

# *The Influence of Emergencies on Archives Security Management and Its Countermeasures*

Yingying Zhou

*Yancheng Teachers University Archives, Yancheng 224007, Jiangsu, China*

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**Abstract:** The unexpected, destructive, derivative, and urgency characteristics of emergencies determine that the influences on the management of archives security are enormous. On the basis of analyzing natural and artificial factors, the article put forward countermeasures for archive security management before, during and after emergencies to prevent or reduce the damage to archives security management.

## 1. Emergencies and their characteristics

### 1.1 Emergencies

Emergencies are natural disasters, accidents, public health accidents, and social security emergencies that occur suddenly, can cause serious damage to society, and require emergency disposal measures to respond. In a word, it means natural disasters and man-made disasters. The former includes natural disasters such as earthquakes, floods and debris flow. The latter, for example, social warfare, terrorism, man-made destruction. On the one hand, the impact of emergencies on human history and society has never suspended. The Tangshan earthquake on July 28, 1976 is a profound memory for every Chinese. Its intensity is equivalent to 400 atomic bombs which exploding on Hiroshima exploded in depth of 16 kilometers from the ground, and the city was leveled to ground in a short time, of course, in the meanwhile, the archives of the document no longer exist. A 9-level submarine earthquake occurred on the open sea of Sumatra in Indonesia on December 26, 2004, which triggered a tsunami. The tsunami caused huge losses to various local archives and document conservation agencies. 80% of the photo files in the archive were not spared in Banda Aceh Province. In 2005, the United States suffered a severe attack from Hurricane Katrina. The maximum wind speed reached about 78 meters per second, resulting in thousands of deaths and huge economic losses. Millions of people abandoned the city and the city's archives were ignored which caused heavy losses. Apparently, it can be learned that the prevention and response of emergencies should always appear in our daily lives, and it should be a work that deserves unremitting contribution.

On the other hand, in terms of environmental conditions and geographical location, natural disasters are more likely to occur in China, and various man-made disasters are also occurring. Therefore, we should have a sense of crisis, and prepare for danger in times of peace. It is an eternal truth. At 14:28:04 on May 12, 2008, an earthquake of magnitude 8.0 occurred in Wenchuan, Sichuan. As of 12:00 on September 18, 2008, 69,227 people were killed and 17,923

were missing, which caused huge losses to the archives industry: Archives of Sichuan province were seriously damaged. Several National Comprehensive Archives in the hardest-hit areas totaled 43915 square meters were damaged to varying degrees. The archives were also damaged. The Beichuan County Archives, which has 1000 square meters, was destroyed in a debris flow. The damage to the archives in Wenchuan, Lixian and Maoxian was very serious [1]. In the face of the serious threat to the archives collection caused by emergencies, how to deal with correct emergencies and minimize the loss of archive collections is a difficult problem for archivists.

## **1.2 Characteristics of emergencies**

1) Suddenness. It is easy to understand the sudden bursts of emergencies and unexpected incidents. We can understand that tsunamis, instantaneously formed and powerful, can not be avoided. The outbreak of computer viruses can also be completed in an instant. It can limit the whole system to paralysis: the spread of fires and the flooding of floods will never give people the chance to prepare ahead of schedule.

2) Destructive. The devastation of emergencies is astonishing. It will not only destroy the lives of the people concerned, but also damage the Archives Buildings and their hardware and software. People are very frightened by the unexpected events and try their best to prevent them. Archives not only have office workers, but also often have archivists, although the number may not be too large, but also have a certain flow of people. The professional quality of archivists is high and low, uneven. After the outbreak of emergencies, they often fail to take correct and effective countermeasures. This is exacerbated by the destructive power of emergencies and more easily caused stampede.

3) Derivatives. Emergencies often do not exist independently. They are often accompanied by other derivative events. Such as landslides, debris flows, fires, floods, plagues, famines and so on. These secondary disasters sometimes cause more damage than the disaster itself. After the Wenchuan earthquake in May 28, 2008, mountain hazards such as landslides, landslides and debris flows occurred frequently. There were 35 large dammed lakes formed by light blocking rivers, and 2473 reservoirs once experienced dangerous situations of varying degrees, which posed a great threat to people's life and safety. [2] The disasters caused by unexpected events are not only their own disasters, but also various secondary disasters that can not be neglected, and they are also important aspects for us to consider.

4) Urgency. Emergencies often do not exist independently. They are often accompanied by other derivative events. Such as landslides, debris flows, fires, floods, plagues, famines and so on. These secondary disasters sometimes cause more damage than the disaster itself. After the Wenchuan earthquake in May 28, 2008, mountain hazards such as landslides, landslides and debris flows occurred frequently. There were 35 large dammed lakes formed by light blocking rivers, and 2473 reservoirs once experienced dangerous situations of varying degrees, which posed a great threat to people's life and safety. [2] The disasters caused by unexpected events are not only their own disasters, but also various secondary disasters that can not be neglected, and they are also important aspects for us to consider.

## **2. Impact of emergencies on file security management**

### **2.1 The influences of natural factors on the security management of archives**

1) Floods. Water is undoubtedly devastating for archival stocks, especially today, where the use of paper carrier files still dominates. Preventing floods is very important for the security of archives. It has always been an important part of the archives prevention work. In 1998, we should still remember the flood-fighting disaster relief. Fire is ruthless, and people are affectionate. However,

the damage of floods is very high for archives, and the power of human beings is particularly small in the face of the power of nature.

2) Fire. Fire is one of the most common and frequent disasters threatening public safety and social development. The causes of fire include lightning, spontaneous combustion, inadvertent use of open fire and improper use of gas or electrical appliances. The average annual fire losses in the 1980s were less than 320 million yuan. In the 1990s, especially since 1993, the direct property losses caused by fires have risen to an annual average of more than 1 billion yuan, with an average annual death rate of more than 2,000 people. Fire is also one of the most dangerous disasters to archives. Once the files are burned, it will be difficult to repair them, so it is particularly important to prevent fires.

3) Insects. At present, China still applies paper files, and paper is the food of various insects. There are a lot of pests that may threaten paper archives in nature. Therefore, preventing pests is not only the daily work of archives management and protection of archives inventory, but also one of the tasks that archives must start to take precautions against, and can not relax, and can not make our precious archives a dish of pests.

4) Earthquake damage to archives is devastating and multifaceted: it not only threatens the lives of staff and users, but also destroys Archives Buildings and archives storehouses. It is even more difficult for archives installations and archives to escape doom. From the powerful power of the earthquake, we can see that the destructive power of earthquakes to archives can not be ignored.

5) Other natural disasters. In addition to the above four major disasters, natural disasters such as thunder and lightning, tsunami, dust, rodent disasters often occur, directly endangering the security of archives information resources. In view of these characteristics, archives in relevant areas should make good preparations and preventive measures to prevent disasters in all aspects.

## **2.2 The impact of human factors on file security management**

1) Today's world is still not very peaceful. Various contradictions in the world continue to develop. National, territorial and religious disputes still exist in some countries and regions. Local wars and regional conflicts occur from time to time. International terrorists are still active [4]. From ancient times to now, numerous documents and archives have been destroyed due to wars between countries. So far as the long history of our country is concerned, there are not many archival resources left behind. During the Qin Dynasty, Emperor Qin Shihuang "deposed 100 schools of Confucianism and only respected Confucianism" also burned books and pitched Confucianism, resulting in the destruction of a large number of archives and books. Although peace and development are the themes of the contemporary world, the disharmonious factors that advocate the settlement of disputes by violent war are still difficult to eradicate, which requires us to strengthen prevention and take precautions against danger.

2) Staff negligence. The temporary negligence of the staff often causes some undesirable losses to the archives inventory, such as the loss of archives due to the negligence of the staff, or the inadequate professional literacy of the staff itself, which causes undue damage to the archives: or because there is no careful inspection, the aging of the archives leads to fires, or insects and rats run rampant, resulting in unnecessary losses.

3) High-tech crime. With the development of modern information technology, the application of computer network technology is more and more frequent. The following hacker technology and computer viruses also pose a major threat to file security. All kinds of events threatening network information security will cause fatal blow to the security of archives information. Network technology is advanced and fragile, and computer hackers are everywhere. Speeding up the process of digitalization of archives is also an opportunity for computer hackers. How to prevent hackers

from malicious attacks and computer viruses raging is also an urgent problem for archivists to solve. It should be noted that all kinds of emergencies do not exist independently and are totally unrelated. There are often inextricably linked, interacted and evolved among them. Earthquake disasters are often accompanied by fires, gales, floods, plagues and other disasters; war often brings not only casualties, damage to buildings, but also damage to archives resources; tsunami not only brings floods, but also gales. We should pay close attention to the interrelationship between various kinds of disasters and look at the problem from a comprehensive and developmental perspective.

### **3. Countermeasures for file security management in emergencies**

#### **3.1 Front-end control of file security management before an emergency occurs**

The characteristics of emergencies require us to be forward-looking, to control as well as possible in advance. The construction of pre-prevention system plays a guiding role in the response of archives to emergencies. We should coordinate and synthetically consider the equipment, personnel, venues and many other factors of archives. China's emergency response system has been built for a long time. It has already started since the early twenty-first Century. Now it has already formed a relatively complete system. Government leaders, people's participation, active coordination and correct response. Therefore, archivists should enhance their awareness, improve their ability to respond to emergencies, control the front section well before emergencies, improve the archives management system, and ensure the system of responding to emergencies in archives. These are indispensable for archives to carry out all kinds of work and protect archives.

1) Archives staff should have a correct attitude to deal with emergencies. Archivists should have a sense of crisis about emergencies. Whether the measures taken to deal with emergencies are correct or not is an important factor. Archivists can take effective measures in advance to prevent emergencies. File staff often feel that the probability of unexpected incidents is very low, it is very difficult to happen, often lucky, even if it happens, it will not happen to be their own archives suffer, so when the disaster occurs, file workers are often at a loss. Therefore, the sense of crisis of archivists must be strengthened. However, it is not easy to cultivate the awareness of archives crisis. It can be cultivated step by step through research, practice, training and other activities with staff. It can also be cultivated through various forms of publicity and education activities. In this process, it is necessary to design specific solutions, conduct exercises and carry out various preventive exercises in combination with local characteristics and collection characteristics. Once these Regulations are institutionalized and standardized, they can ensure their binding force and effective execution, so the effect they can achieve is stronger. In order to establish a strong sense of archives crisis management. The training system for the awareness of archival incidents should include the following contents: the training and regular learning of emergency management consciousness of archival staff at all levels, which can be in the form of expert lectures, professional seminars, visiting and learning. In this process, the role of leading cadres is particularly prominent. In case of emergencies, leading cadres should play a leading role. Decision is related to timely rescue and correct measures, so their crisis perception should be stronger, more accurate, more psychological quality, calm and calm when things happen, and make correct decisions at critical moments. In a word, it is very important to cultivate the emergency awareness of archivists.

2) Software and hardware requirements of archives warehouse to deal with emergencies. Firstly, archives architectural design requirements should be based on different scales, different levels and different related functions to configure various types of rooms and appliances. According to the principle of functional zoning layout of various spatial locations in archives building layout, efforts can be made to achieve reasonable functions and simple processes. The temperature and humidity of the room are required in the design of the building, which should be centralized or partitioned.

Archives construction should aim at making all kinds of documents and archives easy to access, safe to keep, quiet and comfortable to access, and in line with the necessary working conditions of archives staff. The main body of the museum should choose a reasonable orientation.

Second, when the storeroom is set up at outdoor elevation, waterproofing and moisture-proof measures must be taken; at the same time, necessary ventilation or air conditioning equipment should be set up for emergency needs. Archives warehouse should consider local outdoor meteorological calculation parameters, and whether to provide heating, ventilation, air conditioning equipment, etc. Through technical and economic comparison, its structure should be reasonably determined. Archives warehouse doors should choose thermal insulation doors, windows should choose double windows, among which the opening fan should adopt sealing measures; when using high windows, the lower part of the wall should be provided with ventilation ports and metal nets at the opening. There is an insulating door that can be closed and opened.

Third, dust prevention and pollution prevention belong to the green design of the archives. A green and environmental archives should have measures such as purifying air, preventing noise and constant temperature. In areas where the harmful substances in the air exceed the relevant standards, the ventilation system shall adopt effective purification measures to bring the air quality in the area to the standard level. In addition, the archives should also have a fumigation room or other insecticide facilities. In the design of the outer window of the archives, it should be noted that the opening fan of the outer window of the archive should be provided with screens. The outer door of the archives and the outer windows of the first floor shall have safe and reliable protective facilities. The special-grade and Grade A archives shall also be equipped with a video surveillance system and an anti-theft alarm device [6].

Fourth, the fire safety and fire protection design of the archives building should comply with the relevant regulations. The archived warehouse area and the safety exits leading to the outdoor fire compartment shall be closed stairwells, and the doors shall be fire doors of not less than Class B. The doors of the reservoir area, buffers and archives should be open and evacuated and should be Class A fire doors. The file fixture should be made of non-combustible materials or difficult-to-burn materials. The archives industry has made clear regulations on the architectural requirements of the archives, and has given detailed criteria for the selection of archives. All kinds of archives at all levels in the country must do their duties in accordance with relevant regulations. If the archives can do the job as required, the archives can meet some basic response requirements in the event of an emergency.

3) Graded management of archives. Classified archives management is only for those archives with permanent preservation value and periodic preservation value. Traditional archives are managed by entity, which divides archives into permanent and periodic archives. It has been practiced for decades. However, with the change from planned economy to socialist market economy, the concept and idea of archives management mode have changed greatly, especially to intensive management mode. The existing theory of archival value appraisal holds that the historical archives preserved in National Archives at all levels should be permanently preserved and can not be re-appraised, but archives with permanent preservation value differ greatly in their importance, preciousness and value of historical materials. This difference can not be distinguished according to the current practice of archival management.

Therefore, it will inevitably lead to many very important, valuable, or more archives with historical value have not been really special and effective storage, so that many of them are submerged in the ocean of archives, and bring great inconvenience to the safe storage and effective use of archives, and this storage mode is easy to cause damage or loss of archives, or even loss of archives. It has not been found, causing irreparable loss of the country's precious cultural wealth. Therefore, to use the limited funds and space for the collection of archives and the preservation of

precious archives to solve the contradiction between collection and collection has become an urgent task that archives circles must take seriously and solve seriously. To carry out hierarchical management is an effective way to solve this contradiction. The archives at all levels and at different levels are treated and managed at different levels. After that, when emergencies occur, archivists can give priority to rescuing those precious archives that are permanently kept, which provides a reference for the establishment of rescue order. The first rescued archives only show that they are more important than other archives, not that they are worthless. Graded management makes rescue archives more valuable. The work shall be carried out in an orderly manner, and the rescue work shall be carried out according to the key points and reasonable steps.

4) File Backup. File backup is also a effective measure to protect archival resources. In the May 12, 2008 earthquake, the county's archives were destroyed in the earthquake. All the files were buried by the ruins of the collapsed buildings and the debris flow behind the mountain. The archives were basically destroyed, resulting in irreparable economic losses and cultural losses. In this case, assuming that the archives at the time had been backed up by archives, the archival resources could be remedied to a certain extent after the earthquake. Archives backup is not a new concept, but at present our awareness of archives information backup is not very strong. Compared with the strong backup awareness of foreigners, our backup work has just begun. After the earthquake, some scholars began to re understand the work of archival backup, and re examine the necessity and feasibility of backup work. In fact, archives backup is a very useful work for the benefit of the people. In order to improve the ability of archives and archives to withstand natural disasters and endanger the safety of archives, and ensure the conditions for archives at all levels and archives to have safe custody of archives, measures should be taken to establish a complete mechanism for archival information data backup and disaster recovery, so as to ensure the safety of archival information data. We have realized the important role of file backup [8]

### **3.2 Emergency Disposal of Archives Safety Management in Emergency Events**

We usually do a variety of work for the prevention of emergencies, but when emergencies occur, it is also important to take the right measures and make the right response at the first time. Once the incident really happens, we should take various measures to effectively control the emergency. We can't ignore it when it happens. After the emergencies occur, we should be resourceful and courageous, not panic, and immediately start the emergency plan, in the shortest possible time, actively and effectively handle.

First of all, we should report the occurrence time of the incident immediately, discover it early, report it early and report the disaster to the superiors immediately. We should seize the initiative to deal with the incident and win more rescue time. Second, we should organize rescue work. When reporting the disaster to the superiors and relevant departments at the same time, we should report the disaster according to the level of emergency and the risk degree of different emergency situations, and according to the pre-established emergency situation. The third is to protect the scene, delimit the control scope of the accident scene, organize personnel to protect the scene, prevent file files from being rescued and stolen; the last is to cooperate and coordinate. On-site rescue and rescue often require the participation and support of various departments. In addition to obeying the leadership of the higher authority's on-site command, archives leaders must. We must have good coordination of all aspects of manpower and material resources, and take control measures whenever possible in case of emergencies. It will provide timely and effective control of potential safety factors and the potential safety factors of archives resources. One of the most important measures for in-process control is the establishment of emergency plans.

Emergency plan is a guiding plan after emergencies occur. The emergency plan should be

initiated in the first time files after emergencies to ensure that all work is carried out in an orderly manner according to the original plan. After launching the emergency plan, the main tasks include the following: 1. Emergency evacuation of personnel in the library 2. Active rescue of the injured 3. Rapid transfer of archives 4. Inspection of Archives Buildings and internal facilities, and closure of dangerous sources.

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Third, the summary and rewards and punishment of emergencies, no matter what kind of accidents, there are always some lessons to sum up. Archives should actively sum up experience and lessons after emergencies, in order to further improve the emergency handling ability and level of staff when similar accidents occur next time, and at the same time reduce the losses caused by emergencies. After summing up experience and lessons, we should start rewarding and punishing personnel, meritorious service, reward, punishment and no rules.

Fourth, the restoration and reconstruction after the emergencies, including the restoration and reconstruction of other hardware and archives in the archives warehouse. Buildings are the most solid coat of archives protection. We must have high standards and high requirements. Our work should focus on the restoration and reconstruction of archives, including not only the restoration and reconstruction of archives storehouses and facilities, but also the restoration and reconstruction of archives.

The development of the world is changing and changing, and there are more and more unknown factors. All kinds of emergencies have a great impact on people's archives. But we should have a sense of urgency. Everything should be avoided. Archives are the original records formed in people's life and work. They are reliable and convincing. The preservation and protection of archives is an important part of archives work. And archivists engaged in archives work should keep pace with the times, strengthen their study, improve their knowledge structure, broaden their horizons, train themselves into archives talents with high comprehensive quality, and better contribute to the development of archives cause. Learning archives knowledge, I feel that my whole understanding and understanding of archives have been improved. Archives are no longer boring and meaningless mechanical work in my eyes. It has become richer, more creative work. Moreover, archivists' professional quality and moral quality will have a profound impact on the safety management of archives work. Therefore, we should make every effort to improve the requirements and take the safety management of archives as the yardstick and strict requirements. The sudden, destructive, derivative and urgent characteristics of emergencies make it necessary for archives to take these characteristics into account when dealing with emergencies. They should adhere to the

working principle of "prevention first, prevention combined with prevention". After the emergencies, they can do the most urgent and urgent work as soon as possible. According to the original rescue order, they will be the most valuable and precious archives. Resources should be rescued first to avoid the great loss of precious archives. Unexpected events can not be prevented. Even if the preventive work is done well and perfect, emergencies will occur frequently. Regardless of natural or man-made factors, the archives will bring great influence to different degrees. Therefore, the quality of archives protection directly affects the survival of archives. We should establish a scientific emergency system, do a good job in front-end control, and minimize the harm of emergencies to archives.

## References

- [1] Bian Xianjie, Zeng Zhengjun. *Thoughts on the Compilation of Emergency Preparedness Plan for Emergency Disposal of National Comprehensive Archives* [j]. *Archives Research*, 2014 (3): 67-70.
- [2] Liu Yuexiang. *Sichuan Wenchuan Earthquake and National Earthquake Relief* [j]. *China Geological Education*, 2008 (2): 16-20.
- [3] Wang Xiaoyan. *In the response to the archives emergency* [d]. Shandong University, 2009.
- [4] Bian Xianjie. *Enlightenment of Wenchuan Earthquake on the Safety Design of Archives* [j]. *Archives Management*, 2008 (5): 49-51.
- [5] Xu Jin. *My opinion on the harm of emergency to archives and coping strategies* [j]. *Heilongjiang Archives*, 2018 (6): 50-51.
- [6] Ouyang Huifang. *Discussion on the Construction of University Archives Security System* [j]. *Lantai World*, 2012 (29): 64-65.
- [7] Yan Rui. *Discussion on hierarchical management of collection archives* [j]. *Urban Construction Archives*, 2015 (8): 43-44.
- [8] Ma Wenyan. *Reflections on the informationization of county-level social security files* [j]. *Archives*, 2019 (5): 60-62.