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In 2001 President Mbeki was taken to the mud city of Timbuktu during his state visit to Mali. While there he was shown around the Ahmed Baba Centre where thousands of rare manuscripts are kept. The manuscripts are in need of proper preservation and Mali cannot afford it. The President approached South Africa for assistance with conservation and specialists were identified in South Africa to participate on what is known as the Timbuktu Manuscripts Project.

The 13th century manuscripts stored in the centre, have been subjected to extensive physical damage due to handling and improper storage. The climate (high temperatures) of the region also contributed to the deterioration. Furthermore the bulk of the manuscripts are written on handmade paper which has withstood the harsh climate of the desert environment.

The manuscripts are bound in leather in Islamic style. Leather in Mali can be found in abundance and leather work, sculpture, ornaments, necklaces, rings, et cetera, can be found in smaller towns such as Timbuktu. The binding of manuscripts is very basic and simple with the exception of the elaborately decorated covers. Some have specially made leather bags (particularly the religious manuscripts).

Heat and dryness cause brittleness to paper which is exacerbated by incorrect storage of the manuscripts - exposure to dust, increased vibration (due to modernisation) of transport, sudden changes in temperature and relative humidity. Curious researchers, historians, tourists and collectors have all flocked to Timbuktu to see these rare collections.

The increased physical handling of the manuscripts has disturbed the stability of the binding structures of these rare and fragile items. The already-aged cellulose fibres were also further weakened as they have lost their fold endurance. The long dry seasons have resulted in a drop in moisture content of the paper fibres which is needed to keep the paper flexible. Dust and grit have resulted in some of the text being abraded, particularly those manuscripts that have been heavily used.

Preservation strategies

Microfilming

Preserving the manuscripts in Timbuktu creates a challenge as all the enemies of deterioration are in action here. Certain



strategies that are effective in most parts of the world may not be feasible in a desert town such as Timbuktu. At some stage attempts to microfilm the manuscripts were made but the problems of dust and resources made it impossible for the project to continue. A small scratch on microfilm can result in a loss of data. Bear in mind that it is difficult to control dust in an area where the buildings themselves are made out of mud and wood. To allow ventilation, the buildings often do not have closing windows and although this may be good for people it allows a free flow of polluted air which causes sand and dust. Some of the buildings are made from lime bricks and lime tends to give off a finer dust - this can be attracted by the film through static electricity.

Machinery and material have to be imported and this creates a major problem as a result of poor exchange rates. As most of the projects to save the manuscripts are initiated by donors, the funds tend to run out before the projects are completed. Maintenance of the equipment is a great need in Timbuktu because of the high temperatures and dust but this becomes very costly as most of the maintenance companies are based in Bamako, the capital city of Mali and transport to Timbuktu is very difficult to arrange. Spare parts are not available locally - servicing thus becomes a costly exercise.

Storage of film requires proper climate control and correct humidity levels. Timbuktu is, however, reliant on a generator for its electricity supply and frequent power failures seriously affect this.

Digitisation

Currently there are efforts to digitise the collection at the centre where these manuscripts are preserved. This strategy creates hope for the collection inasmuch as access to the content is concerned. Wide distribution of the information via Internet and e-mail is envisaged.

However, this approach only deals with the access of the information but the original manuscripts still need to be attended to. One argument is that by scanning the manuscripts, usage of the originals will be limited. The level of deterioration of these manuscripts is such that copying them without properly restoring them will cause irreparable damage.

So, although the digitisation approach may work on the less fragile manuscripts it

may have disastrous effects on the extremely fragile manuscripts which represent the larger part of the collection.

Conservation

Conservation consists basically of two parts: *Preventive conservation*: steps are taken to reduce the rate of deterioration; and *curative conservation*: physical repair is undertaken to correct the damage.

Preventive conservation, systems such as the control and monitoring of the storage climate within the storage facilities and the general house-keeping procedures to remove dirt, pests (pest control), and proper transporting measures from one area to the other and proper awareness programmes are put into place. The centre where the manuscripts are stored is very under-resourced. Storage for the manuscripts is not adequate and the climate control in the storage facility is non-existent.

In the rainy season the mudbricks that buildings are built with, sometimes dissolve which causes roof leaks; a situation that is totally undesirable. The hot and dry season starves the manuscripts of the moisture level it requires to remain flexible. This dehydration results in fragility and loss of flexibility. As most of the manuscripts are written on paper and bound in leather, it is very difficult to keep them stable in an environment such as this. The leather covers dry out and the adhesives used (mostly animal glues) lose their adhesive qualities. Infestation is a major problem as most of the materials used for the creation of the manuscripts are organic and have not been treated against insect attack such as ants, borers, termites, et cetera.

Curative conservation addresses and introduces corrective measures after damage has been caused. This action is a last resort where the conservator will come up with a treatment and repair method to make the manuscripts useable again. This approach will be used on this project alongside the preventive measures indicated above.

Appropriate conservation methods are being researched and once they have been tested and approved they will be implemented. Greater consultation will take place with specialists from South Africa, Mali and internationally. Experts on Islamic bindings and writings will be involved. Conservators will work alongside these specialists to ensure the pieces are pieced together properly. Training is being provided to the craftsmen from Mali so as to develop the skills required for the sustainability of the project.