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The Preservation and Protection of Gazi Husrev-beg Library Holdings through Digitisation and Microfilm

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History of the Gazi Husrev-beg Library

Gazi Husrev-beg Library in Sarajevo is the oldest library in this region for which accurate information is available regarding the date of founding. Gazi Husrev-beg predicted in the Vakufnama about his madrasa that: "What is left from the costs of building a madrasa, let good books be bought for that, which will be used by readers in the mentioned madrasa, and copied from those who deal with science" (Spaho 1932, 74). Therefore, we know the Gazi Husrev-beg Library's founding date down to the exact day: the 8th of January 1537.

It has been nearly five hundred years since the Library was founded, and during this time, the Library has been relocated several times. The last relocation took place ten years ago, bringing the Gazi Husrev-beg Library back to its original spot as it was in 1537.

History of the Microfilming and Digitisation Process

The earliest evidence of attempts to microfilm the holdings of the Library dates back to 1958, with the report on the Library's work submitted to the Parliamentary Committee of the Endowment Council stating that the process of microfilming the Sidžil No. 8, Mostar sidžil, and the Tarih-i Kamandža manuscripts had started. The microfilming itself was carried out in the State Archives in Sarajevo. At the beginning

of the next year in 1959, an official letter from the State Archives addressed to the Library requested the latter to pay 630 dinars in 'income for photo lab services' for forty-two microfilm recordings. The fact that the Gazi Husrev-beg library's administration took this process of transferring microfilms of individual manuscripts and documents very seriously is evidenced by the fact that the Ministry of Education of the Republic of Turkey was requested to issue the Library an official Rulebook on the transfer of microfilms and photocopies of manuscripts in related institutions of the Republic of Turkey.

In 1962, the process of acquiring the necessary technical equipment for the creation of the Library's own photo laboratory was underway, and the laboratory itself was likely to have been in operation by 1963. In addition to microfilming materials owned by the Library, the Library also carried out the microfilming of materials owned by other cultural institutions and requested that other related institutions from abroad provide microfilm copies of various materials, primarily manuscripts, in which users of the Library would be interested. There is no mention of any further activities related to the process of microfilming in the Gazi Husrev-beg library until a work report from 1985. This document refers to the need to acquire a microfilm machine due to the high costs of outsourcing this process to other institutions. In the available official documents of the Library from this period, there is no information about what happened to the Library's previous microfilm equipment.

The idea of saving manuscript treasures during the aggression against Bosnia and Herzegovina in 1992-1995 originally included the recording of the most important library holdings on microfilm, in order to preserve their contents from disappearance. Concern was great over the fates of the Oriental Institute in Sarajevo and the National and University Library of Bosnia and Herzegovina, which suffered the destruction of a large part of their collections by fire. During 1995, thanks to a donation from the Institute for Islamic Civilisation and Culture (ISTAC) in Malaysia, the Library was able to acquire the necessary technical equipment for microfilming. Despite the difficult wartime conditions, the aforementioned equipment was delivered through the Sarajevo tunnel, the only means for entering and exiting the besieged city. However, due to the circumstances of the war, there were challenges from the outset concerning the prospect of training the technical apparatus for proper functioning, particularly for the purpose of developing

microfilm. The complete process of microfilming certain library materials, as well as making additional copies, requires a constant supply of electricity and water, which was extremely difficult to deliver in wartime circumstances. Thanks to the work of Mr. Muhamed Mušić, who already had significant experience in similar jobs, most of the difficulties hounding the microfilming process had been resolved by the end of 1996. In this wartime period, the first 5,000 recordings were made with a 16mm camera on twenty rolls of microfilm.

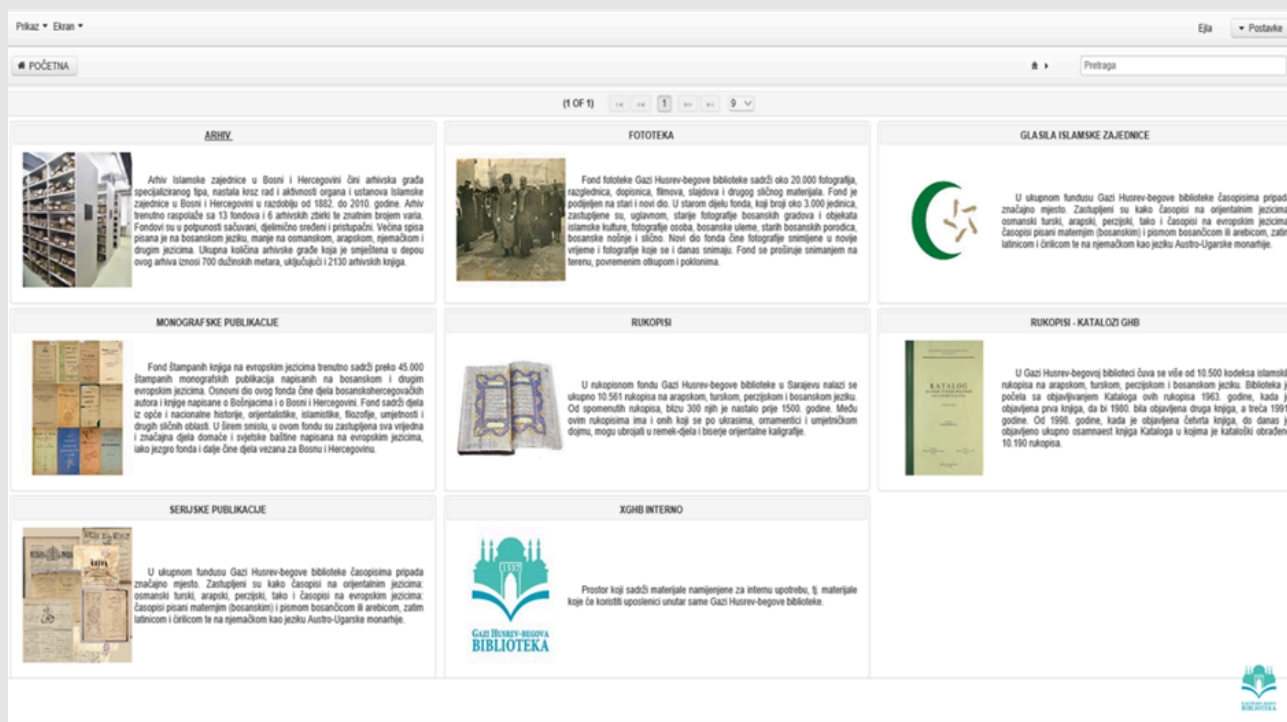
In 1998, along with the process of microfilming, the process of digitising the collections of the Gazi Husrev-bey Library began, which was a daunting and complex task given the insufficient amount of information about the process at the time. As the Gazi Husrev-bey library was a pioneer of digitisation in Bosnia and Herzegovina, it was forced to seek advice from abroad for the many challenges that arose. The main challenges could be classified into four groups, namely:

1. Issues of the protection of physical copies
2. Technological challenges
3. Inventory of materials
4. Challenges related to metadata

The goal of the project of digitisation of old periodicals was primarily to provide researchers with easier access to information and to a large number of rare or unique library units, with as few physical restrictions as possible, and also to protect original copies from further decay and damage. It was a highly complex process which, in addition to technical preconditions, necessitated the proper training of operators as well as the material and social support to complete the digitisation process according to international standards.

Digital Repository

Towards the end of 2014, a 'proposal for the project of digitisation of old GHB periodicals' was made. The first phase was completed at the end of 2017 with the formation and commissioning of the GHB Digital Library.



[Image 1] Digital Repository of Gazi Husrev-beg Library (photo provided by Ejla Ćurovac)

This digital repository is divided into eight categories that users can search and whose content they can access, namely:

1. Archives
2. Photo Library
3. Newspapers of the Islamic Community in Bosnia and Herzegovina
4. Monographic publications that include material in European and Oriental languages
5. Manuscripts
6. Manuscripts: Catalogues of the GHB
7. Serial publications to which the greatest attention was paid
8. 'GHB Internally,' a space containing materials intended for internal use by Library employees

Due to the fact that OCR was conducted on complete texts, it is possible to search through most of the uploaded material by simply conducting a search for any word within the available texts. This makes it easier for users to find their desired articles and texts.

Anyone can join the Digital Library by registering. There is also the option to log in as a 'guest' with limited access to the content. The contents of the Digital Library may only be used for personal use and research, and any type of commercial use requires the express permission of the Gazi Husrev-Beg Library. The Digital Library was designed in such a way that it meets all the needs of the individual elements of the Library, and the project provides for the possibility of qualitative and quantitative expansion of software.

The act of searching and working on the digital repository has been made simple for the user. To assist with locating the collection they want to access, users are provided with a list of publications along with a picture and a short description. They can then select the publication they need and proceed to read and research it. Each page is set up separately for easier opening of documents, but also to prevent the publications from being downloaded or misused. A watermark bearing the logo of the Gazi Husrev-beg Library has been placed on each page, and on the contents of the photo library as an additional layer of protection. All copyrights have been assessed so that none of the uploaded publications that belong to the European Fund or the Fund of Periodicals are still under copyright.

The first accessible category in the digital repository is Archives. In example, there are a total of 900 recordings available to users from the analytical inventory of the Land Endowment Commission and Land Endowment Committee. Both of these sub-funds belong to the Archive of the Islamic Community. When it comes to the Bosnian and Ottoman archives, they can be accessed on our website according to certain parameters, but physical or digital access to the document itself is allowed only in the Library building or, in exceptional cases, in digital form.

The second category in the digital repository is the Photo Library. Users within the photo library have access to 172 photographs, ranging thematically from Bosnian houses to traditional costumes, but the main purpose for hosting these photographs is due to the research potential of this collection. Almost 19,000 photos have been processed and uploaded onto the Photo Library database along with their basic data. These photographs are of great significance in terms of contributions to scientific research or into the cultural history of these areas.

The third category is comprised of the Newspapers of the Islamic Community in Bosnia and Herzegovina. Some of these publications have ceased operations, but most of them are still published on a monthly or annual basis. The following publications have been uploaded:

1. Annals of Gazi Husrev-beg's library (Anali Gazi Husrev-begove biblioteke) uploaded in full from 1972 until today
2. The Herald of the Riyasat of the Islamic Community in Bosnia and Herzegovina (Glasnik Rijaseta Islamske zajednice u BiH) was uploaded in full from 1933 to the present day
3. Islamic thought (Islamska misao) uploaded partially from 1978 to 1992
4. Muallim – uploaded partially from 1910 to 1913 and partially from 1990 to 1998
5. New Muallim uploaded from 2000 to 2022
6. Takvim uploaded from 1934 to 2023
7. Zemzem uploaded in full from 1968 to 2017
8. Preporod uploaded in full from 1979 to 2023

The fourth category is Monographic Publications. In this section, there are 666 publications in Oriental and European languages. The Library has taken great care to ensure that these are publications whose presence on the digital platform would not violate copyright or other publishing rights. Considering the large number of publications available in this section, it forms an important microbase for researchers who are interested in the available material.

The fifth category is Manuscripts. At the UNESCO General Conference held on October 30, 2017, in Paris, the Manuscript Collection of the Gazi Husrev-beg Library in Sarajevo was included in the 'Memory of the World' Register, which is dedicated to the preservation of the world's documentary cultural heritage.

Since manuscripts are thus amongst the most valuable treasures inherited by the Library, seventy-one manuscripts from the Library's rich Oriental collection were uploaded so that researchers could get a sense of the unique and significant nature of that collection. In this sense, through our online platform, researchers can search for manuscripts that interest them using keywords or other parameters. If they find

material that satisfies their scientific and research interests, they can request the manuscript in whole or in part, physically or digitally, from the Library's professional staff and it will be made available to the researcher in accordance with internal regulations and an assessment of the manuscript's importance.

The sixth category consists of the Manuscripts of the Catalogues of the Gazi Husrev-beg Library. Almost all manuscripts within the Library have now been catalogued within its total of eighteen catalogues.

In the seventh category are Serial Publications that hold a significant place in the Gazi Husrev-beg Library. There are serial publications in Oriental languages such as Ottoman Turkish, Arabic, Persian; serial publications in European languages; serial publications written in the mother tongue (Bosnian) and Bosnian or Arabic script, then in Latin and Cyrillic, and also in German, as it was the language of the Austro-Hungarian Monarchy. A total of 64 serial publication titles were posted, some in part and some in full.

In the eighth and final category, there is 'GHB Internally', a space containing materials intended for internal use by Library employees.

In the following sections, we will provide more information about the digitisation process and the equipment used.

Our primary scanning device is the Zeutschel Book Scanner (OS 12000). It is a professional-grade scanner featuring photo scanning capability, meaning that in addition to the traditional scanning process, it uses light to produce the highest quality images. It has an adjustable scanning resolution with a maximum of 600 DPI. It is configured to automatically save manuscripts in JPEG 2000, JPG, and PDF formats, whilst European collections and periodicals are primarily saved in PDF format. For manuscripts, the default resolution is 400 DPI.

The formats to which the scanned images can be converted are: ITFF, TIFF, JPEG, TIFF PACKED, Windows BMPs, JPEG, JPEG 2000, PCX, and PNG.

The Scanning Process:

First, sequential images are created in a folder. They are stored locally on the computer.

- Completed scanned files are stored in a folder outside the primary system.
- Scanned files are placed in a single folder (if they belong to the same document) where each page is scanned into a file named according to the page (e.g., '42.jpg').
- After scanning is complete, the files are transferred to the server machine (the entire folder containing all the files is transferred)

Later, these images are converted to PDF format (if legible, OCR is performed immediately).

- If legible, the next phase in the digitisation process involves entering the technically prepared material into Optical Character Recognition (OCR) software, which allows users to search by all data entry parameters.
- The final result is a file in PDF format. OCR is completed using ABBYY FineReader software.

Steps for Storing (Processed) Images:

- The first step is to store the image in the Digital Collection folder on the server.
- The second step is to save the image to the database.
- The third step is to upload the image to the Web in the Digital Library (during this step, Acrobat Reader is used to reduce the resolution, unzip the document by pages, and add a watermark).

Conclusion

The Gazi Husrev-beg Library in Sarajevo and its nearly five centuries of history stand as a testament to a steadfast determination to preserve the nation's cultural and historical heritage. Its journey, from its establishment in 1537 to becoming a pioneer in digitization and digital access in Bosnia and Herzegovina, reflects a commitment to adapting to the challenges of modern times whilst honouring the

legacy of its founder. The Library's efforts in microfilming, digitisation, and the establishment of the Gazi Husrev-beg Digital Library have not only protected invaluable manuscripts and artefacts from decay and destruction but have also opened avenues for global research and education.

The library's innovative use of advanced scanning technology and metadata systems, alongside its implementation of Optical Character Recognition, ensures that its vast resources remain accessible to scholars, students, and the general public. With a meticulously categorised digital repository that includes manuscripts, periodicals, archives, and more, the Gazi Husrev-beg Library has become a beacon of knowledge and a gateway to Bosnian and Ottoman history.

Ultimately, the library's dual mission of preserving original materials and democratizing access to them attests to its critical role in safeguarding cultural memory. As it continues to expand its digital collections and refine its processes, the Gazi Husrev-beg Library not only honours its historical significance but also secures its place as a cornerstone of cultural heritage in the modern digital age.

Bibliography

Spaho, Fehim. "Gazi Husrev-begova knjižnica." in *Spomenica Gazi Husrev-begove četiristogodišnjice*. Sarajevo: Islamska dionička štamparija, 1932.