

What to do with the garbage generated in a disaster?

倉敷市 Kurashiki City

About Kurashiki City' s disaster waste

倉敷市 災害廃棄物

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In recent years, major disasters have occurred throughout Japan.

Even in Kurashiki City, the flood damage that occurred in Mabi-town in 2018, flooded about 1,200 hectares and damaged about 5,600 households.

The waste generated by the floods was piled up on roads and vacant lots, which greatly hindered the reconstruction and restoration of the affected areas.

Based on the Mabi experience, this handbook aims to help citizens prepare for disasters during normal times in order to quickly dispose of disaster waste, which is the first step of recovery and reconstruction from a large-scale disaster.

(Note) This handbook contains photos taken at the time of the disaster. If these images cause you stress, please refer to the basic version of this guide instead.





2018 heavy rain disaster in western Japan (Kurashiki City Mabi District)

Disaster and garbage

The heavy rain disaster of western Japan in 2018 is recollected in extraordinary scenes of household items scattered around by flooding, and memories of dust storms and the strong persistent stench of dirty water and wet stockpiled rice, earth and sand.

How much waste did the disaster generate?

The amount of waste generated in Kurashiki was estimated at 350,000 tons, which is equivalent to about two times the yearly waste generated by the city in a normal year.

Kurashiki city properly disposed of these wastes for about two years.

Disposing of garbage in a disorderly manner during a disaster, may obstruct emergency vehicles, require more time for garbage removal and the stench etc. may worsen the living and hygiene conditions, further hindering reconstruction.

Collecting garbage according to the rules leads to prompt disposal and is the first step toward recovery and reconstruction.



Rescue by Self-Defence Forces
Protecting lives in a disaster is a top priority.



Large truck washed ashore
In a big flood, even large trucks can be washed away and become a major obstacle to cleaning up.



An embankment that collapsed due to a mud flow
When the embankment broke, flooding of homes progressed quickly. Sediment inflow and damage to houses occur near the site of collapse.

POINT

The amount of garbage generated in a disaster is more than you can imagine!
It will take several years to dispose of everything.

What is disaster waste?

Disaster waste refers to household items that were turned into waste as a result of being damaged by a natural disaster.

Unlike the garbage produced in daily life, disaster waste is generated in large quantities temporarily, and the city disposes of it systematically.





The state of the city just after the water drained (Kurashiki City Mabi District)

In case of **disaster**

If a major disaster occurs, the first thing you need to do after being given the all clear is to clean up your house.

When cleaning up after a disaster, a large amount of disaster waste such as wet tatami and muddy furniture, is generated that would not normally be generated as household waste.

In order to properly dispose of disaster waste, the city will decide how to separate the garbage and where to bring it, depending on the type of disaster and the extent of damage.

Citizens will be notified by the following means:

- ① Websites
- ② The Garbage sorting app, "Sana~ru" ("さんあ~る")
- ③ Leaflets (Posted and distributed in shelters, community centers* etc.)
- ④ PR vehicles

After a disaster, connectivity may be disrupted and it may be difficult to connect to websites and apps. Please confirm the location of the bulletin board nearest you, so that you can also see it in writing.

*The public halls in the city are the 4 major public halls in Kurashiki, Mizushima, Kojima, and Tamashima, 24 community centers and their branch centers.
 Kurashiki, Kurashiki East, Kurashiki West, Kurashiki South, Kurashiki North, Tatsumi, Shinden, Sho, Chayamachi, Nishiachi, Mizushima, Fukuda, Fukuda South, Tsurajima, Tsurajima South, Kojima, Shimotsui, Honjo, Kotoura, Karakoto, Gonai, Tamashima, Tamashima East, Tamashima west, Tamashima North, Tamashima Kurosaki, Funao, Mabi etc.

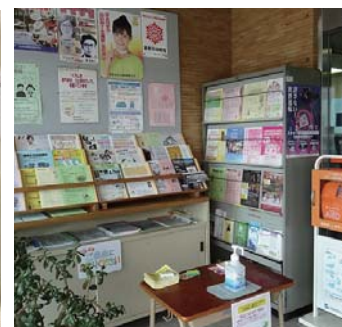


Household items washed away by muddy waters

In the case of flood damage, not only household items but also earth, sand and sludge are washed along with the muddy flow and can become the cause of stench.



Shelter



Public hall notice

In addition to supplies, Public halls are regional hubs. Please information of all kinds can proactively utilize them even in the be found at the shelters. event of a disaster.

P O I N T

Know where to get information in an emergency.

Please download and register the app.

Download on the App Store

ANDROID APP ON Google play



Inside a damaged building

Garbage at the time of disaster

~ The first sorting of garbage required after a disaster ~

In the western Japan heavy rain disaster, many household items such as furniture, home appliances, tatami mats and bedding that were damaged by the flood were disposed of.

In order to dispose of this disaster waste as quickly as possible, while protecting living conditions in the disaster area, Kurashiki city is reviewing the methods of collecting disaster waste based on the Mabi experience.

After a disaster, not only disaster waste, but also daily waste is generated every day at homes and shelters.

The first sorting is to separate daily waste and disaster waste in order to prevent the deterioration of the living environment.

A large amount of food waste, is contained in daily waste, and if its disposal is delayed, it may cause a stench and attract pests.

The city will endeavor to resume collection of daily waste from garbage stations within 3 days of a disaster.



Household items put out in front of the house.

The first task of cleaning up is to get things out of the house. At this time, divide everything into necessary and unnecessary items. Of the things you don't need, gather the daily waste in one place so that it can be separated.



Garbage station full of disaster waste

If you dispose of disaster waste at the garbage station as shown in the photo, daily waste cannot easily be collected and may have to be left where it is.

Why separate daily waste and disaster waste?

It seems that it is better to just dispose of them together and sooner, but doing so actually requires more time to collect and transport the garbage.

Even in an emergency, please cooperate so that daily waste can be collected on the same day it's put out.



POINT

First, separate daily waste and disaster waste for early resumption of garbage station collection!



Debris mixed with earth and sand



Combustibles



Incombustibles



Metals



Debris



4 household appliances



Small appliances



Tatami, Mattress



Gypsum board, Slate



Hazardous Materials

Separation of disaster waste

~ Second sorting of garbage required after a disaster ~

The second sorting is to separate out disaster waste.

Kurashiki City has conducted extensive studies with businesses that have actually disposed of disaster waste from the heavy rains in western Japan, and is envisioning the following categories to facilitate prompt sorting and disposal:

- ① Debris mixed with earth and sand
- ② Combustibles (Wooden furniture, Dirty clothes, Plastic products)
- ③ Incombustibles (Glass, China, Bottles, Fluorescent tubes)
- ④ Metals (Metal furniture, Bicycle)
- ⑤ Debris (Tile, Block, Brick, Concrete)
- ⑥ 4 specific household appliances
(TV, Refrigerators / Freezers, Washing machines / Clothes dryers, Air conditioners)
- ⑦ Small appliances (Microwaves, Rice cookers, Fans)
- ⑧ Tatami, Mattresses, Sofas
- ⑨ Gypsum board, Slate, Siding
- ⑩ Hazardous Materials (Fire extinguishers, Kerosene stoves, Batteries)

(note) Categories may change depending on the type of disaster.



Work to remove the contents of refrigerators at the temporary storage space.

Any food left in abandoned refrigerators must be manually removed before it can be handed over to a disposal company. Delays can lead to stench and pests.

【Main disposal methods for disaster waste】

① Debris mixed with earth and sand	Landfill
② Combustibles	Incineration / Melting process
③ Incombustibles	Recycle / Landfill
④ Metals	Recycle
⑤ Debris	Recycle / Landfill
⑥ 4 household appliances	Recycle
⑦ Small appliances	Recycle
⑧ Tatami, Mattresses, Sofas	Incineration / Melting process
⑨ Gypsum board, Slate, Siding	Landfill
⑩ Hazardous Materials	Proper processing

Why do we have to separate disaster waste?



Waste that has not been separated will take extra time to process as it cannot be handed over to a disposal company without further sorting at temporary storage spaces.

We ask for your cooperation in separating waste so that disaster waste can be removed from the affected areas as soon as possible.

P O I N T

Please dispose of disaster waste by putting designated items in their designated place.



Temporary storage space (Kibiji clean center)

What is a temporary storage space ?

When disasters such as earthquakes, heavy rains, and typhoons occur, an unimaginable amount of disaster waste is generated.

Much of this disaster waste is not normally disposed of as household waste, and due to damage, much of it cannot be treated as usual. Therefore, in the event of a disaster, temporary storage spaces for disaster waste will also be opened in the disaster area.

Please cooperate as much as you can with bringing disaster waste to temporary storage spaces in order to remove it from the affected area as soon as possible.

(Please do not put disaster waste in your garbage station.)

We are considering a transportation support system, in cooperation with the volunteer center, of door-to-door collection for those, such as elderly households, who do not have transportation. Please be patient until the system is in place.

If disaster waste blocks the road, it will obstruct the passage of fire engines and ambulances. Please cooperate with storage on site until the temporary storage space is opened.



Sorting display at a temporary storage space

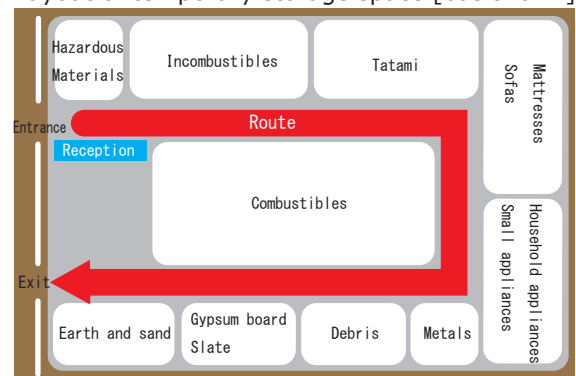
At temporary storage spaces, please drop your garbage down at the designated places according to the display.



Requests by local residents to stop reckless garbage disposal.

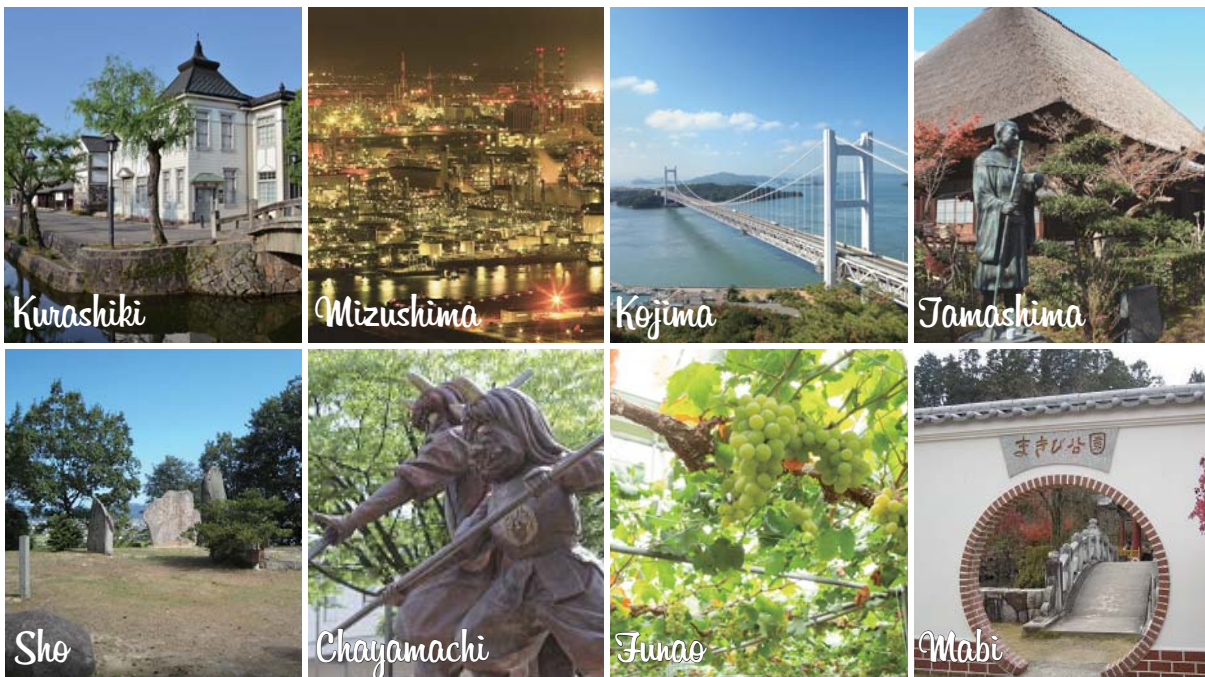
Abandoned piles of disaster waste can also block roads and hinder reconstruction. Please cooperate as a community in the event of a large-scale disaster.

Layout of temporary storage space [basic form]



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Occasionally, we may check whether waste is disaster waste by asking to see your disaster certificate and personal identification.



Let's enhance local disaster resilience and protect our resource-rich town, Kurashiki, and the way of life of all its citizens.

Towards a disaster-resistant city

It is important to prepare well in advance for waste disposal in the event of a large-scale disaster.

It is said that preparation in advance means 'deepening your knowledge' and 'not storing unnecessary things', but is that all it takes to fully prepare?

From the experience of heavy rains in western Japan, when a large-scale disaster occurs, not only homes and roads, but also the society in which we live will be seriously damaged, causing great confusion.

It is important to remember that confusion will always occur and it is necessary to prepare with that in mind.

In times of confusion, we naturally must think about those who are important to us. That feeling should extend also to a consideration of everyone in our town.

Each one of us having an awareness of our town as an interconnected community, and helping one another not to fill the town with garbage after a disaster, enhances the disaster prevention capacity of the whole community.

About Kurashiki City's disaster waste



Kurashiki City General Waste Disposal Policy Section Website

QR code is here



For Kurashiki City's disaster waste, please check Kurashiki City's Disaster Waste Treatment Plan.



Kurashiki City's Disaster Waste Treatment Plan



Kurashiki City Delivery Lecture

For those who want to know more about disaster waste, we can give a lecture (Japanese only) on-site! For details, please contact the General Waste Disposal Policy Section.

We support learning for everyone!



POINT

Strength of community is the key to early recovery and reconstruction for the people we care about.



Kurashiki character for the environment, 'Kulife'
The name 'Kulife' comes from the desire for 'everyone in Kurashiki to live an eco-friendly life'. It conveys the idea of changing our energy-intensive lifestyles to create a comfortable Kurashiki. Kulife's body represents a 'warehouse' and expresses the character of Kurashiki, his large head represents a round earth, the leaves on his head represent abundant greenery and the Ku (<) of Kurashiki, and his blue legs represent the clear waters of the Takahashi River.

Disaster Waste Disposal Handbook – citizen version

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