

EMERGENCY PREPARATION – PHYSICAL

While spiritual preparation is of first importance when getting ready for any emergency, it is also essential to make what physical preparations are possible and prudent. We know that having a complete stash of food, water, even the scriptures in the home would have been useless for those whose homes were swept away by tsunami or hurricane or buried beneath the mud and rocks of a California or Filipino mountain or the searing flood of lava from an erupting volcano. Destruction by tornado or flood may leave a few supplies to be salvaged or may miraculously leave the entire supply.

Knowing how our grandmothers made soap may be helpful, but to make soap, grandmother used gallons and gallons of lard or tallow from the hogs, beef, goats, sheep or wild animals we butchered at home. And there were lots of “fryings” from the many chickens we fried almost daily in the summertime, and lots of “drippings” from the fatty meats we all used. Now there are small communities of Amish or related groups who still butcher their own animals and still make their own soap. But the most of us do not butcher at home. We do not fry chicken or steak or bacon or ham or any other food once or twice a day as we once did. Where in our economy would we find enough fat with which to make soap? I know there is a lot of oil used in fast food production, but now that there is technology that makes it possible for us to run our cars on the oil left over from frying fast foods, much of it is not likely to be available for making home made soap. Since all it takes in addition to the fat is a can of lye, it might be prudent to have a can of lye and the recipe on hand. Lye is not an expensive item, and just in case it and the recipe were not destroyed in the catastrophe, by being careful we just might be able to gather enough fat for a batch of cleansing lye soap.

But let's start at the beginning. The one thing we know we will need, in addition to our scriptures, whether we are preparing for a conflagration or just a house fire, is the ability to know that the family is safe. Communication is paramount. It can save lives as well as give comfort and assistance to all members of the family.

Let's say it is a house fire against which we are preparing. That the house should be equipped with smoke detectors and fire extinguishers that the family knows how to use goes without saying. Carbon monoxide detectors are good insurance against furnace malfunctions or the burning of open fires as in fireplaces, kerosene heaters, charcoal burners or even candles inside a closed room. Every room should have an escape plan and a way to escape. There should be no barred windows, no boxes or chairs or any kind of equipment or toys cluttering pathways or barring exit through doors and windows planned for escape. There should be a family plan for escaping, and that plan should be familiar to every member. Especially if the family includes small children or infirm elderly, plan it and practice it. Have real fire drills!

A very important part of the plan is often neglected. That is deciding how and where to meet after the emergency. Once the family is out of the house, everyone should have a way of knowing it. Deciding on a spot to which each

person will immediately go to gather can assure the family that all are safe and prevent some risking their lives to return to the burning building in an effort to rescue someone who is already safe. Or one person's absence from that spot can signal the fire fighters that someone is still in need of rescue. A light post, when available, makes a good spot because there, even in the night, everyone is easily seen.

In a time of uncertainty such as is now faced because of threats of various sorts to our safety, the communication plan is crucial. The family could be scattered anywhere when disaster strikes. Some may be at work, some at school or shopping or visiting or at church. Selecting a person or place to whom all will go for information can prevent some of the heartbreak suffered by many during the recent tsunami and hurricanes when many could not find their families, or even know whether they survived, for days or weeks after the disaster. The designated spot should be outside the immediate vicinity where all might be subject to the same disaster. It can be the home or business of a relative, a friend or an organization. And there should be alternate places designated in case the first is not available.

The federal government suggests that each person in the family carry a family communication plan on their person that tells: (1) who they are, (2) what the name and telephone number of the local family contact person is, (3) what the name and telephone number of the out-of-town contact person is, (4) what neighborhood meeting place has been chosen with the telephone number of that place, and instruction to call 911 in an emergency.

This assumes there will still be telephone service in the community, but that can hardly be assumed. Explosions can disrupt electronic communications so that even cell phones are useless. Storms can fell trees over electric and communication lines. But at least the information can help with personal identification and give guidance to whomever is trying to find the rest of the family.

When there are adequate facilities available to the church, one of the services that could well be addressed is a center for clearing information in case of disaster. There is now in existence the Association of Saints Church Radio Amateurs whose purpose is to offer assistance in case of emergencies. Robert Farnham of Graceland University faculty is president of the association and its roster and other information is available on the internet at www.ascra.org. The association provided this service to some during the recent hurricane devastation in the Southern USA.

Make a Kit And a Check List

In preparation for any disaster, general health practices should be reviewed. In case of a pandemic, as, for example, the bird flu or just flu, are the needed vaccinations in place? Are the children and adults properly protected from communicable diseases? Are all the family's tetanus shots up to date. In case of destruction of buildings and infrastructure by explosions or natural disaster, there are many opportunities for puncture wounds to occur. Tetanus (lock jaw) is an ever present danger and not a pretty way to die.

Whether one is making a portable kit or just preparing for an emergency that includes pandemics, having a store of water and food on hand at all times is just common sense. Recommendations that follow are generally applicable.

In case of confinement, there should be some means of learning what is going on outside whatever shelter is in use, what instructions need to be followed, and when it is safe to emerge from shelter and resume normal life. A battery powered radio and a **NOAA Weather Radio** with tone alert, and **extra batteries** for both is recommended. **Battery operated lights**, with plenty of extra batteries, are essentials for any degree of comfort and freedom from isolation to occur. These are to be priorities in the **portable kit** the government recommends be prepared for each family.

In addition, our government recommends that each portable kit include at least a three day supply of **water (one gallon per person per day)** and a three day supply of **nonperishable food** (with a **can opener** if the kit contains canned food), a **first aid kit**, a **whistle** to signal for help, **dust masks** or cotton t-shirts to help filter the air, **moist towelettes** for sanitation, **wrench** or **pliers** to turn off utilities, **plastic sheeting** and **duct tape** to “shelter-in-place” if necessary, and **garbage bags** and **plastic ties** for personal sanitation. (Each of these items will be discussed in detail later.)

Such a kit should be customized to fit family needs. For example, baby diapers, formula, etc., or supplies for menstruation or incontinence will substantially increase the volume of the kit. Prescription medications, if needed, will vary. **Important family documents** will vary with families. It is recommended that each person’s identification, insurance and banking information be kept in waterproof containers ready to go. And the possible temperature to be experienced will determine the **clothing and bedding** to be in the kit. If you live in a cold climate, your selection will be different than if you are in a warm climate, but it is still prudent to consider one complete change of clothing and shoes per person. For cold it will include: a jacket or coat, long pants, a long sleeve shirt, sturdy shoes, a hat and gloves, a sleeping bag or warm blanket for each person. Even in warm climates it is wise to remember that it gets chilly at night and some of the same items will be welcome. Rain, too, is always a possibility. **Rain gear** and a **tent** could be very helpful.

Household chlorine bleach has a special place in the kit. It is caustic and must be handled carefully, but it has definite health preserving capabilities. You can use bleach as a disinfectant (diluted nine parts water to one part bleach), or in an emergency you can also use it to purify water. Use 16 drops of regular household liquid bleach per gallon of water. (Do not use scented, color safe or bleaches with added cleaners.)

Salt, too has a special place in the kit. It will be useful in treating any sort of dehydration from diarrhea or vomiting caused by common diseases or radiation sickness. Salt water is also a health preserving mouth wash, especially when radioactivity is encountered. Some form of sugar will also be useful in rehydration.

For a family, the kit is becoming pretty bulky by now. It may be wise to divide the heavier portions among those who are strong enough to carry them. And

there are other items that the government suggests might be helpful in your supply kit: emergency **reference material** such as a first aid book or a print out of this information, **mess kits**, (paper cups, plates and plastic utensils), **matches** in a waterproof container, **money** (cash or traveler's checks, change), **writing materials**, paper towels, fire extinguisher, compass, signal flare.

The First Aid Kit

A first aid kit will make it possible to treat minor injuries, or even major ones, until medical attention can be obtained. Not the least of the services of first aid is the comfort it provides to injured persons. FEMA and the Red Cross advise the following items be included so you are equipped to stop bleeding, prevent infection, assist in decontamination, etc.:

- * Two pairs of Latex, or other **sterile gloves** (if allergic to Latex).
- * **Sterile dressings** to stop bleeding.
- * **Cleansing agent/soap** and antibiotic towelettes to disinfect.
- * **Antibiotic ointment** to prevent infection.
- * **Burn ointment** to prevent infection.
- * **Adhesive bandages** in a variety of sizes.
- * **Eye wash** to flush the eyes or as general decontaminant.
- * **Thermometer**
- * **Prescription medications** you or family members take every day such as insulin, heart medicine and asthma inhalers. (Rotate medicines to account for expiration dates.)
- * **Prescribed medical supplies** such as glucose and blood pressure monitoring equipment and supplies.

In addition, things it may be good to have include:

Cell Phone, Scissors, Tweezers, Tube of petroleum jelly or other lubricant, medicine dropper and **Nonprescription drugs**: Aspirin or nonaspirin pain reliever, Anti-diarrhea medication, Antacid (for upset stomach), Laxative.

Deciding Whether to Stay or Go

Here in the midwest the natural disasters against which we need to prepare include fire, flood, tornado and earthquake. Hurricanes, tsunamis, mud slides and volcanic eruptions are real possibilities for many of the church's people. Winter storms that leave people snowbound or iced in for days are no longer as threatening as they were before the days of modern communication and transportation. The action of terrorists, internal conflict or unbridled persecution seem to be suggested as possibilities by the scriptures. Even radioactive fallout could become a reality either from the action of terrorists or from actual invasion.

The type of the emergency faced will dictate whether the family remains at home near their cache of preparedness or must take a kit and leave the rest behind. Frequently keeping in touch with weather reports and breaking news will give some indication of the action to be taken. If the emergency calls for evacuation as in a hurricane, flood or wildfire, or instructs you to seek medical assistance as in case of germ warfare or even a flu pandemic, try to cooperate and follow instructions as quickly as possible. Even an earthquake or volcanic eruption is sometimes predictable and many lives are saved by evacuations.

Flooding is the most frequent single natural disaster in the USA. Earthquakes

are frequently thought of as west coast phenomena, but FEMA says 45 states and territories of the USA are at moderate to high risk for earthquake activity. Even Missouri has its New Madrid fault that seismologists say is due for a disastrous movement sometime in the not too distant future. The last time it made major movements in 1811-1812, it caused the Mississippi River to run backwards for 14 hours, created Reel Foot Lake in Tennessee and rang church bells in Boston!

Tornadoes happen anywhere, and persons living in areas frequented by those cyclonic winds should learn, if they do not already know, how to protect themselves from the ravages of those violent storms.

If circumstances are such that the decision to go might become prudent, an evacuation plan known to the entire family should be made. Routes leading to safety may be chosen outside the usual traffic ways to avoid congestion when others have the same desire to escape as you. If traveling by car, always have your car at least half full of gasoline and well serviced. If you have no car, be advised of whatever public transportation your community has made available and try to take advantage of it. If your community has no such plan, you might do it a real service to help to establish one. FEMA offers help in organizing such community action. The Citizen Corps it sponsors offers opportunity for everyone to be active in making communities safer and more responsive to its citizens' needs in time of disaster or in time of peace. Certainly the church should have a plan that includes promptly removing all of its people from harm's way.

Although there is no way to guarantee that preparation will be adequate, it is better to do what we can than to be left helpless in an emergency. The four basic needs for survival identified by the federal government for which we can make some preparation are: **fresh water, food, clean air and warmth.**

Water

There is no guarantee that a supply of water will be preserved under any of these circumstances, but water is one storable item that no one can go without for long. Normally, each person needs 2 quarts of water per day just for drinking. Since we need water for so many purposes, storing a gallon a day per person is recommended. It is suggested that we store a minimum of three gallons per person, a gallon a day for three days. Those with small children, nursing mothers or sick people will need more; and there is no guarantee that the emergency will last only three days. A supply of as many as 14 gallons per person is recommended by the government as the desirable amount.

The amount we can store depends on the space we have available and the number of people for whom we are preparing. For a family, the recommended amount may take more space than many have available, so just fill all of the containers you can store in the space you have up to a reasonable amount. In case of emergency, and you are still in your home, the water in your hot water heater, your water pipes, the ice cubes, and even that in the flush tank of your toilet (not the bowl) is all usable. In case there have been ruptures to the water system or sewage lines, it will be necessary for you to shut off the water coming into your house, so be sure you know where the shut-off valve is.

FEMA gives the following instructions on how to use water from your water

tank and pipes:

To use the water in the hot water tank, be sure the gas or electricity is shut off and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve and turning on a hot-water faucet. Do not turn on the gas or electricity when the tank is empty.

To use the water in your pipes, let air into the plumbing by turning on the faucet in your house at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the house.

Before every hurricane, the order goes out to fill all bathtubs, cans, jars and barrels available with water and put out barrels to catch rain water. The later instruction might not apply in case of radioactive fallout that could contaminate the water. In any emergency, if there is a warning long enough before the event, collecting water may be a priority. If you and your store of water survive the immediate devastation, you will welcome the abundance that makes it possible to keep clean as well as to assuage your thirst.

Containers for storing water can be those that normally would be recycled. Milk jugs with tight screw on lids can be rinsed thoroughly, preferably with bleach. Bleach bottles are very sturdy plastics and make good containers. Plastic beverage containers generally are good as are plastic buckets with tight lids or pans lined with fiber glass or enamel. Except for plain bleach, never use a container that has had a toxic material in it. You will want to recycle the water periodically, FEMA says every six months, just to keep it fresh tasting. Even if it gets stale tasting it can still be safe to use. For recycling, just empty the containers into the washer for a laundry and refill with fresh water as needed.

Even when radioactive fallout is present to be considered, water from outdoor sources such as rain water, water from lakes, streams, ponds and springs may have to be used. Do not use water that has floating material in it, that has an odor or that looks dark. And never use flood water for drinking. If there is radioactive fallout, that must, of course be removed first (See section on radioactivity for information). Then FEMA recommends that to destroy bacteria that might cause dysentery, typhoid, hepatitis or like diseases, the water should be purified by one of three methods or a combination of them: boiling, treated with regular 5.25% sodium hypochlorite liquid household bleach or by distillation.

All particles or suspended matter should first be settled out or strained through paper towels or several thicknesses of cloth. If boiling, boil for one minute then cool. The water will taste better if oxygen is returned to it by pouring it from one container to another several times. This method also improves the taste of stored water.

If bleach is used, use 16 drops of regular bleach to a gallon of water, stir and let stand 30 minutes. If the water does not have a slight bleach smell, repeat the process and wait another 15 minutes before using. FEMA says to use only regular bleach. No scented or special care bleaches are acceptable. Neither are iodine or the water purification substances sold for camping or traveling to be used.

Distilling is necessary if heavy metals, many chemicals or substances like salt are to be removed from the water. Even some especially difficult organisms are

only destroyed by this process. To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.

Food

A minimum of three days' food supply is recommended for a kit to take along if one has to leave home. The supply of food readied for an extended emergency at or near home should require no refrigeration, no cooking, and little or no water. Include canned meats, fish, beans, fruits, vegetables, packaged baked goods, dry cereals, fruit or cereal bars, dried fruits, nuts, canned juices, cheese spreads, peanut butter, jellies, nonperishable pasteurized, canned or dried milk. The possibilities are extensive. Choose foods your family will enjoy and choose a variety that will permit a balanced diet as much as possible. Even fresh fruits and vegetables may be included in the three day's supply, and many fruits and root vegetables will last for a much longer period of time. If your water supply is limited, try to avoid foods that are high in fat and protein, and don't stock salty foods. They would make you thirsty. Try to stock salt-free crackers, whole grain cereals and canned foods with high liquid content. Just in case the emergency lasts a long time, be sure to have such items as flour, baking powder, soda, salt, vinegar, packaged dry yeast, oil, sugar, honey, dry pasta in your long term stash.

Keep stored foods covered and in a dry, cool spot - a dark area if possible. Of the foods with a limited shelf life like baked goods, choose foods you serve regularly so the supply can be kept rotated and fresh. As one package is opened, replace it with a fresh supply placed at the back of the storage kit and marked with the date. As foods are used, open boxes or cans carefully so that you can close them tightly after each use. Wrap cookies and crackers in plastic, and keep them in tight containers. Empty opened packages of sugar, dried fruits and nuts into screw-top jars or air-tight cans to protect them from pests. Inspect all food for signs of spoilage before use.

If you have to take the kit and run, don't forget that the containers need to be opened. A manual can opener, scissors and a sharp knife are helpful. And if there is room in the kit, utensils for eating the foods would be welcomed. These should probably be disposable in view of the limited amount of water for dishwashing.

Floods are the most frequent disasters faced. Water and food supplies that are submerged in flood waters should not be assumed to be safe even if the containers are not violated. Flood waters are frequently so full of pathogenic bacteria that can contaminate even small openings around the closures of containers that the water or food is not safe to use. If the emergency is such that there is no choice but to use them, be certain the containers are sterilized before opening or the food is boiled before use. This is true even of sealed cans of food and strong, waterproof plastic food containers. Be sure they are thoroughly cleansed with hot sudsy water and dipped in bleach water before opening them.

This reminds us that we must have a way of starting a fire among our emergency supplies. The boy scouts will all tell you, you need matches in a waterproof container just for a camp out!

Radioactive fallout

If the disaster involves an atomic explosion, whether by design or accident, devastation and destruction will be wide spread for a number of miles around ground zero. Radioactive fallout is carried by the wind and may be spread over thousands of miles. Assuming that the explosion does not immediately affect you, coping with radioactive fallout poses special problems in obtaining food and water and in maintaining clean air for breathing. In areas of considerable fallout, the first two days are the most dangerous, but one can expect the radioactive particles to be falling in dangerous amounts for about two weeks. It requires shelter under a foot of cement, three feet of dirt or the protection of upper stories of a building to absorb the radioactivity of the particles so it does not directly damage living tissue. That often requires one to be separated from their usual store of water and foods. It will be necessary to stay in shelter at least most of the time for about two weeks. If there is necessity of leaving shelter, one should be covered well with clothing that can be discarded or brushed well and washed thoroughly. Since particles, especially the ones that fall later in the aftermath of an explosion, are fine enough to be inhaled, a mask can be valuable if one has to go outside the shelter; and one has to be careful to exclude as many of the particles as possible from entering the shelter. (See information on clean air elsewhere in this piece.)

Even if there is radioactive fallout, all food stored inside should be safe. Frozen or refrigerated foods are not likely to be contaminated and should be used first if there is a disruption of electricity that would permit them to spoil. If the particles do not fall on the foods, there is no danger in handling or using them.

Of those foods that are exposed, the radioactive particles do not penetrate the containers. The particles can be safely brushed or washed away. Fruit or vegetables that have been exposed can be washed and peeled. Whether by brushing or washing, the particles, including the peels, must be discarded outside the living area. Water that has been contaminated can be refreshed.

Some radioactive particles may be removed from water by simply straining the water through paper towels or several layers of cloth. Filtering materials should be disposed of outside the living area. Filtering through 10 inches of dirt, free of radioactive particles, is also effective. Or one may muddy the water with clay, a handful per quart, and allow the mud to settle out. The radioactive particles cling to the clay and settle to the bottom of the container. The radioactive free water may then be siphoned off and rid of disease causing bacteria either by chemical means, with bleach, or by boiling. There was a time after the second World War when atomic bombs were feared so greatly that some discussed providing bags of clay for bomb shelters to assure a more or less continuous supply of safe water.

Even water for farm animals may be refreshed if it is possible to get to the ponds or other water supply, muddy the water and allow it to settle before giving the animals access to it. It must be remembered that fallout may be coming down for days after the initial explosion, so exposed water cannot be assumed to remain radioactive free. Stock tanks may be covered with tarpaulins. Radioactive particles will, however, settle rapidly reducing the danger from pond use. Water

from covered wells and flowing streams would be safe for farm animals.

If food producing animals are in shelters with enough mass overhead to absorb the radioactivity from the fallout, their flesh and the foods they produce will be safe to eat, unless or until they eat contaminated food or drink contaminated water. Normally hay filled haylofts offer some protection. If they do not have adequate protection, the animals may contract radiation sickness just as people do. The sickness does not contaminate their food, but their production and survival may be jeopardized. If they do experience some fallout, if it can be brushed or washed off soon and disposed of outside their shelter there can be some protection for them and the foods they produce.

There are two radioactive products of especial interest to us so far as our food supply is concerned. Radioactive strontium 90 and Radioactive iodine 131. The radioactive strontium 90 has a half life of 28 years and may take 40 or more crops to remove it from the soil on which it falls. In the human body it does its damage by trying to take the place of calcium. The only known protection is to be well supplied with calcium so there is no place for the destructive element to settle into bone, teeth and tissue.

Eggs will likely be safe since chickens are relatively resistant to radiation, are generally kept under cover and may be fed uncontaminated foods. For cows without access to contaminated food or water, there is no problem with using their milk. Cows that do ingest the radioactive strontium 90 have the capacity for filtering out almost all of it from their milk, making milk one of the safest fresh foods available except for the Iodine 131 it contains.

The cow does not filter out the radioactive iodine. Once it is in the milk from contaminated food the cow has eaten, it is best to wait for the radioactivity of the iodine to "decay," lose much of its radioactivity, before using the milk. Iodine 131 affects the function of the thyroid, and children are especially vulnerable because their thyroids are small. Even mother's milk may carry the dangerous radioactive particles if the mother has eaten or inhaled the dangerous substances, and goat or sheep milk are reported to carry 10 times the amount of iodine 131 that cow's milk carries.

But the "half life" of this substance is about 8.03 days and after 60 days of radioactive decay no longer poses a danger. If processing plants are still operable, the milk can be made into nonperishable forms, dried milk or cheese or ice cream or whatever, and stored for 60 days for safety from the iodine. Even home made cheeses, and the whey from their preparation, would be storable for that long. Perhaps this is at least one of the reasons the Lord had Isaiah say that those who survive the devastations of last days will be those who have an abundance of milk available. They will be presumed to be well supplied with calcium in the beginning and in time of emergency be able to eat "butter." (Isaiah 7:21-22). Most of the "butter" of the Old Testament is actually curdled milk or cheese. Only the Psalmist uses another word that really means smooth and pleasant like our butter.

In case of fallout, for a time after consuming foods contaminated with fallout, animal flesh is free of contamination and safe to be used except for the internal organs, the liver, kidneys, etc. They become contaminated very soon after the

animals' food is contaminated and should be discarded almost from the start. As the flesh becomes contaminated from animals eating radioactive particles on their food, the only way to make it safe is to boil it in a lot of water and discard the water. Of course you lose nutrients doing it, but there may be a time when some food is better than no food how ever the nutritive value has been diminished.

Radiation sickness can occur from breathing the particles or from ingesting them. In case someone becomes ill from it, it is good to know that it is not contagious. It manifests itself in the same way as anxiety and stress with vomiting and diarrhea typically among the symptoms. Rehydration is essential in these cases and can be accomplished by the addition of 6 teaspoons sugar or molasses and 1 teaspoon salt to a liter (a quart and 8 teaspoons) of water and administering it in small, frequent doses to the sick one. If sugar is not available, just the salt water will be helpful. The salt water is also helpful in maintaining mouth health that may help prevent or treat radiation sores should they develop. The rehydration mixture just described is one that can be used in all cases of dehydration from nausea and diarrhea of any sort whether from dysentery, cholera, or whatever.

"Dirty bombs" that may be used by terrorists are another matter. They use ordinary explosives to scatter radioactive materials. While the area of the blast is immediately apparent, the area over which the radioactivity is spread can only be determined by equipment designed to measure it. It is wisdom to get as far away from the area as possible as quickly as possible and get as much shielding from cement or dirt or other absorptive materials as possible between you and the blast.

Clean Air

Terrorism brings the necessity for protection of air space that is not limited to radioactivity. Anthrax has already been a tool of the terrorists as has the nerve gas that killed many Japanese when it was released in the subway system. Whether particles from an explosion that can damage the lungs, germs from a biological attack that can make one ill when taken into the body by breathing, swallowing or, as is true of some, just entering through a cut or abrasion on the skin, it is suggested that a barrier be considered to keep the contamination out of your family's living space. Sand bags have long been used to close off shelters from radioactive particles. Heavyweight plastic garbage bags or plastic sheeting secured by duct tape may be useful in some situations and they, with scissors, may be something you might want to include in your preparedness supply.

FEMA has identified a situation it calls "shelter-in-place" as a space in the home, school, recreational or work place made safe from foreign agents, either chemical or biological, by preventing their entrance into the atmosphere. Windows, doors and air vents may be taped to provide a barrier.

Choose an interior room if possible or one with a minimum of doors and windows. Try to include a radio or TV in the furnishings of the space or take in your battery powered equipment. Plastic sheeting should be cut larger than is necessary to cover the entire door, window or air vent it protects. It is recommended that such a place be chosen and taping materials selected, precut and labeled so installation in case of impending contamination can be swift and

thorough. All air conditioning equipment, forced air heating, clothes driers and other air intakes in the building must be shut off and fireplace dampers closed. If one is in a car when such an emergency occurs, shut off air conditioning and heating equipment and keep the windows closed.

There is no known material that will keep out all destructive agents. Chemical gasses are of especial concern. Face masks or dense-weave cotton material that can fit closely over the nose and throat or cover an open wound may be of help, especially if one is outside a protected area. For use, two or three layers of a tee shirt, handkerchief or towel or several layers of tissue or paper towels is suggested. The fit must be such that most of the air being breathed is filtered through the mask. Care must be taken to assure children and sick so protected still get enough air to breathe. Wash with soap and water as soon as one is in a protected place. In fact, in cases where one is experiencing watery eyes, stinging skin and trouble with breathing from chemicals, FEMA suggests the person forget modesty, strip and use any source of water available with which to wash! As long as communication systems are in place, watch TV and listen to the radio for instructions.

If a "shelter-in-place" is created and used, however, it will be necessary to filter or change the air in the facility periodically to prevent dangerous buildup of carbon dioxide, disease causing bacteria, etc. Some people, particularly those with severe allergies and asthma, may already be using HEPA (High Efficiency Particulate Air Filtration) filters in masks or portable air purifiers. In larger homes or industrial models these filters may continuously filter the air as long as there is electricity to operate them and they do not admit the contaminate. In areas of greatest probable danger, a portable air purifier with a HEPA filter might be considered prudent in some cases.

Warmth

The Lord has been aware of the additional hardship that disaster in cold weather brings and instructed His people of old to pray that their flight should not occur in winter or on the Sabbath (Matthew 24:17). Keeping warm when our sources of heat are unavailable leaves us dependent on warm clothing, sleeping bags and warm bedding. While we probably do not want all that in a bag by the door, we do need to have such clothing and supplies available and accessible, even in the summer. I have never slept so poorly because of the cold than on a cot at camp in Missouri in August. Some will have wood burning equipment available. A good supply of fuel protected from the weather can be helpful to them and all those with whom they can share their largess. It makes sense for the community to have some place available where provision has been made for warmth in case of an emergency.

On the other hand, in case of extreme heat, cooling may be the problem at issue, especially for the very young, the sick and the infirm. People have lived for millenniums without air conditioning, and we can, too. If there is water available both for drinking and for bathing, especially the hands, arms, face and neck, heat is much less hazardous. Shade goes without saying as a major consideration. Temporary shelters should be made of materials that reflect the heat, not absorb or concentrate it. Light colors are preferable. Tree branches, make good shade.

Branches of the fragrant evergreen myrtle were used by the Israelites during Biblical times to make the temporary shelters they used during their festival of the booths.

Any method of moving the air to enhance evaporation of sweat will be helpful. Tree branches have long been used to move the air and to ward off flying insects. Cardboard fans were once the choice means of advertising for some businesses, especially funeral parlors that placed them in churches and other public places to provide comfort to the public and to sell their wares. When it is cooling that the person needs, it is wise to avoid use of all beverages that contain alcohol or caffeine. These substances are diuretic and drinking beverages containing them increases the need for water.

Sanitation

Of absolute necessity is the provision for disposal of body wastes and the inclusion of first aid supplies in the preparedness cache. If the flush toilets don't work, a latrine like the boy and girl scouts know how to make will have to do. If the family is confined to a shelter-in-place, they will need buckets with tight fitting lids or strong plastic bags with secure closures as receptacles for feces, urine and vomit. And as soon as it is possible, these must be emptied in a latrine or buried so they do not further contaminate the area. A temporary toilet or commode may be created by removing a circular portion of a chair seat and placing a receptacle under it with the plastic securely attached to its rim. The plastic may then be removed and tightly closed to be stored until it is safe to take it outside for final disposal.

Famine

Preparation for even longer periods of isolation from normal food supplies, as in a full blown famine or a time when transportation is not available to bring supplies from the many places on the earth from which we now get our plentiful and varied supply of foods, causes concern about types and quantities of food to have in storage. It is interesting that the Lord made provision for such a time in His Word of Wisdom by naming the flesh foods as foods to be used in famine and excess of hunger. All those involved in preparedness tell us if facing such a situation we can prolong our food supply by eating the animals before they become decimated with hunger and then eat the primary foods they would have eaten had they lived. The primary foods include grains which can be stored over a long period of time and offer much the same staple nutrients that meat provides. Although section 86 of the *Doctrine and Covenants* affirms that all grain is good for the food of man, it also reminds us that wheat is the one that most nearly provides the nutrients needed by the human body. Even brown rice does not come close in providing needed nutrients and does not store as well as wheat. Rancidity develops quickly in rice unless it is stored with all air excluded. For the sake of variety, it would be prudent to store a variety of grains with wheat being stored in the greatest quantity.

Dry beans, soy beans, lentils and peas store well and have formed the protein base of a successful dietary for Orientals for centuries. Beans and grains must be stored so they are not destroyed by weevils or other insects. There are various treatments that may be recommended by Extension services and other

authoritative sources. After treatment, they must be stored in tight containers that will prevent further infestation. Subjecting the foods to freezing for a time before storage to kill insects and insect larvae that may be present is one way to prolong storage life. We have wheat given to us in 1969 after being stored in the bin through a cold Canadian winter. It is stored in a plastic ice cream bucket with a tight fitting lid. It still looks like it did thirty six years ago and still makes good breakfast cereal or flour.

If these foods are not properly treated and stored, the result will be bags of empty shells left by the insects that devoured the foods. I know. I helped carry out numerous bags from my uncle's attic after the family died. Although beans will be good to eat for many years, they become more difficult to cook until tender as they are stored.

If the usual cooking facilities are not available, we would need to employ the kinds of methods the boy and girl scouts learn. Asking them now to teach us how to make a reflector oven, or how to cook beans or meats in an underground oven, or how to make a spit to cook a whole animal over a fire can benefit them as well as us. Even building the fires, choosing safe sticks to use in holding foods over the fire and building temporary supports for cooking directly over a fire take skills they already know. Survival techniques are also a part of the scouting programs in many areas. Take advantage of their knowledge. Ask them to teach the rest of us before we actually need to know how.

A diet of grain and beans would not sustain any people for long. We need the vitamins, minerals and phytochemicals usually supplied by fruits and vegetables. While supplements might help some of the nutrients, there are many nutrients that are not in supplements. We need the food, and some of it should be stored canned or dried. Freezing is, of course preferable but is not practical in view of the likelihood that there will be no way of keeping it frozen. Ordinary drying destroys much of the Vitamin C, A and B values, and those values continue to deteriorate during storage in air. Freeze drying preserves many of these nutrients and sealing the foods so dried in cans or packages that exclude the air enhances nutrient retention. Canning of the fresh produce also results in some loss of nutrients, but many of them remain in the canning liquids. Don't waste a drop!

Fresh foods are sometimes available in places we may not have suspected. Euell Gibbons' book, *Stalking the Wild Asparagus*, is a delightful reference for identifying, harvesting and preparing many wild plants. Conservation offices in every state produce publications detailing what is there and how to use it. Missouri Conservation distributes Jan Phillip's *Wild Edibles of Missouri*. It contains drawings of plants, descriptions of the various portions with cautions for those parts that are poisonous, laxative, bitter or otherwise not desirable or to be used with care. Locations at which the plant is to be found, seasons when different parts are available, method of preparation, all are detailed, even with color paintings of those most likely to be encountered and mistakenly used.

All parts of the dandelion can be used some way for food, and there are places in this world where they are raised commercially. But so many poisons have been used to try to eradicate them that one hunting them for food must avoid those that have been so treated. As greens they, like many other plants, must be

harvested while their leaves and shoots are very young and tender. More mature they are very bitter. Sheep sorrel, chicory, lambs quarter, pepper grass, day lilies, milkweed pods, cat tails, purslane, watercress, all are excellent wild foods, but you need to know when to harvest them and what part to use. Perhaps the wild edibles books are of greatest value for the clarity of their warnings about plants or parts of plants that are to be avoided.

Those who live in areas where many apples grow profusely usually are aware that all parts of the plant are poisonous. Even the apple itself is poisonous until it is ripe. Then it is delicious.

Poke greens are avidly gathered in areas where the poke plant grows and people live close to the soil; but those people know very well they must not eat the leaves without boiling them in two waters, the first of which is discarded. And they know they must not eat the roots at all. Roots are poisonous and narcotic. They cause vomiting, diarrhea and sometimes death. The raw greens are also toxic and therefore not to be used as a salad.

Mushrooms may be edible or poisonous, even lethal. Either the Conservation Department or the Extension Service will have information concerning the ones you can eat.

Ground cherries, the Hawaiian Poha, are wonderful, but you must know how to tell them from the deadly nightshade.

Wild grapes and plums are good right off the tree or vine and make wonderful jams and jellies if you have the sugar required to make them. Nothing is more delicious than a wild strawberry, but they are so tiny!

Now may be the time to get acquainted with the *Fox Fire Books*. In these delightful volumes information can be found on survival crafts once practiced that may have to be revived if devastation is as widespread as it might be. They are filled with interviews with people who lived the crafts they describe. You will find everything from how to follow a bee to its sweet hoard of honey, and capture both the honey and the bees, to how to use sweet Birch to add sweetness to your food. Everything from raising sheep to harvesting their wool, cleaning and carding it, making it into thread and making the thread into cloth is there. They are interesting reading even if one never needs their expertise.

For families to store large quantities of foods for whatever contingency hardly seems profitable. In order to keep supplies fresh, it would be necessary to constantly be eating stored foods that may have diminished nutritive value. I have witnessed the destruction of hundreds of jars of home canned foods stored for that emergency that was about to happen decades ago but never did. I have just been given 32 gallons of wheat to distribute. It was stored in the basement of a person who died before it was needed. Fortunately, it is well packaged and still good. But what family would try to guard their stash while neighbors suffered hunger or death? The Lord's provision for a storehouse seems to make a lot more sense. As long as there is food available, all will share, and when it is gone, all have the privilege of petitioning the Lord to supply their need. He sent Manna to the Hebrews, didn't He? The people got tired of that honey flavored wafer and complained, but they survived healthfully on it for a lot of years. The God who fed the five thousand men, plus women and children, and had twelve baskets full left

over; the God who fed the four thousand men, plus women and children, with seven loaves and a few little fishes and had seven baskets full left over; the God who gave his people in the Americas bread and wine for Communion when there was no bread or wine available; the God who fed the Saints and their Thanksgiving dinner guests at Second church in Independence, Missouri during the last great depression knows how to provide whatever is necessary in time of need. We do what we can to be ready and leave the rest up to Him. There may be a test of our faith, but we know we can trust Him!

APPENDIX

Based on FEMA Shelf-life of Foods for Storage:

Use within six months:

Powdered milk (boxed)
Dried fruit (in metal container).
Dry, crisp crackers (in metal container)
Potatoes

Use within one year: (These will be safe much longer.)

Canned condensed meat and vegetable soups
Canned fruits, fruit juices and vegetables
Milk canned or nonperishable pasteurized.
Ready-to-eat cereals and uncooked instant cereals (in metal containers)
Peanut butter, jelly, hard candy, canned nuts
Vitamin C

May be stored indefinitely (in proper containers and conditions):

Wheat
Vegetable oils
Dried corn, dry pasta
Baking powder, baking soda, cream of tartar
Soybeans, other dried beans and peas
Instant beverages, bouillon products for flavor
Salt, sugar, honey
White rice (Brown Rice is more nutritious but shelf life much shorter.)
Powdered milk (in nitrogen-packed cans)