

## Results of the Risk Assessment in Slovenian Archival Repositories

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#### *ABSTRACT*

The all-Slovenian public archives research devoted to the conditions in archival repositories examined depot units in the national, all 6 regional, 3 public and 3 church archives in Slovenia. Assessments were given according to a unified methodology on the basis of ten agent of deterioration, presented at ICCROM courses on preventive conservation. It was discovered that all archival repositories are filled to capacity and that there is still a lot of archives at creators. All repositories, except three, are placed in buildings and premises, which were built for entirely different purposes and all, are lacking suitable climate conditions. The present research is confirming the initial hypothesis that archival repositories are the basis of every archival institution and that in the field of repositories and preservation there is still a lot of work to be done on all levels inside individual archives, Slovene archival practice and also on the level of the ministry or the state. Effective preservation can be mostly achieved with better planning; therefore all parties involved must be qualified, from investors to executants but mostly archivists themselves.

#### Risultati della valutazione del rischio nei depositi archivistici

#### *SINTESI*

La ricerca slovena negli archivi pubblici dedicata alle condizioni nei depositi di archiviazione esamina le unità nel deposito nazionale, in tutti e 6 i regionali, i 3 pubblici ed i 3 Archivi della Chiesa in Slovenia. Le valutazioni sono state date secondo una metodologia unificata, sulla base di dieci agenti di deterioramento, presentati a corsi ICCROM in materia di conservazione preventiva. Si è scoperto che tutti i depositi di archiviazione sono pieni e che c'è ancora un sacco di archivi da creare. Tutti i depositi, tranne tre, sono collocati in edifici e locali che sono stati costruiti per scopi completamente diversi ed in tutti mancano le condizioni climatiche adatte. La presente ricerca sta confermando l'ipotesi iniziale che i depositi di archiviazione sono alla base di ogni istituzione archivistica e che nel campo degli archivi e la conservazione c'è ancora molto lavoro da fare a tutti i livelli all'interno di archivi individuali, della pratica archivistica slovena e anche al livello del ministero o dello stato. Una conservazione efficace può essere in gran parte ottenuto con una migliore pianificazione, quindi tutte le parti coinvolte devono essere qualificate, dagli investitori agli esecutori, ma soprattutto agli stessi archivisti.

#### Rezultati analize tveganj v slovenskih arhivskih depojih

#### *IZVLEČEK*

Z vseslovenskim arhivskim projektom o stanju arhivskih depojev smo po enotni metodologiji na podlagi desetih dejavnikov tveganja v letih 2007 - 2009 pregledali stanje v 46 depojskih enotah nacionalnega, vseh 6 regionalnih, 3 javnih in 3 cerkvenih arhivih v Sloveniji. Ugotovili smo, da so vsi arhivski depoji zapolnjeni in da je izjemno veliko gradiva še na terenu. Depoiji so, razen treh izjem, vsi umeščeni v stavbe in prostore, katerih namembnost je bila popolnoma drugačna. Za vse arhivske depoje lahko rečemo, da nimajo ustreznih klimatskih pogojev. S pričujočim projektom se je potrdila izhodiščna hipoteza, da so arhivski depoji bistvo arhiva in da je na področju depojev in materialnega varovanja arhivskega gradiva potrebno postoriti še zelo veliko prav na vseh nivojih, tako v posameznem arhivu, slovenski arhivistiki, pa tudi na nivoju ministrstva oz. države.

## Introduction

Although we have available articles and publications regarding preservation, archival<sup>1</sup>, library<sup>2</sup> and museums<sup>3</sup> repositories are still an out of sight and out of mind to a great part of professional dealing with cultural heritage and consequently also to the decision-makers. In this paper the attention is focused only on archival repositories<sup>4</sup>, but nearly all solutions could be equally used and accepted also for library and museum repositories.

The idea of the research about the conditions in archival repositories arose already some years ago, but could be possible to realize it only recently, when the chair of the Slovenian archival society Mirjana Contestabile Rovis and the archival directors, supported the proposed idea. The burning and often overlooked subject about the problems in Slovene archival repositories was the central topic at the Slovenian archival conference in Velenje in 2007<sup>5</sup>. The Archives of the Republic of Slovenia, all six regional, three main church and three public archives joined the research project of analyses and risk assessment<sup>6</sup> in archival repositories. Inventorying of repositories' conditions was done to a unified methodology, created and adapted for the field of archives, libraries and museums by Michalski and Waller. With this fact in mind we presumed there were no obstacles for its application to the Slovene archival repositories. We gathered the surveys of all repositories and in 2009 we edited them together with the results of the research in the publication<sup>7</sup>.

Jonathan Ashley-Smith in 2001 in his article "Practical uses of risk analysis" wrote: "A few years ago the word "risk" would not have been used frequently in discussion about historic and cultural objects. It is now becoming commonplace, largely due to contributions of Stefan Michalski at the Canadian Conservation Institute and Robert Waller at the Canadian Museum of Nature. Conservators involved in collection management had long been used to recommending extreme caution without any reference to costs or benefits. Michalski provided evidence that the risks associated with some environmental factors<sup>8</sup> had been exaggerated for some classes objects<sup>9</sup>. Waller provided a logical semi-qualitative method for assessing which were the risks that needed managing and which risks were so small they could be neglected<sup>10</sup>. This has allowed conservators to engage in the debate about balancing preservation and access without appearing to be bigoted spoilsports. However, the emphasis of the Canadian work was on the risks to whole collections rather than the properties and problems of individual objects. There are very few examples of the ever-growing jargon of risk analysis being used to explain the potential pitfalls associated with practical intervention at the individual bench or easel"<sup>11</sup>.

In Slovenian archives, libraries and museums, we are not that far. We are still facing the problem of lack of understanding of the multi-disciplinarity of preservation. Repositories are neglected, as well as their potential risks. In this paper only the situation in archives is presented. The situation in libraries and museums is similar, but it wasn't yet systematically assessed<sup>12</sup>.

## Methodology

For the risk assessment and the state in archival repositories we chose the Stefan Michalski and Robert Waller method which was, according to the principles of risk assessment, prepared, tested and

1. Michel DUCHEIN, (1988), pp. 95-118.

2. H. FAULKNER-BROWN, (1999), pp. 9-24.

3. Kathleen DARDES et al., (2000), pp. 10-12.

4. Wolf BUCHMANN, (1999), pp. 5-23.

5. Velenje 2007.

6. The principles of state determination and models for risk assessment are similar for all kinds of human activities, as in the field of traffic, climate changes or danger to cultural heritage. The method used was prepared according to these basic principles.

7. Jedert VODOPIVEC, (ed) (2009), 392 p.

8. Stefan MIHALSKI, (1993), pp. 624-629.

9. Stefan MIHALSKI, (1994), pp. 6-8.

10. Robert WALLER, (1994), pè. 12-16.

11. Jonathan ASHLEY-SMITH, (2001), p. 1.

12. In September 2010 similar assessment will start also for assessing library repositories for libraries responsible for collecting library cultural heritage material.

adapted to the field of movable cultural heritage. The mentioned methodology was created on the basis of a study of the conditions in Canadian archives, which lasted for more than 20 years and was later expanded and generalized for the use in other institutions protecting sensitive heritage, such as libraries, museum and galleries. Their method was presented and used at ICCROM international courses regarding risk assessment and determination of priorities in archives, museums and libraries<sup>13</sup>.

Risks were identified according to the to the frequency and consequence of the event and evaluated according the semi quantitative evaluation of risks in accordance with the frequency, loss of value and fraction of the collection affected.

The used risk assessing methodology consist of the identification of risks, determination of the magnitude of risk, loss of value, probability and extent of the event, on the base of this as possible to semiquantitatively estimate the magnitude of risk.

Preservation in repositories was assessed according to ten agents of deterioration:

1. direct physical force (earthquakes, vibrations, strokes, usage, tears)
2. theft and vandalism (external, internal)
3. fire (short circuit, outdoor fire)
4. water (roof, river, groundwater, capillary humidity, condensation, pipes)
5. pests (mice, rats, bats, insects)
6. air pollution (fumes, dust)
7. radiation (natural and artificial light, other radiation)
8. incorrect temperature (bad or no isolation, presence of heaters)
9. incorrect humidity (too damp or too dry)
10. custodial neglect (loss, misplacement)

Risks were identified according to the frequency and consequence of the event. Risks were classified in 3 types:

- rare events (fire, flood or similar)
- cumulative events (dropping a drawer or similar)
- cumulative processes (daylight exposure or similar)

Specific risks were than classified and semi quantitatively evaluated in terms of (table 1):

A: Frequency (rate) - how often will the event occur?

B: Loss of value - how much of the value has each affected object lost

C: Part of collection affected - how much of the collection will be affected

**Table 1:** Semi quantitative evaluation of risks in accordance with the frequency, loss of value and fraction of the collection affected

A: frequency		B: loss of value	C: part of material affected
Score	How often (time in years between events)	How much of the value	How much of the collection
5	1	Total - (100-60)	Total - (100-60)
4	10	Large – (20-6)	Large – (20-6)
3	100	Small - (2-0,6)	Small – (2-0,6)
2	1000	Tiny – (0,2-0,06)	Tiny – (0,2-0,06)
1	10 000	Minuscule - (0,02-0,006)	Minuscule - (0,02-0,006)
0,5	30 000	(0,006-0,002)	(0,006-0,002)

13. Methodology is taken from the methodology, presented at ICCROM seminar on preventive conservation »Reducing risks to collections«, Rome, June 2005, and Beijing 2009.

**Table 2:** Magnitude of risk skale

MAGNITUDE OF RISK: A+B+C	
Score	Priority
15-13,5	C – Catastrophic
13-11,5	E - Extreme
11-9,5	H - High
9-7,5	M – Medium
7	L - Low

The inventory includes repository units on:

- 7 locations (9 repositories) of the Archives of the Republic of Slovenia
- 6 locations (7 repositories) of the Historical Archives Ljubljana
- 4 locations (8 repositories) of the Regional Archives Maribor
- 2 locations (2 repositories) of the Regional Archives Koper
- 2 locations (2 repositories) of the Historical Archives Ptuj
- 1 location (5 repositories) of the Historical Archives Celje
- 1 location (3 repositories) of the Regional Archives in Nova Gorica
- 1 location (2 repositories) of the audiovisual archives RTV Slovenia
- 1 location (2 repositories) of the archives of the University in Ljubljana
- 1 location (1 repository) of the archives of the INDOK Centre for Cultural Heritage of the Ministry of Culture of the Republic of Slovenia
- 3 locations (3 repositories) one repository of the Archdiocesan Archives in Ljubljana and 2 repositories of parochial archives
- 1 location (4 repositories) 3 repositories of the Archdiocesan Archives in Maribor and 1 repository of a parochial archives
- 2 locations (2 repositories) of the Diocesan Archives Koper and 1 repository of a Parochial Archives Piran

## Results & discussion

Results of the analysis and applied risk assessment are presented schematically. Detailed descriptions of individual archival repositories and the results of the analysis are available in the before mentioned publication.

### 1. The Archives of the Republic of Slovenia (ARS)

#### 1.1 ARS – Virant's house: Ljubljana - central location, 1<sup>st</sup> and 2<sup>nd</sup> floor

**Year of construction:** 1843

**Last renovation:** 1975-1980

**Size:** 630 m<sup>2</sup>

**Capacity:** 6280 running meters of shelves

**Fullness:** 100%

**Main deficiencies:** statics, exhaust fumes and dust, broken blinds on windows

#### 1.2 ARS – Rožna ulica: Ljubljana central location, purposely build, high ground floor, 1<sup>st</sup>, 2<sup>nd</sup> floor and attic

**Year of construction:** 1972-1980

**Last renovation:** did not occur

**Size:** 1460 m<sup>2</sup>

**Capacity:** 59460 running meters of shelves

**Fullness:** 100%

**Main deficiencies:** bad heating isolation

**1.3 ARS Archival repository on Poljanska street, Ljubljana:** dislocated unit, east wing of the barracks on Poljanska ulica

**Year of construction:** 1895 - 1903

**Last renovation:** 1994 - 2006

**Size:** 2900 m<sup>2</sup> (not including the attic - ZAL and semi-basement – not yet acquired)

**Capacity:** 20000 running meters of shelves

**Fullness:** 60%

**Not acquired archives:** at least 14500 running meters, in the next 10 years 30000 running meters more

**Main deficiencies:** despite adaptation there are unsuitable climate conditions, humidity in the semi-basement, unwise building of supporting columns, obstructions at fire exits, not well considered choice and setting up of archival equipment

#### 1.4 ARS – Kazina

**4<sup>th</sup> location:** rented location, multi-purpose building, Kazina, Ljubljana, basement and ground floor

**Year of construction:** 1834

**Last renovation:** 2008

**Size:** 245 m<sup>2</sup>

**Capacity:** 1400 running meters of archives,

**Fullness:** 100%

**Main deficiencies:** despite adaptation the relative humidity is too high

#### 1.5 ARS – Petrol

**5<sup>th</sup> location:** rented basement premises of Petrol's building on Dunajska ulica 48 in Ljubljana, second basement

**Year of construction:** 1975

**Last renovation:** did not occur

**Size:** 442 m<sup>2</sup>

**Capacity:** 3000 running meters of shelves

**Main deficiencies:** no anti-burglary system, numerous pipes, dislocation

#### 1.6 ARS - Slovene Film Archives

**1.6.1 ARS - Slovene Film Archives - central location,** Virant's house, Zvezdarska 1, (Levstikov trg 3), Ljubljana, ground floor, passage in the 1<sup>st</sup> and 2<sup>nd</sup> floor

**Year of construction:** 1842,

**Last renovation:** 1977- 1979

**Size:** 210 m<sup>2</sup>,

**Capacity:** ground floor: 19613 film disks, 2<sup>nd</sup> floor 1467 video cassettes, 535 Betas, and photographic material

**Fullness:** 100%

**Not yet acquired archives:** most of the archives have been acquired

**Main deficiencies:** unsuitable climate conditions, polluted air, cramming of material

#### 1.6.2 ARS - Slovene Film Archives – dislocated unit Gotenica

**2<sup>nd</sup> location:** dislocated unit, in the multi-purpose shelter in Gotenica negatives and intermediates are kept

**Year of construction:** after the 2<sup>nd</sup> World War

**Last renovation:** did not occur

**Size:** 106 m<sup>2</sup>,

**Capacity:** 9000 film disks

**Fullness:** 100%

**Not yet acquired archives:** not existing

**Main deficiencies:** unsuitable climate conditions and dislocation of the unit

**1.6.3 ARS- Slovene Film Archives – dislocated unit Borovec****3<sup>rd</sup> location:** dislocated unit, single-story military building**Year of construction:** after the 2<sup>nd</sup> World War**Last renovation:** 2004, chamber placement**Size:** 194 m<sup>2</sup>, chamber 16 m<sup>2</sup>**Capacity:** 1718 film disks**Fullness:** 100%**Not yet acquired archives:** not existing**Main deficiencies:** dislocated unit, theft risk**2. REGIONAL ARCHIVES****2.1 Historical Archives Ljubljana (ZAL)****2.1.1.1 ZAL repositories on location Ljubljana, Mestni Trg 27 and Ciril-Metodov trg 21****Location:** central location, adapted multi-purpose old building in the old city center, immediately next to the town hall.**Year of construction:** more phases from the Middle Ages**Last renovation:** 1950-1970, partly purposely improved for larger burdens in the 50's**Size:** 903 m<sup>2</sup>**Capacity:** 5300 running meters**Fullness:** 100%**Not yet acquired archives:** about 5000 running meters**Main deficiencies:** statics, overload, unsuitable climate conditions, used water pipes, cramming**2.1.1.2 ZAL dislocated unit in Ljubljana on Poljanska street****Location:** dislocated location, Poljanska street 40, 4<sup>th</sup> floor (highest floor)**Year of construction:** 1895 - 1903**Last renovation:** 1995 - 2006**Size:** 820 m<sup>2</sup>**Capacity:** 4945 running meters of shelves**Fullness:** 90%**Main deficiencies:** unsuitable climate conditions, dislocation, daily transports**2.1.2 ZAL unit in Kranj on Labore and on Savska street****Location:** former factory halls of Iskratel company**Year of construction:****Last renovation:** adaptation 2001 - 2007**Size:** 500 m<sup>2</sup>**Capacity:** 3000 running meters of shelves**Fullness:** almost 100 %**Not yet acquired archives:** at least 1650 running meters of shelves**Main deficiencies:** climate conditions, handling of archives, fire safety, environment pollution**2.1.3 ZAL unit for Dolenjska and Bela krajina****Location:** Grm Castle, Novo mesto**Year of construction:** more phases from the 16<sup>th</sup> century on**Last renovation:** did not occur**Size:** 264 m<sup>2</sup>**Capacity:** 1800 running meters of shelves**Fullness:** 100%**Not yet acquired archives:** about 3000 running meters of archives**Main deficiencies:** extremely unsuitable premises: statics, climate conditions, risk of fire and water, pests, exposure to light**2.1.4 ZAL unit in Škofja Loka****Location:** former military barracks**Year of construction:** 1928

**Last renovation:** 2002-03

**Size:** 156 m<sup>2</sup>

**Capacity:** 1160 running meters

**Fullness:** 85%

**Not yet acquired archives:** at least 200 running meters of archives

**Main deficiencies:** meteor water, humidity, electric conduit and gas pipes

### 2.1.5 ZAL unit in Idrija

**Location:** old school

**Year of construction:** 1876

**Last renovation:** 1991 smaller works

**Size:** 212 m<sup>2</sup>

**Capacity:** 1050 running meters

**Fullness:** 722 running meters or 68%

**Not yet acquired archives:** about 300 running meters

**Main deficiencies:** statics, roof, pests, fire safety, climate conditions

## 2.2 Regional Archives Maribor (PAM)

**2.2.1 Regional Archives Maribor (PAM) - central building in Maribor:** 4 repositories on the ground floor, high ground floor, 1<sup>st</sup> and 2<sup>nd</sup> floor

**Year of construction:** 18<sup>th</sup> century

**Last renovation:** from 1960

**Size:** 823 m<sup>2</sup>

**Capacity:** 6800 running meters

**Fullness:** 6325 running meters (93%)

**Not yet acquired archives:** about 25000 running meters of archives for all locations

**Main deficiencies:** unsuitable temperature and relative humidity

**2.2.2 Regional Archives Maribor (PAM) - temporarily rented location on Jadranska street in Maribor,** provisionally adapted industry hall

**Year of construction:** 1962

**Last renovation:** did not occur

**Size:** 980 m<sup>2</sup>

**Capacity:** 7100 running meters

**Fullness:** 7 000 running meters (98%)

**Main deficiencies:** unsuitable climate conditions

**2.2.3 Regional Archives Maribor (PAM) - unit in Prekmurje in Dolina by Lendava**

**Year of construction:** after the 2<sup>nd</sup> World War, former school

**Last renovation:** did not occur

**Size:** 100 m<sup>2</sup>

**Capacity:** 500 running meters

**Fullness:** 380 running meters (76%)

**Main deficiencies:** unsuitable climate conditions

**2.2.4 Regional Archives Maribor (PAM) - temporarily rented location in Ravne na Koroškem**

**Year of construction:** after the 2<sup>nd</sup> World War, administrative unit building

**Last renovation:** did not occur

**Size:** 142 m<sup>2</sup>

**Capacity:** 500 running meters

**Fullness:** 450 running meters (90%)

**Main deficiencies:** unsuitable climate conditions

## 2.3 Regional Archives Koper (PAK)

### 2.3.1 Regional Archives Koper – PAK

**Location:** monastic church, central location in Koper

**Year of construction:** from the 14<sup>th</sup> century on (more building phases)  
**Last renovation:** 1990-1999  
**Size:** 750 m<sup>2</sup>  
**Capacity:** 5648 running meters of shelves  
**Fullness:** 100%  
**Not yet acquired archives (Koper and Piran):** 8000 running meters  
**Main deficiencies:** statics of the steel construction, climate conditions, lack of room

### 2.3.2 Regional Archives Koper PIRAN unit

**Location:** temporarily rented building of the former company Okolje Piran on Fornače, Piran unit

**Year of construction:** 19<sup>th</sup> century  
**Last renovation:** 2008, partly adapted  
**Size:** 174 m<sup>2</sup>  
**Capacity:** 1067 running meters of shelves  
**Fullness:** 100%  
**Main deficiencies:** temporary location, lack of room, climate conditions, immediate vicinity of the sea

### 2.4 Historical Archives Celje (ZAC)

**Location:** factory premises, ground and 1<sup>st</sup> floor  
**Year of construction:** 1972  
**Last renovation:** 1997 - 2001  
**Size:** 2881 m<sup>2</sup>  
**Capacity:** 8119 running meters of shelves  
**Fullness:** 70%  
**Not yet acquired archives:** about 6 000 running meters  
**Main deficiencies:** climate conditions, handling of archives

### 2.5 Historical Archives Ptuj ZAP

**2.5.1 Historical Archives Ptuj ZAP - central location, part of the Dominican monastery, basement, ground and 1<sup>st</sup> floor**

**Year of construction:** from 1230 to 1231 and later  
**Last renovation:** from 1955 there were a few smaller adaptations, which did not improve the conditions, in 2008 new roof  
**Size:** 411 m<sup>2</sup>  
**Capacity:** 1100 running meters of shelves  
**Fullness:** 100%  
**Not yet acquired archives:** at least 4253 running meters of archives  
**Main deficiencies:** extremely unsuitable conditions: statics, climate conditions, handling of archives, pests, electric conduit

**2.5.2 Historical Archives Ptuj ZAP - temporarily rented location, military barracks on Vičava, ground floor**

**Year of construction:** beginning of the 20<sup>th</sup> century  
**Last renovation:** 2007 provisional adaptation  
**Size:** 320 m<sup>2</sup>  
**Capacity:** 514 running meters of shelves  
**Fullness:** 100%  
**Main deficiencies:** very unsuitable conditions: meteor water, roof, climate conditions, electric conduit, temporary and dislocated location

### 2.6. Regional Archives in Nova Gorica (PANG)

**Location:** purposely built building, 4<sup>th</sup> and 5<sup>th</sup> (highest) floor and a part of the basement  
**Year of construction:** 1986 - 1987  
**Last renovation:** did not occur  
**Size:** 729 m<sup>2</sup>



**Capacity:** 4555 running meters of shelves

**Fullness:** 86%

**Not yet acquired archives:** 970 running meters

**Main deficiencies:** climate conditions, handling of archives, *Lepisma saccharina* (urban silverfish)

### 3. OTHER PUBLIC ARCHIVES

#### **3.1. Archives of the University in Ljubljana**

**Location:** central building of the University in Ljubljana, 1<sup>st</sup> floor, ground floor

**Year of construction:** 1902

**Last renovation:** 2007

**Size:** 94 m<sup>2</sup>

**Capacity:** 560 running meters of shelves

**Fullness:** 100%

**Not yet acquired archives:** about 1500 running meters of archives

**Main deficiencies:** new repository: handling of archives, higher temperature; old repository: high relative humidity, central heating and electric conduit

#### **3.2. INDOK center of the Directorate for Cultural Heritage at the Ministry of Culture (Metelkova 4, Ljubljana)**

**Location:** extension (newly built) to military barracks on Metelkova, the building of the Ministry of Culture, 1<sup>st</sup> floor

**Year of construction:** 2002 - 2003

**Size:** 100 m<sup>2</sup>

**Capacity:** 450 running meters of shelves, 200 chests of drawers (about 250 running meters)

**Fullness:** 70%

**Not yet acquired archives:** smaller influx of archives

**Main deficiencies:** climate conditions, high expenses for maintenance, risk of roof leakage

#### **3.3. Archives of RTV Slovenia (repository in the 2<sup>nd</sup> floor and in the 2<sup>nd</sup> basement)**

**Location:** central building of RTV Slovenia, Ljubljana, Kolodvorska 2-4, 2<sup>nd</sup> floor, 2<sup>nd</sup> basement

**Year of construction:** 1975

**Last renovation:** did not occur

**Size:** 869 m<sup>2</sup>

**Capacity:** 4230 running meters of shelves (52000 cassettes, 14800 film boxes (600 running meters) and 12400 film boxes (300 running meters of archives)

**Fullness:** 98%

**Not yet acquired archives:** 2500 unit of archives per year

**Main deficiencies:** climate conditions, cramming of material

### 4. CHURCH ARCHIVES

#### **4.1 Archdiocesan Archives Ljubljana (Krekov trg 1 and two parochial archives)**

**Location:** multi-purpose old building Ljubljana, Krekov trg 1, 1<sup>st</sup> floor

**Year of construction:** 1717, 1861 elevated

**Last renovation:** 1995 purposely adapted for an archives

**Size:** 434 m<sup>2</sup>

**Capacity:** 1800 running meters of archives

**Fullness:** 1000 running meters, 60%

**Not yet acquired archives:** about 300 running meters of archives at parishes

**Main deficiencies of the central location:** excessive use of archives

**Main deficiencies of parochial archives:** statics, climate conditions, roof leakage, archives not described, there is no permanent priest

**4.2. Archdiocesan Archives Maribor**

**Location:** multi-purpose old building, Koroška 2, Maribor, 1<sup>st</sup> and 2<sup>nd</sup> floor, old, new and auxiliary repository

**Year of construction:** mostly in the 18<sup>th</sup> century.

Last renovation: smaller adaptations

**Size:** 260 m<sup>2</sup>

**Capacity:** 1748 running meters of shelves

**Fullness:** 100%

**Not yet acquired archives:** at least 1200 running meters of archives

**Main deficiencies of the central location:** cramming of material, climate conditions, roof leakage, statics

**Main deficiencies of parochial archives:** climate conditions, statics, roof leakage, electric conduit, no permanent priest

**4.3. Diocesan Archives Koper and parochial archives in Piran****4.3.1 Diocesan Archives Koper**

**Location:** central building of the diocese in Koper

**Year of construction:** 18<sup>th</sup> century, adapted in 1894

**Last renovation:** 1970 (repository renovation)

**Size:** 22 m<sup>2</sup>

**Capacity:** 105 running meters

**Fullness:** 100%

**Not yet acquired archives:** at least 650 running meters of archives

**Main deficiencies:** climate conditions and lack of room

**4.3.2 Parochial archives in Piran**

**Location:** extension to the northern side of the St. George church in Piran

**Year of construction:** 15<sup>th</sup> and 16<sup>th</sup> century

**Last renovation:** only the church exterior in 2005

**Size:** 16 m<sup>2</sup>

**Capacity:** 35 running meters

**Fullness:** 90%

**Main deficiencies:** vicinity of the sea, climate conditions, mice

**Table 3:** Review of size, capacities and specific risks in individual archives

Archives of the Republic of Slovenia				
ARCHIVE REPOSITORY	SIZE (m <sup>2</sup> )	CAPACITY (running meters of shelves)	PRIORITY MAGNITUDE OF RISK	SPECIFIC RISKS
ARS Virant	630	6280	M	Statics, window tightness and curtains
ARS Rožna	1460	6000	H	Bad heating isolation
ARS Poljanska	2900	20000	H	Despite adaptation: unsuitable climate conditions, not well considered interior
ARS Kazina	245	1400	E	Despite adaptation: high humidity pipes, meteor canalization
ARS Petrol	442	3000	E	Numerous pipes, safety, dislocation
ARS Film archives	230	30000 film discs	H	Climate conditions, cramming of archives

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<b>Regional archives</b>				
ZAL Mestni trg	903	5300	M	Statics, cramming, pipes
ZAL Poljanska	820	4945	H	Climate conditions
ZAL Kranj	500	3000	M	Climate conditions, environment pollution
ZAL Novo mesto	264	1800	C	Extremely unsuitable climate conditions, fire risk, insects, water outflow
ZAL Škofja Loka	156	1160	H	Despite adaptation: humidity, electric conduit and gas pipes
ZAL Idrija	212	1050	M	Statics, roof, insects, fire safety
PAM central building MB	823	6 00	M	Unsuitable climate conditions
PAM Jadranska MB	980	7100	M	Unsuitable climate conditions/
PAM Prekmurje	100	500	M	Unsuitable climate conditions
PAM Ravne	142	500	M	Unsuitable climate conditions
PAK Koper	750	5648	H	Statics of the steel construction, climate conditions
PAK Piran	174	1067	M	Unsuitable climate conditions, temporary location
ZAC	2 881	8119	L	Unsuitable climate conditions
ZAP Ptuj	411	1100	C	Extremely unsuitable conditions, statics, climate conditions, insects, fire safety
ZAP Vičava	320	514	C	Meteor water, roof, climate conditions, electric conduit, temporary location
PANG Nova Gorica	729	4555	L	Unsuitable climate conditions
<b>Public archives</b>				
Archives UL	94	560	L	Unsuitable climate conditions, pipes and other installation
Archives INDOK MK	100	700	L	High expenses for the maintenance of air condition devices, roof
RTV Slo Archives	869	4230	M	Unsuitable climate conditions, cramming
<b>Church archives</b>				
NŠAL	434	1 800	L	Excessive use of archives

NŠAM	260	1 748	H	Unsuitable climate conditions, roof, statics, pipes
ŠAK	22	105	E	Lack of room, unsuitable climate conditions

Table 4.: Magnitude of Assessed Risks in Slovenian Archives

AGENTS OF DETERIORATION	ASSESSED RISK	MAGNITUDE OF RISK
Direct physical force	Collapse of part or whole	M
	<b>Poor handling, distortion, abrasion</b>	E
Theft and vandalism	Outside	M
	Inside	M
Fire	Soot, smoke, water damage	M
Water	<b>Roof leaking and similar</b>	<b>L</b>
	<b>Capillary and condense</b>	<b>C,E,H</b>
	<b>All soert of pipes</b>	<b>E</b>
Pests	Insekts, rodents, birds	M
Air pollution	Harmful gases, dust, salt	H
Light	Inside	L
	Outside, <i>zunanja</i>	M
Inappropriate temperature	High temperature, fragility, disintegration	H
Inappropriate humidity	<b>High or low humidity, mold, corrosion, swelling, dehydration</b>	<b>C,E,H</b>
Loss or misplacement	Misplacement	L

Based on the data from analysis and risk assessments of individual repositories, we have come to the following final results:

1. In Slovenia there are three buildings or parts of them purposely build as archival repositories: ARS Rožna (1460 m<sup>2</sup>), two floors at the Regional Archives in Nova Gorica (628 m<sup>2</sup>) and the extension to the military barracks on Metelkova, archives of the INDOK Center of the Directorate for Cultural Heritage (100 m<sup>2</sup>).
2. In two out of six regional archives, in ZAL Novo mesto unit and in ZAP Ptuj unit, the repositories are extremely unsuitable.
3. Five old buildings were adapted to be archival repositories (ARS – Virant, ARS and ZAL – Poljanska, ZAL Škofja Loka, PAK – Koper unit, ZAC), however the premises do not correspond to all basic requirements for a safe and economic storage of archives. Since the buildings have not been suitably isolated, the problem of climate conditions has been left unsolved. Storage conditions in ZAL Kranj unit, PAK Piran unit – Fornace location are suitably controlled and within required measures, however they are kept by permanently active devices.
4. Many archival repositories in basements and on ground floors have humidity problems, including the ones recently renovated (ARS Poljanska, ARS Kazina, ZAL Škofja Loka, PAK Koper unit).

5. In the basement and semi-basement premises, intended for archival repositories, besides the problem of humidity, the biggest risks are the plumbing, meteor, canalization and other installations.
6. All older buildings have experienced earthquakes in the past, however not as archival repositories (ARS Virant, ZAL Ljubljana, ZAL Novo mesto, ZAL Idrija, ZAP Ptuj unit). Therefore, the statics should be measured again.
7. Larger window surfaces cause light and microclimate problems, but fortunately this is the case just in some archives.
8. In most cases roofing has been improved to the point where it does not represent a risk of water leaks. This is, however, not true for ZAL Novo mesto and partly for the archives of the INDOK center, ZAL Ljubljana, ZAP Ptuj and some parochial buildings.
9. Many repositories are insufficiently protected against vandalism.
10. Assessments have shown that in archival repositories there are still too many risks because of unsuitable and/or unneeded electric conduit, vicinity of cars or hindered access in a case of fire.
11. Basic fire safety is provided with hydrants and fire alarms. None of the discussed archives has a fog or gas extinguishing system.
12. Pests (mice, rats, bats and insects) are a risk where the walls have not been correctly adapted. They have access to repositories where the doorsteps are missing or through unprotected shafts. This risk poses a problem in cases of ZAP Ptuj unit, ZAL Novo mesto, ZAL Idrija, parochial archives in Piran. The interior of buildings can also be a cause for insect problems. In older buildings this risk is caused by old, wormy shelves or furniture and in newer buildings by the material used and incorrect isolation application.
13. Pollution with gas and dust particles represents a risk in all repositories placed in urban traffic environment (ARS Virant, Rožna, NŠAL Krekov trg, ARS Petrol, ZAL Ljubljana, ZAL Kranj) and in the vicinity of the sea (PAK Piran unit).
14. Unarranged material and cramming can be causes for misplacing documents. One of the other causes can also be the staff's incorrect attitude to the archives. Almost all archives have pointed out this risk factor.
15. In most of the archival repositories there is a problem of mechanical injuries to the archives because of cramming. All archives not stacked in archival boxes are exposed to this risk factor.

The research project showed that on all levels, work fields and locations there are many archivists who are conscious of and who want to place this subject to the benefit of the archival profession. The actual state, however, shows that the decisions-makers seldom hear their voices. The results of this analysis show that the difference between theory and practice is still enormous in some cases. It is worrying that also at last adaptations differences between basic demands for archival repositories and the final realization were unreasonably large. When considering adaptations or new builds, a more prudent and permanent dialogue among archivists – architects – investors is necessary. We suggest that archival service should assure, also with education within, archivists, who will competently be involved in all phases of project preparation and execution. Effective preservation can mainly be achieved with better planning; therefore at such projects all parties involved should be additionally and properly qualified, from investors and projectants to executants, but mostly archivists themselves. The most important requirement demands all cooperators to be involved in the project from the planning phase till the moving in. They should be well acquainted with all necessary professional findings and also with sadly many negative experiences on already executed projects.

We assess that it is not possible for every archives, which is preparing a building project or adaptation of repositories, to find such professionals. It is probably reasonable to think about forming such a group on the level of the state, possibly even in connection with other professionals, who face similar tasks while building or adapting repositories that are intended to hold archival heritage.

## CONCLUSION

The analysis and risk assessment project is confirming the initial hypothesis that archival repositories are the basis of every archival institution and that in the field of repositories and preservation there is still a lot of work to be done on all levels inside individual archives, Slovene archival practice and also on the level of the ministry or the state. To avoid potential risks is possible to achieve with

better preservation knowledge and better communication from planning to move in; therefore all parties involved must be qualified, from investors to executants but mostly archivists themselves.

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## LITERATURE

- Jonathan ASHLEY-SMITH, *Practical uses of risk analysis*, "The Paper Conservator", 25(2001), pp. 59-63.
- Wolf BUCHMANN, *Preservation: buildings and equipment*, »Journal of the Society of Archivists«, 20(1999), n. 1, pp. 5-23.
- Micel DUCHEIN: *Archive Buildings and Equipment*, 1988.
- Henry FAULKNER-BROWN, *Some thoughts on the design of major library Buildings*, In *Intelligent library buildings*, München 1999, pp. 9-24.
- Kathleen DARDES, et al., *Preventive Conservation: A discussion*, "The GCI Newslwttter", 15(2000), n. 2, pp. 10-12.
- Stefan MICHALSKI - Robert WALLER, *ICCROM seminar on preventive conservation "Reducing risks to collections"*, Rome 2005, and Beijing 2009.[8]Michalski, S (2009) ABC Scales, ICCROM Seminar, Beijing.
- Stefan MIHALSKI, *Relative humidity: A discussion of correct/incorrect values*, ICOM Committee for Conservation: Preprints of the 10<sup>th</sup> Triennial Meeting, Washington, DC 1993, pp. 624-629.
- Stefan MIHALSKI, *Relative humidity and temperature guidelines: What's happening?*, »CCI Newsletter«, 14(1994), pp. 6-8.
- Andrej NARED (ed.): *Proceedings of the symposia of the Archival Society of Slovenia*, »Zbornik posvetovanja Arhivskega društva Slovenije«, 2007, pp. 36-173.
- Jedert VODOPIVEC (ed.): *Archival Repositories in Slovenia - Arhivski depoji v Sloveniji*, *Archives of the Republic of Slovenia*, Ljubljana 2009, 392 p. [www.arhiv.gov.si/fileadmin/arhiv.gov.si/.../Arhivski\\_depoji.pdf](http://www.arhiv.gov.si/fileadmin/arhiv.gov.si/.../Arhivski_depoji.pdf) (last visit on July 2<sup>nd</sup> 2012).
- Robert WALLER, *Conservation risk assessment: A strategy for managing resources for preventive conservation*, *Preventive conservation: Practice, Theory and Research*, Preprints of the IIC Biennial Congress, Ottawa, Spt.. 1994, eds. Ashok Roy and Perry Smith, London 1994, pp. 12-16.

## SUMMARY

The all-Slovenian public archives research devoted to the conditions in archival repositories examined depot units in the national, regional and church archives in Slovenia. Assessments were given according to a unified methodology on the basis of ten agent of deterioration, presented at ICCROM courses on preventive conservation. It was discovered that all archival repositories are filled to capacity and that there is still a lot of archives at creators. All repositories, except three, are placed in buildings and premises, which were built for entirely different purposes and all, are lacking suitable climate conditions. The research project showed that on all levels, work fields and locations there are many archivists who are conscious of and who want to place this subject to the benefit of the archival profession. The actual state, however, shows that the decisions-makers seldom hear their voices. The results of this analysis show that the difference between theory and practice is still enormous in some cases. It is worrying that also at last adaptations differences between basic demands for archival repositories and the final realization were unreasonably large. When considering adaptations or new builds, a more prudent and permanent dialogue among archivists – architects – investors is necessary. We suggest that archival service should assure, also with education within, archivists, who will competently be involved in all phases of project preparation and execution. Effective preservation can mainly be achieved with better planning; therefore at such projects all parties involved should be additionally and properly qualified, from investors and projectants to executants, but mostly archivists themselves. The most important requirement demands all cooperators to be involved in the project from the planning phase till the moving in.

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