

The Rise and Fall of the *Wonder Okinawa* Digital Archive: Comparing Japanese and American Conceptualizations of Digital Archives

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Abstract. This paper examines the development of what once was Japan’s largest local digital archive, *Wonder Okinawa*, created in 2003. It collected a diverse view of Okinawa’s cultural properties as a treasure house for future generations. It was created under the banner of establishing an Okinawan “brand” to promote tourism and to nurture human resources, so that Okinawa could foster a hub of IT industries. In the early 2000s, the national government envisioned digital archives as part of its scheme to become a highly networked society, as the means to address social problems, such as the low birthrate, graying population, and shrinking workforce. The digital archive project spearheaded the government’s effort. However, the \$13.5 million project was dismantled less than a decade after its spectacular debut. The paper analyzes the causes of the failure and explores some key differences between the conceptual model of digital archives in Japan and North America.

Keywords. digital archives · regional digital archives · e-Japan Strategy · Intellectual Property · cultural preservation · funding digital archives · regional identity

1 Introduction

In the digital era the term “archives” and especially “digital archives” have become increasingly ubiquitous (change the vocab), although they are used with a variety of meanings. This situation has brought more people and funding to archives and archival studies, but also has created palpable tensions over definitions and ownership in the same way that “digital libraries” has challenged and offered new opportunities to our colleagues in librarianship. As this article demonstrates, this state of affairs is not limited to North America but also was the norm in Japan.

The present study explores one of Japan’s earliest self-defined “digital archives” –*Wonder Okinawa*. This research paper utilizes research methods from archival studies, case studies, and archival policy approaches to examine the successes and failures of this pioneering online collection. At its peak, *Wonder Okinawa* was Japan’s largest regional digital archive. It consisted of a total of 10,000 web pages, and around 10 hours of high-definition digital video. It was one of the largest video digital archives seen on a global scale. Around 500 people (authors, creator, and performers) participated in generating the content, 80% of whom were people from Okinawa Prefecture. The total cost was 1.5 billion yen (roughly 13.5 million USD at the time). Perhaps most amazingly, this digital archive is no more [1].

This article explores the history of *Wonder Okinawa* with an emphasis on (a) how it related to national IT policies, (b) the development of local economy and preservation of local tradition and culture, and to the (c) specific socio-political conditions in Okinawa. Our source materials include government reports, professional literature, and articles in the local and national news media. Our intent is to focus on the following questions: (1) How did those involved with *Wonder Okinawa* define “digital archive”?; (2) Was it doomed to fail because of its mandate?; (3) What were some unique contributions or elements of *Wonder Okinawa*?; and (4) How does this the creation of *Wonder Okinawa* relate to the archival profession and government policy in Japan today?

2 Okinawa, Social and Historical Context

Since the digital archive we are examining deals with Okinawa, it is important to have some brief understanding of this unique place before proceeding to examine a digital archive portraying it. At its most basic level, Okinawa is the southern-most prefecture of Japan. It is made up of 60 islands, with five main ones, including the Okinawa main island, where roughly 92% of the prefecture's 1.3 million population live. Historians and Okinawans, however, would stress that Okinawa has a long history as the Ryukyu (Liuqiu or Liu-ch'iu) Kingdom with its own culture, belief system, dances, foods, and arts. It was formally made part of Japan in 1870s, although Ryukyu paid tribute to both Japan's Satsuma Domain and China.

Okinawa's modern history was troubled. It was the site of some of the most bloody battles of World War II, which meant the deaths of 12,500 Americans, around of a million Japanese and Okinawans[2]. After the war's end, Okinawa remained an American Territory until 1972 – twenty years after the end of America's occupation of Japan. Even after this point, US military bases remained a major controversial presence. During the quarter century of American rule, US authorities established a university, information centers (which were predecessors of public libraries) and championed awareness of a distinct Okinawan identity. American forces took most of their records to Washington, DC., and it was not until 1995 that the Okinawa Prefecture established its own Archives [3].

For a variety of reasons, four decades after reversion to Japan, Okinawa is the poorest of Japan's prefectures. The unemployment rate in 2010, for example was 7.5%, almost double the national average of 4.0% [4]. Okinawans claim the military bases occupy precious land and that Okinawa did not benefit from Japan's major postwar economic boom. Moreover, the economic impact of the bases declined as the value of the dollar declined compared with the Yen. Thus, Okinawa's economy shifted from being dependent on military spending to one based on tourism.

The national government has invested a great deal of funds on projects in Okinawa over the years. On one hand, these are supposedly to create jobs and build infrastructure in the Prefecture. On the other hand, the government also is making these investments as a way of apologizing to Okinawans for enduring the burden of the bases and having so many foreign soldiers.

3 National Strategy of Digital Archives

Wonder Okinawa emerged partly as a response to Tokyo's twin problem of Okinawa's straggling economy and its tensions with prefectural officials and Okinawa's public protest against American bases. The project was designed to be a key part of the national government's efforts to ignite Japan's cutting-edge digital economy, just as Korea and Taiwan were also doing in the early 1990s. It is important to remember that Japan at that time was facing a devastating crisis. The bubble economy of the 1980s had just burst, and Japanese found themselves facing serious social and economic problems. Beyond the bubble, Japan became aware that there was a real cost to the declining birthrate and the mass-migration from rural communities to the metropolitan cores of Tokyo-Yokohama and Greater Osaka. While a low birthrate could hamper any economy, that combined with limited foreign immigration meant trouble in sustaining a workforce. Basically, as the few young people fled to Tokyo and the other urban cores, rural communities struggled to provide basic infrastructure (rail and road connections without tax support) and basic social and medical services. Factories closed and farms were no longer as profitable, so many worried about empty communities – ghost towns without a future. People in rural Japan worried about who would maintain their communities, local infrastructure, and unique regional cultures. Concerned voters pressured their elected Diet (Parliament) Members for answers. Japan's ruling party, the Liberal Democratic Party or LDP, decided that the answer to high urban property costs and the evaporation of rural Japan's infrastructure was to promote employment of the next generation and encourage the preservation of local culture(s), as an urgent part of the government's agenda [5].

Thus, it should be understood that government officials determined that development of digital archives should be not only be part of traditional intellectual or cultural policy, but was seen as playing a key part of building a social infrastructure and even a strategy to solve some of the nation's most pressing problems. It also was seen as a strategy to nurture local IT industries to entice young people to reemigrate or remain in the countryside, in order to revitalize regional economies. Tokyo hoped to help advance the national goal of becoming a leader in an advanced IT world.

In January 2001, the Japanese government introduced *e-Japan Strategy*: a scheme to establish an environment, in which education, culture, and art are all accessible for people living in an advanced and highly networked society. In March, its specific plans, the *e-Japan Priority Policy Program* was issued. The policy set goals for national transformation within five years. Its vision was through the Internet, people would be able to use online information about works of art and cultural assets without any geographical constraints. Museums and libraries were encouraged to digitize their cultural properties and arts and offer databases via Internet [6]. The *e-Japan Priority Plan-2002* envisioned Okinawa as Japan's "Headquarters of International Information and Communication" towards Asia and the world. It aimed to develop a global Internet infrastructure, create and aggregate content applications, and develop a vibrant IT industrial base in Okinawa. Three national government offices, the Cabinet Office (the national government's executive branch), the Ministry of Internal Affairs and Communications, and the Ministry of Economy, Trade and Industry were all involved with the project [7].

Okinawa and the Northern Territories, designated as special areas, receive unique government administrative treatment under the jurisdiction of the Cabinet Office. Okinawa was declared an "Information and Communication Special Area," allowing the Okinawa digital archives project to be subsidized by a special government fund [8]. The Ministry of Economy, Trade and Industry approached the project with their agenda of promoting the tourism industry, training professionals involved with producing content, and promoting the inheritance of Okinawa's unique culture by "building a digital archive of the highest level" [9]. Among the government ministries and agencies, the Ministry of Internal Affairs and Communications was one of the most engaged with digital archives projects. It participated in the Japan Digital Archives Association (JDAA), which was a NPO (non profit organization) established in 1996 with the Ministry of Economy, Trade, and Industry (then the Ministry of International Trade and Industry), and the Agency for Cultural Affairs, along with private corporations. JDAA defined its digital archive vision as being able:

to record tangible and intangible cultural properties in digital format, and [to] create and preserve a database of the information. It also involves browsing, viewing, and transmitting information by using an information network [10].

JDAA advocated digital archives and help research on technology and intellectual property issues involved with digitization. As local communities became interested in digitizing their traditional arts and crafts, the Ministry of Internal Affairs and Communications began various research projects and conducted the "Local Culture Digitization Project," and also established the *Regional Cultural Asset Portal* (2006) to disseminate these digital projects [11]. In cooperation with the Agency for Cultural Affairs, the Ministry also later established the national digital archive portal, *Cultural Heritage Online* (2008) holding digitized images of cultural treasures from more than 950 museums and archives in Japan [12]. By 2006, 424 local governments received national government subsidies for digitization projects [13] while according to a 2009 National Diet Library survey, among over 2,000 responding agencies, 23% had digital libraries and another 11% were preparing to create them [14].

4 Digital Archives Project: *Wonder Okinawa*

4.1 Overview

The force behind *Wonder Okinawa* itself was the Okinawa Digital Archive Project. Established in Okinawa Prefecture in 2002, the Project's goal was to create a digital archive with two main streams "content production" and "content dissemination." Content production involved surveying a variety

of Okinawa's cultural assets, nature and unique culture, and also gathering information that can be used for tourism and entertainment. Content dissemination was to work with the digitized images, videos, sounds, and texts so they could be best viewed not only via the Internet but also enjoyed even on large ultra high definition screens, so as to demonstrate the potential of newly developed HDTV.

The underlying purpose of the Okinawa Digital Archive Project was to use the digital archives to promote tourism, international cultural exchange, and local culture and its development. For Okinawa's local communities, there was interest in preserving its unique cultural properties, and traditions, and passing them down to the next generation [15]. There was much hope for the process of making the digital archives and the product itself contribute to economic and cultural prosperity.



Figure 1. Artistic Images Welcoming the User to *Wonder Okinawa*

The content was divided into six themes, "History", "Nature", "Arts and Crafts", "Entertainment", "Folklore", and "Others." Each theme had several topics. For example, "History" included "Shuri Castle" and "Ryukyu Kingdom," and other two topics, while "Arts and Crafts" contained "Okinawan Pottery", "Ryukyu Glass", "Okinawa's Dyed and Woven Textile", "Lion-Dog", "Ryukyu Lacquer Ware," and "Okinawan Art." Within the 26 main topics, there were additional pages exploring more specific content. For example, under "Okinawan Pottery" there are pages explaining or demonstrating various techniques, history, works, feature, using photos and videos. All of the text is written in both Japanese and English [16]. More than 10,000 pages and ten hours of high definition videos made *Wonder Okinawa* the largest local digital archives project to date [17].

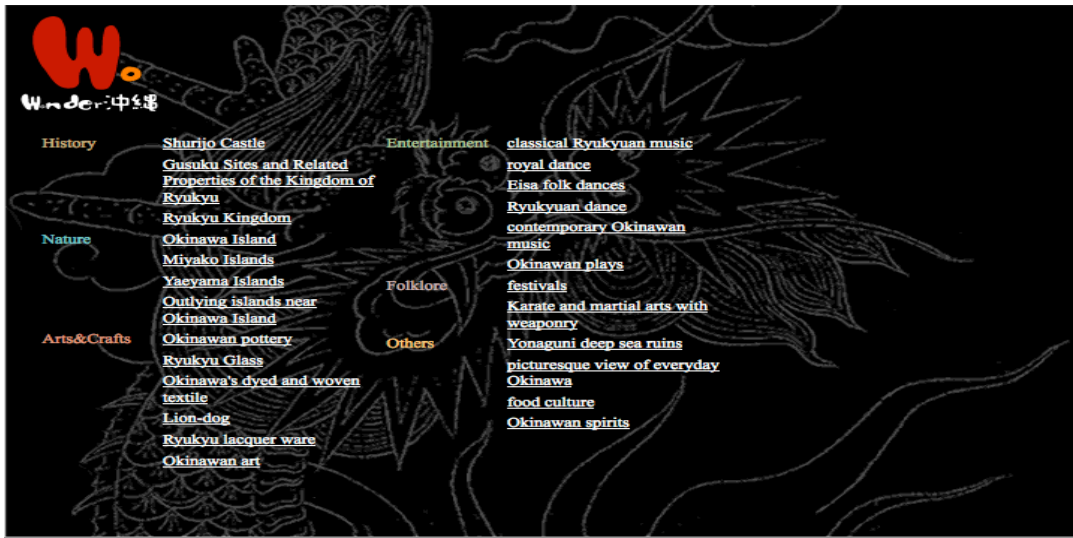


Figure 2. Site Map



Figure 3. High-Definition Digital Images of Festivals and Rituals

4.2 Process

The Okinawa Digital Archive Project began with one billion yen from a digital archive project fund, along with another half billion yen from Okinawa Prefecture; thus making a total budget of about \$13.5 million. Beyond this, the the Cabinet Office for IT industry infrastructure and promotion allocated an additional \$6 million to fund related infrastructure projects [18]. Of the total budget, one-third was used to produce content for a large screen demonstration version that would be used to promote Okinawa tourism in big cities outside Okinawa. Another third was spent on IT equipment and programming, and the final third went to produce the actual digital content [19].

In April 2002, the Okinawa Prefectural Government established the digital archive promotion committee, which oversaw the project, chaired by a University of Tokyo professor [20]. The next month, the Okinawa Digital Archive Association (ODAA) was formed to collaborate technological research, share information, and promote digital archives. Over fifty groups, including IT related companies, content production offices, and video companies joined the Association [21]. The ODAA proposed the following as the project's objectives: 1) to nurture content production professionals, 2) build a state of the art database system which can administer and maintain the digital archives, and 3) utilize local IT businesses which can run, maintain, and improve the system [22]. Prefectural government officially announced the project initiative and invited proposals, especially from local companies [23].

On July 12, 2002, 32 proposals were accepted. Those included "Shuri Castle", "Gusuku Sites and Related Properties of the Kingdom of Ryukyu," which would be produced by a consortium led by the Ryukyu Broadcasting Corporation (RBC TV), and "Karate and Martial Arts with Weaponry" proposed by the *Ryukyu Shimpo* (the leading local newspaper) and others [24]. The newspaper reported the recording of Karate and martial arts started in Yomitan Village. Six karate instructors, designated as "human treasures" in Okinawa, demonstrated their highly trained skills in front of three video cameras [25]. In November 2002, the government reported that among 86 participating companies, 60 were local, and the number of people engaged in production was over 420. It explained that all of the 32 proposed themes had passed a midterm check by the project promotion committee. Here, the name of the digital archives was announced for the first time as *Wonder Okinawa* [26].

4.3 Internal Disturbance

Contrary to the government's proud announcement, the October 19, 2002 *Okinawa Times* revealed that three groups had withdrawn from the project due to the government's breach of the contract [27], while one fourth of the participating companies had discontinued their work [28]. The reason they withhold their contract was that the production commission was reduced by 20% on one hand, while format and other technical requirements were changed from the terms specified in the original contract. Copyright was another sore point, as the government wanted to claim copyright on all recorded content – even including the still and video images that were not actually used in the archive. This situation became quite a scandal, since a national professional organization, the Japan Association of Cultural Film Producers, Inc. (or JACFP, presently Japan Association of Audiovisual Producers Inc.) sent a letter to the Okinawa government to protest the mistreatment of those companies [29]. However, the government later corrected the contract and the project moved forward again [30].

Although a key emphasis of the archive project was to bring the national government's special fund to incubate local IT development and businesses, it became apparent that a large part of the funds went to large companies located outside the Prefecture in order to produce high definition content, purchase computers, and hardware. The remaining one-third of the total budget was divided by more than 30 local consortia to create content for the archive.

Another controversy surrounding *Wonder Okinawa* was that the government attempted to start charging a fee to new participating organizations, although the initial stage was free of charge. Various areas of professionals' suggestions were often ignored. Critics also pointed out that the digital project was unpopular among people in the tourism industry. They criticized that the project specifications were formed by a university professor who had no idea about tourism, and that IT companies who had no ideas about tourism or Okinawa produced the content. Although there were companies and individuals who had been collecting actual ethnographic videos with detailed records for over several decades, they were either completely ignored or withdrew themselves from the project because of its absurdity [31].

Despite the many controversies, the *Ryukyu Shimpō* morning edition reported that *Wonder Okinawa* officially made its online debut on June 10, 2003 [32]. In December, *Wonder Okinawa* was received the largest national digital archives award at the Fifth Digital Frontier Kyoto. By the time, it recorded 3.5 million site visits. The 2003 Asia Digital Award conferred the Digital Design Award to *Wonder Okinawa's* system application "Ryukyu ALIVE (Galaxy)" [33]. The project team also was recognized with a special award in the Production Team category at the Digital Content Association's Grand Prix [34].

5 Development of Law for Intellectual Property of Contents

When the JACFP sent a letter to the Okinawa Government to mediate the situation, there was no legislation to regulate intellectual property of digital contents, which was produced with a government subsidy. It automatically belonged to the government itself as custom of business practice. Indeed the Okinawa Government explained in its reply to JACFP that individual production costs were determined based on the consideration that copyright of the content would belong to the government [35]. In other words, the intellectual property rights to the content would have been specified when the producers signed the contract.

The legislative measures for government commissioned projects or research carried out by businesses had been in existence since 1999. At a conference to enhance Japan's industrial competitiveness organized by the Prime Minister, numerous recommendations to improve the status quo were proposed by the private sector, which led the establishment of the Industrial Revitalization Special Measures or Japan's "Bayh-Dole Act," modeled after the U.S. measure. It allows private businesses to maintain patents on government-consigned work [36]. However, it was prior to the advancement of IT businesses in Japan, and digital contents were not yet in its purview.

The aforementioned government IT policies recognized digital archives to be a key "knowledge infrastructure" that guide the creation of new content, intellectual property strategy in Japan and also increase its competitiveness internationally. Parallel to these IT strategies, the recent "Cool Japan" strategy promotes cultural content, games, manga, animé, food, and anything that foreigners may find attractive to expand the international marketplace for "Brand Japan." With this background, the Promotion of the Creation, Protection and Utilization of Content Act (Law No. 81 of 2004) was passed on September 11, 2004 pursuant to the basic principles of the Intellectual Property Law (Law No. 122 of 2002) [37]. Article 25 of the Act provides intellectual property rights of the content as government consignment, the purpose of which is to promote the effective use of contents. It states that it is possible for the government not to take over from the contractors its intellectual property rights, if any of the following situation is applicable.

- 1) The contractor promised to report the information on intellectual property rights relating to content.
- 2) The contractor promised to allow the government to use the content at no cost if the government recognized and explained the legitimate reason for public interest clearly.
- 3) The contractor promised to allow a third party to use the content if the government recognized that it has not been used for some time without obvious reasons and gave a legitimate reason for the content to be used effectively [38].

The act was revised the last time on September 11, 2015 and was never been actually enacted until April 1, 2016 [39]. Production of *Wonder Okinawa*, the funding of which was largely subsidized by both the national and prefectural governments, must have contributed to the insights to the provisions of the Act.

6 Analysis

In order to analyze Wonder Okinawa, we are going to use two lenses. In the first, we will consider it from our perspective as North American LIS educators with our definitions of digital archives and framework. We will then try to approach it from a less ethnocentric approach as a reflection of Japanese economic development policy.

6.1 Criticism from a North American LIS Perspective

Before critically analyzing this historic case, it is important for the authors to clarify that we are analyzing the situation on the basis of our standpoint as educators in North America following American archival practices. We recognized that Schellenberg launched American archival practice based on a practical approach that basically fit the challenge of applying library management approaches to coping with federal government records during the Roosevelt years, a period of the increasing output in terms of quantity and breadth. While we professionally embrace this philosophy, there is no basic consensus on any international definition or concept for digital archives.

In North America, digital archives are largely carried out by librarians and archivists, and adopting the ethics, policies, and approaches that governed our curating of print collections. These concerns led practitioners in North America to often spend considerable time first focusing on collaborating in order to create basic standards, controlled vocabularies (metadata), and mission statements, and collection policies that emphasize potential to develop networks, and also an emphasis on sustainability, so that one can add to pilot digital projects. From this North American perspective, we might say that Wonder Okinawa was a very fancy website or web portal rather than a digital archive in the North American sense. A key difference is that digital archives in North America usually focus on digitization and providing sustainable access to the digital content, although born digital materials does not require the first step. Creating content itself, however, is not in their normal work parameters. In contrast, Wonder Okinawa consumed much of its funds on creating professional content, and there is no evidence to indicate that organizational systems or standards, such as metadata and format, were used in order to provide feasible and sustainable access. The government's requirement that the videos be in high definition made the site visually stunning, but also made it a very costly operation in terms of bandwidth, which predicted its inability to sustain itself. By operating in HD, the site also made it very difficult for citizens to participate in the project without making great expenditures. Perhaps our most critical point is that no librarians or archivists seemed to be part of the Wonder Okinawa team. A librarian or archivist would probably have asked these questions in terms of helping to focus the project on organization, access and sustainability. These arguments might not lead to as visually stunning sites, but Wonder Okinawa might still be operating today as a site if it had been operated with the existing prefectural library or archives and their staff, with their professional concerns.

6.2 Analysis with Japanese Perspective

It would be shortsighted and ethnocentric of us to end our study by labeling Wonder Okinawa a failure simply on the basis of its demise. It is important to recognize that Japan has different definition and set of objectives for digital archives. We are working on a larger study that explores these differences in more detail.

We should admit that Wonder Okinawa was only part of a much larger investment by the national government in Okinawa. The point was not to advance the science of digital archives, but rather was part of the Ministry of Economy, Trade and Industry's developmental concept, based on the Michael Porter's Cluster Theory. Basically, the national government invested in Okinawa in hope of rejuvenating this depressed economy, trying to stimulate employment by fostering clusters of

industries that would take advantage of Okinawa's resources and image. It is no surprise that the videos featured in Wonder Okinawa reflected these national emphasis on health and culture, that could translate into health tourism, sustainable heritage tourism and other avenues. Of course, the national government also hoped to develop an IT infrastructure. This explains why the government based much of the project in the private sector rather than simply giving the funding to either the prefectural archives or libraries. It is beyond the scope of this research to see if Wonder Okinawa led to the economic revitalization of the Prefecture.

With the understanding of the difference in mission and objectives assigned to the digital project, we still should not overlook critical problems derived from the governments' lack of knowledge of dealing with subsidized projects involved intellectual properties, especially digitalized images and information. Digital images have inherent intellectual property rights, which should be recognized separately from the production process. As we examined in Section 4.3, all digital images were expected to be submitted as part of their commissioned work. In addition, the content of the original contract was not honored and arbitrarily changed format and project participation fees. Again, a project manager who had a background in information knowledge and management would not have let the project begin without standards and policies were in place.

7 Conclusion

Wonder Okinawa entered the world with much hope and excitement, almost echoing the way that one entered the website in a visual orchestra of animation and sound that excited the user as they approached a site that truly was a wonder. It was not only visually stunning, but raised the bar in terms of HD video content that was professionally created working with local cultural practitioners. Although not visible on the site, many educators created teaching materials based on the content. The fact that hopes were so raised by the content and presentation of Wonder Okinawa made its demise an even harsher blow. The success and failure of Wonder Okinawa was an important learning experience for the national government as well as other communities that also experienced the same type of digital archive investments. Further research will show what lessons these governments learned from this experience.

In conclusion, our experience of studying Wonder Okinawa suggests a need for even more interdisciplinary and comparative research on digital archives, one which recognizes the many definitions, concepts, goals, and situational settings for digital archives. Such a perspective could help us to understand the unique strengths and challenges of individual digital archives, as well as the complex legal, political, and economic context in which digital archives are created and used. They will help us to see the importance of issues, such as intellectual property legislation, technological infrastructure, and the potential of digital archives. Such research is important for LIS scholars, future digital archivists, and for policymakers in order to promote digital archives that can truly serve society.

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