

The Adaptability of Religious Facilities for Extraordinary Events and Their Role in an Emergency

Koji Itami, Osaka University, Japan
Takashi Yokota, Osaka University, Japan
Tadasu Iida, Kinki University, Japan
Ryuji Mugitani, Okumura Corporation, Japan

The Asian Conference on the Social Sciences 2014
Official Conference Proceedings
0383

Abstract

The Great East Japan Earthquake, which struck on March 11, 2011, caused massive devastation to the Tohoku region. In the context of this emergency, there has been a move to look carefully at the role and influence of religion, principally in the field of sociology. If we look particularly at the aspect of building construction, many of the religious facilities in the Tohoku region that had experienced tsunamis in the past remained intact after the recent earthquake, and in fact served as evacuation shelters. The aim of this study to clarify religious facilities which are constructed to correspond to religious event work effectively in time of disaster. The results of this study are as follows;

- 1) Religious facilities have high potential for a safe shelter.
- 2) In Tenri city, there are so many resources of Tenrikyo such as accommodations and facilities for providing meals.
- 3) A religious group which has possibility to do a religious ceremony will behave itself good in time of disaster.

We have showed that the collective functions of Tenrikyo facilities at “ordinary” times, as well the organization’s ability to adapt to “extraordinary” events, could be very effectively utilized in the event of a major emergency. As a further focus of study, we believe a highly flexible evacuation plan can be developed by taking into account these facilities in the context of disaster prevention and management.

iafor

The International Academic Forum
www.iafor.org

Instructions

The Great East Japan Earthquake, which struck on March 11, 2011, caused massive devastation to the Tohoku region. In the context of this emergency, there has been a move to look carefully at the role and influence of religion, principally in the field of sociology. If we look particularly at the aspect of building construction, many of the religious facilities in the Tohoku region that had experienced tsunamis in the past remained intact after the recent earthquake, and in fact served as evacuation shelters. Given their essential goals, religious facilities tend to be very adaptable in accommodating large numbers of people, so their basic amenities, functions, and preparedness can be very effective and valuable in times of emergency.

The aim of this study is to demonstrate that since religious facilities and religious organizations are accustomed to holding regular festivals and ceremonies catering to many people, they have the potential to make very effective contributions to the relief work needed in the event of a natural disaster or other emergency. More specifically, we started with a quantitative assessment of religious facilities that functioned as evacuation shelters following the Great East Japan Earthquake, seeking to identify the requirements for such facilities. Our findings showed that when a Tenrikyo church served as an evacuation shelter, the amenities and stockpiled provisions for its regular religious gatherings and events were of great use. As a result, for the second part of this study we traveled to the city of Tenri (Nara prefecture) where Tenrikyo has its headquarters to assess the facilities and amenities possessed by this religious organization, as well as their preparedness for a natural disaster, and adaptability in catering to large numbers of people (e.g., for its regular religious events), in order to determine how capable Tenrikyo would be of adapting and responding effectively to the needs of an emergency. The reason we took up Tenrikyo as a particular case of a religious organization in this study are twofold. Firstly, although there have been a few scattered studies done about the use of religious facilities such as Shinto shrines and Buddhist temples as evacuation shelters, virtually no research exists on the usefulness of the facilities of “new religions” in emergencies. Secondly, since the city of Tenri is a large center of religious activities it has the potential to play a particularly big role in emergency situations.

Note that in this study we use the term “extraordinary” to refer to times when regular religious ceremonies are held; “emergency” to times when a serious, unexpected event such as a natural disaster occurs; and “ordinary” to mean all other times.

Methodology and Definition

(1) Classification of evacuation shelters during the Great East Japan Earthquake (emergency time)

To quantitatively assess the use of religious facilities as evacuation shelters following the Great East Japan Earthquake, we classified evacuation shelters based on a list published by the “Earthquake Disaster Response Headquarters” of the prefectures of Iwate and Miyagi, to determine the proportion of religious facilities that were used over time.

(2) The adaptability of Tenrikyo following the Great East Japan Earthquake (emergency time)

We conducted interview surveys of managers/caretakers and evacuees at a total of five religious facilities used as evacuation shelters following the Tohoku earthquake—two facilities of Tenrikyo branch churches and three facilities of other religions—for the purposes of comparison. To assess the advantages of using religious facilities as evacuation shelters, our survey focused on determining a general outline of the facilities, their adaptability at the time of the earthquake, and the conditions under which they were used as shelters.

(3) Facilities of Tenrikyo

We identified the resources at the disposal of Tenrikyo, by looking at the distribution and features of facilities connected to Tenrikyo within the city of Tenri. In particular, we focused on food provisions and their stockpiling, as well as cooking amenities.

(4) The adaptability of Tenrikyo for religious events (“extraordinary” times)

We conducted a fact-finding survey on the use of Tenrikyo facilities and space conversion during the “children’s pilgrimage to Jiba,” the annual religious event that attracts the greatest number of visitors. We assessed how Tenrikyo facilities are converted to event venues, plotted the locations of features such as first-aid stations, and through an interview survey with the Tenrikyo PR Department, we inquired about the preparedness and adaptability of the facilities for large-scale events such as religious ceremonies.

From the results of all the above activities, we examined the “ordinary”-time preparedness and “extraordinary”-time adaptability of Tenrikyo facilities, to evaluate their potential for effective deployment in the event of an emergency.

Tenrikyo is a religion started by a woman named Miki Nakayama in 1838 in what is now the Mishima neighborhood of the city of Tenri in Nara prefecture. It is one of the oldest of the so-called “new religions” that were founded in Japan in modern times. With churches in more than 16,000 locations and over 1.2 million followers, it is a huge religious organization. Figure 1 presents an outline of the religious and administrative structure of the organization.

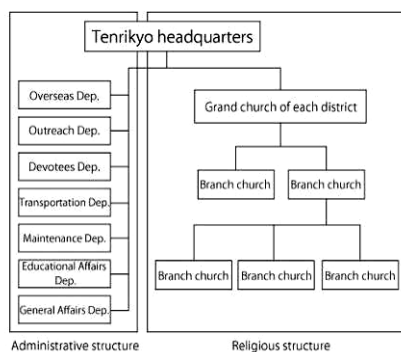


Fig. 1 Organization chart of Tenrikyo

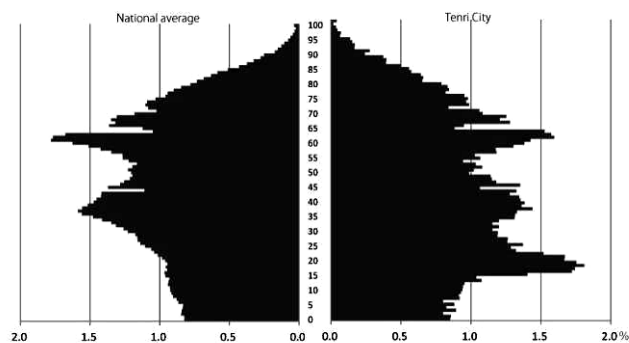


Fig. 2 Age distribution of Tenri City population compared with the national average

Tenri came into being as an independent city in 1954 after the merger of six municipalities in Nara, centered around the town of Tanba in the district of Yamabe. Tenri is the only municipality in Japan that takes its name from that of a religious organization. The city has a population of 68,815 (as of the end of Jan. 2012), but the distribution of residents by age is strikingly different to the national average. (. 2) This can be explained by the fact that young people from all over Japan come to Tenri to attend its various educational facilities—Tenri University and Tenri High School, and the Tenri Kyoto Gakuen High School—and also that future successors of Tenrikyo churches come to work for two to three years at a time at a facility connected to the religious organization. Around the central part of Tenri City, there are numerous Tenrikyo-affiliated facilities, and scattered around these facilities are accommodation guesthouses known as “stations.” A quite unique characteristic of Tenri is that large numbers of people—several times more than its permanent population—visit the city, most notably when Tenrikyo holds its religious ceremonies. Thus, the city is used to hosting very large numbers of people.*1)

Adaptability of religious facilities in the Great East Japan Earthquake

(1) Evacuation shelter trends in Iwate and Miyagi prefectures

Figures 3 to 6 show aggregated data from documents released by the Disaster Response Headquarters*2) of both Iwate and Miyagi prefectures, regarding the change over time in the number of evacuation shelters used in the two prefectures, according to building type, along with the change over time in the number of evacuees for each building type. Figure 3 shows that in Iwate the proportion of religious facilities used for shelters peaked on March 28 at 11.2%, thereafter gently declining. Overall, religious facilities accounted for 7.2% of all shelters used in Iwate—significantly higher than the 4.3% for the Great Hanshin Awaji Earthquake (of 1995).R8) From Fig. 4 we see that the peak value in Miyagi was 6.5%, on May 11. In Iwate religious facilities hosted a peak of 12.0% of all evacuees on April 4; the equivalent peak value in Miyagi was 5.6%.

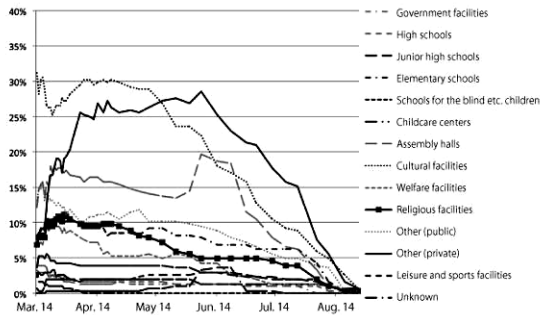


Fig. 3 Change over time in number of evacuation shelters by building type for Iwate Prefecture

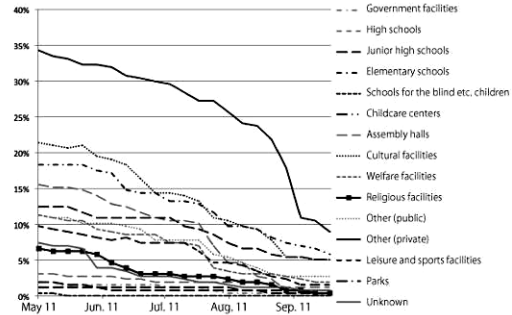


Fig. 4 Change over time in number of evacuation shelters by building type for Miyagi Prefecture

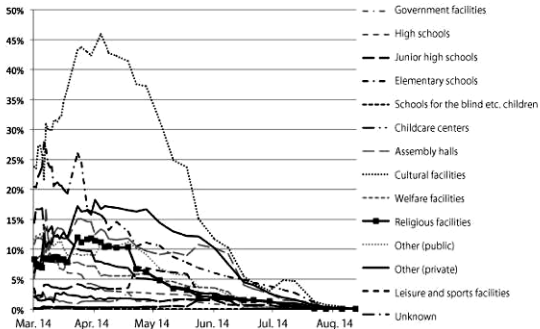


Fig. 5 Change over time in proportion of total evacuees hosted by building type for Iwate Prefecture

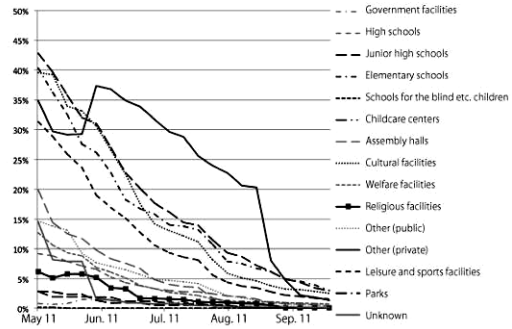


Fig. 6 Change over time in proportion of total evacuees hosted by building type for Miyagi Prefecture

All this makes clear that religious facilities were extensively used as evacuation shelters, but to significantly different degrees in Iwate and Miyagi. This may have to do with topographical differences between the two prefectures. In Iwate the mountains press right up against the coast and people tend to live in smaller settlements where the ties between people tend to be tighter. While large-scale evacuation shelters are quite difficult to set up, making shelters out of the many little shrines, temples, and other religious facilities that are rooted in this territory is relatively easy. Also, since many earthquakes and tsunamis have occurred in this area in the past, the religious facilities are usually built in places that are not so vulnerable to damage. Thus, during this disaster too, these facilities were able to play the role of local bases by serving as evacuation shelters.

(2) Results of survey on religious facilities used as evacuation shelters

Table 1 presents a summary of information from articles appearing in the Asahi Shimbun (daily newspaper)*3) about religious facilities used as evacuation shelters and about evacuation conditions.

Table 1 Religious facilities used as evacuation shelters, as reported in newspapers

No.	Publication date Facility name	No. of evacuees	Evacuation details	Features in the evacuation shelter	Others
1	2011.3.12 Tsukiji Hongan-ji Temple (Tokyo)	200 (as of 8 p.m. Mar. 11)	-Temporary hall and funeral hall were offered for use as a shelter for temple visitors. -The monk of The temple announced availability of place on Twitter.	-Rechargers for mobile phones were lent out. -Rice balls and sandwiches were distributed.	-The temple was offered as a shelter for the first time since the sarin gas attack on the Tokyo subway in March 1995.
	2011.3.16 Zuigan-ji Temple (Miyagi)	300	Unknown	-The practice hall, normally closed to visitors, was offered as a shelter. -The trainee monks looked after the needs of evacuees, e.g., meals, toilets. -Meals and beddings were provided.	-Food was donated by local souvenir shops. -Evacuees helped clean up of the approach way to the temple and souvenir shops, which were submerged under water.
3	2011.3/17, 7/10 Jion-ji Temple (Rikuzen Takata City)	69 (Mar. 17) 23 (Jul. 9)	-After the tsunami receded, residents of houses that survived came to the temple with food and fuel.	-People slept together in a large hall with tatami floor (140 mats). -The temple used its own bedding. -The temple had several large kerosene heaters.	-Evacuees knew each other.
	2011.3.17 Tozen-ji Temple, Eisho-ji Temple (Matsudo City)	Approx. 60 at three facilities	-The temples offered to accept evacuees from Fukushima.	Unknown	Unknown
5	2011.3.19 A temple (Ishinomaki)	Approx. 50	Unknown	Unknown	-The temple was the only structure in the village that escaped destruction.
6	2011.3.26 A temple (Miyagi)	50	Unknown	Unknown	-Everything was destroyed including private houses, elementary school, city hall; the only building left standing was the temple behind the mountain.
7	2011.4.15, 6.1 Senju-in Temple (Kamaishi City)	700(Mar. 11/the day of disaster)	-Evacuated to a temple in the hills.	-The head monk was very kind. -It was not cold, even at night.	None
8	2011.4.22 Chokan-ji (Ishinomaki)	Approx. 40	Unknown	Unknown	-The temple was on the slope of a mountain.
9	2011.4.23 Gassan Shrine (Rikuzen Takata City)	68	-People evacuated to the hills immediately after the tsunami; after dawn they moved to the shrine that was opened as a shelter.	Unknown	-The shrine is at the top of 64 stone steps.
10	2011.5.10 2011.5.17 Otsuchi Inari Shrine (Otsuchi)	70	-The shrine was designated a shelter. -When the first wave of the tsunami hit, the number of evacuees was less than 40, but by evening the number grew to about 120.	-After the disaster struck, the priest and his wife provided meals, clothing, bedding, and heater.	-The shrine is on the hill in Otsuchi-cho.
	2011.5.13 Daitoku-in Temple (Otsuchi)	Unknown	Unknown	-Due to water supply cut, The flush toilets at The temple became full only one day after The disaster struck.	-The evacuees themselves built toilets, water tanks, etc.
12	2011.5.16 Saiko-in Temple (Oofunato City)	10 (at time of disaster)	-Tsunami flooding reached to approx. 30 m below the temple.	Unknown	-There is a stone monument commemorating The Showa Sanriku Earthquake at The temple. The local residents took refuge at The temple, as explained on The monument.
13	2011.5.23 Dogen-in Temple (Ishinomaki City)	About 130. The temple accepted up to 380 persons	-The temple started accepting evacuees 10 minutes after the disaster struck. -Food ran out after 3 days.	-The main hall (120 tatami mats), a hall (50 tatami mats), corridors, and monks' quarters for were offered as a shelter. -5 portable toilets -The temple set rules to follow at the temple.	-The temple is normally available for training camps. -There is an air conditioned facility for a large number of people.
14	2011.7.12 Kichijo-ji Temple (Otsuchi)	250 (on day of disaster)	-Seeing the tsunami coming closer, teachers and children from Kirikiri Elementary School took refuge at the temple together with neighboring residents.	-There was no supply of food for 5 days. -The temple used 150 kg of rice, donated by supporters of the temple	-The temple was not designated as an evacuation shelter. -A catering center nearby could not be used due to a power blackout.
15	2011.8.1 Kozuchi Shrine (Otsuchi)	Unknown	Unknown	Unknown	-Before the earthquake, people gathered at the shrine every week to perform Kagura.

A search for the period between March 11, 2011 and January 16, 2012 uncovered a total of 29 articles about the use of religious facilities as evacuation shelters. The number of people accommodated per shelter was as few as 10 and as many as 700—a vast difference—but the typical facility hosted around 50 people at a time.*4) Also, on average, Buddhist temples (14 facilities) hosted a higher number of people per facility than Shinto shrines (3 facilities). Though this represents only a small sample, this result can be explained by the basic differences of architectural design and layout between temples and shrines. Temples tend to have many buildings that can be entered, such as the main hall and quarters for monks, and since these feature tatami-style floors they can be used for lodging. In contrast, Shinto shrines only contain the shrines to the gods, and even their outer shrines are usually open to the surroundings. For this reason, they are difficult to adapt for the needs of evacuees. The only buildings that can generally be adapted for evacuation purposes are the residence of the priest and offices.

As Table 1 shows, the features of the religious facilities used as evacuation shelters were described in various ways, e.g., “having large spaces within the shelter site” (3, 14), “rich in resources” (1, 2, 3, 11, 15), and “with amenities to cater to large numbers of people” (14). The articles also included references to the ties between the religious facilities and nearby residents, such as “support from the local souvenir shop” (2), and “there were already strong ties between local residents due to the fact that they use the facilities under normal circumstances” (14, 16). These characteristics can be regarded as distinctive qualities of religious facilities.

(3) Religious facilities used as evacuation shelters

The results of our interview surveys of five religious facilities that were used as evacuation shelters—two Tenrikyo facilities and three other religious facilities—are summarized in Table 2.

Table 2 Interview survey of religious facilities used as evacuation shelters

Facility name	Evacuation shelter	No. of evacuees and evacuation period	Meals, provision stockpiles	Relationship with local people	Others
K church of R Association (RK) Kamaishi City 2011.6.26 9:00-9:30 Evacuee (woman in her 50s)	-No evacuees came from nearby areas because there was little damage or flooding of buildings. -Evacuees stayed in the main hall, men downstairs, women upstairs.	-Max. about 60 persons on day of disaster -Members (devotees) who were at the church at the time of the earthquake stayed on as evacuees. -Currently about 9 persons	Unknown	Unknown	-The church is composed of seven branches, including Kamaishi City and its surroundings. -Tenrikyo headquarters sent support of materials and personnel after the disaster.
K branch church of Tenrikyo (TK) Kamaishi City 2011.6.26 10:45-11:15 Wife of church head	-The branch church was used to exchange information. -The mood was cheerful thanks to the many children.	-About 20 persons stayed here, including some who were not followers of Tenrikyo. Max. stay of 1 month. -People came her on the day of the disaster out of uncertainty.	-We had a stock of food. -Commodities arrived 4 days after the disaster. -A water pipe exploded. -We used water from nearby mountain steam. -Meals for 30 local people were prepared for 1 month.	-People have a strong sense of local community, known as “people of the same mountain stream.” -Ties between local residents got stronger after the disaster.	-Two temples on the sides of the valley were the designated evacuation shelters. But one was flooded due to the tsunami, resulting in fatalities.
R branch church of Tenrikyo (TR) Ootsuchi town 2011.6.25 17:30-18:00 Church head and his wife	-There were 3 religious facilities in the area, a temple, a shrine and a church. -The temple and an elementary school were officially designated as shelters, but the church too was used as a shelter.	-30 persons for a max. stay of about 6 days. -People whose house was damaged and also some whose house was not damaged, both followers and non-followers, gathered here out of uncertainty.	-We have cooking facilities for religious events. -We used spring water from a house nearby. -We were able to use bottled gas.	-Even before we had frequent exchanges with local people, e.g., the church head served as head of the community center.	-Volunteer helpers were accommodated here. Max. about 14 persons. -Materials arrived from people connected to Tenrikyo.
K Shrine (KO) Ootsuchi town 2011.6.27 12:20-12:40 Shinto priest	-A meeting room of about 50 tatami mats was used	-Since this shrine was a designated shelter of the area about 100 nearby people came here. -From about March 13, when fires subsided, the number fell to about 20.	-We had 200 kg of rice (donated to the shrine), and we had a certain amount of water in stock.	Unknown	-The shrine shifted to its present location in 1629. -So it’s not that the shrine was located at this high place based on the experience of past tsunamis.
D Temple (DA) Ootsuchi town 2011.6.25 18:15-18:50 Evacuees (2 women in their 40s)	-Almost all evacuees were acquainted with each other.	-Max. 99 stayed here. As of June 25, 40 persons from 21 households are staying here.	Unknown	-About 5 local residents work as management representatives of the temple. -The temple operates solely on the donations of local residents and income earned from fees to use the temple facility.	-A temple in another town owns the land and the buildings of this temple. -The hall owned by this temple is where residents perform funeral ceremonies and practice tanka poem composition.

The Tenrikyo facilities are denoted by “TK” and “TR”; the other facilities as “RK,” “KO,” and “DA.” Some facilities, like DA, are used as a place for local interaction on a daily basis, while other facilities, like TR, contribute to forging ties in the daily life of the community, for example through the active participation of the head of the facility in local activities. Two common features that distinguish the amenities and preparedness of the religious facilities is that they possess large indoor areas with tatami floors, and that since they receive offerings they have relatively little difficulty with food provisions. Furthermore, the two Tenrikyo churches, TK and TR, are equipped with cooking amenities for large-scale religious events. Clearly, these

unique characteristics of the amenities and preparedness of religious facilities can help greatly to make an evacuation shelter function effectively.

From the above findings, we can see that the outstanding features of Tenrikyo churches are that like other facilities used for shelters they are equipped with large indoor spaces with tatami flooring and keep a good stock of food provisions, but also that they are well equipped with cooking amenities to cater to the large numbers of people that gather for their monthly religious services. From this we can conclude that this preparedness for routine religious activities lends the churches a high level of adaptability to emergency situations.

“Ordinary” time at Tenrikyo

It’s clear that the amenities and stockpiles of provisions that Tenrikyo churches keep for their regular religious activities are an essential factor in the functioning of an evacuation shelter in an emergency. Thus, in this section we turn our attention to the city of Tenri, where Tenrikyo is headquartered, to investigate the state of facilities and amenities operated by the organizations and its preparedness for an emergency.

(1) Distribution of Tenrikyo-affiliated facilities within Tenri City

To understand the various Tenrikyo facilities in aggregate, we studied the distribution of the facilities within the central part of Tenri City and organized them using a residential map and a list of facilities issued by Tenrikyo. The results are shown in Fig. 7.

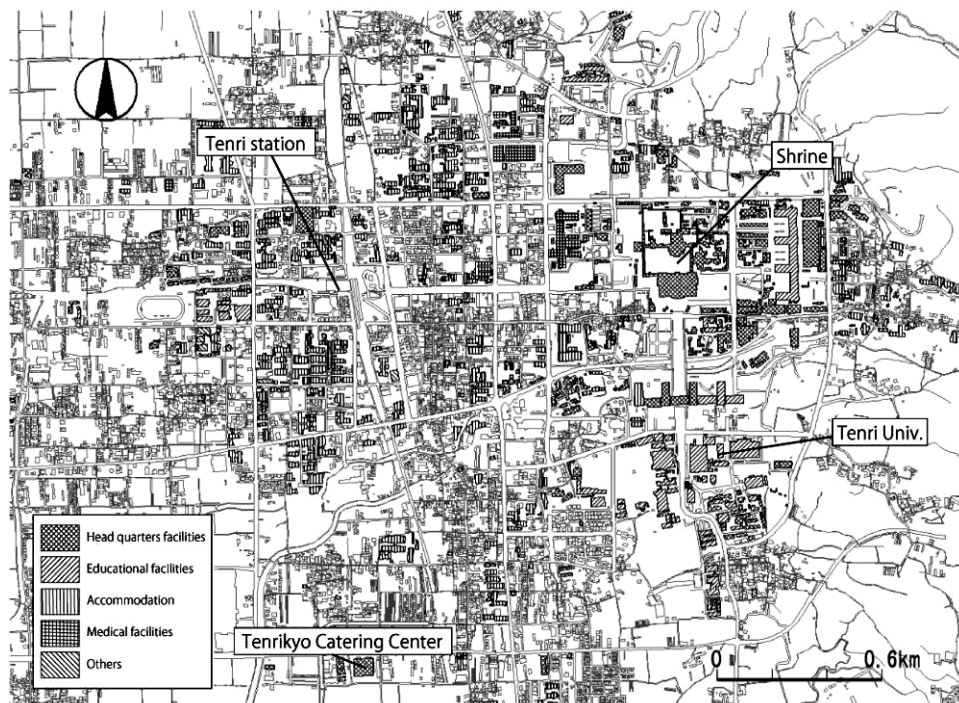


Fig. 7 Distribution of Tenrikyo facilities in central Tenri City

Within the city there are “stations” (guesthouses) at 255 locations, with a total capacity of around 47,000 persons. In addition, there are eight educational facilities, including Tenri University and Tenri High School, and three healthcare facilities, including the (Yorozu) Tenri Hospital—all in and around the Mishima neighborhood.

All the Tenrikyo facilities are concentrated in this area because the holy sanctuary of Tenrikyo is located there. The headquarters of Tenrikyo is close to the sanctuary, and to its south is Tenri University and a host of other educational facilities. The “stations” are located to the northeast, northwest, and southwest of the railway station. Like this, although the Tenrikyo facilities are distributed around the holy sanctuary, there are broad distinctions between them. These facilities are offered to followers from all over Japan and during Tenrikyo’s major religious events they are utilized to capacity. There is no question that the rich variety of the religious organization’s facilities and their large aggregate scale enables them to serve as a strong foundation for emergency response measures.

(2) An outline of the Tenrikyo Catering Center

The Tenrikyo Catering Center is located in the Tamachi neighborhood of the city. It boasts a total floor area of 16,203 m², making it the largest provider of meals in all of Asia. The center supplies meals every day to all the various Tenrikyo facilities in Tenri, producing up to 230,000 meals in a single day. Currently, however, it prepares around 20,000 meals on an ordinary weekday, and up to about 90,000 meals a day when there is a major religious event. The variation in meal production of the Tenrikyo Catering Center over the space of a year is shown in Fig. 8. So while on ordinary weekdays the center turns out 10 to 20,000 meals, on the occasion of the monthly religious service, the major spring and autumn festivals, and the “children’s pilgrimage to Jiba” in summer, it makes around 40 to 90,000 meals a day. It’s evident that the output of this massive kitchen operation varies significantly throughout the year.

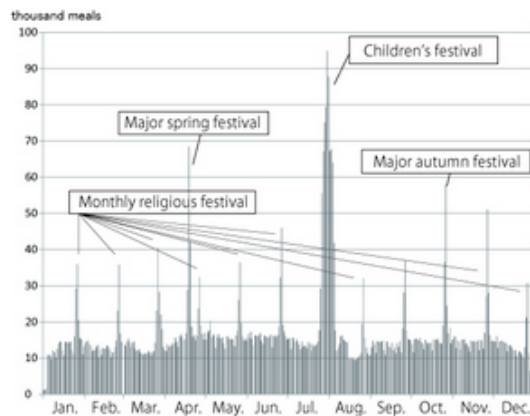


Fig. 8 Variation in meal production of Tenrikyo Catering Center over one year

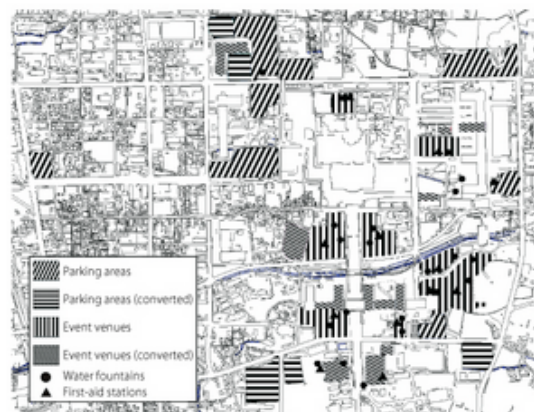


Fig. 9 Utilization of land during children's pilgrimage to Jiba

How Tenrikyo adapts for its “children’s pilgrimage to Jiba” event

(1) An outline of the “children’s pilgrimage to Jiba”

The “children’s pilgrimage to Jiba,” an event held for the children of Tenrikyo followers, is the organization’s largest religious event in terms of the number of devotees that congregate in Tenri. Held over 10 days, from July 26 to August 4, around 250,000 people make the pilgrimage to the Tenrikyo headquarters. They stay at the “stations” (guesthouses) owned by the Grand Church to which they belong, and they participate in religious activities at various places around the holy sanctuary of

Tenrikyo. In the evening, followers parade along the main road to the south of the sanctuary, which is thronged by crowds of people.

(2) Conversion of Tenrikyo facilities to serve as event venues

Here we examine how Tenrikyo adapts its facilities for special occasions.*7) Figure 9 illustrates the distribution of parking areas and event venues that are converted from Tenrikyo facilities, as well as the distribution of drinking fountains and first-aid stations. There are 13 parking areas, 17 event venues, of which 5 parking areas and 10 event venues were converted for the purpose from existing facilities. The parking areas are set up mainly in the sports fields of schools and in the grounds of churches, while the event venues are arranged in the buildings of Tenrikyo's educational facilities and headquarters. Most of the organization's educational facilities, in fact, are converted for use as event venues and parking areas. These facilities are available because the event is held during school and university summer holidays, also allowing students from the schools to work as volunteers to help run the event. Each venue is provided with 22 drinking water fountains and 11 first-aid stations to deal with cases of dehydration and sunstroke that inevitably occur due to the sweltering heat, as well as other unexpected problems. The water fountains are organized by young Tenrikyo devotees of the Youth Association, while the first-aid stations are attended by students from the Tenri Nursing College, who remain on stand-by to care for the pilgrims. The whole "children's pilgrimage to Jiba" event, which is attended by followers and students from all over Japan, is managed by a total staff of up to 5,700 people. From these basic facts, it is apparent not only that the Tenrikyo facilities offer plenty of space, but also that the organization is able to systematically implement large-scale personnel support through its followers. These two features indicate that Tenrikyo has the adaptability to respond very effectively in the event of a major emergency.

(3) Preparation for religious events by organizers

To assess how Tenrikyo adapts itself for special occasions, we conducted an interview survey with the Tenrikyo PR Department.*6) Organization of the "children's pilgrimage to Jiba" is led by the Tenrikyo Youth Association, with the collaboration of other groups in the organization. Traffic-related matters are handled by the Transportation Department, first-aid stations and teahouses are set up by the Maintenance Department, and each of the attractions is managed by the Grand Churches of each district. Normally, devotees stay at the "station" (guesthouse) of the Grand Church to which they belong, but if there is insufficient space, accommodation is arranged at the headquarters and at educational facilities. For these "excess" people, Tenrikyo keeps tens of thousands of sets of bedding are kept. A large number of students help with managing the event. All the students at Tenri Kyoto Gakuen participate, while for Tenri High School and Tenri University only students who wish to volunteer take part. For the parades held in the evening, a request for traffic control is made to police, to enable the pilgrims to cross the public road safely. For the period of the event, Tenrikyo officials submit a plan to the police and fire station, regarding pedestrian crossings and roads closed to vehicular traffic. Then if approval is received, Tenrikyo volunteers conduct the necessary traffic safety work themselves.

As outlined above, all the various parts of the organization collaborate to make a success of the 10-day event in the city. This requires a great deal of organizational capability in a variety of areas, including the stocking of provisions and other supplies, operation, management, and administration, as well as organizing volunteers, but Tenrikyo seems quite accustomed to handling these challenges. Certainly, this organizational capability, together with its various facilities, material resources, and catering prowess, would be of great assistance in the event of a major emergency.

Conclusion

The key findings of this study can be summarized in the following points.

1) Religious facilities were utilized more during the Great East Japan Earthquake than during the Great Hanshin Awaji Earthquake. The unique amenities of religious facilities, their stockpiles of foods and other essential provisions, as well as their connections with the local community make them very attractive for use as evacuation shelters, and even after shelters are no longer needed, they remain useful as bases for collecting and distributing information and material resources for the surrounding area. All in all, the use of religious facilities for evacuation shelters is very valuable.

2) In terms of space, organizational capability, and material resources, Tenrikyo can comfortably manage extraordinarily large-scale events like its “children’s pilgrimage to Jiba.” It can coordinate all these resources to successfully run this single religious event over many days. And since it runs this extraordinary event regularly (every year), it has virtually got the process down to a fine art. Undoubtedly, this capability would prove very valuable in the event of a major emergency.

We have showed that the collective functions of Tenrikyo facilities at “ordinary” times, as well the organization’s ability to adapt to “extraordinary” events, could be very effectively utilized in the event of a major emergency. As a further focus of study, we believe a highly flexible evacuation plan can be developed by taking into account these facilities in the context of disaster prevention and management.

References

Keishin Inaba(2011), The Altruism and Religion: Kobundou Publishers Inc.
Iwate Prefecture Disaster Countermeasures Office(2012), The list of Shelters in Iwate Prefecture at Great East Japan earthquake
Miyagi Prefecture Disaster Countermeasures Office(2012),The list of Shelters in Miyagi Prefecture at Great East Japan earthquake
Shiro Kashihara etc(1998), The Study of Shelters at Hanshin Awaji Earthquake:Osaka University Press, p.40

Acknowledgement

We would like to thank everyone at the evacuation shelters we visited for their cooperation with our interview surveys. Our deep gratitude also goes to all the Tenrikyo-related people who helped us.