



KEEP SAFE

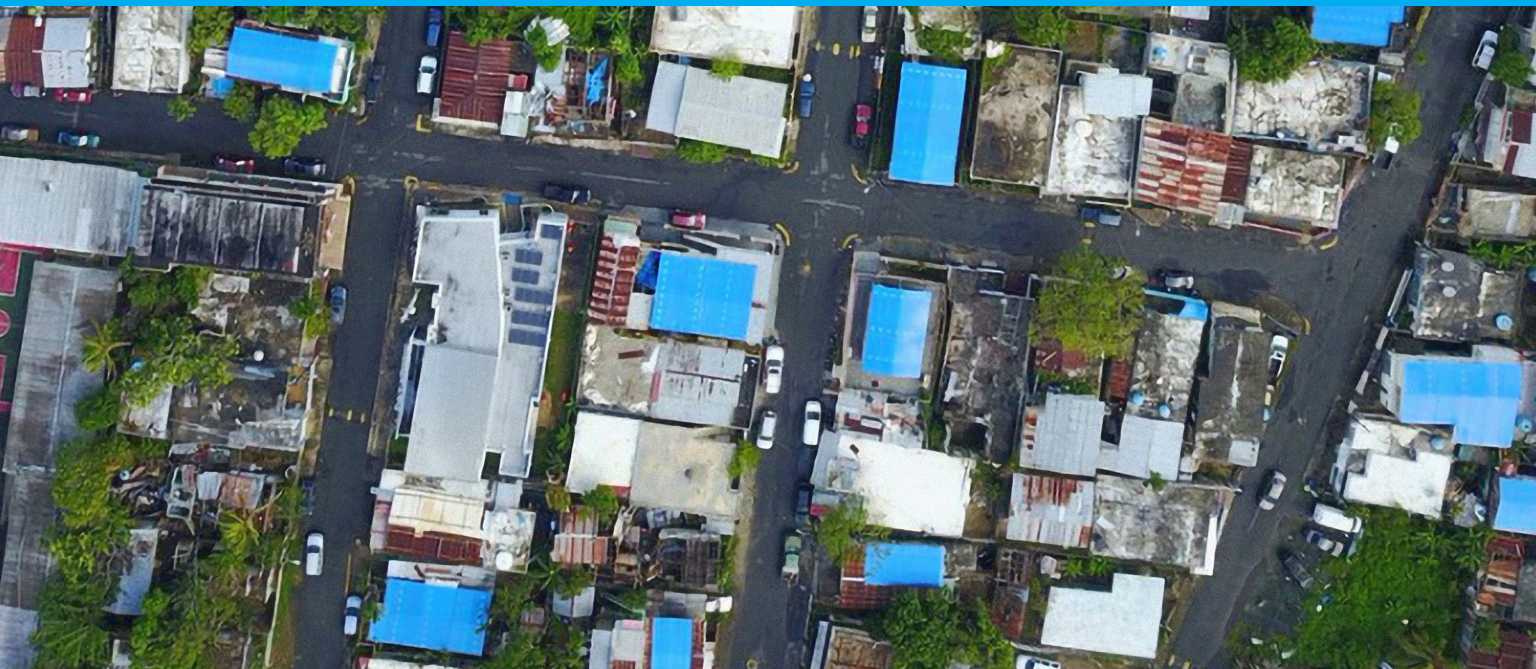
**A GUIDE FOR RESILIENT
HOUSING DESIGN IN
ISLAND COMMUNITIES**

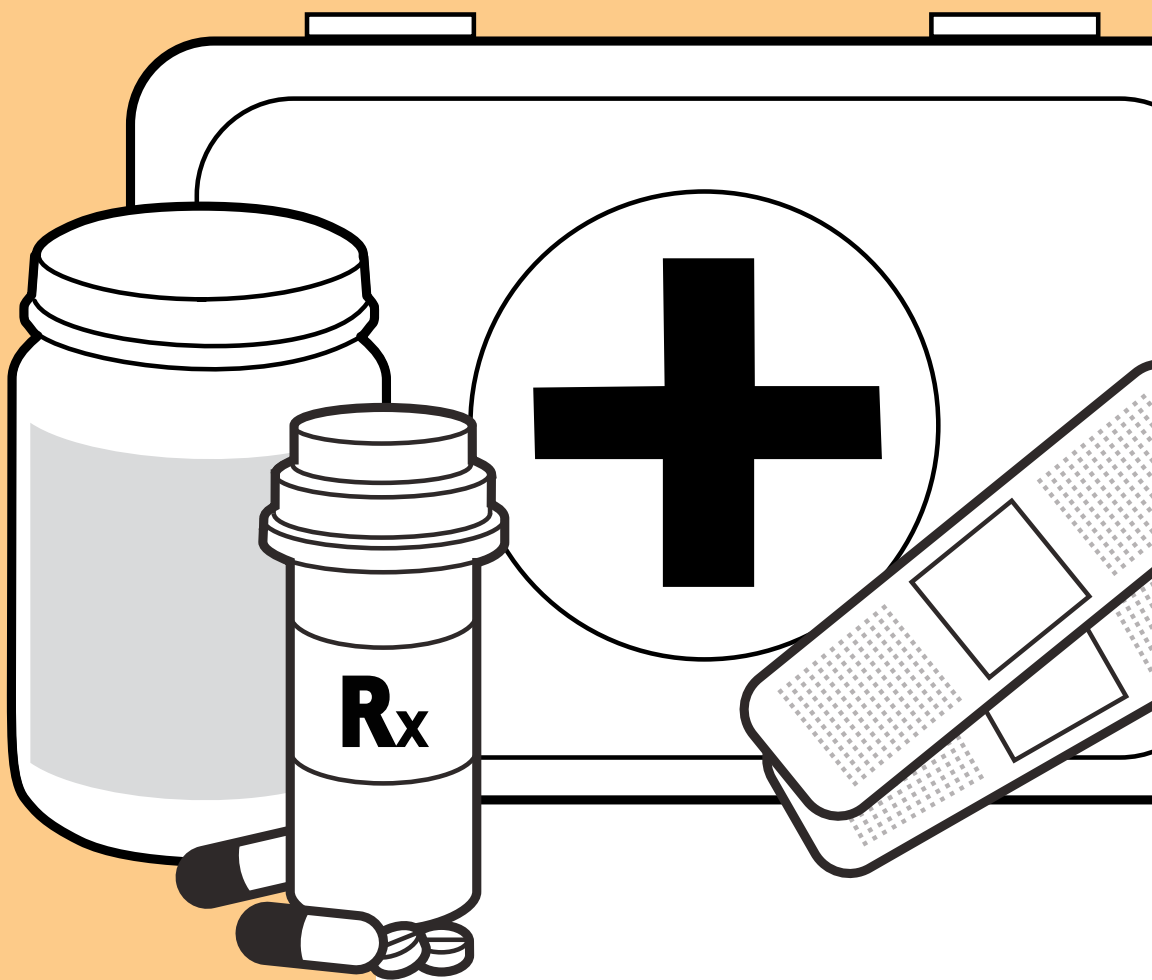


Enterprise®



ASOCIACIÓN DE
CONSTRUCTORES
DE PUERTO RICO





HOUSEHOLD EMERGENCY PREPAREDNESS

Tools to be ready in the event of
loss of services

TYPES OF STRATEGIES LISTED IN THIS SECTION

STRATEGY #	23	24	25
STRATEGY NAME/TITLE	DEVELOP A HOUSEHOLD EMERGENCY PLAN	CHOOSE A SPACE TO KEEP YOUR FAMILY SAFE	RESPOND + BEGIN HOUSEHOLD RECOVERY
DESCRIPTION	<p>This strategy focuses on helping you and your household manage essential information, stay connected, and have essential supplies during and immediately after a disaster.</p>	<p>When an anticipated disaster is approaching, the first question you need to answer is whether you and your household members should leave the area, stay home (“shelter in place”) or go to a designated shelter nearby. Hurricanes give several days’ warning before they strike, but many other natural disasters do not. This strategy will help you determine the best options in all conditions and to act accordingly.</p>	<p>After an emergency event your household will need to respond, recover and rebuild. This strategy provides guidance to support your households through this process.</p>
	\$	\$	\$

After Hurricane Maria, Puerto Rico’s population lived without electricity for a long period of time, some homes went without it for over a year. According to FEMA’s After-Action Report, the response was the longest sustained air mission of food and water delivery in the agency’s history. For most people, it was impossible to live comfortably. Within two months of the storm, 179,000 people had left the island for mainland United States, with no certainty that they would be able to return.

No one could have imagined the scale of the hurricane’s destruction, or how it would change daily life. Now, with hurricanes and other extreme events becoming more common, everyone needs an

emergency plan that addresses their household’s needs. All good plans have similar elements: they outline how to prepare beforehand, how to stay safe during an event, and the first steps to take to begin recovery.

The strategies in this section will help you build an emergency plan that suits your household and your home. Planning with your neighbors and community can also help prevent property damage and save lives. The following chapter focuses on how to build collective community plans. It will also help you determine what you and your household need to do before, during, and after a disaster.



Dagua Naguabo Emergency Manager

DEVELOP A HOUSEHOLD EMERGENCY PLAN

\$

Whether you have a household of one or many, establishing an emergency plan is vital to suit your household’s unique needs. This strategy focuses on helping you and your household manage essential information, stay connected, and have essential supplies during and immediately after a disaster.

- Strategy in Action
1. Bring Your Family Together

2. Develop a Plan to Stay

a. Establish a Communication Plan

b. Make a ‘Sheltering Stash’ in Your Home

c. Tips for Sheltering in Place

3. Develop a Plan to Leave

a. Prepare a Go-Bag for Each Member of Your Household

b. Tips for Evacuating by Car

c. Close up Your Home

WHAT YOU NEED TO KNOW

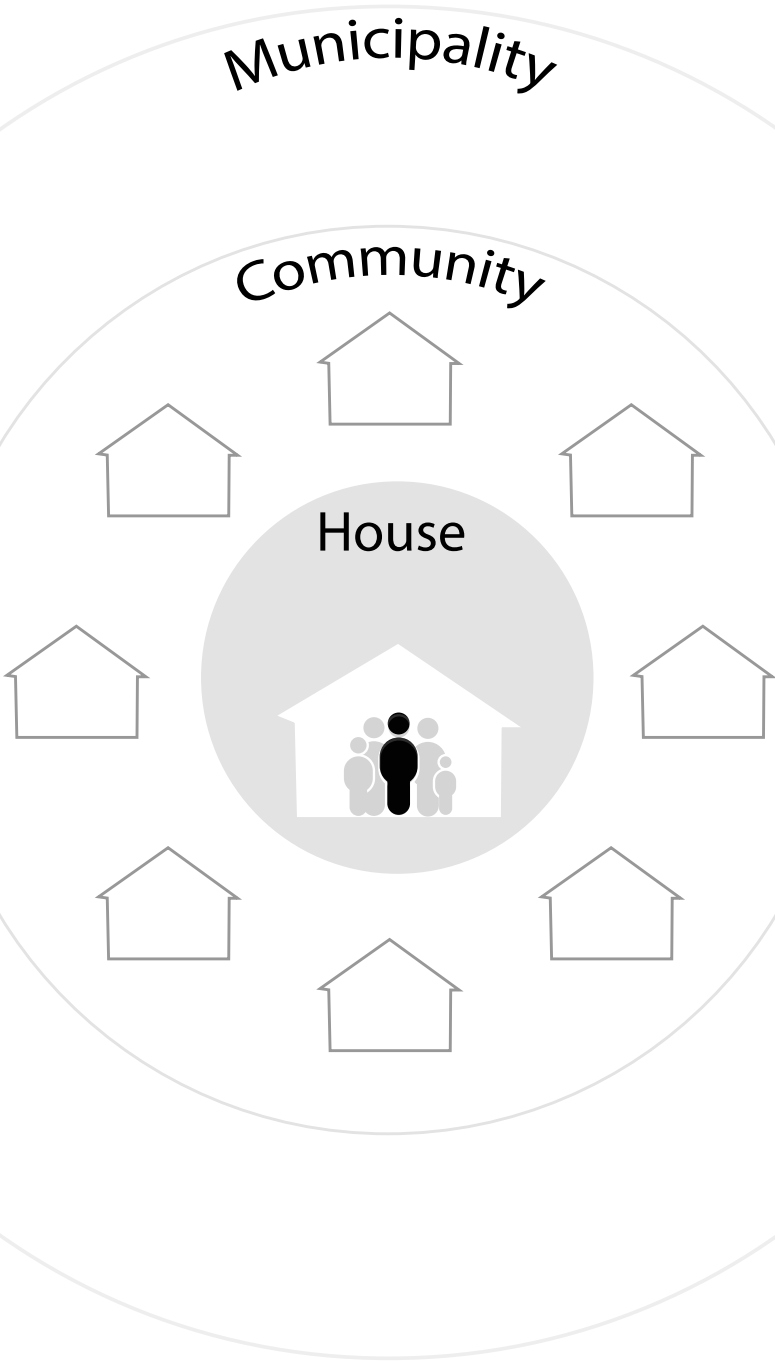
- While no one can anticipate all the consequences of a disaster, past events have taught us about the biggest and most likely challenges for most households and what can be done beforehand to help overcome them.

► Single-family homeowners can find tips on how to protect their buildings here; multi-family property owners and administrators have a different set of responsibilities, and more comprehensive resources on how to manage them can be found in Enterprise Community Partners Ready to Respond Tools for Resilience’s webpage section.



SUPPORTING STRATEGIES

01	04	08	23	25	26	27	28
Reinforce Site	Assess the Priorities for Your Home or Building Structural Condition Prior to Event	Anchor, Seal and Protect Building Openings	Develop a Household Emergency Plan	Respond + Begin Household Recovery	Develop a Community Plan	Identify + Prepare Safe Community Shelter	Inspiring Post-Disaster Planning for Community



STRATEGY

23

DEVELOP A HOUSEHOLD EMERGENCY PLAN

STEP 1 - BRING YOUR FAMILY TOGETHER

WHAT TO ASK

- ▶ Ask questions about what would happen if a disaster struck and what each person could do. The answers are the beginning of your plan.

▶ How will we find each other?

▶ What are our options for shelter?

▶ How would we travel?

▶ What would we need to have with us?

▶ What will happen to our animals?

▶ How will we get news?
- ▶ Many organizations, such as the American Red Cross, have detailed workbooks and planning apps that you can use to complement your planning process. For more information, visit: <https://www.redcross.org/local/puerto-rico.html>

OPERATIONS AND MAINTENANCE TIPS

▶ Ensure the safe space at your home or where you have decided to weather the natural disaster is prepared as you:

▶ Remove any elements hanging on the walls such as shelves, mirrors, pictures, or artwork.

▶ Move heavy objects, like books, to lower shelves or plastic boxes on the floor.


▶ Repair fissures and seal openings to the exterior, such as windows, with wooden panels or storm shutters. See Strategy 08.

STEP 2 - MAKE A PLAN TO STAY OR GO

A. ESTABLISH A COMMUNICATION PLAN

Determine who your household members need to be in touch with, and how they will reach each other. Remember, downloading apps may be difficult.


Therefore, build connections now through several mediums to ensure smooth communication before, during, and after a disaster.



PHONE

■ Expect local cellphone calls to fail. Keep calls brief and mostly use text messaging.

■ Calls over land lines (such as public payphones) and long-distance calls are more likely to go through.




SOCIAL MEDIA

■ Leverage existing networks on social-media apps like Twitter.

■ Follow any local groups or people that might be active after disaster strikes.

■ Structure group texts by cellphone or through WhatsApp or similar apps.



EMAIL

Head of household should send one email cc'ing the primary network members so email addresses are shared and stored.

	NAME	PHONE NUMBER	EMAIL/HANDLE
1		() -	@ /
2		() -	@ /
3		() -	@ /
4		() -	@ /
5		() -	@ /

STRATEGY

23

DEVELOP A HOUSEHOLD
EMERGENCY PLAN

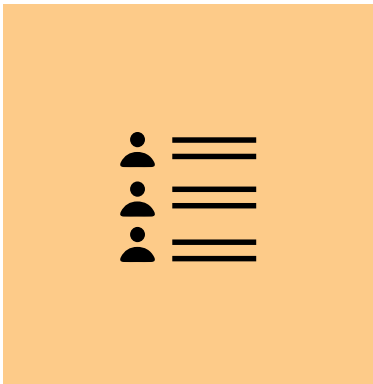
STEP 2 - MAKE A PLAN TO STAY OR GO

A. ESTABLISH A COMMUNICATION PLAN



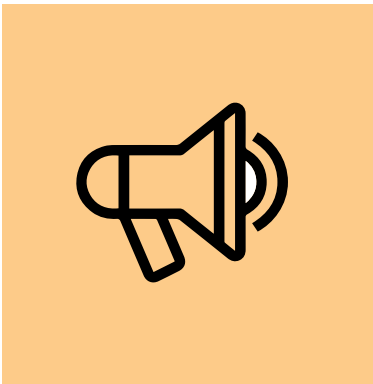
PHYSICAL LOCATIONS

- Select two places to go if it is impossible to return home and communications are down. One should be nearby, such as a neighbor's home, and one should be outside your neighborhood. Both should have a place to leave a note in case you can't wait there.
- Plan how household members will alert the network when they arrive at or leave a place.



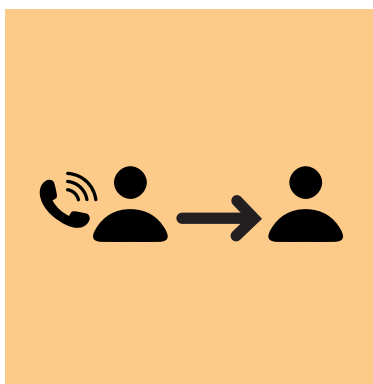
CONTACT LIST

Collect the telephone numbers, emails, handles, etc., of people in your primary network and create a contact list. Check everyone in your network has a paper copy of the list in their go-bags, protected in plastic, and that it's accessible online, perhaps via email or as a shared document. Everyone in the group should carry a printed copy during a disaster. If anyone may have trouble speaking, clip it to their clothing in case they get separated. See chart below.



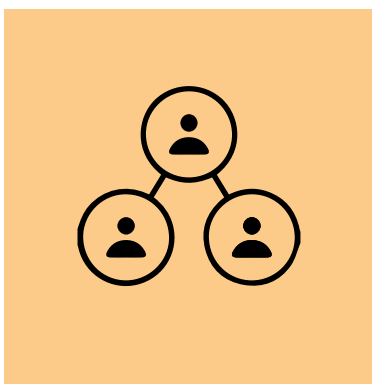
NEWS AND INFORMATION

Choose the news sources you will be monitoring during the event. Everyone should receive the same information at the same time. A suggested source is NOAA Weather Radio for weather updates and public messages.



DRILL

Practice your communications plan. At least once a year, have a drill with everyone in your primary contact network, including your out-of-area contact and your pet caretaker, to be sure things work the way they need to.



NETWORK

- Establish several means of reaching each other. Designate a primary network of people who will keep track of each other. This will include, but not be limited to:
- A designated head of household
- Other members of your immediate household
- An-out-of-area contact who can receive calls and serve as a news hub for your household and others
- A pet caretaker who can help your pet if you can't get home



STRATEGY

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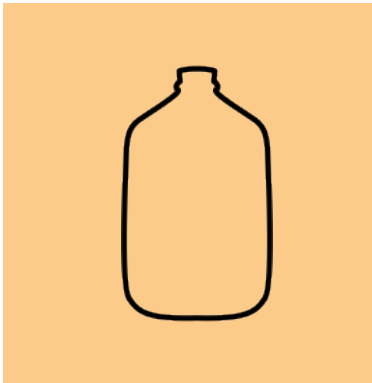
DEVELOP A HOUSEHOLD
EMERGENCY PLAN

STEP 2 - MAKE A PLAN TO STAY OR GO

B. MAKE A ‘SHELTERING STASH’ IN YOUR HOME

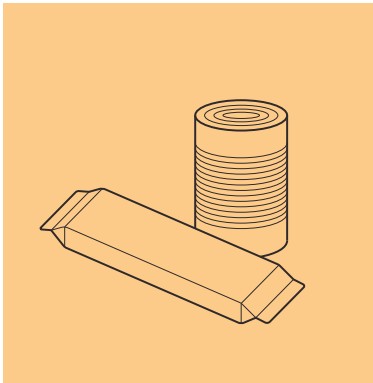
Gather at least 5 days’ worth of supplies. If infrastructure around your area is weak, plan to stash 2 weeks’ worth of supplies. Ensure the stash is in an area where supplies won’t be damaged. Consider all the household members when considering supply quantities.

FOOD AND WATER



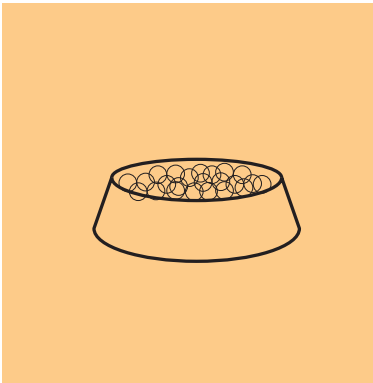
WATER

- Include 1 gallon per person per day and extra for pets.
- Water supplies should last for 5-14 days.



CANNED FOOD

- Canned goods or non-perishable dry foods in sealed packages that are familiar to your household and require no refrigeration, water, special preparation, or cooking are the best options.
- Verify expiration dates on all foods!



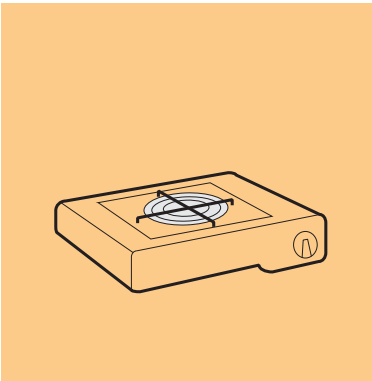
PET FOOD

- Non Perishable Food for Pets
- Bottles of Water



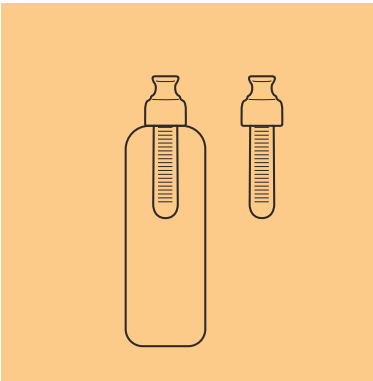
CONTAINERS

- Disposable plates, cups, utensils and paper towels.



EQUIPMENT

- Cooking supplies for after the storm (do not cook with heat until you are sure there are no gas leaks): charcoal or other fuel, sealed in watertight container if you have a grill, warming pot with canned fuel, solar oven or camp stove and matches.



WATER FILTER

- Unscented liquid bleach, eyedropper, and large plastic bottle or approved container for purifying water (see Strategy 25 for instructions).



STRATEGY

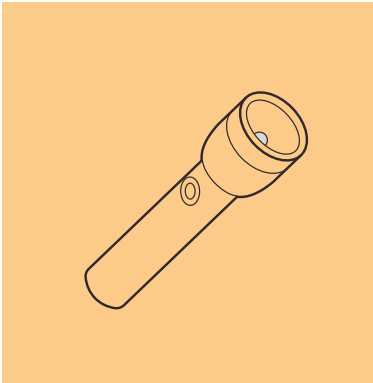
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DEVELOP A HOUSEHOLD
EMERGENCY PLAN

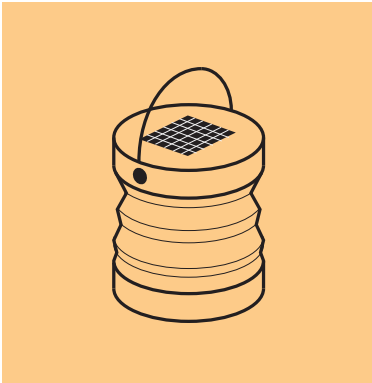
STEP 2 - MAKE A PLAN TO STAY OR GO

B. MAKE A 'SHELTERING STASH' IN YOUR HOME

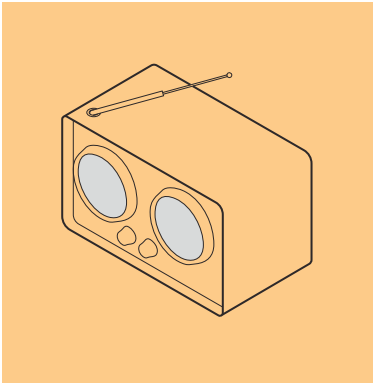
DEVICES



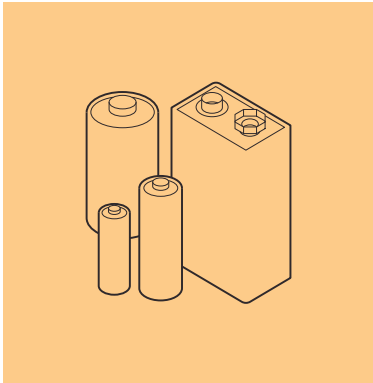
FLASHLIGHTS



SOLAR OR BATTERY-POWERED
LANTERNS

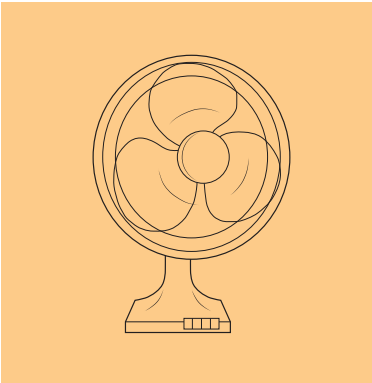


NOAA WEATHER RADIO WITH
SOLAR OR CRANK CHARGER



BATTERIES

Ensure battery sizing works with your equipment.



FANS

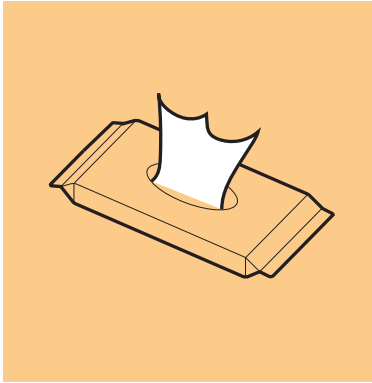
Hand fans or battery-operated fan (especially for elderly or heat-sensitive people).



APPLIANCE THERMOMETERS TO
MONITOR FRIDGE AND FREEZER
TEMPERATURES

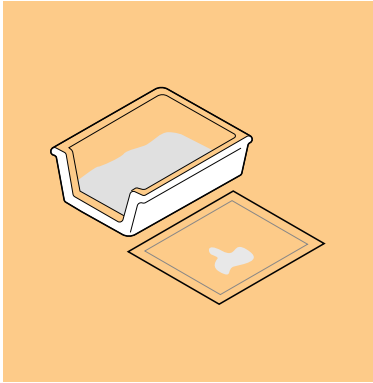
Appliance thermometers to monitor fridge and freezer temperatures.

HYGEINE



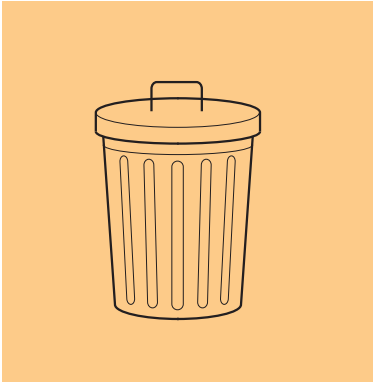
MOIST TOWELS

Cleaning and preparing food.



FOR PETS

Litter box or padding for pets to relieve themselves.



GARBAGE BAGS

Garbage bags, or sealable bin for garbage (especially for diapers and food waste).



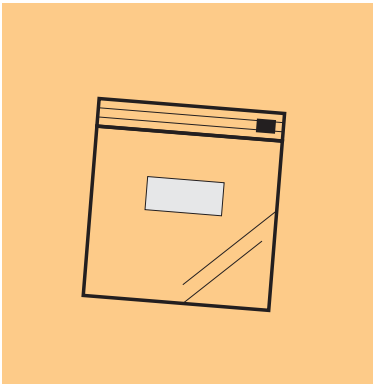
CLEAN UP SUPPLIES

Supplies that will help you clean up after the event: large strong garbage bags; eco friendly cleaning agents; mops, buckets, rubber gloves; safety goggles; N-95 respirators for the household.



FOOTWEAR

Outerwear and sturdy footwear for each household member in case you need to leave suddenly.



BATHROOM BAGS


Small sealable bags for bathroom garbage if toilet can't be flushed.

DEVELOP A HOUSEHOLD
EMERGENCY PLAN

STEP 2 - MAKE A PLAN TO STAY OR GO

B. MAKE A 'SHELTERING STASH' IN YOUR HOME

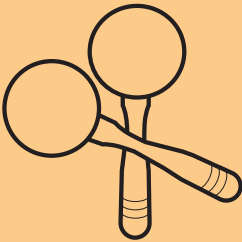
WELLNESS



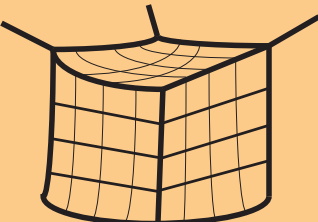
LARGE FIRST AID KIT



BEDDING, CUSHIONS, PILLOWS
AND BLANKETS




TOYS, GAMES, BOOKS AND
MUSICAL INSTRUMENTS



MOSQUITO NETS



SUNSCREEN



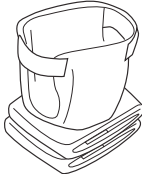
"GO BAG"

STEP 3 - MAKE A PLAN TO LEAVE

A. MAKE A 'GO BAG' FOR EACH MEMBER


Your bag should be durable and easy to carry, like a backpack or suitcase on wheels. Keep it where you can grab it quickly.

SAFETY & WELLBEING



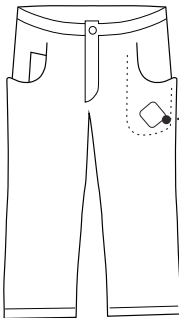
DIAPERS
Include a 5 day supply of
diapers for
infants

FOOD




Non-perishable food
like granola or protein
bars, baby food and
instant formula for
infants.

IMPORTANT MATERIALS
& INFORMATION




CONTACT LIST
Pinned contact list on
the inside pocket

DEVICES & ITEMS



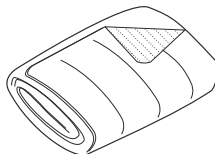
STUFFED TOYS
Include stuffed
animals for
entertainment and
comfort.

HEADSET



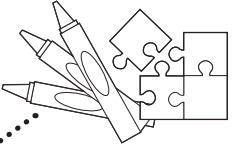
Include headset for
entertainment devices

BLANKET

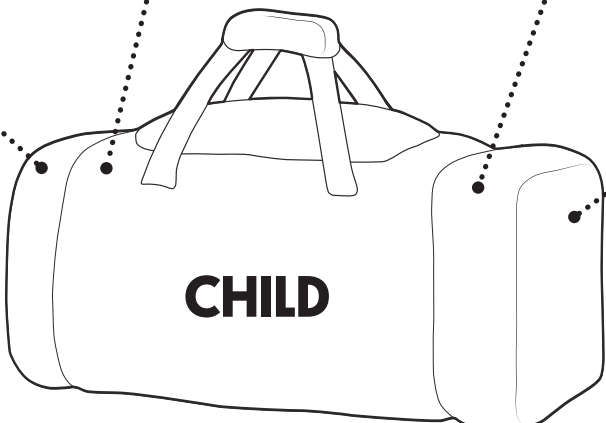


Include a blanket for
unexpected weather

ENTERTAINMENT



Crayons and puzzles
serve to entertain and
distract children



CHILD

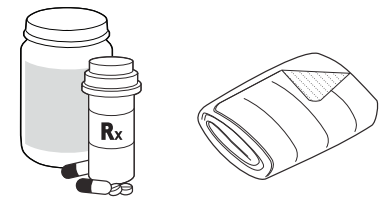
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DEVELOP A HOUSEHOLD
EMERGENCY PLAN

STEP 3 - MAKE A PLAN TO LEAVE

A. MAKE A 'GO BAG' FOR EACH MEMBER

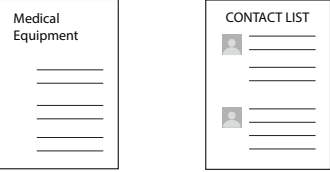
SAFETY & WELLBEING



MEDICINE
Seven-day supply of vitamins and supplements

COMFORT ITEMS
A blanket, slippers or favorite small objects.

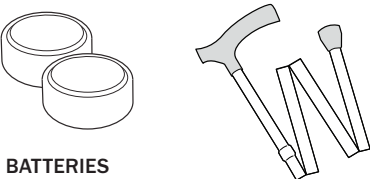
IMPORTANT MATERIALS & INFORMATION



MEDICAL EQUIPMENT LIST
Include make, model and style or serial number

CONTACT LIST
Large-text version of all contacts and reunification hotline

DEVICES & ITEMS

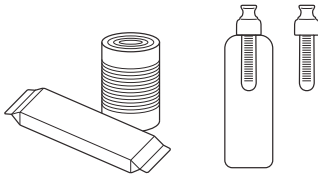


BATTERIES
Extra Batteries for Hearing Aids or other devices

WALKING AID
Foldable cane or walking aid

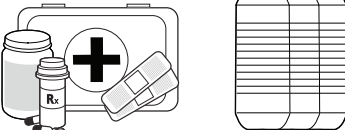


SAFETY & WELLBEING



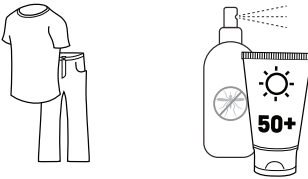
FOOD
Non-perishables like granola OR energy bars.

WATER FILTER
Get a water bottle with filter & replacements.



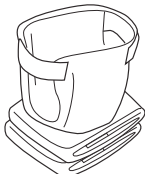
MEDICAL SUPPLIES
Medications and first aid kit

WATER FILTER
Get a water bottle with filter & replacements



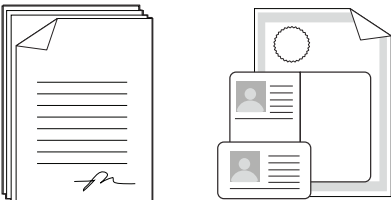
CLOTHES
Include at least two changes of clothing.

REPELLENT & SUNSCREEN
Make sure its the strongest available.



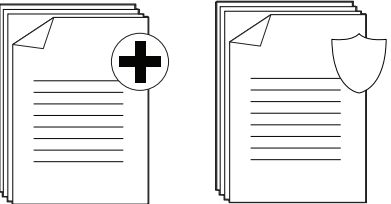
HYGIENE
Washing cloth, hand sanitizer, toothbrush and toothpaste.

IMPORTANT MATERIALS & INFORMATION



PROOF OF RESIDENCY
Store it in a safe water-proof container

ID
Store it in a safe water-proof container



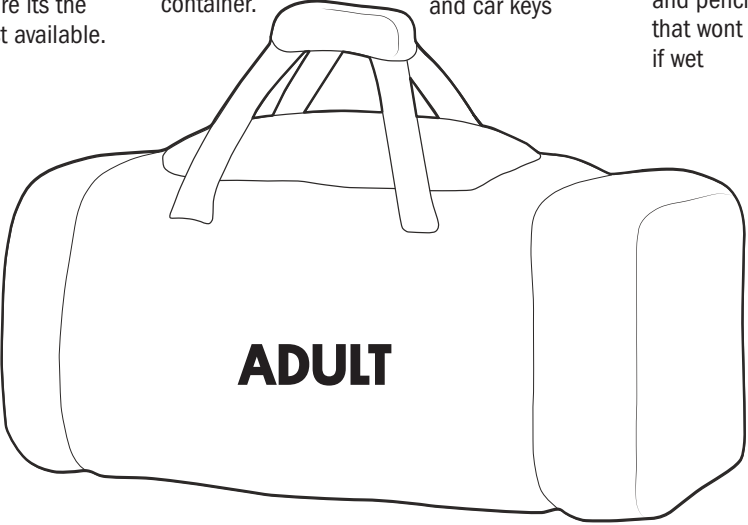
MEDICAL RECORDS
Store it in a safe water-proof container

HEALTH CARE & INSURANCE
Store it in a safe water-proof container

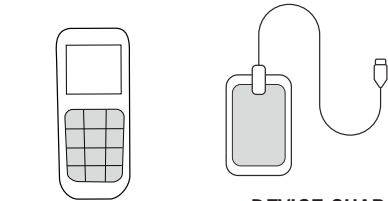


CASH
Store it in a safe water-proof container.

SPARE KEYS
Extra set of house and car keys

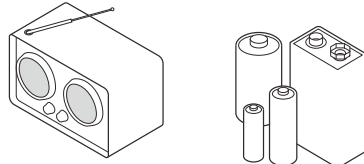


DEVICES & ITEMS



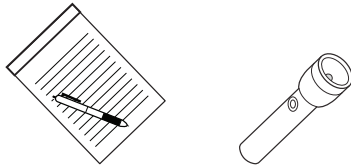
BACK-UP PHONE
With wall or USB charger

DEVICE CHARGER
A solar charger is preferred



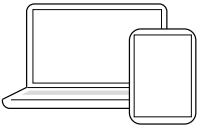
RADIO
Must be battery powered. Take out batteries when in storage.

BATTERIES
Include an ample supply of AAA, AA, 9V, D batteries.



NOTEPAD & PENS
Include pens and pencils that wont spill if wet

FLASHLIGHT
Solar powered is preferred



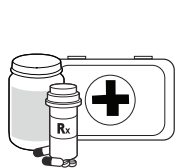
LAPTOP OR TABLET
With wall charger

DEVELOP A HOUSEHOLD EMERGENCY PLAN

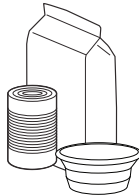
STEP 3 - MAKE A PLAN TO LEAVE

A. MAKE A 'GO BAG' FOR EACH MEMBER

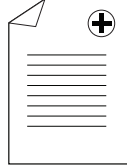
SAFETY & WELLBEING



MEDICINE & FIRST AID
Seven-day supply, include animal first aid kit with flea treatment.



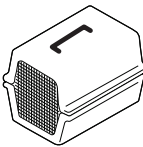
FOOD
Three-day supply of food and water with foldable food and water dishes.



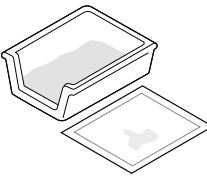
MEDICAL RECORD
Vaccination, Microchip ID, Photo with pet and family members in case of separation



ID & CONTACT LIST
Include veterinarian and person who can help your animals if you can't get home.



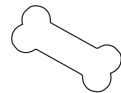
CARRIER
Include crate or carrier for your pets.



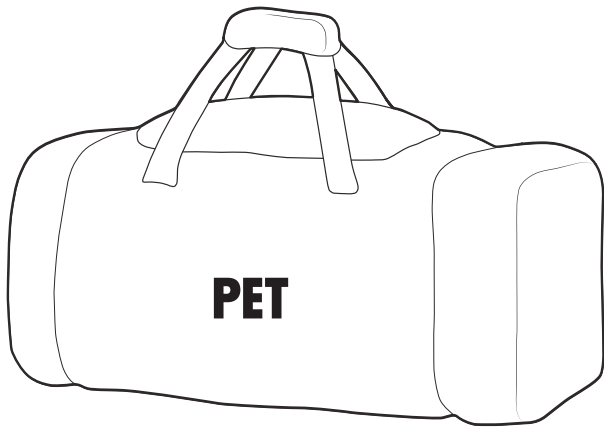
batteries
Include an ample supply of AAA, AA, 9V, D batteries.



CLEAN-UP BAGS
Include clean-up bags for unexpected situations.



COMFORT ITEM
Include a comfort item or toy.



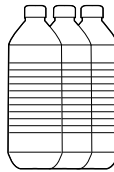
IMPORTANT MATERIALS
& INFORMATION

DEVICES & ITEMS

SAFETY & WELLBEING



MEDICAL SUPPLIES
Medications and first aid kit

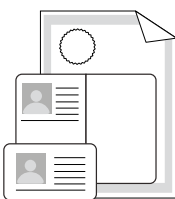


WATER FILTER
Three days worth per person if possible

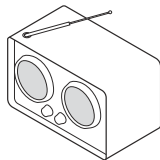
IMPORTANT MATERIALS
& INFORMATION



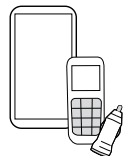
PROOF OF RESIDENCY
Store it in a safe water-proof container



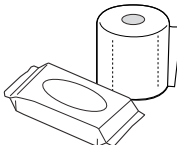
ID
Store it in a safe water-proof container



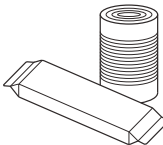
RADIO
Must be battery powered. Take out batteries when in storage.



CELL PHONE
With car charger



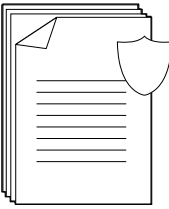
BATHROOM HYGIENE
Washing cloth and toilet paper



SNACKS
Non-perishables like granola or energy bars



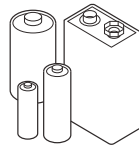
MEDICAL RECORDS
Store it in a safe water-proof container



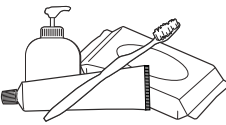
HEALTH CARE & INSURANCE
Store it in a safe water-proof container



FLASHLIGHT
Solar powered is preferred



BATTERIES
Include an ample supply of AAA, AA, 9V, D batteries.



HYGIENE
Washing cloth, hand sanitizer, toothbrush and toothpaste.



REPELLANT & SUNSCREEN
Make sure its the strongest available.



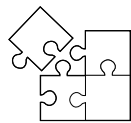
CASH
Store it in a safe water-proof container



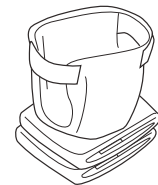
SPARE KEYS
Extra set of house and car keys



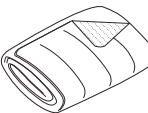
HAT
Include a hat to protect yourself from prolonged exposure to sun.



ENTERTAINMENT
Games and puzzles serve to entertain and distract.



DIAPERS
Include a 5 day supply of diapers for infants



BLANKET



UMBRELLA



COLLAR & LEASH

DEVICES & ITEMS

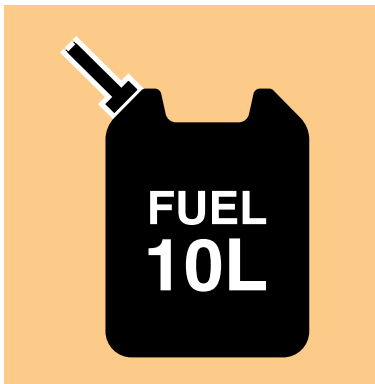
STRATEGY

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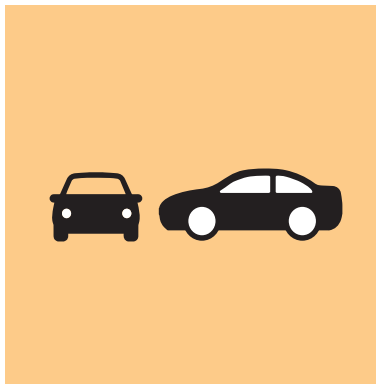
DEVELOP A HOUSEHOLD
EMERGENCY PLAN

STEP 3 - MAKE A PLAN TO LEAVE

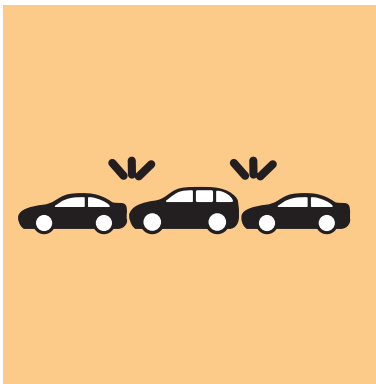
B. EVACUATE BY CAR



Fill up the gas tank early to avoid waiting in long lines. Consider carrying extra gas in an approved container.



Reduce traffic congestion by using one car per household. Offer a ride to neighbors if you have room.



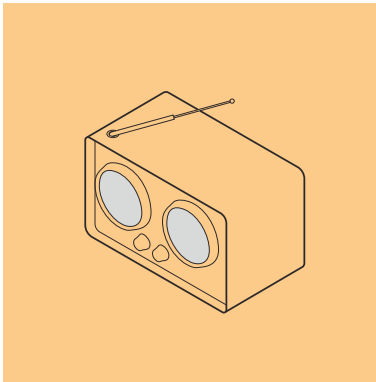
Anticipate heavy delays. In mass evacuation traffic, travel takes roughly four times as long as usual.



Learn designated evacuation routes or bring a paper map with the routes marked. Travel only on these routes as others may be blocked.



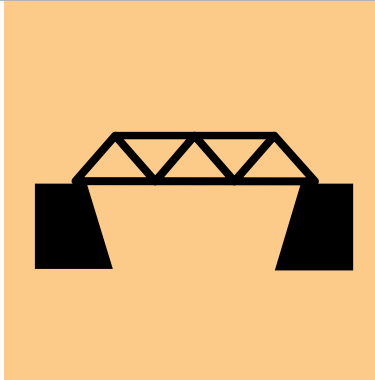
Do not drive into flooded areas. Just six inches of moving water can knock a person down, and one foot of moving water can sweep a vehicle away.



Keep the radio on, follow traffic notifications, and watch for hazards such as downed power lines and washed out bridges.



Wear sturdy shoes and comfortable protective clothing, such as pants and a long-sleeve shirt.



In a hurricane, expect bridges to be closed as wind speeds increase.



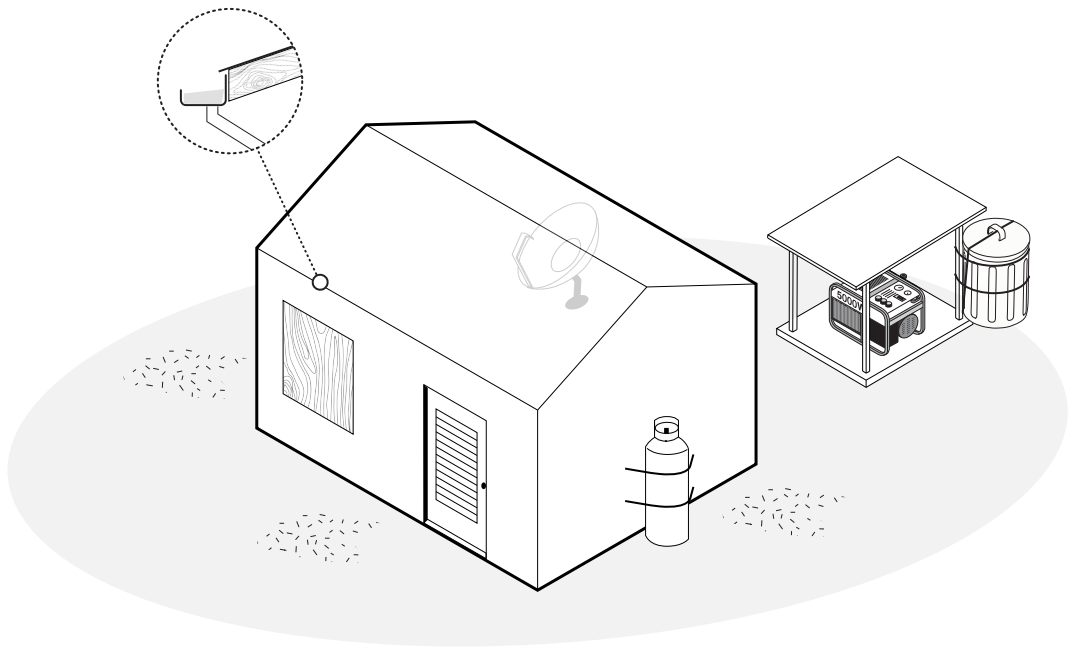
Have emergency supplies for the car itself, including a spare tire or patch kit, a large flashlight, first aid kit and basic repair tools.

C. CLOSING UP YOUR HOME

If you have time, protect your house and belongings.

OUTSIDE

- ▶ Tie down or move loose materials or equipment such as outdoor furniture, trash cans, grills, bicycles.
- ▶ Secure doors and cover windows with plywood or shutters.
- ▶ Anchor propane tanks and any containers of hazardous chemicals so they do not leak or float away.
- ▶ Clean gutters and drains, and move any objects that may block water from receding. Test the sump pump if you have one.
- ▶ If you have a generator for the house, it should have an approved transfer switch and be securely bolted down. Test it and fill it with fuel.



STRATEGY

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DEVELOP A HOUSEHOLD
EMERGENCY PLAN

STEP 3 - MAKE A PLAN TO LEAVE

C. CLOSING UP YOUR HOME

INSIDE

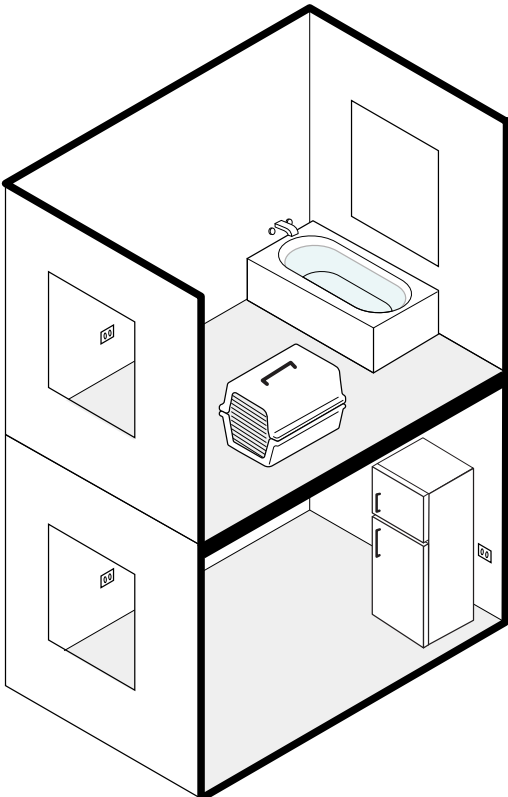
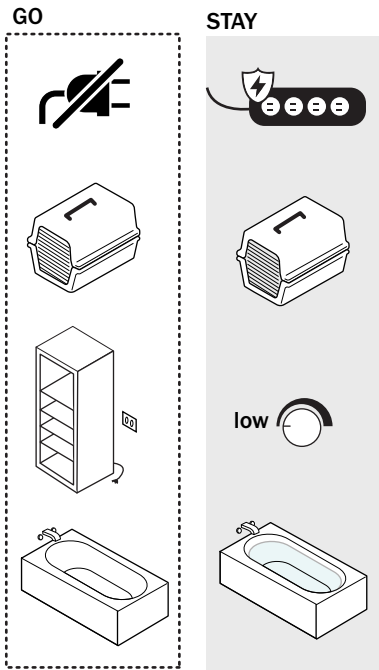
- Move valuables to the highest floor if flooding is likely

► Fill the bathtub(s) and other clean large containers with water. You can use this to drink if needed.

► Keep your pets safe. Put them in a carrier or room where you can get them quickly when you are ready to leave or shelter

► If you are leaving, unplug all appliances. If you are staying, consider a surge protector for the refrigerator and freezer if you want to keep them plugged in.
- If you are evacuating, empty your fridge and freezer so you do not return to decayed food. Mold and odor inside a refrigerator or freezer can damage the appliance, and you may have to throw it out.

► If you are staying, turn the fridge and freezer to the lowest settings so food stays colder longer.



UTILITY SYSTEMS

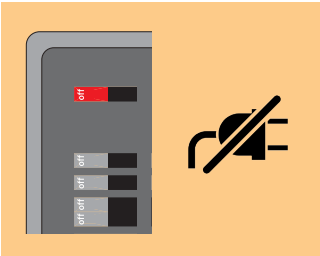
Shut off utility systems to minimize damage and danger. The hazards of utility outages usually come from when the systems go back on without being shut off properly. Have a professional show you how to shut these systems down before a disaster.

ELECTRICITY

- There are two places to turn off power: the circuit box inside and the main connection outside. Flip the switches you see in either of these places and power will go out.

► Unplug appliances to prevent them from being damaged by surges.

► If it is advisable to turn off your power, there will be a public alert message.



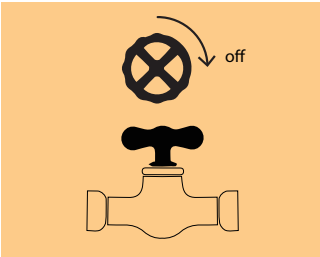
WATER

- The main shut-off valve works like the dial for a garden hose. Have a plumber identify it for you and label it with a plastic tag.

► If you are evacuating, shut off the main power and water.

► If you are sheltering in place, you should follow public messaging or turn off power and water preemptively.

► Whether you are evacuating or not, shut off gas to appliances. Use the valve next to the appliances, not the main valve.



STRATEGY

24

CHOOSE A SPACE TO
KEEP YOUR FAMILY SAFE

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When an anticipated disaster is approaching, the first question you need to answer is whether you and your household members should leave the area, stay home (“shelter in place”) or go to a designated shelter nearby. Hurricanes give several days’ warning before they strike, but many other natural disasters do not. This strategy will help you determine the best options in all conditions and to act accordingly.

- Strategy in Action
- 1. Understand the Vulnerabilities of Your Household
 - a. Consider the Difficulties Each Person may Face
 - b. Understand the Risks at Your Building
 - c. Understand the Risks in Your Region
 - 2. Decide Whether to Stay or Go

DESCRIPTION AND FUNCTION

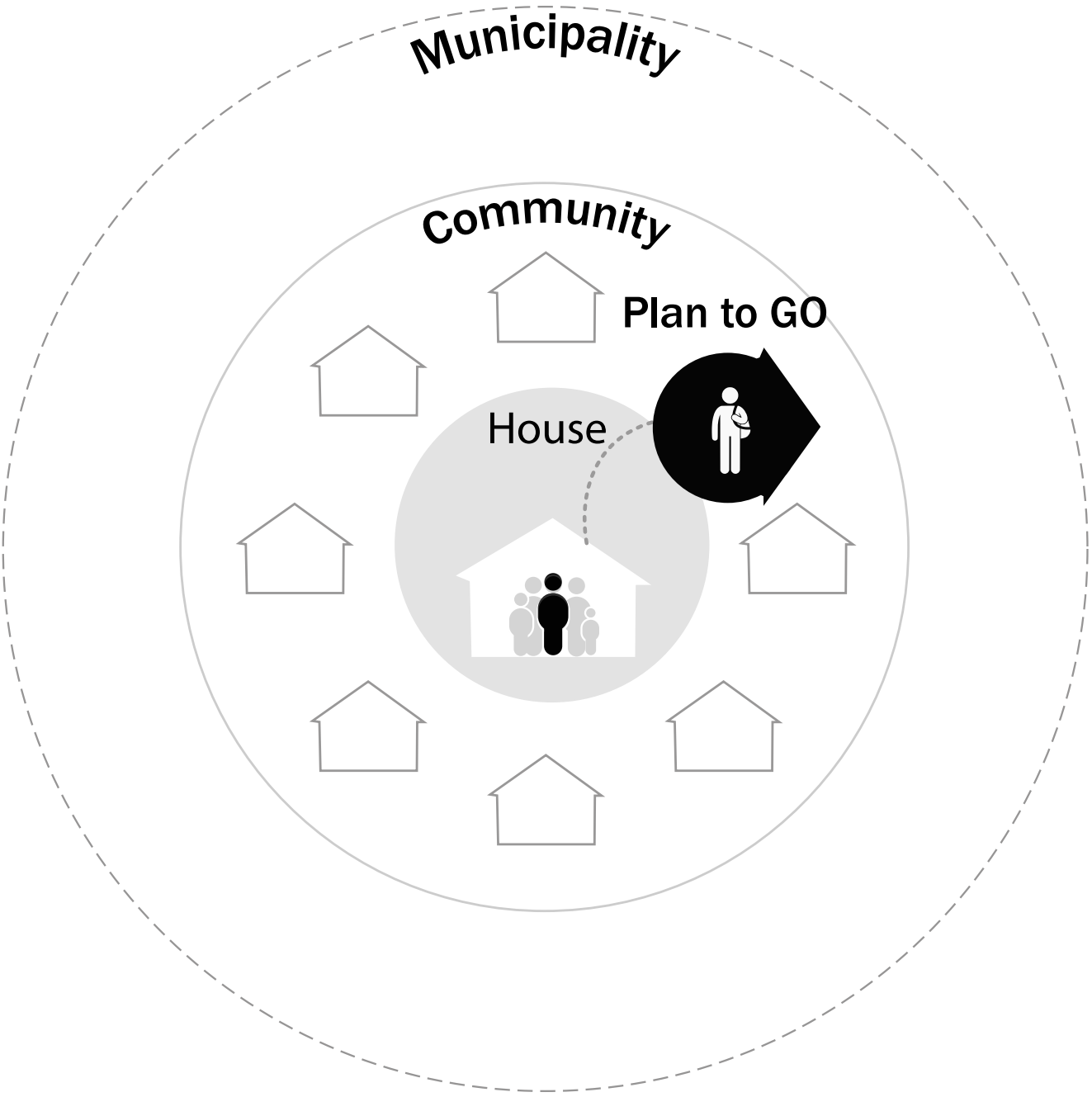
- When you assess the challenges that may arise for each member of your household during a disaster, your plan can address them in ways that lessen the impact.
- If you have advanced warning, you will be able to consider the safest place to weather the storm: your own home (“sheltering in place”), a local shelter, or a remote location such as with family, friends or a hotel safely away from the disaster zone. As part of planning, find two friends out of the area that your household can go to. If you need to make these decisions after the event, the same considerations apply.



Fotos Patillas

SUPPORTING STRATEGIES

- 01 Reinforce Site
- 04 Assess the Priorities for Your Home or



STRATEGY
24

CHOOSE A SPACE TO
KEEP YOUR FAMILY SAFE

STEP 1 - UNDERSTAND VULNERABILITIES AT YOUR HOUSEHOLD



CONSIDER THE DIFFICULTIES
EACH PERSON MAY FACE

- Can everyone travel long distances by themselves?
- Can everyone carry a moderately heavy bag?
- Does anyone need special food, medication, medical support, or equipment?
- Does anyone depend on power for life safety?
- Does everyone speak, hear, and see well?
- What options are there for keeping your animals safe?



UNDERSTAND THE RISKS AT
YOUR BUILDING

- Identify your home's trouble spots (see Strategy 04 on how to do a visual inspection of your home).
- Consider a professional evaluation to learn about the ways different hazards could affect your building and whether or where it would be safe to shelter there during an emergency.



EMAIL

- Some events, such as hurricanes, can be predicted in advance, but there is no warning for many other disasters that are likely to happen in Puerto Rico. To understand the conditions of your location in comparison with the whole island, review Strategy 01.
- Are you in a FEMA designated Special Flood Hazard Area, or within a floodplain that is vulnerable to storm surge or flooding? Check the FEMA Flood Map Service Center online.
- Are you in an evacuation zone designated by your local government?
- Are you in an isolated area where access roads may easily be cut off?
- Will any possessions, debris, or chemicals at your site become dangerous for you and your neighbors?

STEP 2 - DECIDE WHETHER TO STAY OR GO

- ▶ ALWAYS ERR ON THE SIDE OF CAUTION!
The simplest option is often to leave before an evacuation order, and stay with family and friends out of the area. Deciding early gives you the greatest number of options for travel, which is especially important if you have a household member with special needs or require a pet-friendly hotel.
- ▶ DO NOT FORGET ABOUT YOUR PETS!!!!
Wherever you plan on staying, make sure it is a pet-friendly alternative. Options for pets include:
 - Going to pet-friendly hotel
 - Boarding them at a kennel in a safe area
 - Leaving them with a friend out of the area
 - Taking them to a pet-loving neighbor or pet-friendly community shelter.

WHAT IS AN EVACUATION
ORDER AND WHAT CAN MAKE
YOUR SITE UNSAFE?

- An evacuation order is a notice given by government agencies, including the Puerto Rico Emergency Management Agency (PREMA), through media coverage. It is issued when the land where your home sits is vulnerable to natural hazards such as flooding, storm surge, landslides, or high winds.
- The government may not always be aware about specific situations. Even if there is not an evacuation order in place, make sure that both your surroundings and your home are safe. See Strategy 01: Identify Risks at Your Location and Strategy 04: Assess Condition of a Residential Structure.

WHAT ARE THE
CHARACTERISTICS OF A SAFE
SPACE AT HOME?

- Strong and structurally sound foundations, walls, and roof (preferably concrete)
- Small number of windows, skylights, or other openings
- Plenty of provisions for people and pets
- This safe space can be:
 - An interior bathroom or closet located at the center of your home (not along an exterior wall)
 - A space that is specifically built as a shelter during disasters.

WHAT CAN BE A SAFE SPACE
NEAR MY AREA?

- A safe space near your area can be a neighbor's home that is equipped with sufficient emergency supplies for all or a community-run shelter.

STRATEGY

24

CHOOSE A SPACE TO
KEEP YOUR FAMILY SAFE

STEP 2 - DECIDE WHETHER TO STAY OR GO

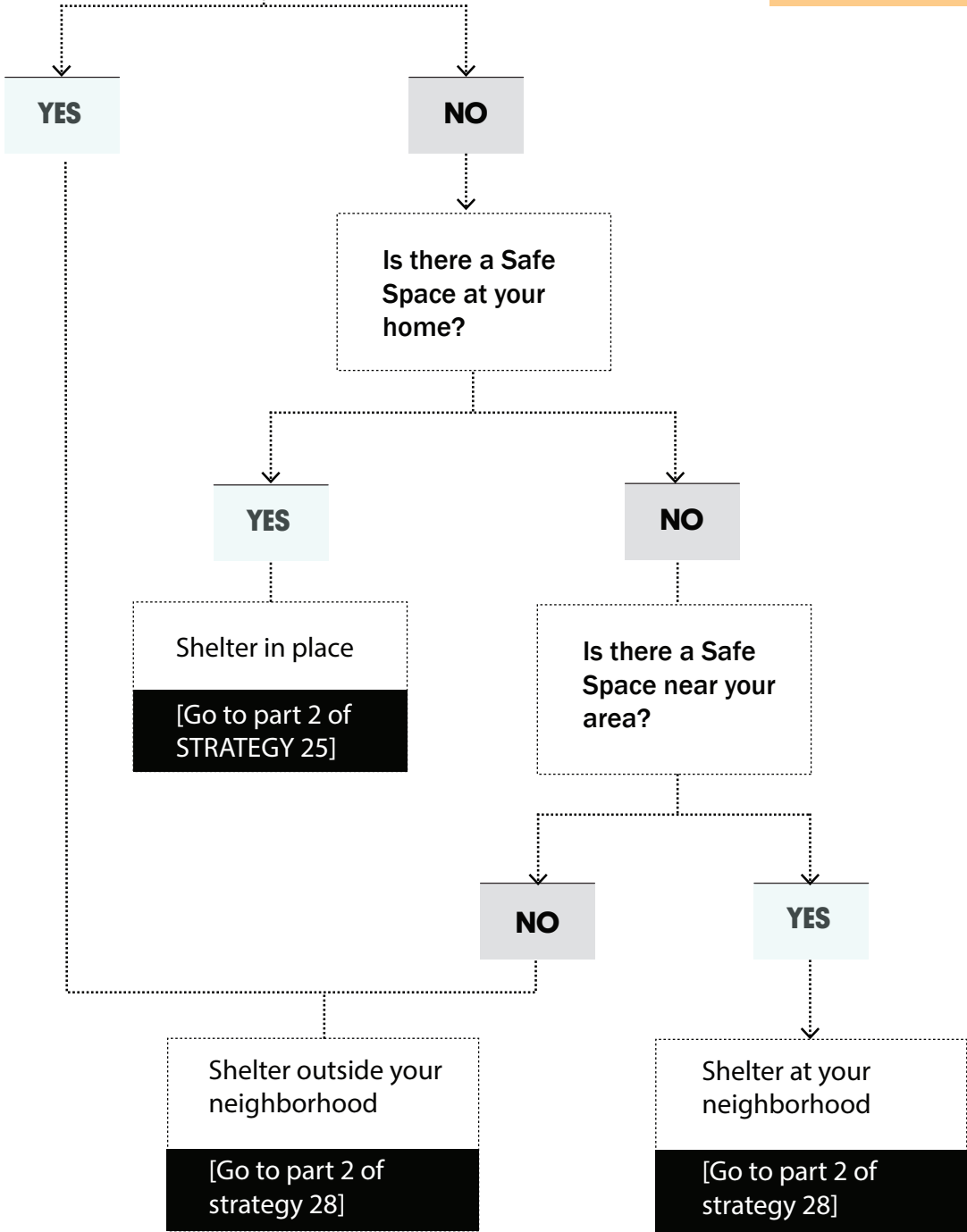


REMEMBER

- ATTENTION! STAY HERE ONLY IF:
- Everyone is healthy enough to live with utility outages for an extended period. Anyone that needs medical care beyond basic first aid should ask their regular care provider for the best place to go.
 - You have a way to communicate and get news.
 - You feel emotionally prepared to ride out the emergency disaster situation.
 - You're not alone.

Is there an evacuation order in your area?

Are you vulnerable after assesement of part one of this strategy ?



STRATEGY

25

RESPOND + BEGIN
HOUSEHOLD RECOVERY

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Dealing with the immediate and prolonged aftermath of a natural disaster can be one of the most difficult phases of household recovery. The landscape after a hurricane or earthquake can include power outages, water supply interruption and destruction of buildings. This strategy focuses on what to do during the emergency and how to manage early response for your home and members of your household so that your process of long-term recovery will be a foundation for future resilience.

- Strategy in Action
1. *During the Emergency*
 2. *After the Emergency: Safely Evaluate Your Home*
 3. *Respond to Emergency Conditions*
 4. *Understand the Recovery Process: Register for Assistance*
 5. *Rebuild*

DESCRIPTION AND FUNCTION

Breaking down the work of recovery into manageable pieces will help you move forward.

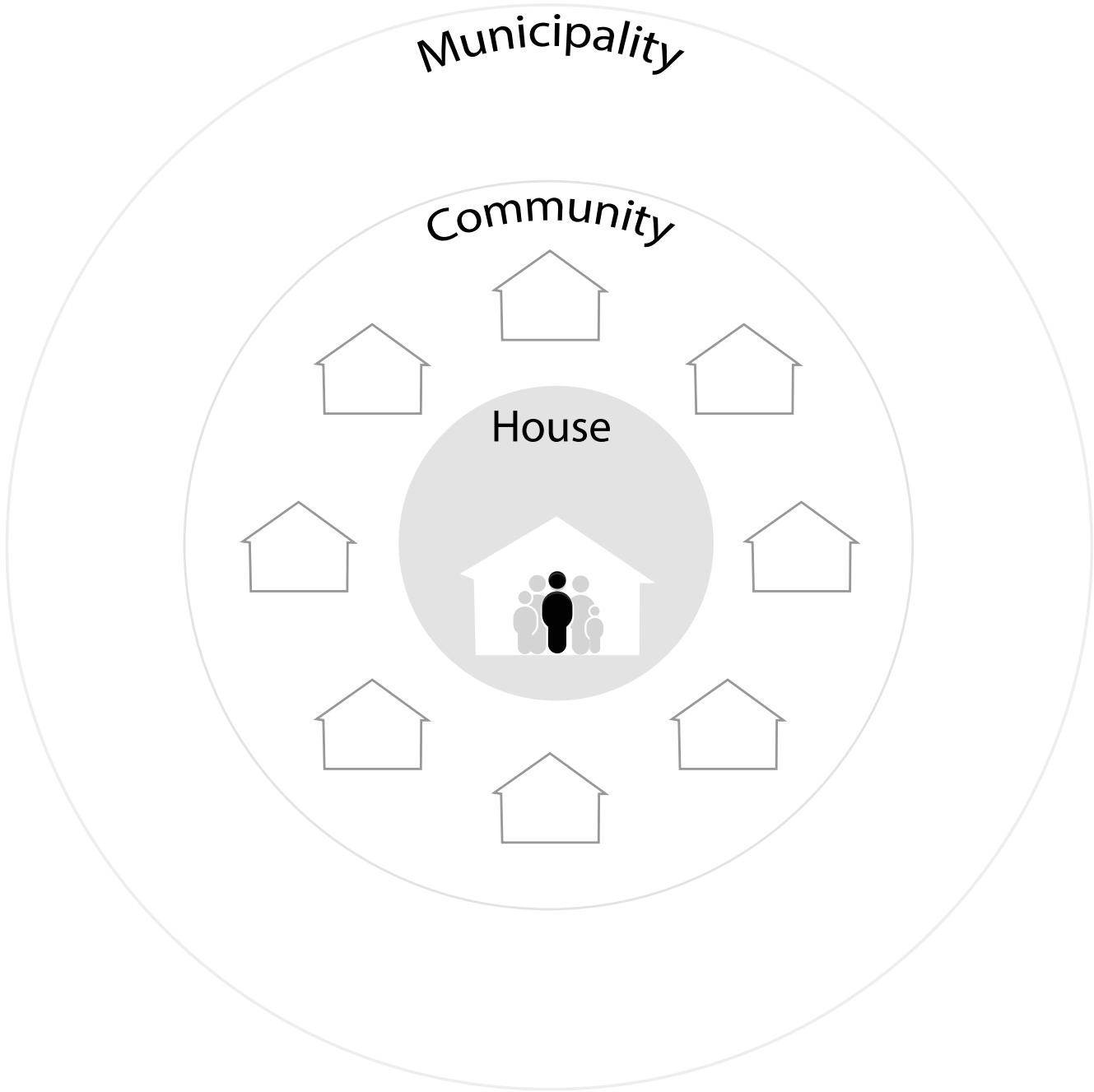


Jake Price Houston Texas Hurricane Harvey

OPERATIONS AND MAINTENANCE TIPS

- Ensure the safe space at your home or where you have decided to weather the natural disaster is prepared as you:
- Remove any elements hanging on the walls such as shelves, mirrors, pictures, or artwork.
- Move heavy objects, like books, to lower shelves or plastic boxes on the floor.
- Repair fissures and seal openings to the exterior, such as windows, with wooden panels or storm shutters. See Strategy 08.

SUPPORTING STRATEGIES							
01	04	08	23	25	26	27	28
Reinforce Site	Assess the Priorities for Your Home or Building Structural Condition Prior to Event	Anchor, Seal and Protect Building Openings	Develop a Household Emergency Plan	Respond + Begin Household Recovery	Develop a Community Plan	Identify + Prepare Safe Community Shelter	Inspiring Post-Disaster Planning for Community



STRATEGY

25

RESPOND + BEGIN
HOUSEHOLD RECOVERY-

STEP 1 - DURING THE EMERGENCY



- KEEP ONE PHONE OR RADIO ON AT ALL TIMES.
- STAY CALM, HELP OTHERS AND FOLLOW OFFICIAL ADVISORIES
- HAVE BOARD GAMES OR CARDS TO PASS THE TIME IN A CONFINED SPACE
- PROTECT VALUABLES. UNPLUG AND ELEVATE ELECTRONICS, AND STORE VALUABLES IN PLASTIC.



- RUN DOWN BATTERIES WITH UNESSENTIAL USES.
- TAKE BIG RISKS OR SEPARATE YOURSELF FROM OTHER PEOPLE.
- RISK YOUR LIFE TO SAVE ANY POSSESSIONS.
- GO OUT OF A SAFE SPACE UNLESS THE AUTHORITIES ANNOUNCE DANGER HAS PASSED

STEP 2 - AFTER THE EMERGENCY | SAFELY EVALUATE YOUR HOME

Storms and other disasters create new hazards in their wake. If you evacuated your home, return only when qualified officials deem it safe to do so. If you sheltered at home, don't go outside until you get an official alert that it is safe.



GOING OUT AFTER SHELTERING
IN PLACE

- Signal to Emergency Crews and Neighbors
- Post a notice on the front door with big dark letters that says OK if you do not need emergency help, or HELP if you do.
- If you leave, post a message that says where you went, who you are with, and numbers where you may be reached (this can be your cell phone and your out-of-area contact)

STEP 2 - AFTER THE EMERGENCY | SAFELY EVALUATE YOUR HOME



RETURNING HOME

- Go inside cautiously, with a flashlight rather than a lantern or any source of flame. There may be gas or other flammable vapors that can cause fires.
- Watch out for broken glass and sharp debris. If you see, or smell mold (musky smell) leave the space.
- Water and electricity are dangerous together. NEVER turn on power if there is water inside.
- Document all damages to facilitate insurance, emergency and municipal response.
- Take photos or videos and document all damages in writing.
- Calculate total estimated losses in \$.
- Keep track of all damages to show insurance company history of home.



MANAGING A FLOODED HOME

- Ventilate the space by opening windows and doors as soon as weather allows.
- Determine if there is mold. See Strategy 13.
- If there is no sign of mold, remove any wet material as soon as you can (drywall, fabrics, rugs and furniture, etc) to prevent mold from developing.
- If you think there might be mold, wear protective eyewear, gloves and a respirator mask. Spend only 15 minutes in the site at a time. Carefully document damage with photographs for your insurance company.



IN YOUR COMMUNITY

- Avoid walking or driving through flood waters, which can be electrically charged from damaged power lines or contaminated by sewage.
- Look out for landslides, especially after a lot of rain. Be aware of changes in the landscape such as new patterns of stormwater drainage on slopes (especially the places where runoff water converges), land movement, tilting trees and any cracks or shifting in parts of your building.
- Go to Strategy 29: Respond and Begin Community Recovery for more info.

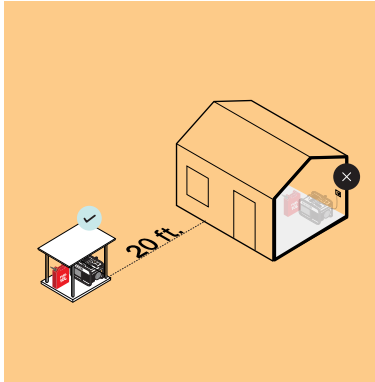
STRATEGY

25

RESPOND + BEGIN
HOUSEHOLD RECOVERY-

STEP 3 - RESPOND TO EMERGENCY CONDITIONS

- ▶ Disaster affects physical and mental health. Staying well helps you have a smooth recovery.
- ▶ Remember that you are part of a community and you can support each other. See Strategy 29 for more on community collaboration. See Strategies for Energy Generation + Backup and Water Management + Storage



USE GENERATOR POWER

- NEVER use a generator indoors, as it produces deadly carbon monoxide. Place it outside, at least 20 feet away. Monitor inside air with a carbon monoxide detector that has new batteries.
- If you have a portable generator, store it in a covered space with ventilation, especially if you are worried that it might get stolen. For storing fuel, use an approved container and secure it in a protected location far from people.
- NEVER plug a generator into a wall outlet.



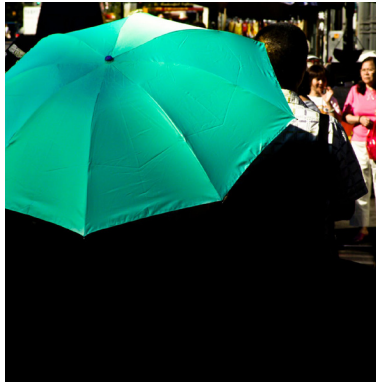
ACCESS SAFE FOOD AND WATER

- If you can't cook on your stove, grill outside, use a camp stove or a solar oven.
- If you don't have access to the outdoors use a propane stove near a window.
- Do not cook food over wood that has been painted or treated with chemicals- they are toxic
- Canned and sealed foods are the most sanitary options.



LIVE WITHOUT POWER

- Use minimal electricity until power is fully restored. Power supply may be reduced, lighter load on the grid means more power for more people.
- Identify household fire hazards (and develop appropriate risk mitigation measures).
- Use safe cooking, lighting and heating practices (e.g. do not leave appliances unattended, keep clothing/furniture away from appliances, etc.)
- Teach children about fire safety and promote safe behavior
- Share knowledge and ideas with neighbors.



STAY COOL IN THE HEAT

- Avoid things that make you sweat, such as salty food, physical activity, sitting in the direct sun.
- Working hard while wearing clothing that cover the body can cause:
 - Heat Exhaustion – Symptoms include heavy sweating, weakness, nausea, vomiting, headache, lightheadedness, and muscle cramps. Rest in a cool place, remove excess clothing and hydrate immediately.
 - Heat Stroke - If heat exhaustion persists, seek urgent medical attention. Symptoms include high body temperature, altered mental state or behavior, headaches, confusion, agitation, slurred speech, irritability, delirium, seizures, rapid breathing, fast pulse, and sweating that alternates with dry skin. Cool the person with any means available and call a health professional.



PREPARE FOOD

- NEVER eat food that has touched storm water. If cans or food containers get wet, remove paper labels (they can have bacteria), wipe with diluted bleach (1 tablespoon of unscented liquid chlorine bleach in 1 gallon of water) and let dry for an hour. If cans are bulging or damaged, they are likely contaminated and you should not eat the contents.
- When in doubt, throw it out! Food poisoning can be dangerous during an emergency. In fires, food is exposed to toxic chemicals, even inside the fridge, and should not be eaten.
- Without power, food should stay cold four hours in the refrigerator and up to 48 hours in the freezer.



PROTECT MENTAL HEALTH

- Living through a disaster is stressful. Long periods of stress can lead to depression, anger, and substance abuse.
- Eat healthfully, exercise often, sleep soundly, and avoid alcohol and other drugs.
- Share your feelings friends or family and maintain relationships with friends.
- Take breaks from dealing with the disaster and try to return to activities you enjoy if possible.
- Stay informed but avoid excessive exposure to media coverage of the event.
- Ask for help from a clergy member, counselor, non-profit (such as the Red Cross), or doctor.
- *REMEMBER: Disasters are particularly hard for children. Help them by:
 - Getting them back into a familiar routine as quickly as possible.
 - Reassure them, and answer their questions
 - Limit exposure to media coverage of the event.

RESPOND + BEGIN
HOUSEHOLD RECOVERY

STEP 3 - RESPOND TO EMERGENCY CONDITIONS



LIVE WITHOUT RUNNING
WATER

- Stay hydrated. If you have a low supply of water, use it only for drinking.
- If bottled water is not available, treat your own. Dirty water leads to illnesses such as dysentery, cholera, typhoid and hepatitis. Follow guidance from the health department on how to treat water. Do not drink, bathe in, wash dishes, brush your teeth, or make ice with water that you are not sure is safe. Babies should breastfeed or drink formula, never water.
- Use rainwater caught in clean buckets for flushing toilets. Never use flood water.
- See Strategy 16 Reduce Your Water Consumption



MINIMIZE PESTS

- There can be debris nearby – including food scraps – that attracts pests. Watch out for open windows and doors that can allow rodents, insects and reptiles to come in and spread diseases.
- Protect yourself from Zika and Dengue viruses by using mosquito repellent and sleeping with mosquito nets. Pregnant women, or women that plan to have children should be aware the viruses are linked to complications with pregnancy.
- Use battery fans to keep air flow. Keeping your surroundings dry and cool dissuades mosquitoes.
- See Strategy 15: Manage Pests.



ENSURE SANITATION AND DEAL
WITH YOUR SEPTIC SYSTEM

- Eliminate all non-essential water use and flush toilets as little as possible. Use hand sanitizer to keep hands clean.
- If pipes in your system carry sewage away, you can flush the toilet by pouring water down the bowl.
- If your pipes are backed up, keep them shut off. You will need to improvise a toilet.
- If you have a septic system: If the drain field becomes covered with water, do not use the system and avoid contact with any standing water that may contain sewage.



CLEAN UP AND MANAGE
DEBRIS

- Use clothing and equipment that protect you during clean-up. You may be exposed to lead paint, asbestos and other toxins.
- Keep spaces well ventilated.
- Clean any wounds, cuts, or animal bites with soap and clean water.
- Clean up debris
- Protect human health, comply with regulations, reduce injuries, and minimize or prevent environmental impacts by cleaning up debris. Work with neighbors, See Strategy 27 for how to organize community collaborations.



TREAT WATER

- The most common ways to treat water are by boiling and chlorinating.
- Boil water for at least one minute then let it cool.
- Chlorinate water using regular, unscented bleach only. Household bleach has concentrations from 5.25% to 8.25%.
- For 5.25%, add 8 drops per gallon (approx. 1/2 teaspoon)
- For 8.25%, add 6 drops per gallon
- Stir and let stand for 30 minutes. If it does not have a slight bleach odor, repeat the dosage and let it stand another 15 minutes. If it still does not smell of chlorine, discard it and find another source of water. Before drinking, let it sit for several hours and the bleach smell will dissipate.



RESPOND + BEGIN HOUSEHOLD RECOVERY-

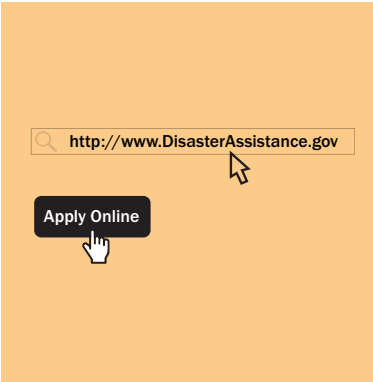
STEP 4 - UNDERSTAND THE RECOVERY PROCESS: REGISTER FOR ASSISTANCE

Challenges arise regardless of whether you are performing small repairs or a rebuilding a house. Take the time to structure your project in the beginning, to save time and money in the long run.



INSURANCE

- The first thing to do is file an insurance claim.
- Funds for rebuilding (such as those from FEMA and other government agencies) are not usually calculated until your insurance claims are adjusted.



GOVERNMENT AGENCIES

- If a Presidential disaster declaration is issued, you will be able to apply for funding via FEMA. Register for FEMA assistance, either online at www.DisasterAssistance.gov, or at a Disaster Recovery Center. Registering directly with FEMA will help you understand the aid you qualify for.
- Determine whether you are eligible for a low-interest disaster loan with the U.S. Small Business Administration (SBA). The SBA offers low-interest disaster loans for businesses and nonprofit organizations, homeowners and renters.



NON-PROFIT ORGANIZATIONS

- If you cannot afford construction services, there may be volunteer groups or non-profit organizations that can do repairs and remove mold.
- If you need additional aid, such as food benefits, medical devices, mental health care, or small business assistance, ask FEMA if they can refer you to organizations like the American Red Cross, or follow word-of-mouth in your area.

STEP 5 - REBUILD

ESTABLISH YOUR PRIORITIES

Stay safe and healthy throughout the recovery process. This may mean you and your family stay at a safe shelter, a neighbor's or family's house or hotel.

ESTABLISH YOUR BUDGET

- Get information from your insurance company, FEMA and other aid sources about available funds, and the specific filing requirements for authorizing them.
- Construction projects are often more expensive than projected, even with a good contractor. Add a cushion of at least 20% to your budget for unexpected expenses.
- See "Putting It All Together"

DETERMINE YOUR PROJECT SCOPE

- Make a list of the services you need (carpentry, mold remediation, electrical.) to present to contractors for a bid.
- Architects help you determine how to build greener and safer within your budget.
- A Design Help Desk helps you plan your project and work with an architect. Follow news to find out about them.

KNOW THE LAW

- Work with local businesses that have proper licensing and insurance. You may be liable for any construction-related accidents on your premises if the builder does not have adequate workers compensation and liability insurance.
- Ensure your contract requires your contractor to get required permits and meet building codes.
- Confirm the contractor is certified to provide the service you need. For instance, mold remediation requires special certifications, as does handling lead paint.
- See "Putting It All Together"

FIND A GOOD CONTRACTOR

- Be careful selecting a contractor. There are many scams.
- Request bids from several contractors. The cheapest bid is not always the best.
- Establish a written contract. Include: full price, materials and timeline. The more detail, the better.
- Ask your insurance company for a recommendation.
- Communicate well and constantly with your contractor.
- Say no to cash-only deals, door-to-door solicitations that require you to commit right away, high upfront payments, handshake deals without a contract, free on-site inspections, or discount materials. Be cautious of a contractor that contacts you first.
- Get references from past customers, both old references, to check endurance of the work, and more recent ones to ensure it is still good.

CASA PUEBLO

Description: Casa Pueblo is a community-based non-profit organization located in Adjuntas, Puerto Rico. Casa Pueblo was the result of what started as a hard-fought struggle for land conservation in the central mountainous region of the island. Now, as a respected and admired institution, Casa Pueblo continues pursuing its goal: to educate the public on sustainable development issues and community activism. Located in Adjuntas, its headquarters serve as a cultural center where visitors can learn all about the history of the renowned Art and Culture Workshop. A guided tour through the center covers all of Casa Pueblo's achievements, from its initial efforts to stop the strip mining of the surrounding areas to the subsequent enactment of legislation in favor of land conservation in other municipalities. Other tourist attractions include a butterfly garden, a plant nursery, and an artisan shop.



TALLER SALUD, LOIZA



Interviewee: Tania Rosario, Taller Salud, Loiza

For more information, visit <https://www.tallersalud.com/>

Description: Taller Salud is a feminist, community-based organization whose goal is to improve women’s access to healthcare, reduce violence in community settings, and promote economic development through education and activism. After Hurricane Maria, Taller Salud coordinated medical and psychological assistance brigades for over 2,000 people and distributed food to about 14,000 women and their families during the first three months after the event. Between January and March of 2018, an additional 3,000 people received supplies and primary healthcare based on their needs at the time, while an additional 1,000 people received medical and/or psychological assistance. Over the next six months after the hurricanes hit, our organization and our strategic partners helped an estimated total of 20,000 people in 15 municipalities as part of our emergency response.

INTERVIEW

The fact is that it was really tough for our communities in Loiza, where our offices are located. We were barely starting to handle the damages left in Loiza by hurricane Irma’s passage, which destroyed 300 homes and brought down the water and power systems in the area. Our response to Maria was, in reality, a direct result of the emergency response to Irma. When it came to donations, this helped us have a good idea of what our residents needed to avoid receiving redundant aids when people asked what

they could donate. This allowed resources to flow to other communities with different needs from those of our residents. Moreover, this also helped us identify the additional needs that we tend to forget during an emergency, such as reproductive and women’s health care. Our day-by-day interactions involved daily meetings to determine aid categories and cover basic needs based on established priorities, including water, food, medications, medical assistance, clothes, necessities, pest control, materials, and household goods.

After Maria, we also established four lunchrooms in the community, where the women cooked and served about 1,000 meals per day for 8 weeks. Currently, we are working with the Recuperación Justa project, which has two goals: delivering aid supplies and community planning. Fundamentally, this project strives for the community to develop and perform organizational and political training work in the face of a real threat to the recovery discourse. For example, our Loiza community lives near a channel that needs dredging, and we are always told there is no money for it. Meanwhile, financing is readily available when it comes to proposals for housing developments or apartment projects. So we are working for the community and its residents to assume their responsibility and take on a political discourse and identity to tackle the recovery process and everything it entails. That is why we call it Recuperación Justa [fair recovery], not Disaster Recovery.



BARRIO MARIANA’S RECREATIONAL AND CULTURAL ASSOCIATION (ARECMA, BY ITS SPANISH ACRONYM)

Interviewees: Rosalina Abreu and Susana Sanabria, ARECMA, Inc.

For more information, visit <https://arecma.wixsite.com/arecma>

Description: Barrio Mariana’s Recreational and Cultural Association (ARECMA, by its Spanish acronym) is a community-based non-profit organization located in the Mariana neighborhood in Humacao. This organization was created to work and ensure the well-being and comprehensive development of the neighborhood and its residents. Mariana is a mountainous community approximately 6 km away from the town’s urban center. It is divided into three sectors (Mariana I, II, III) and is inhabited by almost 3,200 people. Mariana is a rural community, far from the urban center of town, which is why its residents have always had difficulty to access basic services such as electricity, phone, transportation, and drinking water systems. In light of this scenario, community residents decided to come together and create ARECMA almost 37 years ago, searching for solutions to these immediate needs. Located in the rural area of the municipality of Humacao, the Mariana neighborhood has become one of the most resilient communities in the aftermath of Hurricane Maria. After the emergency, this community has organized different projects in response to the needs of its residents. Among its different projects is ARECMA’s common lunchroom, which served from 150 to 500 lunches for six months. The common kitchen is managed by a group of 7 to 11 women who are community residents. Although this initiative is still in place, it now operates as an exchange, where participants may donate \$5.00 or work as volunteers in any of the different projects.



INTERVIEW

The first need we noticed was the lack of space for the community, so we bought the land (Loma de la Niña Mariana) 37 years ago and dedicated it to community projects. It is because of this land that we can now hold activities that have improved the economy and created opportunities for the community. Some examples of these activities are the Festival de la Pana, which has been celebrated for 36 years, summer camps that have been operating for 16 - 17 years, the common kitchen, and other similar community-focused activities. After Maria, it took us a couple of days to be able to leave our homes. Then, people started arriving at La Loma. The ARECMA team cleaned the surrounding areas because everything was destroyed due to the site elevation. The same happened with the community kitchen; one of our members saw what it was and suggested we do it here. We started cooking for ourselves, but then we noticed people needed food, so we decided to cook one meal per day to feed the community members. Occasionally, with what little signal we had, we posted what we needed on social media, and the help came. Little by little, the word spread and people came from neighboring towns, such as Yabucoa, Naguabo, and Juncos; this continued until recently. We used to gather as an organization to decide whether we accepted aid or not, because not everyone came to us with the best of intentions. Other challenges were the lack of communication services (like for most people) and not having a census before the hurricane to account for infrastructure and resident needs. One of our accomplishments was to have a group of dedicated leaders among us, a human network formed by those



who stepped up when the community needed them most: the emergence of voluntary service. We did not exactly have a group of volunteers as part our organization. However, volunteers joined because of what ARECMA represented for the community. These volunteers were young and they enthusiastically led most of the projects. By owning a space and proper facilities, we managed to store supplies; by having a

kitchen, we were able to feed a lot of people. Media coverage, social media, and the aid received from the diaspora were all extremely important; thanks to them, we received supplies, food, and medicine. Moreover, we have a water cistern and solar panels because of donations received from American companies.

