Mission British Virgin Islands – Damage assessment cultural heritage on paper after hurricane Irma and Maria

Period: 15 to 20 April 2018

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Figure 1. Poster in the offices of Virgin Island Shipping Registry
INTRODUCTION

CARBICA, the Caribbean branch of the ICA (International Council of Archives) has asked me to visit the British Virgin Islands (BVI) and assess and report damage made by hurricane Irma and Maria to their collections. The funding of this mission was provided by the “Archive at Risk” program set up by the ICA, in order to provide first aid recovery in times of disaster.

This mission and report will serve as a preparatory phase to the upcoming “Caribbean Disaster Recovery” workshop (July 2018) that will introduce the parties involved to the program and give them tools to draft institutional disaster preparedness and recovery plans as well as prepare more actively for the next hurricane seasons. Representatives of the different islands which are at risk of being touched by disaster will be invited to attend this workshop.

This mission will also provide information to local institutions in terms of preventive conservation and possible treatments of damaged objects on paper. A final “workshop” will bring all parties together to discuss and share their experiences before, during and after hurricane Irma and Maria struck the island. It will also be a good starting point to prepare for the upcoming hurricane season and set up a local network to share knowledge and materials in times of need.

Mr. Christopher Varlack, Chief Records Management Officer, has prepared this mission and arranged visits on Tortola as well as on the islands of Jost van Dyke and Virgin Gorda. This has given me a broader view on the archipelago and revealed the particular challenge faced by smaller communities reachable mainly by sea. During this 5 day mission, I was able to visit the following Institutions:

• ARMU, Archival Records Management Unit
  • Previous offices, Burhym Building
  • Present offices shared with Deputy Governor’s office
  • Fish Bay storage unit
  • MacNamara storage unit
  • Main archives storage unit on Main street

• Government services
  • Land Registry and Survey Department
  • Civil Registry
  • Labor Department
  • Magistrates Court
  • High Court
  • VI Shipping Registry
  • Basement of Central administration complex

• East end Public Library
• H. Lavity Stoutt Community College (HLCC)
• Folk Museum
• Prison Museum
• Sugar works Museum
• Kingstown historical site and Church
• Road Town Methodist Church
Island tour

- Jost van Dyke: Church, School, Library, Government building housing Customs, Immigration, Police, Ports, Treasury and District office.
- Virgin Gorda: Church, School, Library, Government

Meeting with officials

- Deputy Governor, Mr. David Archer
- Permanent Secretary Deputy Governor, Mrs. Caroline Igwe
- Department of Disaster Management Director, Mrs. Sharleen Dabreo and Permanent Secretary Education, Dr. Marcia Potter

Press conference

The press conference took place on Thursday April 19th with:

- JTV news
- BVI Beacon
- Virgin Island News Online

For a full list of media coverage see the Appendix at the end of this report.
The economy of the BVI depends on two major sources: Financial services (60%) and Tourism (40%). It is considered one of the most prosperous islands in the Caribbean with a GDP of 1.027 billion $ for 2017.

Population: approx. 40 000, mainly on Tortola.
Archipelago of 60 islands, mostly inhabited
Tortola, Virgin Gorda, Anegada and Jost van Dyke form the main islands of the BVI.
The BVI are situated in the north of the Caribbean basin where temperatures vary from 24 to 32 degrees Celsius and Relative Humidity (RH) varies from 70 to 78%. It has a tropical rainforest climate moderated by trade winds with little temperature variations. The largest variations occur daily between day and night.

The hurricane season lasts from June to November. The islands were hit by two hurricanes: Irma on September 6th and Maria on September 21st 2017. According to testimonies, Irma caused enormous structural damage to buildings, but Maria “finished the job” by heavy and constant rainfall which caused severe damage to the content of all these battered buildings. As a result of that mold outbreak started affecting people’s health in their homes and at work.

The population of the BVI’s are familiar with hurricanes but more category 2 or 3. They were definitely not expecting anything close to a category 5. Some preparations were made but the population and the officials were not ready for what was to come.

The island faces also other major risks besides hurricanes such as: earthquakes and, if they occur at sea, subsequent tsunamis, landslides due to heavy rainfalls in the rainy season.
ASSESSMENT

Archives and Libraries

- **ARMU, Archives and Records Management Unit**
  
  **Contact:** Mr. Christopher Varlack, Chief Records Management Officer

  The ARMU offices were previously situated on the top floor of a commercial building (Burhym Building) in Road Town, sharing the location with the Civil Registry department. A few current records were kept in the offices as equipment such as a server and digital apparatus for scanning of archival documents.

  After the hurricane, the offices of ARMU were damaged as a result of the winds blowing off the roof coverings (Fig. 2), allowing water to pour into the top floor of the building. Despite the fact the windows sustained the winds rather well, the soaked carpeting on the floors prevented water from flowing and kept the rooms humid and caused mold growth overall. The content of the offices needed to be moved to another location (Fig. 3).

  Although the building has sustained extensive damage to the roof resulting in serious flooding and water infiltration, good preparations made prior to the storm have saved most of the archival and technical content of the offices. Only 3 to 5% of the records have been lost. These preventive measures were, for instance, moving objects away from windows and from the floor, systematic covering of desks and file cabinets with tarpaulin\(^1\), moving equipment and records to a central space with a separate roof and no windows (where the server was housed). The offices are now relocated downtown and staff share a small space with the Deputy Governor’s

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\(^1\) A large sheet of flexible, water resistant or waterproof material made of cloth or plastic
Storage Units of ARMU:

The Strongroom
- Oldest archives on the island dating back to the mid-1700s.
- No detailed description or inventory was shown.
- All documents are mainly housed in square archival boxes on metal shelves (Fig.5).

The Strongroom has had damage to the roof, which was already in bad condition and slightly leaking in one of the 2 rooms. After the hurricane it is now severely leaking onto shelving covered with tarpaulin to prevent the archives from getting wet. But even though the windows have sustained no damage, the pouring water makes this location unfit to store archival records (Fig.6). One of the 2 AC units is not working (or needs to be serviced) and walls along the hillside have mold growth issues. Archive boxes situated on the lower shelves have been affected by flooding of the floors and there is no space available to open boxes and study the state of their content. The adjacent offices have all been evacuated and are still partly flooded due to a damaged roof.
It is really critical that the roof of the strong room be repaired fast, as well as the AC’s, and damaged archival boxes be replaced (because, unfortunately, storage materials have been damaged by the flooding).

Fish Bay storage unit

Most of the equipment, furniture and records saved from the offices in the Burhym Building have been temporarily moved to the Deputy Governor’s storage unit in Fish Bay, because there was no space available in the strong room.

Unfortunately, this storage unit does not meet the requirements needed in terms of climate control and the structure seems quite fragile (Fig. 7).

Mr. Varlack’s plan is to install a 40 foot container, properly anchored and air conditioned, inside this storage in order to house what is considered archival and valuable material and equipment. Hopefully there will be enough space available to transfer some of the archives from the Strongroom during the renovations of the roof that are currently being planned, and legislation needs to be passed to make the final installation possible.
MacNamara storage unit

This was the former storage facility that was being renovated to be a functioning Temporary Record Center. This building needed to be entirely reconfigured and even expanded in order to fit the growing archives and meet conservation-preservation requirements. Plans were made and submitted, unfortunately without any follow up from decision makers. Before the storm the building was used as a temporary storage unit for court records that were selected for destruction. Well, Irma-Maria took care of that! The building was damaged to such extent that it will have to be rebuilt. Currently no plans to building a new repository have been made.

Note: during my tour, bulldozers came to crush the damaged building without Mr. Varlack being informed that this would occur and when (Fig.8).

Government services

The BVI has a central Administration Complex in Road Town (Fig. 9) which was built in the early 1990’s on reclaimed to the sea. It houses many departments which we visited (or passed through) such as: the Land Registry and the Survey Department which produce mostly paper records and also the Ministry of Education. A very large
basement is used as storage space for records and utilities.

Many departments have offices in other buildings scattered mostly in downtown Road Town. These offices, usually rented out from the private sector, are mainly used as offices and are often set in older, sometimes historical buildings, where space is limited. This explains why certain departments have also a split storage unit elsewhere in town.

- **Land Registry**

  **Contact:** Ms. Collette Callwood, Mr. Kelvin Dawson

  **Location:** Central Administration Complex

  - Land registers and parcel files in the vault (Fig. 10)
  - Land matters and financial records in the file cabinet
  - Case-, administration-, arbitration- and map records on the floor (in the offices)
  - Files stored in the basement storage need to be assessed

According to Ms. Callwood, approximately 25,000 files (needs to be verified) were destroyed after Irma.

Before the arrival of the Hurricane, some measures were taken: things were moved away from the windows and all the files lying on tables were put back into the cabinets.

After the storm it took 2 to 3 days before staff was able to get back to their offices in the Administration complex and see for themselves the extent of the damage. Due to the force of the wind and the water coming from the sea nearby, almost all the windows were shattered and everything that was lose or light was pushed from one side of the room to the other, including partition walls.

*Figure 10. The vault*
All the furniture, computers and file cabinets that were close to the windows were even pushed out of the building and landed on the ground in the pouring rain. The staff’s first priority was to get those file cabinets back into the building to assess the damage and start recovery. The only elements in the office that did not budge were the vault and a set of high sliding metal cabinets equipped with doors.

The description of this office is representative of the entire building. The same type of damage has occurred in other rooms we passed through. Just observing the outside facade, one can see that many of the large bay windows were broken and are now covered with plywood.

The recovery consisted of drying as much as possible documents by laying them in the sun by the windows. After a few weeks, Department of Human Resources lent them a freezer to buy some time and freeze the still soaking wet files. The paper documents present in the offices are dry but have shown signs of mold growth and need to be further treated (Fig. 11). After the clean-up, workspaces and vault were steam-cleaned and sanitized with Ozone gas.

Two weeks after Irma, a meeting took place with the Deputy Governor and the Heads of the departments. A clean up was planned but the Heads of departments did not communicate to their staff when and where this would take place (as it seems they were not informed themselves!). So when heavy equipment came and started pushing file cabinets out of the building, no one was there to guide them or stop them. Some of the records that ended up outside in the rain for all to see were personnel records! Consequently many records that had sustained the storm, nonetheless got damaged by the course of events...

- **Survey Department**

  **Contact:** Mr. Dwayne Nibbs, Senior Surveyor and Mr. Mickey Potter, Acting Chief Surveyor

  **Locations:** Former main office in town and Central Administration complex

  - Oldest documents date from 1950
  - Current records from 1970-1974 (change of acts and legislation) to today
The Survey Department’s main office was situated on the upper floors of a rented building in Road Town. This building sustained very severe damage to the windows and to the roof which is almost entirely gone (Fig.13). When we visited the location, it was quite obvious that the staff and records could no longer occupy the space. Drying lines with clothespins testify of the attempt to dry some records in the only part of the building that was “covered”. Most of the rooms are empty or in the process of being emptied. There are still a few file cabinets full of records in uncovered spaces and we also saw a metal cupboard with photographic materials (Fig.12), which are even more fragile than paper and need to be moved out and kept cool.

Figure 12. Cabinet with photographic materials still in the damaged building

Figure 13. Land Registry office building
The Survey Department was allowed to relocate in the offices of the Land Registry in the Central Administration complex. We were told that both services would merge which explains why they are sharing the same space. So far a large amount of file cabinets containing mostly survey drawings have been moved and are stored in a corridor next to the vault (Fig.15). We also saw drawers containing file folders, stacked on the ground (Fig.14). These records have suffered from water damage and mold growth, although they seem to be dry now.

Figure 15. Examining records moved to the Admin. Complex

Figure 14. File cabinets with moldy records moved to the Admin. Complex
There are still more documents to come to the Administration Complex. Meanwhile the shared space still needs to be furnished and made operational, while the daily business has taken over… leaving little or no time for further recovery, let alone disaster preparedness.

• **Civil Registry and Passport office**

  **Contact:** Mrs. Benn, Registrar General; Mrs. Maduro and Mrs. Mathyson

  - Civil registry, passport, naturalization as well as birth, death and marriage records
  - Oldest records date from 1859
  - Automated since 2012 (fully or semi, depending on the services)

Civil Registry used to be located in the Burhym Building, sharing the floor with ARMU. As I described earlier the roof had been ripped off by the hurricane but fortunately nor did the system, nor the records suffer damage. These were stored in a separate room with no windows inside the office space, and with air-conditioning units working day and night.

After the storm, the Civil Registry was quickly relocated to the Sakal Building (a commercial structure also housing the High Court Registry offices) which was the original plan anyway. They had already started moving records before the storm. Fortunately the Sakal Building has sustained very little damage and is operational but seems very full.

In the records room, where we met with the staff around a large table (Fig. 17), all seemed very well under control: objects neatly stored in rolling cabinets and metal shelves and some in archival boxes (Fig. 16). The space is acclimatized but thermo-hygrometers are not available to
control temperature and humidity.

Mrs. Benn had been advocating for the use of electronic records for some time and is now one of the few services that have achieved an almost entirely automated system. This also meant that they were fully operational as soon as electricity was available again.

- **Labor Department**

  **Contact:** Mrs. Michelle Mc Lean, Deputy Labor Commissioner

  This department interacts frequently with Immigration, for instance with work permits.

  We met Mrs. Mc Lean alone in her office on the ground floor of the building, where she resumed working in January (Fig. 18). Electricity was available but the air conditioning was still not working. Broken windows were covered with ply wood. Due to the type of construction of the building no natural airflow was possible and the working conditions are really hard, cooling being provided by a few fans.

  The building has suffered mostly from water damage due to a bursting water pipe before the hurricane and flooding caused by heavy rainfalls in autumn and finally hurricane Irma/Maria. This chain of events explains an outburst of mold growth on ceilings and walls. The stench and infected air made it impossible to work.

  A first company came to disinfect the space but with little success. A second company was hired, using Ozone gas, which was effective in stopping the mold infestation and subsequent smell.

  ![Figure 18. Mrs. Mc Lean in her office](image1)
  ![Figure 19. Records room of the Labor Dept.](image2)

  The records room (Fig. 19), situated next to Mrs. Mc Lean’s office, had recently undergone a selection project, supervised by Mr. Varlack. This had resulted in a reduction of 50% of the collection. Unfortunately about 25% of the records have been damaged by water.
The Department had started an e-filing project before the storm but the project is now on hold. The records still need to be scrutinized and checked for mold because the surrounding conditions of high humidity and temperature might have caused yet unseen damage.

- **Magistrates Court**
  
  **Contact:** Mrs. Annette Williams-Wallace, Court Manager

  We met Mrs. Williams in her temporary Labor Tribunal office (Fig. 20), housed on the upper floors of the Labor department building. The Court building was damaged during the storm and a new Courthouse is currently being built, using new technology building materials from a company from the US who have researched and developed wind sustaining building techniques.

  ![Figure 20. Meeting Mrs. Williams-Wallace in her office](image)

  Storage of records in the following places:
  - In the offices
  - At the House of Assembly by the Court building
  - John’s Hole
  - Police station (~1000 files)

  We have not visited any of the above storage places.

  80-85% of e-records and 70-75% handmade records were secured.

  According to Mrs. Williams, the hand written records in the storage got slightly damaged. Other records (in the offices?) were totally lost. Some records had been salvaged before hurricane Maria and brought to John’s Hole.

  The salvaging took place twice: one week after Irma and then again after Maria, drying objects with towels.

  Mrs. Williams said that they are moving towards total electronic filing. They have started using the E-record system JEMS (Judicial Enforcement Management System) but it is not yet complete. There is extensive training being given to personnel in order to go live in September, when the new law year starts.
The older hand written records are planned to be digitalized.

- **High Court**

  No contact with official

  The High Court is currently sharing a building with the Civil Registry. They probably store current records in this building but they also have storage units elsewhere.

  **Pockwood Pond storage unit**

  Records but also evidence and furniture are kept in this unit. The building housing this storage facility sustained a small fire on the evening of my arrival (Fig.21). To my knowledge, no records have been damaged. We have not visited the premises.

  ![Figure 21. Pockwood Pond storage unit on fire](image)

- **Virgin Island Shipping Registry**

  **Contact:** Captain Raman Bala, Director

  - Oldest records seen date from 1969

  ![Figure 22. Storage room at VISR](image)

  The modern commercial building where VISR is situated has sustained severe damage. The façade consists of large, floor to ceiling glass walls that were broken during the storm. The building is not yet ready for use but reparations are steadily going on. Electricity is on but air conditioning is not yet functioning. The staff has set up a temporary office first in the Rotter Building in Wickham’s Cay II in Road Town (see post on LinkedIn: [link])
https://www.linkedin.com/pulse/aftermath-hurricane-irma-raman-bala/) and are now located at the RG Hodge Building.

We visited part of the offices that were less damaged and where file cabinets had been moved to. The cabinets had gotten wet but fortunately most of the records had little to no mold growth.

The separate storage room (Fig. 22) sustained the storm fairly well. It is a rather small space used efficiently with sliding shelves on which the folders, previously hanging in the cabinets, are directly placed. There is no use of archival boxes, probably because they are still active records. A series of inactive records were piled up in large boxes on the floor, next to the sliding shelves (Fig. 23). Because there was water on the floors they must have mold issues even though everything seems to be dry now. The content in the lower boxes was not checked.

Captain Bala said that he did not know what to do with those inactive records. He received guidance from Mr. Varlack in a report. At that time they were even considering throwing those archives away. Now Capt. Bala admits that they need to be selected and moved to an external repository.

The climate was controlled by a central air-conditioning system (it is not known if it works day and night). For now, small silica gel bags hanging here and there try to address the humidity in the room. There again, no meters can specify the current temperature or Relative Humidity (RH) and give an indication of how efficient the dehumidification with silica gel has been.

- **Basement of Central administration complex**

  **Contact:** Mr. Adrun Benjamin, Maintenance Supervisor for the Admin. Complex

  Access to the basement was given by the Ministry of Communication and Works.

  - Storage units of the different government services, some of which are not located in the Admin complex itself, like for instance the Deputy Governor’s.
  - Equipment and Utility products

Considering the location and layout of the Admin complex, it is not a surprise to see how much damage has occurred to the basement which was flooded. The level of water is seen on the walls and subsequent mold growth is still present mostly on the lower parts of the walls. Some ceiling tiles, soaked with water,
have collapsed. The water collected in the basement had no way out and one unit is still being pumped out at present (Fig.25).

![Storage unit where water is still being pumped out](image)

It is interesting to see the disparity in storage systems. One would expect that in one building, storage materials and equipment would be provided by the same supplier, just for the simple reason that it reduces costs! It is obvious that there is not a central administrator, with knowledge of archival storage, who can organize the space and manage the incoming flow of objects. Given the size of this location, one person would not suffice.

It is not clear if records and files stored in the basement have been selected and reduced to archival content.

![Different storage units in the basement](image)
Libraries and Education

• **East End / Long Look Community Library**

  **Contact:** Mrs. Suzanne Greenaway, Chief Librarian and her staff

  We met Mrs. Greenaway at the East End public Library where she and part of her staff have been relocated after the closing down of the Road Town Library, which occurred before the hurricane. This situation will be clarified later on.

  Mrs. Greenaway has written an extensive report on the effect of hurricane Irma on the library services of the BVI (see Appendix). Therefore I will not make a damage assessment which can be found in her report, but refer to the dire situation of the Library system at present.

  Quoting Mrs. Greenaway’s report: “The library system in the Virgin Islands, comprised of five libraries: Anegada, Jost Van Dyke, Virgin Gorda, East End / Long Look Community libraries, and the Road Town library / library headquarters, and the Bookmobile. It is noteworthy to state that at the time hurricane Irma passed, four libraries were operating because the library in Road Town was closed in May 2016, and its contents were stored at the Clarence Thomas Ltd (CTL) building”, which used to be an old department store.

  All the books and materials stayed in boxes after the move because there were no shelves and furniture available (no provision was made for correct shelving, etc. prior to the move) in order to unpack and display. With no functioning library, the staff needed to be relocated which is why we met Mrs. Greenaway at the East End Library (Fig.27), far away from Road Town.
The old CTL building sustained slight damage by the hurricane (see report) but many schools were destroyed to such extent that students needed classrooms for the new school year. And so it was decided that the Elmore Stoutt High School would be relocated at the old CTL building which meant that the Road Town Library needed to move again. The new venue ended up being a series of classrooms from the Elmore Stoutt High School that had survived the storm. We visited the site which is severely damaged (Fig. 28) and, indeed, totally unsafe for schoolchildren. The boxes, labelled and numbered, had been stacked up in huge piles, seemingly without order, against windows and lacking pathways to access all the parts of the room, and thus causing 75% of the boxes to be inaccessible.

During the second move, the island was facing a post disaster situation where actions were undertaken in haste and not always well planned. To Mrs. Greenaway’s great regret, she witnessed much carelessness in handling during the second move and she fears that a lot of damage was made to the books, paintings, furniture and equipment. The piling up of boxes in very high stacks puts enormous pressure on the boxes that are closer to the ground (Fig. 30). It is currently impossible to evaluate the damage as major parts of the storage are inaccessible. The presence of rodents is suspected but, again, control cannot take place due to the lack of access.
The Public Library is in dire need of a new venue, which should meet all requirements in terms of climate control, proper shelving and special housing for the most valuable books from the Virgin Island collections. Unfortunately not much is known of the condition of the collection and recovery cannot take place due to the current situation.

Note: I have also visited the Libraries on the islands of Jost van Dyke and Virgin Gorda, see comments later on.

• **H. Lavity Stoutt Community College (HLCC)**

  **Contact:** Dr. Katherine Smith, Director of Virgin Island Studies Institute at HLCC

  We had met Dr. Smith informally at the restored ruins of the St Phillips Church at Kingstown. She described the damage made to the roof and the sheetrock ceiling (where, what building?, the Library of HLCC?). The plan is now probably to demolish the building.

  The Institute was reestablished in 2013 but has no designated space. It was attributed space in the bookstore. The bookstore was moved to the Library and it is not clear where they are settled now.

  Some records, separately owned by different caretakers, have been saved. Unfortunately a room (where?) full of records was flooded and orders from above were given to throw it all away without asking the caretaker and therefore no tentative effort at salvaging was made possible.

  With great regret, Dr. Smith mentioned that during the clean-up, the oldest sloop in the Caribbean was lost.

  The Institute is also responsible for two artefact collections:

  - Virgin Island collection, archive room available
- Maritime Museum collection which has a separate museum building and withstood the hurricanes well without severe loss. (We have not visited this location)

We later visited the College, which is situated on a very large piece of land (Fig.32). The main building has sustained small damage to the roof but is standing tall and majestic on the premises (Fig.31).

The surrounding buildings have seemed to withstand the hurricane rather well, except for one smaller building behind the main complex. We were told that no records were kept there. The library also seems to be in good shape but we did not enter any other building on the campus.

There is a proposed project to build a repository for the National Archives on this Campus. Conceptual sketches for a building were made. This location seems to be suitable as it is on higher ground and has already withstood the last hurricanes rather well. Of course a risk assessment has to be made by qualified professionals and technicians.
Museums and Churches

• **Folk Museum**

  **Contact:** Mrs Luce Hodge-Smith, Director of the Department of Culture and Ms. Joan Hill, Curator of the Virgin Islands Museum

  - Museum containing Arawak and Carib pottery and tools, artifacts from the wreck of The Rhone and plantation items.

![Figure 33. Ruins of the Folk Museum, with vitrines still outside](image)

The exhibition room of the museum (Fig. 33) is totally destroyed but the shop, which was situated in the back has withstood the storm. Quite a lot of artefacts were salvaged especially the ones in vitrines and were moved to the shop area after the storm.

Openings are now barricaded with plywood and a metal lock secures the space to some extent. After entering the room, it was not clear at all where the saved artifacts were stored. Chaos was the first description that came to my mind, as I had to pass a pile of black bags containing garbage next to the front door! (Fig. 34)

My advice to Mrs. Hill was to properly sort out what needed to be saved and get rid of the rest to avoid any confusion if a clean-up or move should occur. I also suggested the glass artefacts should be stored in plastic crates filled with crumpled paper, cloth or bubble wrap to create soft cushioning around these fragile objects.
• Prison Museum

*Contact:* Ms. Carol Vanterpool, caretaker, ticket seller, tour guide, guard...

The building has suffered slight damage to windows on the upper floor but the roof has withstood the storm and no major items in the museum have been damaged. The old front doors have been blown off and are severely damaged (Fig. 35).

![Figure 35. Front door Prison Museum lying in the grass](image)

Inside the museum, vitrines are mainly composed of text sheets and a few reproductions. They are made of a frame with a sheet of Plexiglas screwed to the frame (Fig. 36). The night before my visit, looters entered the unsecured building and stole several items from the vitrines: a model of a ship, a portrait of Admiral Nelson (probably a print) and the Victoria Cross Award given to private Samuel Hodge in 1867 (probably a replica).

Unfortunately the building was not secured after the storm and is still easily accessible today since the front doors have not yet been replaced.

![Figure 36. Vitrine in the Prison Museum](image)
• **1780 Lower Sugar Works Museum**

The building was closed and I was not able to make an assessment.

![Figure 37. Sugarworks Museum with missing roof on the right](image)

The first part of the museum, which presents technical aspects of sugar production was not damaged by the Hurricane. The part of the roof above the exhibition area was blown away (Fig. 37). The two exhibition floors have suffered and the lower floor was flooded. I am told that there is a serious mold outbreak. I am not sure artefacts have been moved to another space in or out of the building, nor which type of artefacts are there. The roof is still gaping.

No further information available.

• **Kingstown Museum and Church**
Ruin of a church in what used to be an area reserved for establishment of Liberated Africans from the - then- illegal Trans-Atlantic Slave trade in the early 1800’s. The ruin hasn’t sustained any damage (Fig.38).

Figure 38. Kingstown Church

• **Roadtown Methodist Church records**

  **Contact:** Mrs. Valerie Lewis

  - Church was rebuilt in 1926 after a hurricane had destroyed it. Original settlement unknown, probably early 1800’s.

  Offices were severely damaged (Fig. 40) and personnel and records were moved to a vestry behind the main building. There is some slight damage to file cabinets which suffered from water. Items have been removed from the cabinets and stored and dried in another room (Fig.39). Caretaker Mrs. Lewis has tried to dry wet registers with paper towels. I gave her advice on how to do this more efficiently and how to remove dry mold.
Figure 39. Recovery room in new office space

Figure 40. Damaged offices Methodist Church
Islands Tour

- **Jost van Dyke:**

  Church, School, Library, Administration Building.

  **Contact:** Ms. Laverne Blyden, Principal of the school

  ![Figure 41. Former school with library behind on the right](image)

  Damage by the hurricanes is still very visible. The entire village was battered by the winds and completely flooded by heavy rainfall. The Church is a roofless ruin a few meters from a sandy beach with turquoise waters, where anchored sailing boats float peacefully. Quite a contrast! Next to the small church a day care center is completely eradicated and the school building is still standing but has suffered substantial damage (Fig.41). Parts of the roof have been temporarily covered, creating usable spaces as classrooms. The Library is still standing and the roof is currently being replaced but the content of this building has been entirely washed away. All windows have been replaced in order to use the former library and offices as classrooms (not bigger than 3X3 meters). Books that have been donated are piled up, unpacked, in the bathroom as there is no place to store them.

  Thanks to funding by the Convoy of Hope, a series of schools will be entirely rebuilt following a standard model type with improved facilities. In this particular case the school will be built further away, slightly uphill in order to be on higher grounds to avoid flooding. Local caretakers such as Ms. Blyden have been consulted and been able to give input into the plans. As a result of that a library/storage space will be included in the new school building.
The Administration Building situated literally on the beach is still standing but only a few rooms on the ground floor are being used (Fig. 43). The upper floor lost its roof and there has been no reconstruction so far (Fig. 42).

This facility, which seems to be a former home considering the layout and the presence of bathrooms with bath tubs and kitchens, once housed Customs, Immigration, Ports and Treasury on the ground floor and Police and District office on the first floor. It is now looking quite desolate and staff work with furniture saved from the storm and completely rusty filing cabinets (Fig. 44). I was not told if there were plans to rebuild or renovate the building.

It is also not clear how many records were lost, but considering the flooding of the entire beach area and the destructions overall, I don’t expect much to be left over.
• **Virgin Gorda:**

Administration Building, Library, School and Church

Contacts: Mr. Verne Wheatley, District Officer; Mrs Anne Lennard, Deputy Director of the Department of Culture; Mrs. Tahryn Roberts-Baptiste, Senior Library Assistant; Mrs Troya Audoine, Library Assistant

The Administration building (Fig.45) has suffered damage to the lobby and a few windows causing water infiltrations. There was overall little loss, just some furniture.

The building next door (function unknown) suffered more because the roof came off. The post office across suffered from seepage but no major loss was detected.

The Library (Fig.46) has sustained major damage to the roof and all books were moved out and are temporarily stored in two locations:
- Administration Building, in a hall on the ground floor, where boxes are stacked on pallets and covered with tarpaulin
- a site under construction (the changing rooms of a public/school swimming pool being built next to the School of Virgin Gorda). These changing rooms are now being reconfigured to be used as classrooms for the school next door which has sustained damage during the hurricane.

The loss is estimated at 50%, including local publications and law books. Thanks to outside funding, some books are being replaced. The roof of the Library is in final stage of repair and hopefully the space can be used soon (maybe a month). Although the collection is diminished, the building is still considered too small for a Public Library.
Conclusion

Like Mr. Varlack was saying during the press conference, much of the older archives have been saved to a certain extent but many records, produced daily by government offices, that should become archives after proper selection and inventory, will not become archives because they were destroyed.

The process of preselecting records from the moment they are produced is also of great importance in order to be able to reduce the amount (when the time comes that they have to be destroyed) and to move them to a National repository, where they belong and can be taken care of.

The same process has to be implemented for e-recording.

Hereby a table recapitulating the extent of damage to buildings and collections observed during this mission.

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Damage to building</th>
<th>Loss of collection</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARMU, Archival Records Management Unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Current records</td>
<td>75%</td>
<td>3-5%</td>
<td>Relocated</td>
</tr>
<tr>
<td>- Archives</td>
<td>10%</td>
<td>none</td>
<td>In use</td>
</tr>
<tr>
<td>Land Registry</td>
<td>80%</td>
<td>25.000 records</td>
<td>In use</td>
</tr>
<tr>
<td>Survey Department</td>
<td>100%</td>
<td>50% ?</td>
<td>Relocated</td>
</tr>
<tr>
<td>Civil registry</td>
<td>75%</td>
<td>none</td>
<td>Relocated and operational</td>
</tr>
<tr>
<td>Labor Dept</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI Shipping Registry</td>
<td>75%</td>
<td>&lt; 5 %, maybe even</td>
<td>relocated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Basement Administration Building</td>
<td>100%</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>East end Public Library</td>
<td>5%</td>
<td>none</td>
<td>In use</td>
</tr>
<tr>
<td>Folk Museum</td>
<td>100%</td>
<td>10%?</td>
<td>Closed</td>
</tr>
<tr>
<td>Prison Museum</td>
<td>10%</td>
<td>None (but theft)</td>
<td>Open</td>
</tr>
<tr>
<td>Road Town Methodist Church</td>
<td>75%</td>
<td>5%</td>
<td>Relocated</td>
</tr>
<tr>
<td>Jost van Dyke: Church, School, Library, Administration Building</td>
<td>100%</td>
<td>100%</td>
<td>Partly covered and in use</td>
</tr>
<tr>
<td></td>
<td>75%</td>
<td>100%</td>
<td>In use as school</td>
</tr>
<tr>
<td></td>
<td>75%</td>
<td>?</td>
<td>In use!</td>
</tr>
<tr>
<td>Virgin Gorda: Church, School, Library, Administration Building</td>
<td>85%</td>
<td>50%</td>
<td>In use</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>none</td>
<td>Closed</td>
</tr>
<tr>
<td></td>
<td>75%</td>
<td></td>
<td>In use</td>
</tr>
</tbody>
</table>
GENERAL OBSERVATIONS

My first observations are of course related to the extent of the damage caused by both hurricanes Irma and Maria. More than 6 months have passed but one can still see how nature, roads, houses, whole neighborhoods have suffered. The devastation in and around the Elmore Stoutt Highschool is engraved in my memory (Fig. 47). How do you prepare for something like that and how do you recover?

As a paper conservator, I was trained to repair old documents and artworks on paper; but working with institutions that preserve our historical and cultural heritage, the largest part of my work has shifted from active conservation to preventive conservation. But what does preventive conservation mean? Two main questions have to be answered to achieve this task:

- What do you want to preserve? In other words, what do you consider cultural heritage?
- How do you preserve it? In other words, what do you do to avoid damage?

During my mission in the BVI, it became quite clear that the first question has not really been answered, and often not even asked! This question did suddenly come up when important information was lost or when space was not available anymore to store old records. It is of course not always obvious what has a historical value and what not. A beautiful building with exquisite wood handcrafting is more easily considered a treasure from the past than a treaty signed to develop a field of commerce. But both are part of the identity of a country. Archivists, historians and art historians, archeologists, especially those working locally can help answer this question. If you want to prepare for a disaster, you also need to know what you want to save. This awareness needs to be present at all levels of organizations but also to the public. Private people also keep important documents of historic value, starting with photographs! Education in schools and exhibitions will enhance this awareness.
The second question, how do you preserve, has everything to do with surroundings. In order to preserve an object, you need to create layers of protection around it. These layers are from large to small: a safe location, a strong building, a good climate, a safe door with security, a sturdy cabinet, a strong shelf, an archival box, a buffered wrapping material and finally a plan involving people.

This is quite a simplistic view of things but if these layers are not present, you will increase the chances of damage. I will give a few examples of where these layers have failed but also succeeded. Some of which I have already described in my report above.

**A safe location and a strong building**

The situation of the Administration complex is quite worrying considering the risks. It is built on land reclaimed from the sea, thus very close to the coastline. It is a very large concrete building with a lot of glass panel windows from floor to ceiling, and it has a basement under sea level used as storage units for records. This building is not suitable for conservation of valuable records for obvious reasons (area is prone to high winds and flooding).

If a plan is made to build a repository for the archives and the library, or any building containing valuables for that matter, an evaluation of the risks have to be made and an adequate location has to be found. Much thought has to be given to building materials, layout and staff.

**A good climate**

In many storage spaces an attempt has been made to control the climate surrounding the records, but no active monitoring is made to track the actual temperature and Relative Humidity. To my knowledge, Mr. Varlack is the only person who has a portable thermo-hygrometer. In terms of quality of air and pollution, it became an issue only when mold started developing.

**A safe door**

This brings me to issues of security. The BVI have been blessed with a very low criminality rate. I believe it was a real shock to the population to see the extent of looting that occurred after the hurricane. It was unseen and unheard of. I have also noticed that very few government services had security officers guarding the buildings. Historical artifacts in museums are not exhibited in secured vitrines, which should be considered if there is no security personnel. And most of all, many storage units are far away from offices and often left unguarded. A good fire extinguishing system, like at ARMU Strongroom\(^2\) will probably prevent fire damage but if there is a leak and if the climate control breaks down, how many days will it take before it is noticed? Personnel managing storage is of utmost importance.

**A sturdy cabinet**

Even in the Admin. Complex, the Department of Land Registry was able to save many records because they were kept in a vault (which was not completely water tight, but there is always room for improvement!) The rolling cabinets which are quite heavy and sturdy did not budge and all the documents in there survived.

**An archival box**

Storing records in boxes has many advantages. They protect your documents during transport and handling, they keep different size documents together, they organize an archive and make it more easily

\(^2\) SAPPHIRE suppression systems
accessible, they protect from light, dust and dirt, they create a barrier to fire and mold outbreak, and they are easier to move in case of emergency. Unfortunately I have seen very few of those boxes during my tour.

**Last and not least, human resources**

In order to manage these protective layers that are created around your valuable heritage, you need qualified and trained personnel with each specific tasks. One cannot expect from a record manager, a surveyor, a registrar, a maintenance supervisor, etc. to order, inventories, select, destroy, house, conserve, equip, make accessible, control and secure records on their own, and especially with no budget. Maybe with a small collection, in a small space, the same person with sufficient training can handle several of these tasks, but certainly not all of them. Within a larger organization, several employees trained in different aspects of preservation can achieve much with good teamwork, which I have witnessed at the Civil Registry. But in general, I have noticed that priorities are more to serve the public or the organization, than to preserve the records, instead of equally focusing on both.

**An emergency plan**

The consequence is, that if you are not already fully equipped to preserve your cultural heritage, preparing for a disaster makes the task seemingly impossible. For that, one needs a plan and good communication with a right chain of command.

The BVI’s have a National Disaster Management Program which is being implemented by the Department of Disaster Management. Fortunately I have met with Mrs. Dabreo, Director of the department who admitted that heritage needed to be better defined and included in the Disaster Management Program. Quite often monuments are seen but their content is literally overseen, and they need an entirely different approach. With a proper plan and clear tasks given to the heads of department down to the staff, much of the distress and damage (that occurred unfortunately after this hurricane season) can be prevented.

It is of great importance that all efforts to train and equip personnel for that purpose be supported politically and financially.

**NEEDS**

**Prioritizing**

Creating a list of monuments, artefacts and documents that are considered of National Value. Within each collection or department the same preselection should be made. These collections should be held separate or grouped, properly packed, labelled and noticeably marked as a priority item (in case of an evacuation).

**Preservation**

- Archival equipment from thermo-hygrometers to boxes. After reading this report and attending the workshop, all parties involved should have an idea of what they need, or at least where to find the information required to produce a wish list. Mr. Varlack has been very helpful so far to those who have asked him advice.
- Probably dehumidifiers
- Scanners
- Equipment for the Libraries, bookshelves and furniture
- Training in preventive conservation, archival studies, record and storage management, all fields related to conservation and heritage
- Hiring temporarily specialists from abroad who can train people locally
- A National Archive Building meeting all the necessary requirements and providing also storage space for valuable museum artefacts
- A new National Library with a safe space for the special national collection

**Health issues**

A major concern now is that many records, which have been saved and are now dry, are still covered with mold residues that need to be treated. All these documents are stored mainly in offices and staff is exposed to this health hazard. I have demonstrated how to remove residual powdery mold from dry documents using vacuum and HEPA filters, but personnel need protective gear to undertake such work, and maybe some sort of tent, like on the picture below, in order to isolate treatment area from office areas.

![Image](image_url)

*Figure 48. Treatment of moldy documents under a self-made tarpaulin tent, Conservation Center for Art and Historic Artefacts*

As of today, many documents are still moist or even wet, due to ongoing water seepage and storage in open air or insalubrious basements. After so many months the outburst of mold is such that it is of utmost importance that staff protect themselves well when they start recovery!

Further disinfection treatment on documents with Gamma radiation cannot be undertaken due to lack of this specific equipment and specialized staff.

**Disaster preparedness**

- Emergency kits at each location
- Extra tarpaulin and large plastic boxes with covers for the most precious items
- Extra protective gear (gloves, masks and overalls)
- Tents to be used as workspaces for salvaging or treating infested documents

![Image](image_url)

*Figure 49. Another variation on the tent*

- A written disaster plan for each service, updated each year
- A designated coordinator of operations per service, who organizes drills
- Contacts and appointments with local freezing facilities
- Alternate electricity power provided by generators or solar systems

**CONCLUSION**

First I would like to say that I have much appreciated the cooperation of all parties involved. I have met with mostly people on the work floor who have open heartedly shared their -sometimes traumatic- encounter of the hurricanes and its aftermath. But I also received much interest and understanding among the higher ranked staff and governance. The extreme efforts made to find a suitable venue for the workshop and the high attendance of almost 40 participants have made this mission a very successful and worthwhile experience.

Deputy Governor David Archer said he is not afraid to hear the truth because he is confident that one learns from experiences, especially when they are traumatic. After such devastation, when there is more to rebuild than to repair, comes the time to choose wisely and make decisions on the long term. If one knows which mistakes to avoid, and given the BVI have the material resources from a growing economy, it is then only a matter of choosing the right priorities to achieve the leading role in the field of conservation and disaster preparedness that the BVI envision.

I will quote a comment made by a reader of BVInews.com published on April 20th: “Furthermore, the BVI, a tiny 59 square mile island chain boasts as having the highest standard of living and quality of life in the region; it has a GDP per capita of approx $42K and approx $1B GDP. Clearly, the BVI did not make good use of this annual $1B GDP. All its critical systems are in poor condition and under performing. Clearly, money alone is not enough for the territory to be top performing and a model for the rest of the region despite its small size. It needs proper and strong planning, organizing, directing, programming,
budgeting…etc.” A harsh criticism from this member of the BVI community, but the truth is, that the money earned so far has been minimally invested in cultural heritage or safeguard of records.

This hurricane has cost the BVI several billions of dollars in damage and the budget is- not surprisingly- in deficit this year for the first time. Let’s hope that when money starts flowing in again, reconstruction and reorganization will not oversee the cultural sector and create one or several repositories for that matter only.

The priority now is to prepare for the upcoming hurricane season, making sure that all departments creating records of the future, the archives and libraries be properly equipped and all museum artefacts be secured.

I would like to end by saying that e-recording is seen by most as the future in saving records and increasing efficiency, but it should not be seen as a solution to all the problems. Having said that, it must be understood that scanning old documents is a way of protecting them from handling and it makes them accessible to a larger public. The BVI have, and many islands in the Caribbean’s too, a valuable historical and cultural heritage that is very tangible and still growing. And it is in real need of TLC (Tender Loving Care)!

APPENDIX

Report Library services: sent separately
Power point workshop: sent separately
List of attendees to the workshop: sent separately
