The Destruction and Preservation of a Rainforest, a Culture, and its Vernacular Architecture:

Desa Lingga, a Karo Village in North Central Sumatra

Barbara J. Anello-Adnani

Author Note

Barbara J. Anello-Adnani is an Independent Scholar

Independent Scholar with affiliations to Pratt Institute, IEP, CEP, and Assistant Professor, School of Design and Architecture, Dar al Hekma University, KSA. This research was accomplished with support from the Fulbright Scholar Program, Southeast Asia Regional Research Program in Art History, Council for the International Exchange of Scholars, Washington D.C., 2008, and in cooperation with, the World Monuments Fund, New York, 2012-15, Badan Warisan Sumatra (Sumatra Heritage Trust), Medan, St. Thomas University, Medan, and The Prince Claus Fund for Culture and Development, Amsterdam.

Correspondence concerning this article should be addressed to Barbara J. Anello-Adnani, 119 Sullivan St, New York, NY 10012 USA. Contact: bja119@gmail.com
Short Abstract

The preservation of intangible culture, architectural heritage, and the natural environment are linked in the restoration of traditional structures in Lingga, a Karo village in Sumatra. Managing the dynamics of change in a crisis environment requires multifaceted, local and international alliances.

Abstract

In North Central Sumatra issues of climate change, deforestation, habitat destruction, and species loss interface directly with the declining state of traditional built forms and intangible culture in a globalized present. Cultural, aesthetic, economic, and historical values coalesce around questions of heritage preservation, architectural and environmental protection, development, ownership, stewardship, and use of resources. This paper examines efforts to restore several traditional structures in a Karo village, Desa Lingga. To manage the dynamics of social, economic, and environmental change in a rapidly shifting, crisis environment, alliances across borders, both local and global, individual and institutional, are required. Intangible culture, built form, and the natural environment are inextricably bound. The Sumatran rainforest cover, on UNESCO’s list of World Heritage in Danger, has been reduced by about half in the past thirty years. With it is going the cultural identity, unique built forms, and the associated traditional knowledge of the region. Efforts to value, continue, transmit, and archive such knowledge are required to insure that future generations can not only preserve what was, but envision and create new, sustainable design solutions incorporating specialized, local, knowledge and resources. The case of Lingga brings together a range of disparate players including international non-governmental organizations, a university, and a web of actors and agencies from Sumatra to New York,
Amsterdam, and Medan, all collaborating to save the few remaining traditional structures in a village on the island home to one of the world’s largest surviving rainforests.

*Keywords*: heritage preservation; architectural preservation; Karo, Sumatra; climate change; rainforest; deforestation
Desa Lingga, a Karo Village in North, Central Sumatra:
The Destruction and Preservation of Rainforest, a Culture, and its Vernacular Architecture

The World Monuments Fund describes the Karo village of Lingga, west of Lake Toba in North Central Sumatra, as “emblematic of the challenges of maintaining local culture and vernacular practices in a rapidly changing world” (2015). Tersek Ginting and I nominated Lingga to the World Monuments Watch 2012 and 2014, and the neighboring Peceran and Dokan villages in 2014. Through a WMF-facilitated collaboration between the Badan Warisan Sumatra (Sumatra Heritage Trust), St. Thomas University, Medan, and the Prince Claus Fund, Amsterdam, local villagers were able to preserve four standing, traditional structures: the geriten (ossuary); sapo ganjang (rice barn); and Belang Ayo and Gerga, two traditional clan houses.

Architecture students and faculty at St. Thomas University documented, studied, and participated in the exchange of knowledge from traditional artisans and builders to younger generations. Oral history projects, activities for local students and the community were supported by WMF, which requires that documentation and training occur simultaneously with architectural restoration to convey the methods and skills of local artisans and builders to the next generation, because the “long-term capacity to care for the structures and viable, sustainable uses for them is critical for their continuing survival” (2015). Funding was secured from the Prince Claus Fund, consistent with their aim to support initiatives in Indonesia where factors related to climate change threaten culture and heritage.

Lingga, established in the 18th century, is situated not far from Kabanjahe, the capital of Karo District, at about 1,200 m elevation above the foot of Mount Sinabung (2,451 m) (Figure 1). (See Appendix 1.) One of the highest peaks in North Sumatra, Sinabung, quiet since the 1600’s,
became active in 2010, spewing smoke and lava, most recently in February 2014. Rika Susanto, Secretary to the Board of Directors, Badan Warisan Sumatra, described the effects of the eruption on Karo villages: “The debris and ash from the eruption covered the whole area. Lingga, Peceren and Dokan were the villages most influenced by the eruption, and residents were evacuated. The house [in Dokan] did not collapse, but is covered with ash” (personal communication, 2015). Previous damage to the houses had been caused by severe tornadoes, wind and rain, which caused partial roof collapse and the complete collapse of at least one structure (T. Ginting, personal communication, 2012).

The traditional structures in these villages are, on average, about eighty years old, although one house may be more than one hundred years old. These represent almost all that remains of Karo traditional architecture. The devastation and loss since the mid-twentieth century has been enormous: in September 2008, when I visited Lingga, nine of the original twenty-eight houses were still standing. As of 2014, there are four. In Peceren, only three of the original fifteen were standing. As of 2014, there is only one. Barusejahe had none left. As of January, 2013, Dokan had seven traditional houses standing. Right now we don’t have an accurate count of how many are standing (R. Susanto, personal communication, 19 December 2015 and T. Ginting, personal communication, January 13, 2013). Rika Susanto describes the hulking, ship-like, traditional houses:

The building is raised two meters above the ground by stilts. The space under the house is used as a storage place for timber and to keep livestock. The house has two doors, one facing west and another facing east. In front of each door there is a porch that is called ture, made of bamboo. Meanwhile, the thatched roof is covered with palm fiber (ijuk) sheets. On both pointing ends of the roof there are triangular woven bamboo sheets called ayo-ayo. At the tip of the ayo-ayo are placed buffalo “heads” made of timber, but with real buffalo horns. According to traditional beliefs, these horns ward off bala (bad luck, evil spirits, and disaster) (Retrieved from: https://www.wmf.org/project/desa-lingga).
Prior to the WMF nomination, Lingga residents had initiated their own program of restoration, raising funds through selling traditional craft items made by local artisans. They completed the restoration of several clan houses, including that of the former raja’s family (personal communication T. Ginting, 9 September 2008) (Figure 2). Their commitment to their own heritage was the impetus for my nomination of Lingga. The incidence of severe climatic events hastening the destruction of several traditional buildings was a key factor in qualifying for funding from the Prince Claus Fund; and the fact that these structures represent the last remaining examples of unique Karo architecture was central to WMF’s support and Badan Warisan Sumatra’s participation. Most significant, however, is the commitment of Lingga residents to their architectural and cultural heritage. Lingga’s restorations evidence the value of tangible and intangible culture, and of specific, local knowledge, and suggest how to tap into, share, conserve, and deploy such knowledge towards inventing a sustainable future in design, architecture, environment and culture.

**Tropical Rainforest Heritage of Sumatra**

As I rewrite this essay, the United Nations Framework Convention on Climate Change (November 2015) concluded its session in Paris with an historic agreement signed by 195 nations to keep the global temperature rise below 2 degrees Celsius by adapting measures to limit worldwide carbon-dioxide emissions and move from fossil fuels to clean energy sources (Retrieved from: http://unfccc.int/2860.php). The 1997 Kyoto Protocol extended the 1992 United Nations Framework Convention on Climate Change (UNFCCC) a complex protocol calling for measures including a negotiable balance between reduction of emissions and preservation of valuable ecosystems, such as Sumatra’s rainforests (Retrieved from: http://earthobservatory.nasa.gov/Features/Deforestation/deforestation_update3.php). In the
intervening years, however, Sumatra, with one of the world’s richest, largest tropical rainforests, has lost about half of its forest cover. This is a loss of an incredibly diverse eco-system supporting threatened animal and plant species, some yet unknown and uncounted. According to the World Wildlife Fund Indonesia, “About 12 million hectares of forest on Sumatra have been cleared in the past 22 years, a loss of nearly 50%.” (Retrieved from: http://wwf.panda.org/what_we_do/where_we_work/sumatra/) Coincidentally, my first trek in Gunung Leseur National Forest was 22 years ago. Having lived and travelled widely in Indonesia during much of the time between 1985-88 and 1992-2002, I witnessed the impact of changes, both social and environmental.

In 2004, UNESCO designated 2.4 million hectares as, “Tropical Rainforest Heritage of Sumatra”, an area comprising three national parks: Gunung Leuser National Park (established 1980), Kerinci Seblat National Park (Sumatra’s largest national park, established 1999) and Bukit Barisan Selatan (a Wildlife Sanctuary since 1935, established as a national park, 1982). By 2011 Sumatra’s rainforest was inscribed on UNESCO’s list of World Heritage in Danger. World Wildlife Fund (WWF) Indonesia reports that “Sumatra—one of the most biodiverse places on the planet—has lost more than half of its forest cover in the last thirty years.” The Sumatran protected forest is home to three of the world’s most endangered species, with fewer than 2000 surviving Sumatran elephants, only 300 Sumatran rhino, and around 400 Sumatran tigers (Retrieved from: http://www.worldwildlife.org/places/borneo-and-sumatra).

NASA reports that the loss of wilderness and natural habitat “because of forest conversion into settlements, cultivation and plantations [has] become the major threat to the park and its endangered species survival.” Coffee, pepper, oil palm and other agricultural production has illegally expanded into the national parks, destroying habitat and threatening both plant and
animal biodiversity. (Retrieved from http://earthobservatory.nasa.gov/Features/Deforestation/deforestation_update3.php). While Indonesia’s forests factor in the Program to Reduce Emissions from Deforestation and Degradation (REDD), which pays carbon credits to local communities for the value of their standing forest, those who live in, use, and manage these forests face a crisis. NASA reports on large forest fires and peat burning across Borneo and Sumatra. Controversial in neighboring Singapore and Malaysia for two decades, these fires now rage out of control over a devastated landscape. Old growth hardwood trees, which were used to construct the traditional structures of the past, are gone to plywood and chopsticks in Seoul and Tokyo, furniture in Milan and the Hamptons. The practice of slash and burn agriculture has been identified as a cause of wildfires, however, the scale and destruction of these fires is greatest where rainforest has been replaced by oil palm plantations, road building and other types of settlement, much of it illegal. Elizabeth Pisani reports in *Indonesia, Etc* (2014, pgs. 274-79) on the encroachment into, and destruction of Sumatran forest by private, political, military or governmental interests without permits, rights or permissions. NASA concludes: “… the conversion of tropical forest to commercial palm tree plantations to produce bio-fuels for export is a major cause of deforestation on Borneo and Sumatra” (Retrieved from http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86847). UNESCO notes that the illegal clearing of forests for planting palm oil plantations has led to illegal slash and burning of 21,000 hectares per year, in spite of the fact that Indonesian federal law protects forests from any form of destructive encroachment. The Leuser forest is disappearing at an estimated rate of 21,000 hectares annually (Retrieved from: http://whc.unesco.org/en/list/1167).
Elizabeth Kolbert’s classic *Field Notes from a Catastrophe* (2006) was followed by *The Sixth Extinction: An Unnatural History* (2014). The first is a carefully researched discussion of climate change through the work of a number of scientists. The second postulates that we are in the midst of the “sixth great extinction of species,” a crisis of plant and animal species whose destruction is equivalent to the prehistoric extinctions, the most recent of which brought the dinosaurs to an end. Architectural historian Anthony Tung (2002) notes that the 20th century was dramatically destructive of traditional architecture through war, political upheaval, population growth, and the shift from agrarian to industrial economies. The destruction of habitat and natural resources for the profit of the very few has gone on unobstructed in recent decades; while public demand for clean energy, responsible ecological policies, and a sustainable future has intensified. Lingga is not within the confines of any national park, but in a district that is both agricultural and industrial. The materials of traditional Karo architecture were drawn from the surrounding forests, but great hardwoods and many species no longer exist here. It would be impossible to build such structures today. As Marganda, one architectural student participating in the Lingga project commented, “The building materials are difficult to find and expensive.” (A. L. Rahmawati, personal communication, 18 December 2015). Preservation of architecture, preservation of the rainforest and diversity of habitat and species, preservation of intangible culture are, therefore, interdependent, not separate issues. Creating sustainable design and architectural planning requires stewardship of habitat, biodiversity and the environment. It also requires economic and educational systems, which reward and value these qualities.

**Lingga’s Architectural Restoration**

Before I visited in 2008, Lingga residents had initiated their own restoration efforts to save remaining houses, raising funds through a crafts program, creating and selling traditional
items: *kenteng-kenteng*, a bamboo drum; *gumbar*, a bamboo, carved and lidded container for storing garlic; and *ukat*, long-handled, squared spoons. The objects, made by the eldest generation of artisans were sold to tourists, with a percentage going into a fund to restore the houses. However, funds have been limited since the decline of tourism after 2001 (T. Ginting, personal communication, September 2008). Nomination to the World Monuments Watch did not guarantee financial support for restoration; however, WMF was able to match Lingga with supporting partners: the Sumatran Heritage Trust provided oversight; the Prince Claus Fund provided funding intended to mitigate damage caused by climate change; and St. Thomas University agreed to administer the educational program required by WMF to augment the restoration of architecture. Intangible culture, including the local knowledge and skills required to build these houses, and the cultural values expressed in the built forms, are integral to the value of the structures themselves, and equally in need of transmission and preservation. With this jointly sponsored project (2013-15), local and regional stakeholders were included in the process through public education, community meetings, study and focus groups. Residents expressed support for the restoration of traditional architecture for a number of reasons: to stimulate the local economy through increased tourism; to conserve cultural values; to keep the architecture from disappearing entirely; to provide job opportunities for youth and artisans in the community; to assist those still living in these structures; and to help the community by providing jobs for the unemployed. Although all surveyed agreed that they prefer to live in a modern house for convenience, privacy, sanitation and comfort, they supported the preservation of the traditional houses for several reasons: to ensure that Karo custom and culture would not be eroded; to keep the history and heritage of the Karo from disappearing; to educate youth and continue traditions. When asked what the renovated houses would be used for, residents of
Lingga suggested a number of uses: some people might choose to live in them rather in a more modern house; community members without a home of their own might live in them; newlyweds might live there temporarily; and they might be run as homestays for tourists or students to generate rental income (Focus Group Discussion Group 2, 11 April 2013). Through many platforms for discussion over the roughly two years of the project’s activities, the clear message from the community was that Karo material culture, as expressed in the traditional architecture, is seen as an expression of intangible beliefs and principles and a valuable part of the Karo heritage (A.L. Rahmawati, Laporan Kegiatan Focus Group Discussion “Kegiatan Pelestarian Untuk Desa Lingga Yang Lebih Baik” 11 April 2013).

Students and faculty in the Architecture Department, St. Thomas University performed tasks such as documenting, drawing, archiving, managing public relations, treasury, and coordinating the logistics of supplies and equipment (Education Program Architecture). Local middle and grammar school students participated in learning experiences related to heritage preservation and architectural restoration. Most importantly, the project linked experienced artisans and builders with younger generations of students, designers and architects to ensure that their skills would not be lost. The function, meaning, and history of the structures were discussed and ideas shared through educational and archival activities.

Village head, Benyamin Ginting, Tersik Ginting, and other stakeholders worked with the partners to determine which structures were sound enough to restore, as well as to assemble materials, and hire the skilled builders and artisans needed. Structures with rotten, cracked or damaged wooden beams were deemed lost, because the necessary hardwood is no longer available (Figure 3). Certain significant places and structures, such as the lesung (rice pounding pavilion, a gathering place for women), could not be restored. Traditionally, houses were
grouped around a central area with the lesung and the balé (meeting pavilion). The remnants of Lingga’s lesung are still kept in a yard, but the pavilion no longer exists (Figure 4). Once a building had been deemed structurally sound, the restoration could be completed in approximately six months by about ten builders and would include augmenting or replacing existing roof thatch with new hijuk (palm fiber), replacing termite-ridden or damaged wood beams, and restoring or replacing the ayo-ayo, (triangular, painted façade at roof) (Focus Group 2, 11 April 2013) (Figure 5). Smoke permeating the roof from kitchen fires in the open-hearth drives insects out, so infestation was not a major problem (personal communication, T. Ginting, 2013). The significance of the four restored structures, the geriten (ossuary), sapo ganjang (rice barn), and Belang Ayo and Gerga, two traditional clan houses, is best understood through the anthropology of the architecture, and by considering how both esoteric beliefs and daily practicalities were expressed in the structures.

**Restoration of the Geriten**

Karo traditions value lineage, families, ancestors, and the spiritual connection to site and nature. An enduring belief is that the ancestors continue to affect the living, and must be cared for with remembrance to ensure a fruitful, productive life for their descendants. The geriten, (ossuary), a small, square house located next to the clan house, is where bones of ancestors were stored (Figure 6). The geriten functions as a resting place for the ancestors, but only those who had one or more great grandchildren at the time of their death were entitled to such a structure, which honors the Pengulu Cawir Metua (great grandparent) and conveys status to the surviving family (R. Susanto, 2013). In the past, the body was not immediately placed inside a geriten, but temporarily buried. After a few years, the body was exhumed, and a ritual (Nurun-Nurun) to inter the remains in the geriten was performed with ceremonies commemorating the life of the
deceased (Education Program Architecture, 4). Families who didn’t have a geriten might store ancestral bones high in the rafters of their house; high position confers both safety and respect. The only remaining geriten in Lingga, (one of very few in all the Karo region), which is approximately one hundred years old, was renovated in 2013. The structure consists of four main pillars, two floors and a roof. The materials are pengkih wood, found the Sumatran rainforest and noted for its resistance to termites (J. H. Ginting), bamboo, coconut palm fiber, and palm fiber rope, with no nails or metal used. The geriten is recognizable by the tunjuk langit (“pointing to the sky”) roof ornamented with four buffalo horns facing to the four directions. Each of the four gables is decorated with a triangular, painted, plaited bamboo ayo-ayo and the pengeret-ret, a band of painted and hand-carved decoration around the bottom of the roof. The pattern on the painted ayo-ayo designates one of the five clans of Karo (merga silima): Sembiring, Tarigan, Ginting, Karo-karo and Perangin-angin (Education Program Architecture, pgs. 4 - 9).

The WMF project helped to preserve not only architectural structures, but the knowledge of the eldest generation, concerning construction, craft, as well as the cosmology of the structures. This unique, anthropological information, critical to understanding the history and identity of a people, is embodied in the architecture. It now becomes part of the repertoire of the student participants, who will design the houses of the next generation. With this transfer of knowledge, not only the forms of the past are preserved, but also the imagination and insight of young designers is fueled toward an informed consideration and a wider vocabulary of possible design solutions for the future. The vitality of the current restoration of Desa Lingga traditional structures is demonstrated by the engagement of the community in preserving its own heritage, and the sharing of knowledge between generations.

An Anthropology of Karo Architecture
A traditional Karo village was walled, with a gate; coconut palms were planted surrounding the village, and gardens were planted outside the walls. Animals and carts entered the village through a gate. At least four lineages were required to establish a village. Karo traditional houses (siwaluh jabu = eight family house), held up to eight or ten families, related by birth or marriage, in one dwelling with a number of hearths, each shared by two families, and without interior partitions. The clan houses and the village plan reflect the Karo lineage and social organization: non-centralized, non-heirarchical, autonomous, and without kings or nobility. Rituals to insure the health and well being of occupants are associated with both the building and use of the house, and mark important events and passages in the lives of the inhabitants (Singarimbun, 1975. p. 8,16 -17, 23, 55-69). Lingga, still a village with a gate, was designated a cultural heritage site by the provincial government in 1975. Around and adjacent to Lingga Lama (Old Lingga), the new section of the village, Lingga Baru, was developed with modern structures and conveniences (R. Susanto, 2013).

From the early decades of the twentieth century, Karo houses were threatened by the Dutch colonial authorities, who ordered the people to move out of these great, dark clan houses as part of their efforts to regulate local people and control agricultural production. The impressive Karo traditional houses of the nineteenth century, such as the house of the Sibayak (chief) Mbelghah in Kabanjahe, not far from Lingga, photographed by Tasilo Adams c. 1910-14 (Collection TropenMuseum) no longer exist (Figure 7). Photographic documentary evidence, yet another facet integral to this restoration project, is addressed in the final part of this paper.

Karo houses share significant features with much of the vernacular architecture of Southeast Asia, including pile construction, a tri-partite design, and large, sloping roofs, construction with wood, bamboo, rattan, grasses and other local, natural materials. The trees cut
to build the house are used with their base at the west and their tops at the auspicious east, the place of birth, beginnings, and sunrise. The orientation of the house is east/west and up/down or base/top. There are several different sizes and styles of roof to accommodate the number of families who will live there. The Karo have a great variety of plans, including variants of roof forms (Figure 8). A house plan is square or rectangular. The name of the house is determined by its size, the number of pile supports, the number of families who live in it, or by the roof type. The house is elevated off the ground on stone and/or wood piles (Figures 9, 10, and 11). Instead of fixed stairs, moveable bamboo ladders allowed people to climb up and enter the house. For safety the ladders were lifted up and stored for the night. Low, wooden walls slant out toward the roof (Figure 12). The alang-alang (thatch) roof is disproportionately large and sloping with gables at either end adorned with buffalo horns. The importance of the buffalo (not only to Karo, but to others, including the Minagkebau, Dayak, Toraja and Sumbanese) is indicated by the buffalo heads atop the gables of the house at both extremities. The woven and painted triangular bamboo façade under the roof (ayo, “face”) was painted with natural pigments in symbolic figures (Figures 13, 14, and 15) In this restoration, commercial rather than natural colors were used. A small spirit house, set atop the roof, is the rumah anjung-anjung (Seen in Fig. 7 at the house of the Sibayak of Kabanjahe). In the past, a figure on horseback might stand atop the rumah anjung-anjung as well.

The buffalo, the horse, the snake, the hornbill and the lizard, important in Karo cosmology, figure in the architectural decoration. The five-diamond symbol, called in Karo language, Bintang Desa Siwalu, represents the directions of the compass, with center, upper and lower. Variants of this symbol found throughout Indonesia, and at least as old as the Shivite/Buddhist culture in the archipelago (6th-13th centuries), situate the self in the cosmos of
origin and ancestors (Figure 16). A stylized string lizard, which decorates the wood planks around the exterior of the building, symbolizes prosperity, long life, and safety: he will lead you back to your house if you become confused and get lost in the forest (T. Ginting, personal communication, September 2008). Bartlett explains, “The lizard is the symbol of beneficent gods of soil and house and is associated with the cultural heroine who introduced mat making” (p. 24) (Figure 17). Just outside the house, a step with a small platform was constructed for the women of the house to give birth, leaning against the house for support (Figure 18). The house stands like a human with the roof serving as the head, holiest part of the house. Under the roof are located the clan valuables, which may include ancestral skulls and bones (if the family has no geriten), weavings and clothing, and a cupboard for food storage.

The house is divided by a central beam sunk 10-20 centimeters below floor level, which acts as a long trough from east to west, as shown in Tassilo Adam’s photograph of a shaman dancing in the Pa Mbelgah house, Kabanjahe, pictured in Fig. 8 (Figure 19). The interior is dark under the dramatically high roof with its supporting beams and trusses (Figure 20). There are no interior walls; the space is not divided by partitions, but according to the number of hearths. (Figure 21). Each hearth accommodates two families; a five-hearth house, like the raja’s house at Lingga, can accommodate ten families. The sunken hearth is filled with stones to hold the cooking pots and hanging racks above for cooking pots and utensils (Figure 22). The jabu, or family sitting area, is adjacent their hearth, with sleeping quarters against the exterior walls. Privacy was secured by hanging mats or weavings; there are no walls and no furniture. Bamboo balconies (turé-turé) at either end of the house, east and west, provided a place to socialize with people outside the house. Accessible by a bamboo ladder to the ground, which could be pulled up at night, the house was thus secured. (Figure 23). Traditional villages and houses were built
according to rules governing location, design, materials, plan and details, as well as the calendar of construction with ritual ceremonies for the spirits of the place and ancestors of the family held during the construction process,

By the mid-twentieth century urbanization drew people away to major cities. Severe climactic conditions, including heavy rain and wind, tornados, volcanic eruptions, and earthquakes have done direct and recent damage to Karo architecture. Electrical power, increased transportation and other modern conveniences, along with social changes, led to nuclear families living separately rather than together in one clan house, and resulted in the gradual disuse, and decline of Karo traditional houses. The great, clan houses were not torn down; rather, a family would build a “modern” cement-block or wooden house close by and continue to use the clan house for various purposes (Figure 24).

Photographic Documentary

In addition to individual initiative, community action, institutional and academic commitment, the Lingga project came about in part because of photographic documentary and visual archives, specifically, the Southeast Asian Cultural Programme, the Institute of Southeast Asian Studies, Singapore; the Smithsonian Institute, Washington D.C., the National Anthropological Archives, Washington D.C., and Tropenmuseum, The Royal Tropical Institute (KIT), the Netherlands. Visual documentation, vital to the preservation and dissemination of information in anthropology, architecture and design, was a significant factor in the genesis of this restoration project. Lingga’s traditional houses, and Karo culture have been the subject of documentary photography studies since the 19th century. I revisited Lingga’s traditional houses in 2008, in the steps of Dorothy W. Pelzer, who photographed them in 1965 (Figure 25). By the mid-1980’s, when anthropologist Roxana Waterson photographed the clan houses at Lingga
village, the condition of the structures had declined in the intervening twenty years. Waterson consulted the Pelzer W. Pelzer Collection at the Institute of Southeast Asian Studies, Singapore and incorporated many of Pelzer’s photographs into *The Living House*, still the authoritative study of the anthropology of vernacular architecture in Southeast Asia.\(^1\) Dr. Waterson’s input was invaluable in securing the nomination of Desa Lingga to the World Monuments Watch. While Pelzer’s focus was on the architecture, Waterson’s was on the conceptual framework and anthropology of the people who created and used the structures. The traditional architectural forms and village plans of the Karo, like other peoples of Southeast Asia, represent a physical construct, which elaborates a spiritual history and a working blueprint of beliefs. Along with the associated decorative arts of carving and weaving that adorned the architecture and provided the implements of daily life and work, the layout and ground plan of a village, the siting of temple, cemetery, market and ancillary places, and the movements of people in a village and beyond to the fields, hills and water, provided sustenance both physical and spiritual, in a map of identity, including each individual in a matrix linking past, present and future. Architectural forms, their use and evolution, provide a graphic standard for the metaphysical.

---

\(^1\) An American architect, Pelzer lived in and traveled throughout Southeast Asia from 1962 to 1971 with the purpose of documenting in photographs, the traditional building forms and their contemporary usage in Brunei, Burma, Cambodia, Hong Kong, Indonesia, Laos, Malaysia, the Philippines, Sarawak (Malaysian Borneo), Singapore, Thailand and Vietnam. The project was undertaken on her own initiative and largely self-financed. Pelzer’s photographic documentation, numbering some 15,000 black and white negatives, color slides and notes, both from readings and from the field, are now in the National Anthropology Archives, The Smithsonian Institution, Washington, D.C. (NAA/SI). Before it was moved to The Smithsonian, her work formed the core collection of the Photographic Archives of the Southeast Asian Cultural Program, the Institute of Southeast Asian Studies (ISEAS) Singapore. Original black and white prints, copies of notes and materials remain at the ISEAS for the use of the international researchers.
Works by photographers of the Dutch colonial era, including Kristen Feilberg, Tassilo Adam, and Kassian Cephas, in the collections of the Tropenmuseum, provide a valuable record of architecture that no longer exists. Some of the earliest photographs of Karo villages were taken during the period of Dutch interventions in 1868-69 by photographer Kristen Feilberg (1839 - 1919). Feilberg, who had studios in Singapore and Penang, was commissioned by the Dutch East Indies administrators to photograph the Karo in the 1870’s. His portrait of “three Batak warriors with spears and swords” shows the beams of a traditional house (Collection, Tropenmuseum, Royal Tropical Institute, The Netherlands) (Figure 26). Travelling with the Sultan of Deli and the Dutch district-officer C. de Haan, Feilberg produced an album of photographs on “Batak Country and Deli” (Groeneveld, 1989. 22-3). Dr. Tassilo Adam (1878 – 1955) photographed court arts and rituals, dance, music and performance in the Royal Keratons of Yogjakarta and Soerakarta. Fluent in Karo language, Adam, who lived in Pematangsiantar, outside Medan, from 1899 to 1921, published his extraordinary photographs of Karo life in Battak Days and Ways: Asia, XXX (1930) (K. Helmi, 1991) (Figures 27, 28, and 29). D.C. Harley Harris Bartlett, Professor of Botany and Director of the Botanical Gardens at the University of Michigan published, The Sacred Edifices of the Batak of Sumatra (1934). His descriptions of the geriten included identifications of the flowers and trees planted inside the bamboo-fence garden enclosure around the structure.

Conclusion

The impoverishment of traditional architecture, with deforestation, urbanization, a loss of traditional skills and methods of building, is evident not only in Sumatra, but throughout Southeast Asia, leaving traditional architecture extant only in a few enclaves, usually poor and rural. Even with the destruction and disappearance of traditional building forms, however, there
are substantial efforts on the part of many people, like the Karo, to preserve the distinctive architecture of their ancestors. These buildings, which represent a unique cultural heritage, map the centuries-old social and spiritual traditions of the builders and give tangible shape and form to concepts and beliefs. The value of vernacular built forms is not simply in their preservation, but in their capacity to instruct and inspire inventive approaches to current architectural design challenges. Design solutions suggested by the vernacular domestic architecture of Southeast Asia address many of the concerns of contemporary architects for sustainability, innovation, energy use, and efficient use of local materials. Safety and security; movement; ventilation, heating and cooling; storage of possessions, food and animals; prestige and hospitality; privacy and display; interior and exterior space; spiritual and mundane; phases of life and death – all of these issues are addressed in the traditional architecture, with flexibility and innovation. Designed to be moveable, malleable, and inexpensive, a house could be rebuilt using available, sustainable materials. Karo architecture stands as a reminder of values and beliefs, the link between human lives and the natural environment, and the promise of inventive, sustainable architectural design for the future. Our globalized world, which now aspires to move from the era of fossil fuels, and which now seeks to put a stop to the destruction of forests, oceans, rivers and frozen stretches of the planet, needs the inventiveness and agility of ancient solutions to on-going building and design challenges. As the case of Lingga village shows, culture and environment, architecture and site, house, habitat, and intangible culture are interdependent, linked in a continuing relationship. A committed network of individuals, organizations, institutions and educators is essential to the complex process of identifying, preserving, and communicating the value of both intangible and tangible culture, architecture and landscape.
References


... and the Institute of Southeast Asian Studies (ISEAS), Singapore.


www.wmf.org/blog/restoring-traditional-houses-desa-lingga-indonesia


Figures


Figure 2. Renovated Karo clan house, family of Raja, Desa Lingga. Photograph by Barbara J. Anello, 9 September 2008.

Figure 3. Traditional house in Lingga decaying and further damaged by severe climate events. Photograph by Barbara J. Anello, 9 September 2008

Figure 4. Remains of lesung (rice pounding), which was traditionally in a balé (pavilion) at the center of the village, a meeting place for young women at work in the mornings. Photographs by Barbara J. Anello, 9 September 2008.

Figure 5. Detail of corner of hijuk roof, Desa Lingga. Photograph by Barbara J. Anello, 9 September 2008.

Figure 6. Geriten (ossuary) renovated by Desa Lingga residents. Photograph by Barbara J. Anello, 9 September 2008. The small buildings in front of the great house in fig. 7 are also geriten. See the same geriten in R. Waterson, Figure 188, p. 222.
Figure 7. Traditional house of Pa M’belga, Sibayak (chief), Kabanjahe. Photograph by Tasilo Adams, c.1910-14 (reproduced in Sibeth, fig. 10). (No longer exists.) “Woning van Pa M’belga te Kabandjahé. Unknown language: Ruman Tersek.. Collection Tropenmuseum, The Royal Tropical Institute (KIT), the Netherlands.” Retrieved from: http://commons.wikimedia.org/wiki/File:COLLECTIE_TROPENMUSEUM_Woning_van_PaM%27belga_te_Kabandjahé_TMnr_10017220.jpg
Figure 8. Plan of a Karo Batak house
Figure 13. Detail of buffalo head at peak of roof, house in Lingga village. Photograph by Barbara J. Anello, September 2008.
Figure 14. Detail of the painted, woven bamboo façade (ayo, “face”) and buffalo head and horns at the peak of the roof, Lingga village.

Figure 15. Detail of the painted, woven bamboo façade (ayo, “face”) and buffalo head and horns at the peak of the roof, Dokan village.
Figure 16. Detail of painted decoration, the five-diamond symbol, called in Basa Karo, the local language, Bintang Desa Siwalu, represents the directions of the compass, with center, upper and lower. Variants of this symbol are found throughout the region, situating the self in the cosmos of origin and ancestors.
Figure 17. A stylized lizard, made of string, decorating the wood planks around the exterior of the building, symbolizes prosperity, long life, and the spiritual continuity of the place. Photograph by Barbara J. Anello, September 2008.
Figure 18. Birthing platform on the step of the house. Photograph by Barbara J. Anello, September 2008
Figure 19. The house is bisected by a long trough, along which are situated the hearths, each one supporting two families.

Dancing Guru sibaso (female shaman) in trance at a perumah bégú ceremony in the house of Pa Mbelgah in Kabanjahe, Karo-batak region, Sumatra. The photograph shows the sunken beam that runs the length of a Karo rumah adat. Photograph by Tassilo Adam c. 1914-1919. Collection Tropenmuseum, The Royal Tropical Institute (KIT), the Netherlands. Retrieved from:
Figure 20. The interior of the restored raja’s house, Desa Lingga. Photograph by Barbara J. Anello, September 2008.

Figure 21. The interior of raja’s house, showing the center trough. Photograph by Barbara J. Anello September 2008.

Figure 22. Hearths in restored raja’s house, Desa Lingga.

Figure 23. Detail of hearth in the restored raja’s family, Desa Lingga. Photographs by Barbara J. Anello, September 9, 2008.
Figure 23. Entrance to the house was reached by a ladder which could be pulled up at night, the renovated Rajas house at Lingga. Photograph by Barbara J. Anello, September 2008.
Figure 24. Dokan village, new and traditional houses. Photograph by Barbara J. Anello, September 2008.
Figure 25. Traditional houses in Lingga. Photograph by Dorothy West Pelzer, 1965. Courtesy of the Dorothy Pelzer Collection, National Anthropological Archives, the Smithsonian Institute and the ISEAS, Singapore.

Figure 27. *Deze vrouwen dragen allemaal een effen zwarte "kelamkelam" textiel als hoofddoek en als omslagdoek. De doeken om het lijf gewikkeld bestaan waarschijnlijk uit twee aan elkaar genaaide "kelamkelam" doeken, en heet "sambat". Twee van de vrouwen dragen een "kelamkelam" als omslagdoek. Als hij met plangi versierd is, heet de omslagdoek "batu jala". De "kelamkelam" en "batu jala" worden van ingevoerd machinaal katoen gemaakt dat lokaal door*
de Karo wordt geverfd. Twee van de vrouwen dragen een "baju" of jac over het bovenlijf, even zo van machinaal katoen gemaakt. Vier jonge vrouwen van Karo-Batak afkomst, Noord-Sumatra.

Sejarah Desa Lingga

Orang pertama yang datang ke desa ini berasal dari Kerajaan Linggaraja. PakPak Dairi adalah keturunan Raja Linggaraja yang mempunyai 3 orang anak lelaki. Sang Raja yang sering sakit, bertanya kepada seorang dukun mengenai penyakitnya yang tak kunjung sembuh. Menurut si Dukun, Sang Raja akan sembuh apabila menyingkirkan anak bungsu kesayangannya keluar dari desa. Dengan berat hati, Sang Raja dan...
The founding of Desa Lingga (translation, B. Anello-Adnani)

The first people to come to Lingga, were originally from Linggaraja Kingdom. PakPak Dairi, one of the male descendants of the King of Linggaraja, had three sons. Because this chief was often sick, he consulted a seer to find a cure for his lingering illness. To get your health back, he was told, you must send away your favorite son, out from the village. The youngest son was his father’s favorite, so with heavy hearts, the king and his wife made preparations for their son’s departure. They prepared food, chicken smoked in banana leaves, for their son to take with him. And so, the son departed, on horseback, bearing a handful of dirt from his birthplace and one bottle of water. “Go, and where you find earth like this and water like this, that’s the place you will stay,” said the chief to his son. At first, he stayed at Kuta, about 1½ kilometers from where Desa Lingga village is...
now located. After several years of living there, the raja’s son had his own sons and daughters, named Cibu, Surakati, and Belin.