S4 and S6 climatic zones maintain air-conditioning system (partly) in their libraries. As techniques of preservation, most of the college libraries of this state follow only dry cleaning method and college libraries located in S2, S3, S4, S5 and S6 climatic zones maintain wet cleaning methods also. Insecticidal solutions are sprayed by any outsider agency in all college libraries of West Bengal. Some college libraries situated in H2, S2, S3, S4, S5 and S6 climatic zones use thymol and other chemicals to protect documents. Fire extinguishers are present in all college libraries except those situated in H2 and H3 climatic zones. Climate is monitored by a few number of college libraries situated in H2, S3 and S6 climatic
zones of West Bengal. All college libraries of our state maintain proper handling of documents and strict vigilance system. Digitization, the modern technique of preservation, is followed by a small number of college libraries situated in S1, S2, S3, S4, S5 and S6 climatic zones.

Special preservation techniques are followed for old and brittle documents and micro-documents only by a very few number of college libraries situated in S2, S5 and S6 climatic zones. Electronic materials and other special materials are preserved separately following special care and techniques by most of the college libraries except those located in S1 climatic zone.

Documents cannot be preserved properly in most of the college libraries of West Bengal situated in different climatic zones due to some constraints – lack of fund, trained staff and negative attitude of the authority etc.

For university libraries –

The university libraries' collection are enriched with books, printed journals and on-line journals, newspapers, other paper documents, viz., annuals, monographs, reports, conference proceedings etc, except for the library situated
in S2 climatic zone. Audio and video materials are present in university libraries situated in different climatic zones. Micro-documents exist only in the libraries situated in S4 and S6 climatic zones. Other non-book materials, e.g., charts, pictures, globes, models etc. are present only in the libraries located in S6 climatic zone.

Different categories of users, viz, students, teachers, research scholars and other non-teaching staff use these libraries, but, amongst them, students are the main users. This survey report shows that below 13% users visit the library per day. So, there is a high chance of most of the documents of the library remaining unused.

In these libraries, books and other book-like documents are stored in open shelves and almirahs. The probability of damages caused by deposition of dust, dirt, smoke and other different kinds of deteriorating agents increases in open shelves. Maps are maintained properly in all university libraries of West Bengal. Micro-films are stored properly in all university libraries except the libraries situated in S4 and S5 climatic zones and graphic storage arrangement are present in all university libraries except the one situated in S5 climatic zone of West Bengal. There is a high probability of deposition of different types of decaying agents on openly shelved documents.
The data related to climatic condition of West Bengal shows that documents are severely damaged in hot and damping condition, which are found in the months of June, July, August and September. From this information, the inference can be drawn that documents deteriorate mainly in monsoon season, except in university libraries located in S2 climatic zone. In these libraries, documents deteriorate during the months of October to January. It is observed in case of most of the libraries that lesser the humidity in air, lesser is the rate of deterioration (that is available in the months - January, February, March, October, November and December).

The infrastructure of the library buildings, viz., sufficient number of well designed, well ventilated rooms and proper lighting system are present to accommodate the whole collection in university libraries situated in S4, S5 and S6 climatic zones of West Bengal.

University libraries located in S2, S4, S5 and S6 climatic zones notice the deterioration of their documents by all factors, e.g., climatic factors, radiant factors, atmospheric pollutants, biological agents etc.

West Bengal university libraries situated in S2, S4, S5 and S6 climatic zones follow a predetermined preservation policy to do an effective preservation work. Separate preservation unit exits only in university libraries located in S2 climatic zone and fumigation chamber is present only in libraries located in S6 climatic zone.
The most effective way to protect documents from any kind of hazards is installation of fully air-conditioning system within the library building. But, this facility is not available in university libraries situated in S2, S4 and S5 climatic zones, only 57% libraries located in S6 climatic zone of this state maintain this system (partly). As preservative methods, university libraries situated in different climatic zones follow dry and wet cleaning method to prevent documents from any kind of deterioration. Proper air-circulation system through electrical fans, ventilation ducts etc exist in all university libraries situated in different climatic zones of this state. The spraying of insecticidal solutions are followed by all university libraries and thymol treatment is maintained by university libraries located in S4 and S6 climatic zones. The libraries situated in S6 climatic zone maintain fumigation process and the treatment by other chemicals. Other preventive measures, viz., fire extinguishers are present in all university libraries situated in different climatic zones of West Bengal. But, sand pockets, water pockets and other measures exist only in university libraries situated in S6 climatic zone. All university libraries located in different climatic zones of this state maintain proper handling of documents and strict vigilance system. The university libraries situated in S2, S5 and S6 climatic zones of West Bengal have adopted the modern preservation technique i.e., 'digitization'.

Special care is taken to preserve old and brittle documents and micro-documents by the libraries situated in S4, S5 and S6 climatic zones of this state. All university libraries situated in different climatic zones of West Bengal preserve electronic materials properly.
In practical field, it has been noticed by the researcher that preservation is the most neglected area among all works in most of the college libraries of West Bengal. From the findings of this survey work on West Bengal college and university libraries, it is revealed that most of the library professionals are not in a position to implement the appropriate preservation techniques due to some hindrances – lack of fund, lack of trained staff, unplanned library building and indifferent attitude of authorities.

Mainly, colleges of West Bengal are suffering from acute financial and space problem. In spite of their wisdom, they cannot follow any standard preservation system. In case of universities, this picture is quite better. Finance is not major problem for them. In a few cases, lack of proper training among library staff as well as negative attitude of library staff related to this type of special work affect the whole preservation process.

Here, the scholar has tried to give some climate specific recommendations in the aspects of preservation policy, design and construction of library building and some inexpensive preservation techniques, which the college and university libraries may follow for protection of their documents.
Preservation Policy –

Before implementation of any preservation technique to protect the library documents from any kinds of hazards, a predetermined preservation policy should be taken in the managerial level in every institution. The preservation policy defines what is to be preserved, i.e., selection of materials, which methods are to be adopted in preserving particular type of materials within their financial budget, the technical activities involved, how long the techniques are to be applied, and the withdrawal of unnecessary documents. Preservation policy also depends on the staff strength of the libraries and expertise of the library professionals. A clear-cut decision should be taken in the administrative level regarding photocopying of library and archive materials, e.g., fragile or damaged documents, tightly bound volumes, manuscripts and archives, rare books and photographs and oversized items should not be allowed for photocopy.

There must be a little bit difference in preservation policies to be adopted in libraries situated in different climatic zones of West Bengal. For example, in super-humid zone, the humidity level remains excessive high in most of the months in a year than in other zones. Naturally, the preservation policies to be adopted will be different in different college and university libraries situated in different climatic zones of West Bengal.
The design and construction of library building plays an important role to protect library documents from any kinds of hazards. In order to meet the requirements of preservation system, some factors related to construction of library building should be considered, viz., the choice of the site, the adequate space for smooth routing of both documents and library staff, the dimensions and specifications for document storage areas, the construction of ground level stores, management of the internal environment and disaster protection considerations. An ideal library building should also be so designed that it satisfies the following criteria:

a) It should be free from dampness;

b) It should have proper insulation from outside temperature;

c) It should be adequately lighted. However, direct sunlight should not be allowed inside;

d) It should have adequate ventilation;

e) The design of the building must be earthquake resistant;

f) The location of library building should be in such a position that it should be free from dust, dirt and smoke.
General Design Criteria

The following conditions may be followed in the design of library building in any region / zone.

The design of the building should be earthquake resistant, depending on the seismic zone in which it is located. (Ref : IS 1893-2002).1

1) Ideally, a library should be located on upper floor of a building. Storage of library materials at ground floor should be avoided as far as possible. This will make the library material less prone to attacks from dampness, water logging, insects, and rodents. Better air circulation within the library may also be achieved on upper floors than in the lower floors.

2) Pesticide treatment, particularly anti-termite treatment, should be carried out meticulously at every stage during the construction of the substructure of the building.

3) The water carrying conduits (water, soil, drainage and rain water lines) along the walls of the building should ideally be exposed to detect even the slightest possible seepage, which may create dampness on the walls. The building should be so designed that the water carrying conduits, as far as possible should place on one side of the building – away from the storage area. Proper maintenance of the conduits is necessary.

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4) Wherever necessary, the outside walls of the building should be plastered with admixtures of water proofing compounds. The building should be painted on the outside with two or three coats of water-proof paint, and should be repainted periodically.

5) Cross ventilation, depending on the direction of monsoon winds, is necessary. However, conventional windows in the library building may pose several problems.

- Conventional windows are placed at a height of 750-900 mm from the floor level up to a height of 2100 mm, i.e within the reach of a person standing on the floor, with cornice projection on the outside to protect the window. However, this projection is often found to be inadequate to resist the entry of direct sunlight (specially during the morning and afternoon) and rain water coupled with a strong wind.

- Windows at this height also restrict the storage space of the library and expose the library materials to direct sunlight and rain if placed very near to the window. A possible solution may be evolved to design the windows as sky-lights (may be of 500 mm height) and place them just below the roof / roof beam level. To compensate the loss of height, the windows may be designed to be wider – along the entire length of the wall, if necessary. The roof / slab immediately above the lintel may be
projected outside to act as a projection. As the windows, in this case, stand much above man height, adequate mechanisms are to be provided to close and open the windows quickly as and when necessary. This will ensure entry of adequate diffused sunlight and proper cross ventilation, if the windows are placed at same level in the opposite walls.

6) In case of sloped roofs, skylights with translucent sheets (to allow entry of lights only) should be provided intermittently.

7) The roof treatment of the library building is very important. The roof level should be constructed in such a way that there is no accumulation of water at any time. Moreover, the roof should be made completely water-proof and preferably with a thermal insulation.

8) Adequate plinth protection and damp proof course should be provided every library building.
Preservation techniques –

If fund permits, installation of air-conditioners, and running the same day and night without disruption of power, in all libraries situated in different climatic zones is the best possible solution to combat with the fluctuation of climatic parameters. In addition to minimizing the effects of variation of climate, an air-conditioner also acts as a purifier and restricts the entries of dust, dirt etc. (the other major enemies of library materials) to a large extent. But, this technique is very expensive. Most of the college libraries of West Bengal are suffering from acute financial crisis. So, fully air-conditioning system in all colleges of West Bengal is a distant dream and therefore, more viable economic solutions are to be thought of. But, the library documents shall have to be preserved and restored as far as possible. There may be a little bit scope for university libraries of this state to follow this kind of solution.

In absence of air-conditioner and sufficient fund, the following procedures may be implemented to control climatic factors (humidity, temperature etc.) and other causes of deterioration. Regular monitoring of climatic factors viz., relative humidity, temperature etc is essential for college and university libraries of West Bengal.
The climatic zone-wise model regarding appropriate preservation techniques, which are rather inexpensive and can be implemented in college and university libraries of West Bengal, have been suggested in the following manner.

**Table - G**

<table>
<thead>
<tr>
<th>Name of the climatic zone</th>
<th>Climatic pattern</th>
<th>Appropriate preservation techniques</th>
</tr>
</thead>
</table>
| 1a/S1 (Super-humid montane southern slope) | Humidity level is very high and temperature is low throughout the year. | This area falls under earthquake prone zone. So, the design and construction of the library building should be earthquake resistant, depending on the seismic zone in which it is located. Controlling of relative humidity is very essential in the libraries situated in this climatic zone.  
- Relative humidity should be monitored regularly within the library building by hygrometer or by using 'environment monitoring strip', which shows light... |
green colour in almost normal air, yellow as a sign of alkalinity. Digital hygrometers, Digital thermo-hygrometer, thermo-hygrometer, analog hygrometer are some of the examples of hygrometers. Amongst them, digital thermo-hygrometer is preferable for use in the library. It is a battery operated instrument and displays the room temperature (minimum and maximum), relative humidity (minimum and maximum) and time on LCD display board. It can be used as laptop or wall mounting. This is a low cost instrument and is available in any city. So, this instrument can easily be kept in every college and university libraries of West Bengal.

- Moderately priced mechanical dehumidifiers may be used to control
moisture. If it is not possible, chemical dehumidifiers, e.g. silica gel, calcium chloride etc may also be used to absorb moisture from the air. This is possibly the cheapest technique to control humidity.

- Heaters can also be used to control humidity throughout the year in these libraries. However, heaters should be used with utmost care so that the temperature of the library does not increase beyond a certain permissible level. The selection of heaters should depend on the readings of various parameters like relative humidity, minimum temperature and position of library building.

- Documents should be kept in glass-fronted book-cases fitted with electric bulb from which the warm air can pass inside the shelves.
This inexpensive viable procedure should continue throughout the year.

- Old documents should not be kept open in the shelves—these should be shelved following some special techniques. Old and valuable documents should be covered first with cloth wrappings and then stored in the preservation boxes. The double preservation boxes may also be used. These boxes preferably should be made of calcium silicate, which has common characteristics with wood, but documents remain protected from moisture. If the boxes are made of wooden materials, these should be dried artificially until the resin is removed completely. The attached resin becomes the nutrient of the molds when the humidity rises.

- For cleaning of the
documents, some special precautions must be followed - Cleaning should not be done with water, it should be done with cleaning liquids. Generally, polyvalent alcohol, e.g. propylene glycol is used as cleaning liquid.

The above techniques are applicable for non-book materials also e.g., micro-documents and electronic materials.

Temperature is not a major constraint in the libraries situated in this climatic zone, but, in summer, to control temperature, the following arrangements are necessary to prevent library documents from deterioration.

Proper air-circulation through electrical fans, exhaust fans and windows fitted with netting are essential.

<p>| 1b / S2 (Super-humid terai) | Humidity level is also very high | This area is also situated in earthquake prone zone. So, the design |</p>
<table>
<thead>
<tr>
<th>2a / H1 (Humid montane northern slope)</th>
<th>Humidity level is high and temperature remains low throughout the year.</th>
</tr>
</thead>
</table>

throughout the year and temperature remains a little bit high in summer.

of the library building should also be earthquake resistant, depending on the seismic zone in which it is located.

Libraries situated in this region, should follow the above inexpensive methods to control humidity within the library.

In summer, it is necessary to control temperature within the library.

- Proper air-circulation through electrical fans, exhaust fans and keeping windows open with netting are essential.

In this area also, the design of the library building should be earthquake resistant, depending on the seismic zone in which it is situated.

The above mentioned preservation techniques should be followed to control humidity from the air within the library.
The temperature is not a major constraint for the libraries situated in this climatic zone, but, a few preventive steps should be followed in summer. For example, electrical fans, exhaust fans and keeping windows open with netting for proper air-circulation are sufficient to control temperature in this region.

<p>| 2b / H2 (Humid interior) | Humidity and temperature both remain at a medium level. | The temperature and relative humidity should be measured using thermo-hygrometer regularly. Here, both the two climatic factors, humidity and temperature exist, but they are not the major constraints. The above mentioned methods to control humidity and temperature must be followed by the libraries situated in this climatic zone. Controlling of temperature is mainly necessary from the month of May / June to September of a year. Arrangement of wet khas and use of reflective colours on roof surface, construction of false ceiling may also be considered to minimise the temperature in these months including the above mentioned techniques for controlling the temperature. |</p>
<table>
<thead>
<tr>
<th>Region</th>
<th>Climate Characteristics</th>
<th>Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2c / H3</td>
<td>Humidity is high, but temperature is not too high in this zone</td>
<td>In this climatic zone, humidity is the major factor, not temperature. But temperature is an important factor. Here, the proper measures to control humidity are more essential than controlling temperature. The monitoring of relative humidity and temperature and preventive steps to control humidity and temperature should be the same as mentioned earlier.</td>
</tr>
<tr>
<td>3a / S3</td>
<td>Humidity and temperature both remain at high level, but temperature remains in lower range than sub-humid region in most of the months in a year except winter</td>
<td>The above mentioned techniques to control humidity should be followed by these libraries. To control temperature, proper air-circulation through various procedures and other arrangements to minimise temperature (as mentioned earlier) are also essential throughout the year except winter.</td>
</tr>
<tr>
<td>3b / S6</td>
<td>Humidity and temperature both remain at a high level</td>
<td>The monitoring of relative humidity and temperature (as mentioned earlier) are essential in</td>
</tr>
</tbody>
</table>
libraries situated in this climatic zone. All preventive steps to control humidity and temperature (as mentioned earlier) are necessary for the libraries situated in this climatic zone through out the year except winter. In winter, both humidity and temperature remain at lower level.

To control temperature, the following procedures should necessarily be followed through out the year except winter.

- Proper air circulation through electrical fans, exhaust fans, opening the windows are essential.

- Roof treatment, construction of false ceiling, reflective colour on roof surfaces, thick outer wall and arrangement of wet khas are also essential to prevent heat in the library.

To control harmful rays of light,
which also increase temperature into the library building, some precautionary measures should be taken.

- To protect library documents from UV-rays of light, glass panels can be used. Fluorescent light tubes must be fitted with diffusers and filters to exclude UV-rays of light.
- Shade trees outside the library building may be planted.
- Skylights (if they exist in the library stack room area) should be covered or white washed.
- To control direct sun-light, dark and heavy curtains should be used.

| 4a / S4 (Sub-humid east) | Temperature is high and humidity remains at a medium level. | In this region, temperature is the major factor, which affects the library documents very much, but humidity is the medium factor. The |
relative humidity and temperature should be monitored regularly throughout the year.

The above mentioned techniques to control temperature and humidity are applicable to college and university libraries situated in this climatic zone.

Temperature is very high and humidity is low throughout the year except winter. In winter temperature remains at a lower level.

Here, temperature is the major factor. All the preservation techniques to control temperature (as mentioned earlier) should necessarily be followed throughout the year except winter.

Besides the above mentioned preservation techniques (controlling of climatic factors), the preventive steps should also be followed to control the factors indirectly related to climatic condition of that particular area, viz., environmental pollutants, biological enemies, radiant factors (as discussed in chapter no. 4). Special preservation techniques for old and brittle documents, electronic materials, micro-documents and other non-book materials (as
discussed in chapter no. 4) should also be maintained compulsorily in all college and university libraries situated in different climatic zones of West Bengal. The man-made factors, which are not related to climatic condition, viz, improper handling, improper shelving etc. should also be controlled to avoid decaying of library documents throughout the year.

The other suggestive steps, which are applicable to college and university libraries, are discussed below—

- Authority should make a concrete plan to develop preservation laboratory within all college and university library premises for smooth running of all preservation and curative works. A nationwide campaign should be started to enforce the publishers and paper manufacturers to switch over to acid-free paper manufacturing for book production. Attempts may also be made to standardize format of preservation work (climatic zonewise).

- There must be a constant communication and exchange of views on the subject—"preservation of library materials", that means, the periodical exchange of ideas based on preservation system between all library professionals of college and university libraries of West Bengal.

- A comprehensive plan should be made where Government should exert pressure on publishers and paper manufacturers to switch over the book production by acid-free papers.

- There should be an arrangement of proper training related to preservation work for all library staff and refresher course there on.
• "Preservation" – should be a separate compulsory paper in "Library and Information Science" course studied under all universities.

• Proper ‘user training’ is also necessary to eradicate the problem of improper handling of library materials.

Lastly, it has been suggested that the attitude of the college and university authorities should be more positive towards development and maintenance of the libraries. Authority should take up the space problem on priority basis, specially, in case of college libraries. In case of university libraries of West Bengal, space is not the major problem, but, to keep library documents in usable condition, library staff should be more alert on preservation work. In spite of all these problems, it is necessary to try to overcome these barriers.