



Implementation of Risk Assessment to Identify Damage of Semarang Static Archive Papers In ANRI

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ABSTRAK

Risk Assessment adalah adalah suatu proses mengidentifikasi dan menganalisis risiko untuk menentukan tingkat ancaman/bahaya terhadap kerusakan arsip. Hasil kegiatan Risk Assessment dapat digunakan untuk menyusun kebijakan dan strategi preservasi arsip dalam melakukan tindakan preservasi baik secara preventif maupun kuratif. Kegiatan Risk Assessment merupakan suatu kegiatan yang diharapkan dapat memudahkan dalam menentukan langkah-langkah dalam pencegahan, perbaikan, pemeliharaan terhadap fisik arsip pada umumnya termasuk infomasi yang terkandung di dalamnya dan dapat digunakan untuk menyusun kebijakan. Tujuan dari Penulisan tugas akhir ini adalah untuk mengetahui parameter yang diamati pada proses risk assessment kertas arsip statis Semarang, dan mengetahui tingkat kerusakannya sehingga dapat digunakan sebagai acuan untuk menentukan perlu tidaknya restorasi dan reproduksi. Langkah risk assesment yang dilakukan terdiri dari Persiapan, Pelaksanaan dan Evaluasi. Paramater yang diamati pada proses risk assessment kertas arsip statis Semarang meliputi bentuk jilidan dan penyebab kerusakan pada dokumen arsip yang disebabkan oleh bahan kimia, hama dan noda air. Hasil risk assessment kertas arsip menunjukkan bahwa dokumen memiliki tingkat kerusakan berat dan sudah sangat rentan serta mudah sekali patah sehingga diperlukan kegiatan restorasi. Faktor yang paling banyak mengakibatkan kerusakan kertas arsip adalah faktor serangga, korosi tinta, noda foxing dan acidifikasi.

ABSTRACT

Risk Assessment is a process of identifying and analyzing risks to determine the level of threat/danger to archive damage. The results of the Risk Assessment activities can be used to formulate archive preservation policies and strategies in carrying out preservation actions both preventively and curatively. The Risk Assessment activity is an activity that is expected to make it easier to determine steps in prevention, repair, maintenance of physical archives in general, including the information contained therein and can be used to formulate policies. The purpose of writing this final project is to determine the parameters observed in the risk assessment process of Semarang static archival paper, and determine the extent of the damage so that it can be used as a reference to determine whether restoration and reproduction are necessary. The risk assessment steps carried out consist of preparation, implementation and evaluation. Parameters observed in the risk assessment process of Semarang static archive paper included the shape of the binding and the causes of damage to archival documents caused by chemicals, pests and water stains. The results of the archival paper risk assessment show that the document has a high level of damage and is very vulnerable and easily broken so restoration activities are needed. The factors that cause the most damage to archival paper are insects, ink corrosion, foxing stains and acidification.

1. INTRODUCTION

Indonesia has many archival documents stored in the National Archives of the Republic of Indonesia, located at Jl. Ampera Raya No.7, RT.3/RW.4, Cilandak Timur, Ps Minggu, South Jakarta,

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Special Capital Region of Jakarta 12560. These documents have high historical value and must be preserved through restoration.

Document restoration procedure is usually carried out after a risk assessment process. Risk Assessment is a process of identifying and analysing risks to determine the level of threats/dangers to the damage of archives. Risk assessment is conducted with the aim of understanding the extent of damage to the static archival paper in Semarang, so the risk assessment activity is very important for state archival documents.

Risk assessment procedure is basically conducted in three stages. Based on the Activity Report Book of Risk Assessment of Damage to Static Archives by the National Archives of Indonesia (ANRI) in the year 2023, the identification of physical characteristics includes aspects such as binding form, paper type, paper size, handwriting style, and paper acidity level.

2. METODE

Risk assessment observation was conducted on 50 samples of static archival paper from Semarang dating from 1816 to 1880. The observations were performed by examining the binding form, the shape of the spine, and the curvature of the binding. Additionally, identified the factors leading to damage to archival documents, which include foxing, ink corrosion, and acidification. The observation was also done to determine the cause of the damage, for example caused by insects or water stains. The data recorded on the risk assessment form continued to be analysed to determine the level of damage to static archival documents in the categories of light, moderate, and severe.



Figure 3. Physical Archive Inspection

Figure 3, the author is conducting a physical check of the archival documents related to the binding form and the condition of the archival paper's surface.

3. RESULT AND DISCUSSION

Result

The observation was conducted at a temperature of 19.1°C and a relative humidity of 62%. The temperature and humidity in the archival storage depot are periodically checked because changes in room temperature in the reservation room can damage the archives stored within it.

The physical characteristics of about 50 samples of Semarang city archives are identified, which include the archive binding form, the type of paper, the size of paper, the font type and the acidity of the archival paper.

The binding surface of the archive showed 24 severe damage, 14 moderate damage and 12 light damage. While the binding curve 18 sample showed severe damage, 24 moderate damage, 8 light damage. Moreover, the binding spine were identified 12, 8 and 16 severe, moderate, and light damage respectively. All those data can be seen in Figure 4.

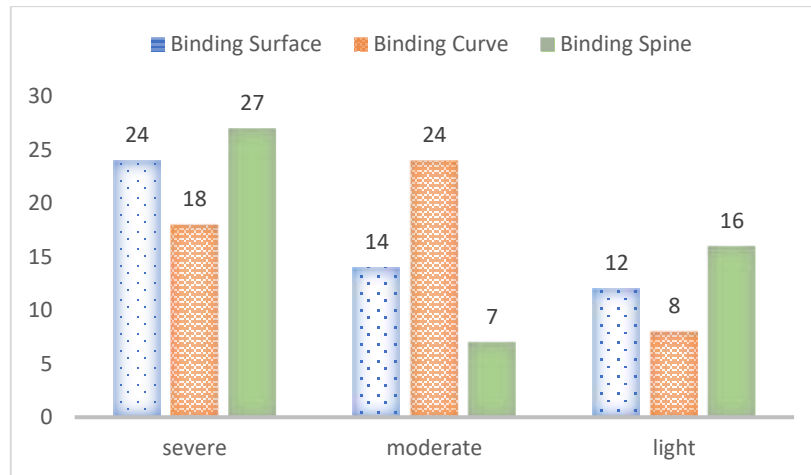


Figure 4. The archival binding damage identification

Based on the paper grammage identification of the 50 observed paper samples were HVS/HVO paper. HVS/HVO paper is commonly used for writing and printing. Those type of paper typically has a grammage ranging from 50 gsm to 100 gsm. According to the National Archives Regulation of the Republic of Indonesia Number 5 of 2021 on Guidelines for Official Correspondence, it is stated that the use of paper for official activities should be HVS with a minimum of 70 gsm. Figure 5 showed the author measuring the length and width of archival paper to determine the size and type of paper used in the Semarang archives.



Figure 5. The author is measuring the length and width of the archive.

The size identification of Semarang archives paper from the year 1816 - 1880 showed that 22 out of 50 samples were F4-sized paper while the rest were not specified, which can be seen in Figure 6. This complies with the National Archives Regulation of the Republic of Indonesia Number 5 of 2021 on Guidelines for Official Correspondence, which specifies that the paper size used for the creation of legal documents is F4 size.

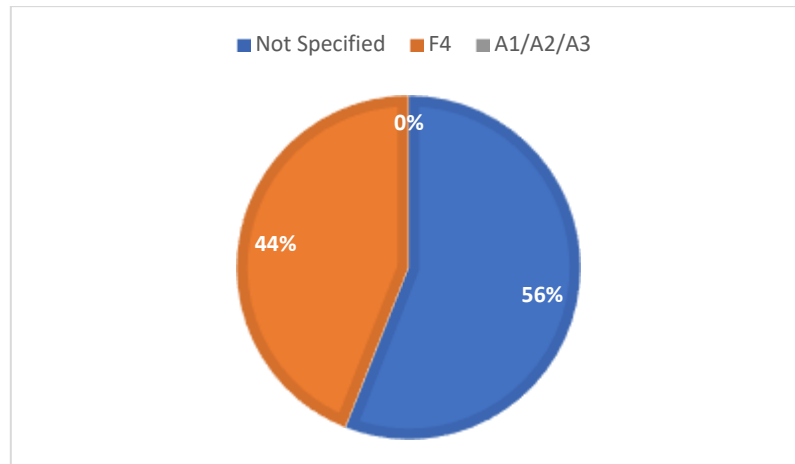


Figure 6. The paper size identification

The font type identification on the archival paper showed that about 29 document samples are written by hand, and 21 samples used a combination of handwriting and printing, as can be seen in Figure 7.

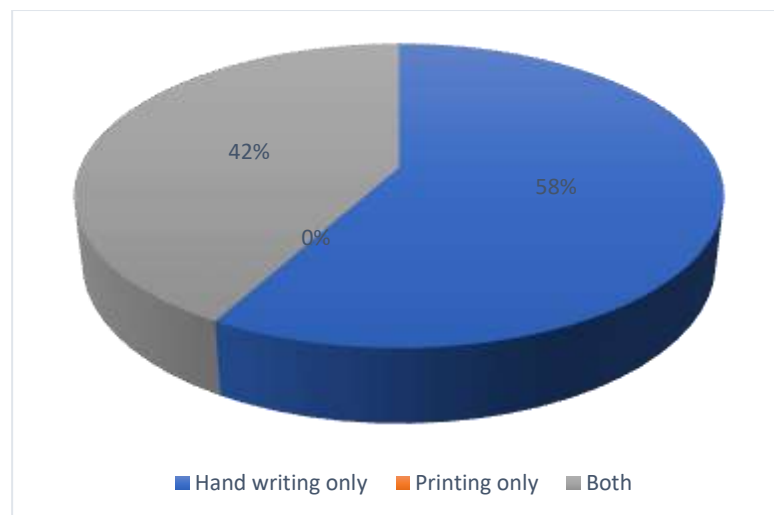


Figure 7. Results of the Writing Style Testing

The acidity of the paper was also measured by using a pH electrode device, which was done by dropping liquid onto the surface of the archive and then attaching the pH meter electrode to the liquid on the archive's surface. The testing of paper acidity levels was conducted on one of the archive samples from the entire set of samples subjected to risk assessment. This was done because the archival documents exhibited homogenous conditions and damage levels. The acidity of the paper (pH) of about 3.20, indicating that the archival paper is strongly acidic. Figure 8 showed the pH measuring activity.



Figure 8. The author was testing the pH on the archives paper of Semarang.

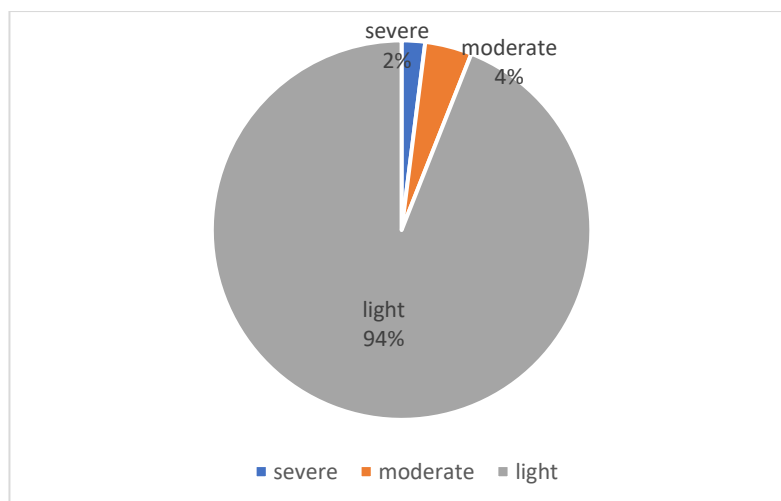


Figure 9. The number of damaged archives based the categories

The level of document damage was categorized into 3 levels: light, moderate, and severe. The results of the identification of archive document damage can be seen in Figure 9. Out of the 50 observed samples, 47 samples suffered severe damage, 2 archive samples experienced moderate damage, 5 archive samples encountered light damage, and 1 archive sample remains in good condition.



Figure 10. Example of a) severe damage, b) moderate damage, c) light damage.

The three factors causing damage to the archival documents are as follows: The severe damage level depicted in Figure 10.a) is caused by insects, leading to holes on the document's surface, along with water stains on the archival paper. Figure 10.b) represents a moderate level of

damage, with several instances of foxing, acidification, and ink corrosion on the archival paper. Figure 10.c) shows a light level of damage, where no types of damage observed in previous figures such as insect damage, water stains, foxing, acidification, or ink corrosion, are present.

4. CONCLUSION

Based on the observations conducted on the static archives of Semarang city at the National Archives of the Republic of Indonesia, risk assessment can be used to understand the various levels of damage occurring in the static archives of Semarang city and to distinguish between the types of damage caused by various factors affecting the physical condition of the archives themselves. The parameters observed in the risk assessment process for static archives of Semarang include binding form, causes of damage by chemicals, pests, and water stains. The risk assessment result of the archive paper indicate that the documents have a high level of damage, making them very vulnerable and prone to breakage, causing some information to be incomplete. Therefore, restoration activities are required to recover the contained information. Factors influencing the damage to archive paper include insects, ink corrosion, foxing stains, and acidification.

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