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Introduction

PURPOSE AND SCOPE

This book is written for the majority of Americans who, in a crisis threatening nuclear war, would want to improve their chances of surviving. It brings together field-tested instructions that have enabled untrained Americans to make expedient fallout shelters, air pumps to ventilate and cool shelters, fallout meters, and other expedient life-support equipment. ("Expedient," as used in civil defense work, describes equipment that can be made by untrained citizens in 48 hours or less, while guided solely by field-tested, written instructions and using only widely available materials and tools.) Successive versions of these instructions have been used repeatedly and successfully by families working under simulated crisis conditions. These instructions have been improved repeatedly by Oak Ridge National Laboratory civil defense researchers over a period of eight years and are the heart of this book.

The average American has far too little information that would help him and his family and our country survive a nuclear attack, and many of his beliefs about nuclear war are both false and dangerous. Since the A-bomb blasted Hiroshima and hurled mankind into the Nuclear Age, only during a recognized crisis threatening nuclear war have most Americans been seriously interested in improving their chances of surviving a nuclear attack. Both during and following the Cuban Missile Crisis in 1962, millions of Americans built fallout shelters or tried to obtain survival information. At that time the available survival information was inadequate, and dangerously faulty in some respects. Widespread recognition of these civil defense shortcomings has contributed to the acceptance by most Americans of one or both of two false beliefs:

One of these false beliefs is that nuclear war would be such a terrible catastrophe that it is an unthinkable impossibility. If this were true, there

would be no logical reason to worry about nuclear war or to make preparations to survive a nuclear attack.

The second false belief is that if a nuclear war were to break out, it would be the end of mankind. If this were true, a rational person would not try to improve his chances of surviving the unsurvivable.

This book gives facts that show these beliefs are false. History shows that once a weapon is invented it remains ready for use in the arsenals of some nations and in time will be used. Researchers who have spent much time and effort learning the facts about effects of nuclear weapons now know that all-out nuclear war would *not* be the end of mankind or of civilization. Even if our country remained unprepared and were to be subjected to an all-out nuclear attack, many millions of Americans would survive and be in favorable conditions to live through difficult post-attack years.

PRESIDENT CARTER'S NEW CIVIL DEFENSE POLICY

President Carter, on September 29, 1978, directed that a new civil defense policy be put into effect. This is the first U.S. policy that officially recognizes the importance of civil defense as a means for decreasing the danger of a nuclear attack on the United States or of intimidation by nuclear threats.

The guidelines to be used in carrying out this new policy (Presidential Decision 41) were accurately stated by Bardyl R. Tirana, Director of the Defense Civil Preparedness Agency, in his March 22, 1979 statement to the House Committee on Appropriations, as follows:

"... that the United States civil defense program should enhance the survivability of the American people and its leadership in the event of nuclear war, thereby improving the basis for

eventual recovery, as well as reducing vulnerability to a major Soviet attack;

"... that the United States civil defense program should enhance deterrence and stability, and contribute to perceptions of the overall U.S./Soviet strategic balance and to crisis stability, and also reduce the possibility that the Soviets could coerce us in times of increased tension;

"... that the policy not suggest any change in the U.S. policy of relying on strategic nuclear forces as the preponderant factor in maintaining deterrence; and,

"... that the program include planning for population relocation during times of international crisis as well as be adaptable to help deal with natural disasters and other peacetime emergencies."

The initial step toward carrying out President Carter's policy decision is a civil defense budget request of \$108.6 million for fiscal year 1980. If this slight increase in Federal funding is voted, the annual outlay will amount to about 50 cents per year for each American. In contrast, Switzerland spends \$10.85 per citizen on civil defense, according to the Swiss Civil Defense Magazine of November-December 1977. Differing estimates of the Soviet Union's civil defense efforts indicate that the annual outlay for these preparations, if they were made at costs equivalent to those in the United States, would range from \$8 to \$20 for each Russian.

PRACTICALITY OF MAKING SURVIVAL PREPARATIONS DURING A CRISIS

The emphasis in this book is on survival preparations that can be made in the last few days of a worsening crisis. However, the measures put into effect during such a crisis can be very much more effective if plans and some preparations are completed well in advance. It is hoped that persons who read this book will be motivated at least to make the preparations outlined in Chapter 16, Minimum Pre-Crisis Preparations.

Well-informed persons realize that a nuclear attack is unlikely to be a Pearl-Harbor-type of attack, launched without warning. Strategists agree that a

nuclear war would most likely begin after a period of days-to-months of worsening crisis. The most realistic of the extensive Russian plans and preparations to survive a nuclear war are based on using at least several days during an escalating crisis to get most urban dwellers out of the cities, to build or improve shelters in all parts of the Soviet Union, and to protect essential machinery and the like. Our satellites and other sources of intelligence would reveal such massive movements within a day; therefore, under the most likely circumstances Americans would have several days in which to make life-saving preparations. The Russians know that if they are able to complete evacuation and sheltering plans before the outbreak of nuclear war, the number of their people killed would be a small fraction of those who otherwise would die.

The Russians have learned from the devastating wars they have survived that people are the most important asset to be saved. Russian civil defense publications emphasize Lenin's justly famous statement: "The primary productive factor of all humanity is the laboring man, the worker. If he survives, we can save everything and restore everything . . . but we shall perish if we are not able to save him." Strategists conclude that those in power in the Soviet Union will neither threaten nuclear war in a confrontation nor launch a nuclear attack until they have evacuated and sheltered most of their people.

Nuclear weapons that could strike the United States continue to increase in both number and accuracy. The Soviet Union already has enough to target all American cities, major military targets, and long runways. The most modern warheads usually can hit within a few hundred yards of their precise targets. Because most Americans live in cities, their best chance of surviving a heavy nuclear attack is to get out of cities and into shelters away from probable target areas *before* the attack. Many American civil defense advocates believe it would be desirable for our government to build and stock permanent shelters, widely dispersed outside probable target areas. However, such permanent shelters would cost many billions of dollars and would be in competition with other more immediate needs requiring large expenditures of government funds. Therefore, field-tested instructions and plans are needed to enable both urban evacuees and rural Americans to build expedient shelters and life-support equipment during a crisis.

THE NEED FOR RELIABLE INSTRUCTIONS FOR BUILDING EXPEDIENT SHELTERS AND ESSENTIAL LIFE-SUPPORT EQUIPMENT

Our country's civil defense organization, the Defense Civil Preparedness Agency, is quietly working on urban evacuation plans called Crisis Relocation Planning. This promising official effort includes the preparation and field testing of instructions for making expedient shelters and a few expedient life-support items. For years it has been the policy of U.S. civil defense organizations to prepare abbreviated survival instructions for distribution to the public during a possible crisis. Official printed instructions for making a shelter or a survival item each have been limited to about a page. Field tests in 1977 of such abbreviated instructions have shown that typical American families, building shelters and homemade air pumps under simulated crisis conditions, have taken longer and made more mistakes than have similar families who followed the step-by-step, detailed instructions given in this book. For example, 16 families each followed one-page instructions and built one of seven types of expedient shelters; each family found it necessary to spend a long time (an average of 88 minutes) studying the abbreviated instructions for building the assigned shelter.

Ten of these 16 families attempted to follow the abbreviated instructions for making a homemade air pump of the type described in this book for ventilating and cooling shelters. Only four of the 10 succeeded in making a pump that worked. In contrast, almost all of the dozens of different families who have followed the step-by-step instructions given in this book for making a ventilating pump have succeeded.

The author and his associates are sure that even better, perhaps shorter, instructions could be developed by repeated field testing. However, the basic survival instructions given on the following pages are likely to remain for some years the best that could be made available to millions of unprepared Americans.

EXOTIC WEAPONS

Chemical and biological weapons and neutron warheads are called "exotic weapons." Protective measures against these weapons are not discussed, because the purpose of this handbook is to help Americans improve their chances of surviving what is

by far the most likely type of attack on the United States: a nuclear war.

Chemical weapons are inefficient killing agents compared to large nuclear warheads and bombs. Exterminating the unprepared population of a specified large area would require a delivered payload of deadly chemical weapons many thousands of times heavier than that needed if large nuclear weapons were employed.

Biological weapons are unreliable. Unless the meteorological conditions were favorable over the entire country at the same time, viruses and bacteria could not be effectively dispersed for spreading disease.

Neutron warheads are very small, yet extremely expensive. A 1-kiloton neutron warhead costs about as much as a 1-megaton ordinary warhead, but the ordinary warhead not only has 1000 times the explosive power but also can be surface-burst to cover a very large area with deadly fallout.

RECOMMENDED ACTIONS BEFORE A CRISIS

During a crisis threatening nuclear attack, present uncertainties relative to the adoption and distribution of crisis information seem likely to continue. Thoroughly field-tested survival instructions may not be available to the majority of our people. Furthermore, even a highly intelligent citizen, if given the best possible instructions during a crisis, would not have time to learn basic facts about nuclear dangers and the reasons for various survival preparations. Without this understanding, a person cannot do his best at following any type of survival instructions.

A prudent citizen is advised to obtain and study the best instructions available *before* a crisis occurs. Better yet, he should make preparations, such as the low-cost ones described in this book, to increase his and his family's chances of surviving.

By following the instructions in this book, you and your family can increase the odds favoring your survival. If such instructions were made available and our government urged all Americans to follow them during a worsening crisis, additional millions would survive an attack. And the danger of an attack, even the threat of an attack, would be decreased if an enemy nation knew that we had significantly improved our defenses in this way.