

# Natural Disasters in Katano

Disaster Prevention Manual for Foreign Residents in Katano City

Revised Edition

Katsumi Shimomura

I Love Katano

2014

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## **Introduction: A disaster-prone country - Japan**

As you know, Japan is one of disaster-prone countries in the world. For instance, the Hanshin Great Earthquake in 1995, which hit the Kansai area, killed about 6,400 and wounded about 44,000. In the Nigata Chuetsu Earthquake in 2004, 68 died and about 17,000 houses were destroyed wholly or partly. As you remember, in 2011, a huge earthquake and Tsunami seriously damaged the Tohoku area and deprived about 15,800 of their precious lives.



The Hanshin Great Earthquake in 1995

You probably feel a big or small shake by an earthquake in your everyday life. Japan is highly likely to be hit by an earthquake. In addition, Japan is suffering not only from an earthquake but also from other natural disasters such as typhoons, floods, and landslides. Therefore, you have to always pay attention to when natural disasters happen.

Of course, Japan has accumulated various knowledge and experience about disaster prevention from past disasters, hitherto. Consequently, the frameworks of disaster prevention are established from national level to local level.

In natural disasters, foreign residents tend to become the so-called 'social minority'. This is why the support system and network to help them in a natural disaster are not broadly established in Japan. For example, in a case of foreign residents, many city councils in Japan do not have sufficient staff, who can help and support them in their mother tongue. Therefore, it seems to be quite difficult for foreign residents to get accurate information about what to do next and where to evacuate immediately after natural disasters occur.

This manual is designed to introduce you what to do in natural disasters in English. As mentioned above, hordes of people in Tohoku are still suffering from the damages of an earthquake and Tsunami. However, they tell us the significance of

disaster prevention and the zest for living through their rare experience in 2011. We have to commemorate the victims and sincerely learn the seriousness of earthquake and Tsunami in Tohoku.

This manual was made for my private website, 'I Love Katano' (<http://www.lovekatano.com>). It is introducing not merely Katano's history and culture but also Katano's popular spots and events. In addition, it is designed to broadly provide Katano City Council's information to foreign residents and travellers in English.

I would be happy if you make the most of the manual to understand disaster prevention in Katano City and in Japan. Furthermore, I would like to express my gratitude to Katano International Friendship Association, Katano City Council, Osaka Prefectural Government, and Osaka Foundation of International Exchanges. I would not be able to write this disaster prevention manual without their help and support.

July 22<sup>nd</sup>, 2013

Dr. Katsumi Shimomura

The founder of 'I Love Katano'

## Introduction for the 2014 revised edition

There are two reasons why I have revised this disaster prevention manual. One is that Japan Metrological Agency introduced a new warning system on August 30<sup>th</sup> 2013. The warning is called ‘Emergency Warning (*Tokubetsu Keiho*)’ and is issued when a catastrophic natural disaster which we may experience only once every few decades is about to occur. Hence, I have added a new explanation of Emergency Warning System to this revised edition (see page 12).

The second reason is to explain why this manual employs the phrase ‘disaster prevention’. The English explanations of natural disasters by Fire and Disaster Management Agency and Osaka Prefectural Government are using the phrase ‘disaster prevention’<sup>1</sup>. Furthermore, Kenkyusha’s New Japanese-English Dictionary lists ‘disaster prevention’ as an English translation phrase of ‘*Bosai*’ in Japanese<sup>2</sup>. It seems that ‘disaster prevention’ is one of common English phrases when talking about natural disasters in Japan. Hence, this manual employed the phrase ‘disaster prevention’ in order to standardise a way of expression with public organisations and dictionaries.

It is impossible for human beings to prevent or control completely natural disasters by current scientific technology. What we can do is only to learn and mitigate their risks. Therefore, this manual is not made on the arrogant idea that we can exclude natural disasters from our lives with the development of technology. The purpose of this manual is to roughly introduce how to mitigate damages by natural disasters. If this manual is a little bit helpful for foreign residents to understand ‘*Bosai*’, it would be a great pleasure for me.

November 13<sup>th</sup> 2014

Dr. Katsumi Shimomura

The founder of ‘I Love Katano’

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<sup>1</sup> See <http://www.fdma.go.jp/en/> and <http://www.osaka-bousai.net/en/pref/index.html>

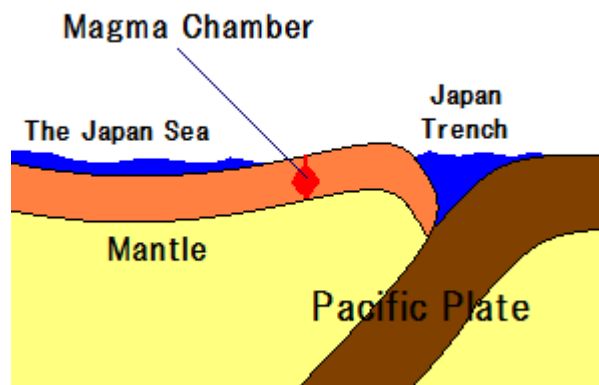
<sup>2</sup> Kenkyusha (2008) *New Japanese-English Dictionary; Augmented Edition for Electric Dictionary*.

## 2. What should we do if natural disasters take place?

### a) Earthquakes

As mentioned above, Japan is prone to earthquakes. To protect yourself from them, you need to learn the mechanism and what to do first.

The earthquakes are caused by the sudden movement of plates, which are near the earth's surface, or by that of inlying faults. The intensity level of earthquakes is categorised in the 10 grades in Japan (see page 6).



The mechanism of the sudden movement of plates  
[retrieved from Your Guide to Earthquake Safety]

**The Category of the Earthquake Intensity Levels in Japan**

Intensity Level	What happens?
0	No one feels a shake even in a quiet situation.
1	Someone, who sensitively feels a small shake, recognizes the quake.
2	Many people feel a shake. Some of them get woken by the quake. A light hanging from a ceiling swings little by little.
3	Almost all people feel a shake. Some of them are frightened by the quake. Dishes make a sound by a quake.
4	Almost all people awake with dread. Some of them attempt to go under a table or a desk.
5 (low)	A walk becomes slightly difficult during a shake. Some books on a shelf fall on a floor.
5 (high)	A walk becomes quite difficult during a shake. Unfixed furniture and an unreinforced block wall may collapse.
6 (low)	It is difficult to keep standing during a shake. Most unfixed furniture moves or collapses. A tiled wall and a window are severely damaged.
6 (high)	It is impossible to move without crawling on a floor. Your body may be thrown off in a strong shake. Many unreinforced houses are severely damaged or destroyed. Cracks and landslides may occur.
7	Much more unreinforced houses crumble. Even some strengthened buildings are severely damaged.

If a strong shake has happened, you should protect yourself from falling objects under a table or a desk.



If an earthquake has occurred when you are cooking, please turn off the gas and close the gas supply valve immediately. In a case of a strong earthquake (more than intensity 5), the gas supply will automatically stop at a gas meter outside. If closing the gas valve after a strong shake, you need to mind a floor around the stove in order not to burn your feet bottom.



If moving out of your house, please get on your shoes or slippers as broken glass chips may be spreading on a floor.

Please do not rush outside. Window glass, signboards, shelves, or roof tiles may fall on your head or body. It is strongly recommended to wear a helmet or *Bokuzukin* if evacuating from your house.



A strong shake may distort your house's doors and windows, and may make you difficult to go outside. Particularly, many of apartments have single entrance. It is important to think about how you can open a broken door in an emergent case.



It is significant to prepare evacuation kits for natural disasters and to keep it close to your bed side. The kit composes an electric torch, a portable radio, batteries, survival foods (at least for 3 days), and bottles of water (see page 18).

In addition to these, it will be much better to talk about what you need in a disaster with your family. In the Tohoku Great Earthquake, a lot of mountainous communities isolated for several weeks due to the fact that collapsed roads to the communities hampered rescue teams. You may not isolate for a few weeks in Katano unlike the communities. However, it is important to think about what to do if



A sample of an evacuation kit



nobody rescues you for a few days.



If you feel a strong shake outside, please do not get close to buildings and houses. Roof tiles and glass chips broken by an earthquake may wound you. Walls on streets may also be levelled by the strong shake.

The Tohoku Great Earthquake hit not only the Tohoku area but also other areas. Particularly, in the Kanto area, many passengers lost the means to go home since the earthquake stopped almost all of public transportations for a long time. You may have to walk to your house as a last resort if public transportations stop due to earthquakes.



About 20,000 passengers of the central Tokyo were not able to return to their houses soon after the Tohoku great earthquake.

If you feel a strong shake in public buildings such as a department store, a station, or a school, please follow instructions given by clerks and staff.



If an elevator stops due to a shake, do not panic and rush. Please press an emergency button and tell building staff your current situation.



If none answers your emergency phone, please call for help to anyone outside.

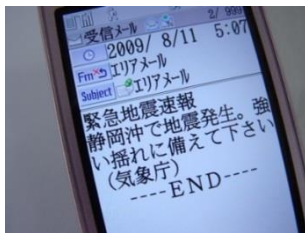
## Emergency Earthquake Alerts

Japan Meteorological Agency (JMA) accumulates and analyses a lot of data about earthquakes. Consequently, JMA has been able to issue the alert in an area, where a big earthquake is expected to occur. Its warning is informed through TV, a radio, a community wireless system, and a mobile phone.

The mobile companies such as NTT Docomo, Softbank Mobile, and Au provide the English version of JMA's Emergency Earthquake Alert to the customers. To see the English alert, you need to change the language setting of your mobile to English.

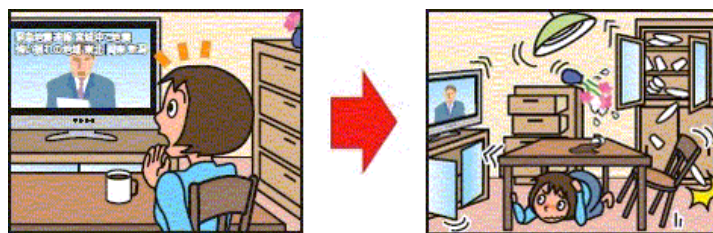


Emergency Earthquake Alert on TV (the NHK version)

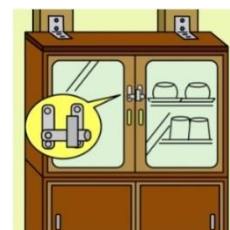


Emergency Earthquake Alert on a mobile phone (Japanese version)

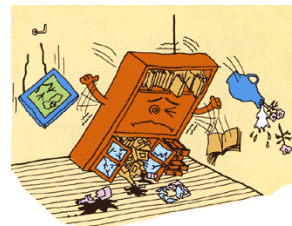
If the emergency earthquake alert has been issued to your residential area, please pay attention to a detail of the warning and prepare for evacuation.



You should secure your furniture to a wall to keep them from falling over in a strong shake. In addition, it is much better to attach vinyl films for protecting glasses to doors of furniture and windows.



Please do not place heavy packages and unstable stuff on high furniture. They may fall on your head in a shake. It is not allowed to put flowerpots on the edge of a balcony in many apartments. If they fall on a street by the earthquake, someone may get seriously wounded. The balcony is an escape route if it is difficult to evacuate from a front door. Therefore, please do not put obstacles on the balcony.



## b) Typhoons and Rainstorms



Typhoons bring much rain and water not only human beings but also plants and the earth. In particular, rice, which is a main food for Japanese, needs much water to grow. If typhoons do not come to Japan, lakes and dams will frequently become dry up, and many people will suffer from severe shortage of foods and water. In short, the typhoon is a

source of lives of mankind.

On the other hand, typhoons cause huge natural disasters such as strong rainstorms, floods and landslides. Every year Japan suffers from typhoon's disasters particularly in August and September. For example, in 2011, the typhoon Talas hit the Kii peninsula and deprived 63 victims of their precious lives. Besides, in other areas, 10 people died of a flood caused by Talas. You should pay closely attention to the typhoon as well as the earthquake.



Many houses near the Kuma no Gawa (Wakayama pref.) river were washed away in a massive flood. 2011. Sep.



The route of the typhoon can be expected unlike the earthquake. Weather forecasts through a TV, a radio, or the internet will tell us the expectation issued by JMA and Weather News. If the typhoon comes to your residential area, please confirm the details of the typhoon, such as a scale, a precipitation, and a speed, through the weather forecasts.

If JMA declares a warning of heavy rain and local flooding, or a storm warning, please stay indoor until it is called off. Many schools and universities in Japan close all classes if the storm warning is issued. It is recommended to enquire of your school staff about whether all of the classes will be cancelled by the announcement of the storm warning.

Almost all public transportation is expected to entirely or partially become out of service during the typhoon. You should go home before such a situation takes place.

Public transportation stopped due to the typhoon. Many passengers lost the measure to go home.



If you are outside during the typhoon, please mind flying stuffs such as roof tiles and branches. In addition, please keep away from a river, a pond, and a gully. It is also dangerous to go to sea when the typhoon is coming. **Imagine how many rescues will have to endanger their lives for helping you if getting carried away on a wave.**

### c) Inundation and Floods

Katano City is not located in a flood vulnerable area like Osaka City and Higashi Osaka City, in which some areas are below sea level. Hence, Katano City is unlikely to be hit by Tsunami and a severe deluge, which swallow a town. However, in August 2012, the inundation above or under floor level was caused by the torrential rainfall. It means that Katano has a risk of a flood, in which the water is up to the knee.



In Japan, the concentrated downpour frequently causes natural disasters such as floods and landslides recent years. Its nature is to heavily rain in a short time beyond the ability to drain. The Katano's flood in 2012 occurred due to the fact that the city was poured with unexpected heavy rain.

If you walk on water-covered roads for evacuation, please wear long trousers in order not to get injured by drifting stuffs. Moreover, please mind your steps since there may be dangerous holes under water. The transparency of the flood is almost zero. If it is difficult to evacuate from your house, please wait for rescues at a high place where the water has yet to come.



Please do not go to a basement when it is heavily raining. Once the water suddenly floods into a building, a basement becomes an uncontrolled pond. If the water reaches to the knee, it will be impossible to open a door by hand because of high hydraulic pressure. During the



concentrated heavy rain, it is recommended to stay away from the basement as soon as possible.

#### d) Landslides



The mountainous area from JR Gakkentoshi Line is expected to be damaged by landslides. Fortunately, Katano has never experienced a serious landslide, hitherto. But, it is not pointless to think about the possibility of landslide in Katano. We need to learn risks of landslide in Katano as Japanese proverb says that 'A natural disaster strikes when people lose their memory of the previous one'.

Landslides tend to happen after concentrated heavy rains and earthquakes. If it has heavily rained, or if a large-scale earthquake occurs, it is recommended to frequently confirm whether the landslide takes place or not in your residential area through a TV, a radio, and a local warning system.



In some cases, several signs of the landslide appear before it happens. For example, roads and grounds are cracking or upheaving. Trees are inclining or dying. Well water and sump water are becoming clouded. A mountain is rumbling. If finding or hearing these signs, you should get ready for evacuation from the risk of landslides.

Japan is a vulnerable country to natural disasters. Hordes of people have been victimised by earthquakes, Tsunami, typhoons, floods, and landslides, hitherto. It will be impossible to completely contain the risks of these. However, learning the past risks is very effective for us to think about what to do in natural disasters. In addition, it will be significant to get ready for disaster prevention through reading this disaster prevention manual. The following chapter mainly focuses on how to evacuate from your house and call for rescues.

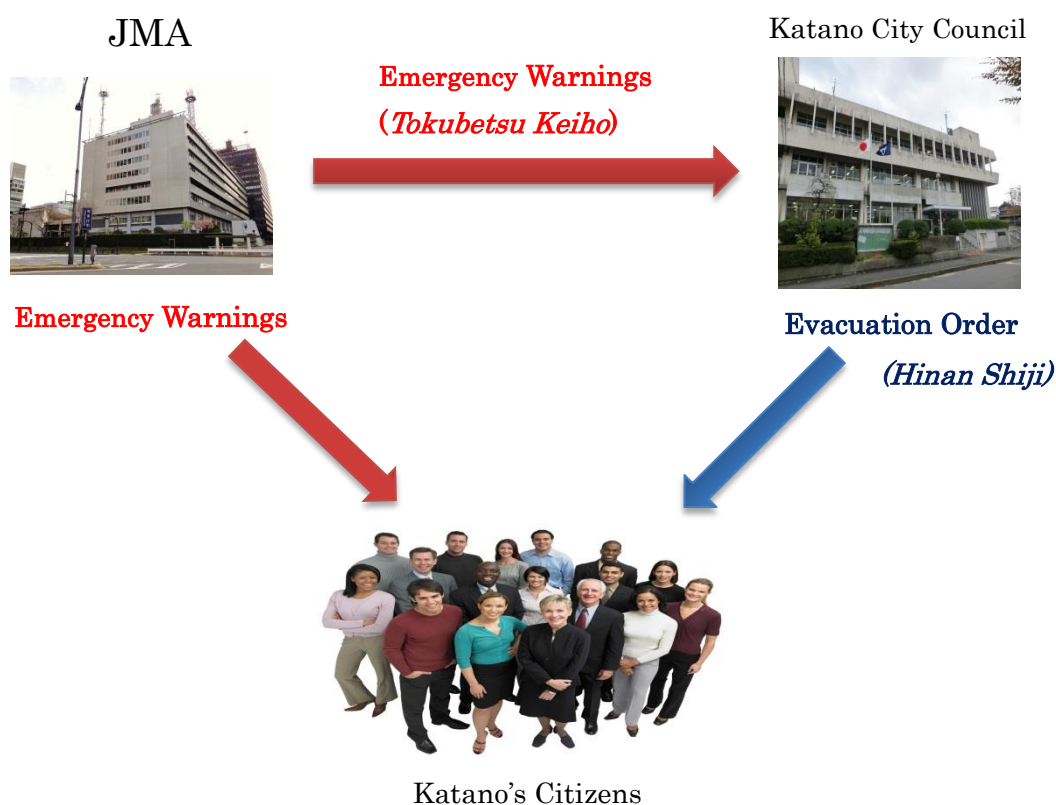
#### **Emergency Warning System: *Tokubetsu Keiho***

In order to quickly inform you that a deadly disaster is coming to your area, JMA introduced Emergency Warning System from August 30<sup>th</sup> 2013. Emergency warnings include all types of natural disasters such as earthquakes, heavy rains, heavy storms, Typhoons, and Tsunami. The reason why this system has been introduced is that, in recent years, unexpected heavy rains hit small areas and cause floods and landslides.

For example, Hiroshima City was suffered from a concentrated heavy rain and a landslide on August 20<sup>th</sup> 2014. Particularly, in the Asakita area and the Asaminami area in which 74 victims lost their lives, it is expected that there were more than 150 millimetres of rainfall from 1 a.m. to 4 a.m.<sup>3</sup>. This extraordinary weather will not happen frequently. But, we should keep in mind that it may occur in our area.

The Emergency Warning System tells us that a risk of large-scale natural disasters is increasing. If emergency warnings called '*Tokubetsu Keiho*' in Japanese are issued, Katano City Council recommends you what to protect yourself. If an evacuation order (*Hinan Shiji*) is issued, you have to evacuate to a local shelter (see Page 13). The city council informs you of the evacuation order through the community wireless system, an announcement car, and an area mail which is sent to your mobile. You can also get information about the emergency warnings from TV and radio.

When heading to the shelter, please stay alert to your surroundings such as side ditches and roads.



<sup>3</sup> [Internet]

[http://www.chugoku-np.co.jp/local/news/article.php?comment\\_id=85655&comment\\_sub\\_id=0&category\\_id=564&pl=6318734176&pl=7606032732](http://www.chugoku-np.co.jp/local/news/article.php?comment_id=85655&comment_sub_id=0&category_id=564&pl=6318734176&pl=7606032732) retrieved on November 11<sup>th</sup> 2014.

### 3. Katano's Shelters and Preparation for Evacuation

If natural disasters hit your residential area, you can use local shelters for emergent evacuation. Katano City has 25 shelters for earthquakes or for typhoons and floods. Please note that some of them cannot be used as a shelter for earthquakes. Katano's shelters are showing the following notice boards.



The bottom of the notice board says here is a shelter for earthquakes and for typhoons and floods (Jishin and Fusuigai).



This is a notice board of a shelter for typhoons and floods (Fusuigai only).

In natural disasters, **protecting your life first** is the most important. If Katano City Council issues an evacuation order, please evacuate from your current place to local shelters as soon as possible. It would be much better if you confirm a route to the shelters in advance. Additionally, it is highly recommended to decide a shelter, at which your family gathers in natural disasters.



### The List of Katano's Shelters for Earthquakes and for Typhoons and Floods

ES= Elementary School, JH= Junior High School

Name	Address & Phone No.	Applicable Disasters
Katano Kaikan	14-25 Matsuzuka (Phone) 891-5645	Typhoons and Floods only
Kozu ES	13-1 Kozu 4 Chome (Phone) 891-0065	Earthquakes, Typhoons and Floods
Kozu Kominkan	20-13 Kozu 3 Chome (Phone) 891-8155	Typhoons and Floods only
Chohoji ES	43-1 Kozu 1 Chome (Phone) 892-5021	Earthquakes, Typhoons and Floods
Daini JH	1-1 Ikuno 4 Chome (Phone) 891-7300	Earthquakes, Typhoons and Floods
Kuraji ES	15-1 Kuraji 1 Chome (Phone) 892-9181	Earthquakes, Typhoons and Floods
Kuraji Kominkan	1-5 Kuraji 1 Chome (Phone) 891-5646	Typhoons and Floods only
Seinen no Ie / Budokan	29-1 Kisabe 2 Chome (Phone) 892-7721	Typhoons and Floods only
Katano ES	54-1 Kisabe 1 Chome (Phone) 891-1138	Earthquakes, Typhoons and Floods
Kisabe Kaikan	36-1 Kisabe 1 Chome (Phone) 892-9292	Typhoons and Floods only
Daiichi JH	1-1 Kisabe Minami 1 Chome (Phone) 891-1237	Earthquakes, Typhoons and Floods
Tera Kaikan	19-8 Tera 1 Chome (Phone) 891-7725	Earthquakes, Typhoons and Floods
Mori Kumin Hall	16-1 Mori Minami 2 Chome (Phone) 891-9968	Earthquakes, Typhoons and Floods
Iwafune ES	25-1 Mori Kita 1 Chome (Phone) 891-6161	Earthquakes, Typhoons and Floods
Kisaichi Kaikan	22-15 Kisaichi 6 Chome (Phone) 891-7190	Typhoons and Floods only
Kisaichi ES	5-10 Kisaichi 9 Chome (Phone) 893-1901	Earthquakes, Typhoons and Floods



Daiyon JH	65-1 Amanogaharacho 5 Chome (Phone) 892-0451	Earthquakes, Typhoons and Floods
Hoshida ES	33-4 Hoshida 3 Chome (Phone) 891-2034	Earthquakes, Typhoons and Floods
Asahi ES	18-1 Hoshida 4 Chome (Phone) 892-7731	Earthquakes, Typhoons and Floods
Hoshida West Athletic Complex	28-1 Hoshida Nishi 3 Chome (Phone) 893-7721	Earthquakes, Typhoons and Floods
Daisan JH	67-1 Hoshida 8 Chome (Phone) 892-5031	Earthquakes, Typhoons and Floods
Hoshida Kaikan	4-3 Hoshida 3 Chome (Phone) 893-1105	Typhoons and Floods only
Fujigao ES	45-1 Hoshida Kita 2 Chome (Phone) 892-5821	Earthquakes, Typhoons and Floods
Myokenzaka ES	20-1 Myokenzaka 7 Chome (Phone) 892-9171	Earthquakes, Typhoons and Floods
Katano Athletic Complex; Ikiiki Land Katano	5-1 Mukaida 2 Chome (Phone) 894-1181	Earthquakes, Typhoons and Floods



Evacuees at a shelter

Shelters are tentative facilities to evacuate from natural disasters. Therefore, many of them are not designed to comfortably sleep like a hotel. The Hanshin Great Earthquake in 1995 and the Tohoku Great Earthquake in 2011 occurred in freezing seasons.

Evacuees were forced to stay at the shelters without sufficient heating equipment. Consequently, hordes of them suffered from cold and insomnia.

Your life at a shelter will gradually be improved as time goes by. However, as mentioned above, it is the most significant to protect your life on your own in natural disasters. Although the Japanese hygiene management is best in the world, you should pay attention to the epidemic of diseases and food poisoning at the shelter.

Shelters are having necessary foods and water for local evacuees. But, they may not be able to completely answer individual requests. For example, even if you cannot have shelter's foods due to any food allergies, the shelter may not stock other substitutions. Besides, you may not be able to obtain prescribed medicines there. Hence, in the evacuation from natural disasters, it is vital to prepare your necessary goods in advance.



After natural disasters, you may wait for rescues outside for a few days or, in the worst case, for a week. Until the rescue comes, you will have to survive in a severe situation. To make it possible, you should prepare the following items for tentative evacuation in advance.

### The List of Necessary Items for Tentative Evacuation

Stockable Water	Electric Torches	Survival Foods
Energy-supplement Foods (e.g. Calorie Mate, Chocolates, and Candies)	Candles	Cigarette Lighters and Matches
Can openers and Bottle openers	Knives	Gloves
Blankets	Tissues and Wet Tissues	Sanitary Products for Women
Batteries	Mobile Rechargers	Bin bags and Vinyl Bags
Sierra Cups	Plasters	Antiseptics
Eye Drops	Antipruritic Cream	Bandages
Compress	Scissors	Portable Stoves and Fuels



A Sample of Items for Tentative Evacuation

**If you need help...**

Police .....Dial 110

Fire Engines and Ambulances ...Dial 119

Japan Coast Guard .....If you need a help in the sea, Dial 118

**If you have become a victim of natural disasters...****Katano City Council**

Kurashi no Anshin Ka (the Natural Disasters Division)

1-1 Kisabe 1 Chome Katano City

The annex of Katano City Council Building 1F

Phone; 892-0121

E-mail; kurashi@city.katano.osaka.jp

Osaka Foundation of International Exchanges (OFIX) is opening the information desk for foreign residents and travellers. OFIX also opens an interim desk for foreign victims if natural disasters take place. It will tell you what to do after the disaster.

**Osaka Foundation of International Exchanges (OFIX)**

Honmachibashi 2-5 Chuo-ku Osaka City

My Dome Osaka 5F

Phone; 06-6966-2400

**The Interim Desk for Foreign Victims of Natural Disasters;****Osaka Information Service for Foreign Residents**

Phone; 06-6941-2297

Applicable languages;

Japanese, English, Chinese, Korean, Spanish, Portuguese, Vietnamese, Tagalog, and Thai

**Useful Websites for Understanding Disaster Prevention in English****Osaka Disaster Prevention Net provided by Osaka Prefectural Government**

<http://www.osaka-bousai.net/en/pref/index.html>

**Fire and Disaster Management Agency**

<http://open.fdma.go.jp/e-college/foreigners/foreigners.html>

**Note:** The sources of retrieved photos (except animations).

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<http://open.fdma.go.jp/e-college/bosai/photograph/01hansin/index.html>

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[http://gegutan-afe.blog.so-net.ne.jp/upload/detail/m\\_0262\\_02\\_20070912135515.jpg.html](http://gegutan-afe.blog.so-net.ne.jp/upload/detail/m_0262_02_20070912135515.jpg.html)

<http://www.47news.jp/CN/201103/CN2011031101000991.html>

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<http://japan.cnet.com/news/commentary/35001876/>

<http://www.doplaza.jp/life/mail/001554.php>

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<http://blog.goo.ne.jp/goo221947/e/06c984357d4579648af35e562356d51c>

<http://news.kanaloco.jp/localnews/article/1210010007/>

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<http://www.hrr.mlit.go.jp/saigai/H161023/chuetsu-jishin/1/1-2-2.html>

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<http://note.chiebukuro.yahoo.co.jp/detail/n30756>

## **Reference**

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Fire and Disaster Management Agency (2013) E College; Disaster a Safety Guide (<http://open.fdma.go.jp/e-college/foreigners/foreigners.html>).