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RESPONDING TO SHELTER NEEDS IN THE NEWLY INDEPENDENT STATES

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USER'S GUIDE

This document has three functions:

1. to acquaint AID missions in the Newly Independent States with disaster threats that could affect the host country and its housing supply;
2. provide basic information about the strategies and means the host country would use to provide emergency shelter and replacement housing; and,
3. provide a format for each AID mission to gather more specific information about housing and shelter needs, resources and local government institutions active in the shelter sector.

The document is divided into six chapters. The first two describe the general disaster types that threaten the NIS and present the most important factors that would need to be considered when planning an emergency shelter response. Each of the last four describes a specific type of disaster (e.g., earthquake, nuclear disaster, etc.) and gives more specific details about how countries in the NIS have responded to that type of disaster and the shelter needs it has generated. Any major variation in approach or strategy by a country is listed.

At the end of each of the last four chapters, users will find a list of countries threatened by that type of disaster and several data collection checklists. Each AID mission located in one of the countries listed at the end of a chapter should complete the forms and 1) keep the original with this document; 2) send a copy of the completed form to:

NIS Shelter Coordinator
Office of Housing and Urban Programs, Room 401
U.S. Agency for International Development
515 22nd St. NW
Washington, D.C. 20037

Please note that not every country is considered at risk to all types of disasters, therefore some will be listed in one chapter and not another while others, such as Armenia and Azerbaijan, are at risk from multiple threats.

In most of the countries, the same authorities will be responsible for all emergency and shelter requirements but there are some significant variations, especially where conflicts and nuclear disasters have occurred, thus each set of worksheets should be completed even though there may be some redundancy.

This document is complemented by a preceding report titled: "*Development of a Shelter Strategy in The Newly Independent States.*" Copies are available from the Office of Housing and Urban Programs and the Newly Independent States Task Force in AID.

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The maps were prepared with the help of Richard Hill.

Acquiring data for this document was a long and exhaustive process. It required travel to nine countries of the former Soviet Union and extensive correspondence with officials in four others. Officials of several other European countries were also contacted and interviewed. Some of the information could only be obtained by going into recent disaster areas and conflict zones and it was sometimes necessary to put our interpreters and guides at some risk in order to see firsthand the shelter problems of their countries. Despite the risks, no one ever refused to go. Their assistance is gratefully acknowledged.

EXECUTIVE SUMMARY

1. There are four major categories of disasters that are likely to create emergency shelter needs in the former Soviet Union. They are: (1) earthquakes, (2) nuclear accidents, (3) industrial accidents, and (4) ethnic conflict. There are also several factors — including the type of disaster — that will dictate shelter response.

2. Among the considerations that could influence how an agency responds to shelter needs during a disaster are:

Type of disaster. The type of disaster will determine what kind of shelter can be used, the length of time it will be required, and where the shelter should be placed. (Earthquake victims, for example, can usually be sheltered near their homes. In most disasters, people can eventually reoccupy their former site; nuclear disasters can be the exception).

Time of year the disaster strikes. Tents and other light-weight emergency shelters, for example, are inappropriate in winter, and relief authorities are likely to evacuate people to distant sites. Heating also becomes a major concern.

Type of building people were living in before the disaster. Because more than 80 percent of the people in the former Soviet Union live in multi-family, high-rise structures, emergency shelter is needed for longer periods of time than in most cases.

Reconstruction strategies adopted by the government. If buildings have been seriously damaged or destroyed in the former Soviet Union, the normal strategies used are (1) repair structures that have been lightly damaged, (2) build replacement buildings, (3) provide cash so disaster victims can acquire land and build their own houses, and (4) build new towns if the old site is unsafe for reconstruction.

If buildings have received only minor damage and can be repaired, emergency shelter requirements will be relatively short. Replacing buildings, however, takes more time, and building new towns requires even more. The best way to reduce the time people must live in temporary shelter is to provide grants and loans that encourage self-help activities.

Whether central planning is still in effect. The concept of central planning still permeates many ministries in the former Soviet Union. When disasters occur, state and municipal authorities tend to try to control all aspects of relief and reconstruction programs, slowing the process and extending the amount of time people will have to live in temporary shelters.

The provision of social welfare in the former Soviet Union. Because the social welfare system provides many services that support the displaced during disasters — such as low-

cost meals from a widespread network of canteens — the government will consider the proximity to state services when it is deciding where to locate temporary shelter.

Availability of dachas. Small, summer cottages, or *dachas*, can be an important shelter resource. About 20 percent of the people displaced by the 1988 Armenian earthquake were sheltered in *dachas*.

3. A number of countries — including Armenia, Azerbaijan, Kazakhstan, Russia, Tajikistan, and Uzbekistan — are encouraging the development of single-family housing. Certain alternative emergency shelter programs, such as shelter-to-housing and core housing (described on page 21 of this report), would be appropriate in those countries.

4. There are several categories of disasters that are likely to create emergency shelter needs in the former Soviet Union.

4.1 *Earthquakes.* An earthquake zone extends from Crimea through the Caucasus and across the Caspian Sea into Central Asia and then to the Pacific Rim. The Northern Caucasus in Russia, Georgia, Armenia, Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, and Kyrgyzstan have experienced severe earthquakes in the last half century. Within each earthquake area, the places of most concern are cities with high-rise buildings. The 1988 Armenian earthquake showed that most Soviet-era high-rises were poorly designed, used building systems that were inappropriate for seismic areas, and were poorly constructed.

In the past, the Soviet Union's strategies for emergency shelter included (1) encouraging people to stay with friends and relatives, (2) using nearby rest and recreation facilities, (3) providing railway sleeper cars, and (4) using temporary housing. Because of the cold climate, tents are rarely used.

4.2 *Nuclear Accidents.* There is significant potential for nuclear accidents throughout the former Soviet Union. More than 300 nuclear power plants, research laboratories, and weapons-processing facilities were constructed in the republics before the union ended. Since 1948, several nuclear disasters, including Chernobyl, have been reported. In 1991 alone, Soviet nuclear facilities recorded 270 malfunctions.

One of the more serious nuclear problems facing the countries of the former Soviet Union is nuclear power plants. Sixteen of the nuclear reactors now operating in the former Soviet republics are Chernobyl-style; eleven are in Russia, three in Ukraine, and two in Lithuania. But officials refuse to shut down the reactors, insisting they are essential to the economy.

The three main priorities in a nuclear disaster are (1) evacuation, (2) decontamination, and (3) resettlement. Evacuation is the highest priority. However, few of the Newly Independent States have adequate evacuation plans. (After Chernobyl, the nuclear industry downplayed the seriousness of the nuclear threat).

Shelter requirements are likely to be long-term. Large areas around the site of the accident may need to be permanently vacated, and decontamination of the less

hazardous areas may take many years. Officials planning emergency shelter programs would be encouraged to consider permanent resettlement possibilities when they designate shelter areas.

After previous nuclear disasters in the Soviet Union, officials put the displaced temporarily in railway sleeping cars, warehouses, aircraft hangers, and other large, open buildings, military barracks, gymnasiums, and other sports facilities. For the long term, they used rest and recreation facilities, encouraged friends and relatives to take in the displaced, and established temporary camps using a variety of temporary workers' buildings. In Belarus, officials initiated an "adopt-a-family" program, offering a stipend to families outside the contaminated area if they would take in evacuees.

4.3 *Industrial Accidents.* Industrial accidents also threaten the Newly Independent States. The Soviets moved many chemical plants, along with other industries, into warmer areas like Armenia, Azerbaijan, Kazakhstan, and Ukraine; a number of those plants are located in earthquake-prone areas. Today, many of the Soviet industrial plants are aging facilities without environmental controls, and those that do have safety controls often don't use them.

Each of the republics of the former Soviet Union produces substances that are toxic, flammable, or explosive. The specific risks are far too numerous to list, but can be broken down into two categories: (1) the release of chemicals (gases, liquids, and solids) and (2) industrial explosions.

In most industrial accidents, emergency shelter needs are usually small in scale and of short duration. The priorities in such accidents are, in sequence: (1) evacuation, (2) control of the incident, (3) decontamination, (4) reoccupation of the site, and (5) resettlement or relocation of the evacuees.

Industrial accidents are not likely to create a substantial demand on emergency shelters and would not seriously compete with other emergency shelter requirements.

4.4 *Displacement and Migration.* Long-suppressed ethnic hostilities began to surface in the Soviet Union in the 1980s, revealed in part by the wave of nationalism that ultimately led to the breakup of the union. Among the current conflicts are:

- *Nagorno-Karabakh.* The conflict began in 1988 when Christian Armenians living in Nagorno-Karabakh, an enclave within Azerbaijan, attempted to break away from the predominantly Moslem republic. The battle has led to some 500,000 refugees and displaced persons on both sides.
- *Georgia.* Two areas in Georgia — South Ossetia and Abkhazia — have declared their independence. A cease-fire in August 1992 ended two years of fighting in South Ossetia, at least for the time being. Fighting continues in Abkhazia.
- *Moldova.* War also erupted in an area of Moldova called Trans-Dniester. In December 1991, Russian and/or communist elements — who feared Moldova would join Romania — seized government buildings. A cease-fire was signed in the summer of 1992.

- *Tajikistan.* The conflict began in the spring of 1992 with demonstrations between people who wanted to oust the president — a holdover from communist days — and those who supported him. Civil war ensued.
- *North Ossetia and Ingushia.* In December 1992, fighting erupted between North Ossetia and Ingushia, two neighboring autonomous republics in the Northern Caucasus. The Ingush, who were among the people deported during World War II, returned home in the 1950s to discover that part of their republic had been given to North Ossetia. Now they want that land back.
-

In addition to the current conflicts, there are several other areas where political unrest could erupt into armed confrontation.

In developing emergency shelter strategies in the NIS, planners should consider the following:

- In conflicts between neighboring countries, shelter will be required not only for those people displaced as a direct consequence of fighting, but also for people forced out because of ethnic or national tensions or population exchanges.
- Shelter needs will probably be long-term. Not only do these conflicts often take a long time to resolve, but government officials may resist finding permanent resettlement opportunities because they want the refugees to go home.

Strategies typically used in the former Soviet Union to house refugees and displaced persons from ethnic conflicts include: (1) sheltering them with friends and family, (2) using rest and recreation facilities, (3) establishing refugee camps near large towns or in abandoned military camps, (4) resettling refugees in houses abandoned by people returning to Russia or other countries, and (5) establishing an "adopt-a-refugee-family" scheme.

When additional emergency shelters are required, the following approaches can be used: (1) providing winterized tents, (2) providing plastic sheets and other winterized materials for repairing damaged housing or improving temporary buildings, (3) providing materials for subdividing and, if necessary, heating open structures such as warehouses, and (4) promoting self-help and shelter-to-housing strategies for persons permitted to permanently settle.

5. Several NIS countries will have difficulty providing emergency shelter in new disasters because of competing demands or lack of space in the usual facilities. Countries where space is already exhausted include Armenia, Azerbaijan, Moldova, and Tajikistan. Although Russia, as a whole, has a significant amount of emergency shelter, several areas in the southern part of the country have also been inundated by refugees and displaced persons. They include Ingushia and North Ossetia. Tajikistan has minimal rest and recreation facilities.

6. Regions in which it would be difficult to respond to a nuclear disaster because of fighting in the area include Armenia, Azerbaijan, Georgia, and Moldova.

I.

INTRODUCTION AND OVERVIEW OF EMERGENCY SHELTER IN THE NIS

The republics of the Newly Independent States (NIS) have long experienced a range of disasters, both natural and man made. In this century alone, the various republics have dealt with civil war, invasion from outside forces, famine, earthquakes, floods, mudslides, nuclear disasters and industrial accidents, among others.

Based on past experience — as well as the prospects for the future — there are four likely categories of disasters that could create emergency shelter needs in the former Soviet Union:

1. Earthquakes

Earthquakes are perhaps the most devastating category of natural disaster to strike the former Soviet Union. An earthquake zone extends from the northern part of Crimea through the Caucasus and across the Caspian Sea into Central Asia. Russia, Georgia, Armenia, Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan and Kyrgyzstan have experienced severe earthquakes in the last half century.

One of the most serious earthquakes in the Soviet Union struck northern Armenia in 1988, killing 25,000 people, leaving another 500,000 homeless and causing an estimated \$15 billion in damages. Two decades earlier, a major earthquake in Tashkent, Uzbekistan, leveled most of the city's mud-walled buildings. In the spring of 1991, three earthquakes hit the north-central part of Georgia, destroying numerous homes in small villages in the South Ossetian autonomous *oblast*. In 1992, two earthquakes (along with a flood and landslides) damaged or destroyed almost 44,000 houses in Kyrgyzstan, leaving an estimated 60,000 people homeless.

It is impossible to predict where the next large earthquakes will occur in the former Soviet Union. Earthquake prediction, experts say, is a controversial field and an inexact science at best.

2. Nuclear

There is a high potential for nuclear accidents throughout the former Soviet Union. More than 300 nuclear power plants, research laboratories and weapons-processing facilities were constructed in the republics before the dissolution of the union.

Since 1948, four nuclear disasters, including Chernobyl, have been reported. (The Soviets waited almost 30 years to admit that an explosion had occurred in 1957 at a nuclear storage site near Chelyabinsk in Russia; more than 10,000 people were evacuated after the explosion sent 80 tons of radioactive material into the atmosphere.) In 1991 alone, Soviet nuclear facilities recorded 270 malfunctions. In March 1992, the Sosnovy Bor plant near St. Petersburg, which has Chernobyl-style reactors, leaked radioactive gases into the atmosphere. The Ignalina plant in Lithuania, the largest of all the Chernobyl-style plants, has had a series of minor accidents.

At this point, the nuclear power plants may be of greatest concern. Of the Soviet-designed reactors now operating in the former Soviet republics and Eastern Europe, most are pressurized-water reactors similar to those used in America. Sixteen, however, are Chernobyl-style nuclear reactors. Eleven of those reactors are in Russia: the Sosnovy Bor plant near St. Petersburg (formerly Leningrad) has four, three are at the Smolensk facility at Desnogorsk, and four are at the Kursk plant near Kurchatov. Ukraine's Chernobyl plant contains three and two are at the Ignalina plant in Lithuania. There are also plans to extend the life of some of the old reactors and to lift a post-Chernobyl moratorium on completing others.

The United States has strongly opposed the continued operation of these RBMK (an acronym in Russian for Reactor, Big Power, Channel Type), as the Chernobyl reactors are called. Some scientists have said every reactor in the former Soviet Union is in need of expensive repairs or should be shut down completely, but the Russians refuse to close them. Russian nuclear officials have said that the RBMKs are essential to the economies of Ukraine, Russia and Lithuania.

Since Chernobyl, Russian scientists have made several improvements to the RBMK reactor. Western experts who have viewed data on these improvements reportedly were impressed. But most Western scientists think the design of the reactor is flawed. Western scientists fault the complicated steam piping system inside the RBMK, which is buried in inaccessible channels within the core. They also fear the pipes can break; if several high-pressure pipes broke at the same time, their combined steam pressure could blow the top off the reactor and expose the core. Western scientists are also worried that the RBMK and older versions of the Soviet pressurized-water reactors are not housed in reinforced concrete units designed to contain radioactive debris if an explosion occurs. Some Soviet reactors have bubbler towers that remove radioactive material from escaping gases, but the RBMKs and the old pressurized-water reactors can release dangerous material into the atmosphere.

Power plants are not the only area of nuclear apprehension. One radiation map of the former Soviet Union reportedly pinpoints more than 130 nuclear explosions, most of them in European Russia. The explosions apparently were conducted for geophysical investigations, to create underground pressure in oil and gas fields or to move earth for building dams. The extent of the damage to the land, water, people and wildlife is unknown.

Other nuclear trouble spots abound. Four Soviet submarines, their reactors full of nuclear fuel, have sunk accidentally. In addition, the Soviets intentionally dumped tremendous amounts of radioactive waste into the environment. The worst of the sites is Novaya Zemlya, two Arctic islands turned into a nuclear waste site after being contaminated by bomb fallout. As many as 17,000 barrels of radioactive waste — some of them shot full of holes to make them sink — were dropped into the surrounding seas. In addition, at least eight marine reactors were scuttled there.

One of the more serious nuclear problems facing the former Soviet Union may be the spread of dust from nuclear-contaminated areas. Beginning in 1951, a bomb-building plant in Kazakhstan dumped its nuclear waste into the 100-acre Lake Karachay. Ten years later, the lake held twenty-four times the radioactive content of the debris from the explosion at Chernobyl. In 1967, during a hot, dry summer, some of the waters of Lake Karachay evaporated. Radioactive dust from the exposed bed blew onto lands and buildings, exposing 41,000 people, as far as fifty miles away.

3. Industrial Accidents

Industrial accidents also threaten the NIS. Soviet communism, with its obsession for industrial growth, national security and secrecy, produced an environmental catastrophe on a scale heretofore unknown. "No other great industrial civilization so systematically and so long poisoned its air, land, water and people," states *Ecocide in the USSR*. "... And no advanced society faced such a bleak political and economic reckoning with so few resources to invest toward recovery."

A report prepared for the Earth Summit in Rio de Janeiro in the summer of 1992 blamed the ecological disaster on a policy of forced industrialization dating back to the 1920s. During World War II, plants and equipment were relocated to the Urals and Siberia as German troops invaded the country; after the war, many of them were quickly returned to European Russia. This created a "growth-at-any-cost mentality." In addition, the huge military-industrial complex operated without environmental controls or concern for the safety of the people nearby. And the country's secret police force made sure few people found out about the disasters that occurred.

Of particular concern, of course, are the chemical and petrochemical facilities. After World War II, the Soviets moved a number of chemical plants, along with other industries, into warmer areas like Armenia, Azerbaijan, Kazakhstan and Ukraine; many of those plants are located in areas that are prone to earthquakes. Even if an earthquake doesn't destroy a plant, it could topple vats containing potentially deadly chemicals.

Today, many of the industrial plants in the former Soviet Union are aging facilities without environmental controls, and reports indicate that the facilities that do have safety controls often don't use them. Individual plants located throughout the republics of the former Soviet Union as well as huge industrial complexes in places like the Urals and along the Volga River are catastrophes waiting to happen. There are literally thousands of industrial hazards which could precipitate disasters requiring evacuation.

4. Displacement and Migration

In the years just before its dissolution, the Soviet Union had to deal with its first major ethnic conflict — the attempt by Christian Armenians living in Nagorno-Karabakh, an enclave within Azerbaijan, to break away from the predominantly Moslem republic. The battle, which is still ongoing, has had repercussions in both Azerbaijan and Armenia, leading to the movement of some 500,000 people and incalculable impact on the economies of both countries.

But Nagorno-Karabakh was only the beginning. Long-suppressed ethnic hostilities began to surface throughout much of the country, revealed in part by the wave of nationalism that would ultimately lead to the breakup of the Soviet Union. In June 1989, the Russian military airlifted some 30,000 Meskhetian Turks — a group of people Joseph Stalin deported from Georgia to Central Asia during World War II — from the Fergana Valley following a violent confrontation with native Uzbeks. A few months later, Tajiks in Dushanbe rioted when they heard rumors that Armenian refugees — who had left Azerbaijan because of the conflict in Nagorno-Karabakh — would be moved to Tajikistan, displacing local residents at the head of the waiting list for housing. A few months after Dushanbe, a dispute over land allocations under

a privatization scheme in Osh *oblast* in Kyrgyzstan's part of the Fergana Valley led to armed conflict between Kyrgyz and ethnic Uzbeks.

In 1990 — after Georgia's newly elected nationalist government suggested non-Georgians were unwelcome in the country — the South Ossetia autonomous *oblast* declared its independence. Civil war ensued, culminating in the summer of 1992 with a three-month-long Georgian attack on South Ossetia's capital, Tskhinvali. By the time the fighting stopped in August, much of the housing in the area had been destroyed and nearly 140,000 refugees and displaced persons had been created. Since then, the autonomous republic of Abkhazia has declared its independence from Georgia; at this writing, the fighting continues.

Civil war has also erupted in Moldova. After the Soviets annexed Romania in 1940, Stalin carved out of Ukraine a sliver of land, now called Trans-Dniester, and added it to Moldova. The Russians and Ukrainians who now inhabit the area fear Moldova will once again become part of Romania. Fighting erupted over that issue in December 1991 and lasted for several months until a cease-fire was signed in the summer of 1992.

The next hot spot in the former Soviet Union was Tajikistan. The conflict began in the spring of 1992 with demonstrations in Dushanbe between people who wanted to oust the president, a holdover from communist days, and those who supported him. The ensuing civil war is pitting geographical areas, political and religious philosophies and clans against each other. By mid-November, the war had produced an estimated 400,000 internally displaced persons.

The latest conflict involves North Ossetia and Ingushia, two neighboring autonomous republics in the Northern Caucasus. The Ingush, who were among the peoples deported by Stalin during World War II, returned home in the 1950s to discover that one of their *rayons* had been given to North Ossetia. As a result, many Ingush found themselves living outside their national territory. Now they are fighting for the return of that land.

In addition to these refugees and/or displaced persons, there is another category of migrants in the former Soviet Union. An estimated 65 million to 72 million people were living outside their republics of origin when the Soviet Union dissolved.

The largest number of them — 25 million — are Russians. At this point, little ethnic violence has been directed against them, but this could change if anti-Russian sentiment intensifies, as it well could. More importantly, the Russians see dwindling economic and career opportunities for themselves in the outlying republics; they fear they will soon lose the power they hold in these areas. They are particularly disturbed about new language laws that require residents to speak the indigenous language to hold certain jobs and/or obtain citizenship, and those living in Central Asia are worried about the increase in Islamic traditions.

As of December 1992, Russia's Federal Migration Committee (FMS) had registered 470,000 refugees, people fleeing hostilities in places such as Azerbaijan, Moldova, North Ossetia, South Ossetia, Abkhazia and Tajikistan. The service had also registered 800,000 displaced persons, i.e., Russians who had left the outlying republics for reasons other than direct conflict. The service expects the number to reach two million by the end of 1993. FMS officials say additional migrants have arrived in Russia without registering, but they decline to estimate their numbers.

Current Housing Situation

Vast housing shortages exist in the republics of the former Soviet Union — a legacy from the days of the Soviets' relentless pursuit of heavy industry at the cost of all else, including housing. The need could easily exceed 10 million units.

According to one authority, the shortage in Russia alone is nine million dwellings. At least two large migrations are exacerbating that shortage: the return of ethnic Russians from the outlying republics of the former Soviet Union and the repatriation of Russian soldiers, particularly from Germany and Eastern Europe. Most enlisted men will be absorbed back into their families, but according to a military advisor to President Boris Yeltsin, there are already nearly 200,000 Russian officers in Russia without adequate housing. They are living with friends or relatives or in makeshift shelters. Some Soviet troops who left Hungary and Czechoslovakia, for example, are currently living with their families in tents. As of December 1992, Germany has 72,000 new housing units under construction or in the planning stages in Russia to house the troops returning from Germany.

In addition, the recent influxes of refugees and displaced persons in some of the republics are exacerbating the long-standing shortages. In Azerbaijan, for example, refugees from Armenia, Uzbekistan and Georgia and displaced persons from Nagorno-Karabakh have tripled the housing shortage.

Emergency Shelter

In the past, when disasters occurred in the Soviet Union, the government had a relatively workable system for sheltering the displaced in permanent structures — a virtual necessity in cold-weather areas. The government usually relied on families and friends to absorb the majority of the displaced. Most of the rest were placed in Pioneer camps, sanitoriums or other resort facilities that had dormitory-style accommodations, cafeterias and adequate sanitary arrangements. Many of these facilities were located in the warmer, southern parts of the country, particularly near the Black and Caspian seas. Refugees were placed in public buildings such as schools when other facilities were not available.

In acute emergencies, such as earthquakes, the government also used a variety of temporary shelters. Following the 1988 Armenian earthquake, for example, thousands of portable shelters were shipped to Armenia by railroad from Siberia to house earthquake victims and workers rebuilding the cities. While waiting for the portable shelters to arrive, the government used several hundred railway cars for immediate shelter. Those cars were meant to house people for only a month, but a number of earthquake victims are still using them. Most of the republics of the former Soviet Union, however, have had little experience with tents during disasters.

The exact number of resort facilities in the former Soviet Union available for refugees/displaced persons is difficult to ascertain, but the figure is large, at least for the former Soviet Union as a whole. If figures from the USSR State Statistics Committee are correct, the former Soviet Union has 30,630 sanitoriums and other "institutions of rest" holding more than 5.1 million people. Pioneer camps aren't included in the figures.

A breakdown of the numbers of such institutions in the republics of the former Soviet Union in 1990 are as follows:

Republic	Total Number Rest Institutions	Total Number Beds
Russia	14,862	2,597,600
Ukraine	7,558	1,450,800
Belarus	772	109,800
Uzbekistan	698	111,800
Kazakhstan	882	127,600
Georgia	704	186,800
Azerbaijan	240	58,000
Moldova	238	53,600
Kyrgyzstan	270	71,000
Tajikistan	192	32,600
Armenia	112	29,400
Turkmenistan	82	16,000

Officials in Georgia insist the government has enough hotels, Pioneer camps and other resort facilities to house every person displaced by the fighting in the breakaway areas of South Ossetia and Abkhazia, and — according to the State Committee to the President of the Russian Federation for Civil Defense Affairs, Emergencies and Elimination of the Consequences of Natural Disasters — Russia also has enough emergency shelter possibilities to meet almost any disaster situation. For example, Krasnodar *kray*, a territory in southern Russia that includes the Black Sea coast, has the ability to house some 500,000 refugees and displaced persons in the summer months; the number that can be accommodated in the colder months drops to 250,000.

At this point, the major drawback to using such facilities is money. Many of the facilities throughout the former Soviet Union now belong to enterprises, trade unions and ministries. Although most of the republic governments still have the authority to take over the facilities in case of disasters, their owners would expect compensation. In October 1992, for example, Sochi officials were asking \$3 a day per person to provide room, board and medical attention for refugees.

Some of the resort hotels might not be available for refugees in the future. In the current tight economic situation, some owners are closing a few of their facilities. However, as foreign tourism grows in the republics of the former Soviet Union, resort facilities could become major sources of income for their owners. At the moment, however, tourism is not booming in all areas of the republics. The downturn in the economy is keeping many former Soviets at home. In addition, ethnic conflict is discouraging tourism — both domestic and foreign — in some places. For example, in Sochi, which is near the fighting in Abkhazia, hotel occupancy in the fall of 1992 was running at 30 percent of its usual rate for that time of the year. In addition, some owners are putting their resort facilities on the market at this time. One hotel near Sochi was for sale in the fall of 1992 for the equivalent of about \$15,000; it reportedly could house up to 250 people and had a canteen that could feed 150.

The housing systems in the former Soviet Union have been surprisingly flexible in absorbing migrants so far. However, emergency shelter systems in several areas of the former Soviet Union are saturated. According to the figures above, Tajikistan, Azerbaijan and Armenia lack sufficient resort space to house their current refugees/displaced persons. Armenia — which has experienced both a devastating earthquake and a refugee influx from Azerbaijan — has little space left in resort facilities; currently, several thousand refugees are being housed in schools and other institutions. Azerbaijan's ability to absorb refugees or displaced persons is also being seriously strained. Tajikistan, which never had a significant number of year-round resort facilities, is also running out of permanent structures in which to house its displaced. According to the International Federation of Red Cross and Red Crescent Societies (IFRC), Tajikistan "lacks adequate shelter for the increasing number of displaced people." Between five and ten percent of the more than 400,000 displaced do not have shelter or are living in schools, tents, railway cars and unfinished buildings.

Although several governments — among them Armenia, Azerbaijan and Tajikistan — have requested winterized tents to meet housing shortages, most of the republics have other resources that might be exploited before refugees/displaced persons are forced into tents. Among them are prefabricated housing and unfinished buildings.

However, in many former Soviet republics, permanent housing rather than emergency shelter is the ongoing need.

Institutional and Managerial Capacity

The Civil Defense (CD) units in the republics of the former Soviet Union have significant experience dealing with disasters.

In Russia, Civil Defense has been merged with other agencies to form the State Committee to the President of the Russian Federation for Civil Defense Affairs, Emergencies and Elimination of the Consequences of Natural Disasters. CD, which is the committee's operational branch, is now a uniformed civilian agency; under the Soviet system, it was a branch of the Soviet army.

Civil Defense underwent many changes in the last years of the Soviet Union. It received a lot of criticism in the aftermath of Chernobyl and the Armenian earthquake. This led to a national debate on the role of the agency; even before the Commonwealth of Independent States (CIS) was formed, decisions had been made to take CD out of the army and reform it as a civilian agency. The decision to devolve more authority to the republics had also been made at an earlier date, and that, coupled with the fact that CD staff served their careers in their home republics, led the way for the rapid establishment of national CD agencies in the Newly Independent States.

Another product of the debate over the role of CD during the waning days of the USSR was its shift from focusing on nuclear-conflict preparedness to more emphasis on natural, industrial and civil nuclear disasters. Armenia had pointed out the weaknesses of using the military in a civil emergency. It was not prepared for mass casualties or for taking the lead in managing the operation. Civil authorities pushed Civil Defense aside and ignored its plans, using it primarily to assist civilian managers.

At the same time, while still a part of the Soviet army, CD had begun to prepare to handle mass movements of people associated with ethnic conflict in the republics. (This did not please the republics. Civilian leaders who wanted a weakened central government were not anxious to see more power concentrated in the military, where it could be easily abused by hardliners. There was also concern about the organization's role in the various ethnic crises in the republics from both inside and outside the organization. When the central government intervened in Kyrgyzstan in 1990 and Armenia in 1988, CD assisted the Soviet army's security operations. Local people resented this development.)

As a result of these debates, the new Russian agency that emerged saw its role as: (1) providing logistical, managerial and technical support to local governments in the aftermath of natural or industrial disasters, (2) handling mass evacuations related to nuclear accidents or industrial disasters, (3) assisting local governments in disaster preparedness and mitigation through technical assistance or funding and (4) providing training to local disaster management authorities. There is also some element of civil defense preparedness (i.e., military-related CD), but that is downplayed at present.

Because of the CD's interest in mass evacuation for nuclear/industrial disasters, the agency has been called on to help develop plans for evacuating victims of civil disturbances. In Russia, most of the planning has been focused on helping ethnic Russians evacuate to Russia and on helping local governments in the areas north of Georgia deal with displaced persons. This has led to some problems for the agency: in cases where CD has tried to develop contingency plans for possible ethnic violence, local authorities have pressured the central government to stop the exercise for fear that it might provoke the very trouble that CD is trying to prepare for. Thus, for the foreseeable future, Civil Defense is not likely to be an effective intervenor in assisting victims of civil conflict at the sites where incidents occur. This is one reason so many state committees for refugees have sprung up.

In many of the republics, the state committees for refugees began as part of the social protection agencies within labor ministries. Some of them have since evolved into more independent organizations. The Russian Federation's Federal Migration Service, for example, has expanded its operation to include visa and passport activities.

II. PLANNING CONSIDERATIONS

Seasonal variations

The time of year a disaster strikes will significantly influence the shelter response and, indeed, the entire relief program. If the disaster occurs in the winter, tents and other forms of light-weight emergency shelter will be inappropriate, and evacuation to distant sites is likely to be the first action taken by relief authorities. If the disaster strikes during late spring or summer, emergency shelters and non-insulated structures close to the site become an option.

In the winter, fuel for heating is a major concern. Unless people can be sheltered in structures that use central heating plants that provide steam heating for normal buildings, a relief program would have to dedicate substantial resources, money and transportation to provide fuel for make-shift stoves.¹ Soviet Civil Defense officials estimated in 1988 that it would take three times as much transport capacity to provide coal to people living in emergency shelters than food.

In the spring or summer, it may be possible to use large, enclosed buildings such as warehouses, aircraft hangers, etc. for short-term emergency shelters, but heated buildings will be required in the winter.

The influence of disaster type on shelter decisions

The type of disaster that occurs will affect the kind of shelter that can be used, the length of time shelter will be required and the location of the shelter in relation to the disaster site. For example, shelter for earthquake victims can, and should, be located as close to the victims' homes as possible. In all but a few cases, people should be able to reoccupy their former sites. Following a nuclear disaster, however, many areas will not be reinhabitable due to radiation contamination; thus emergency shelter and replacement housing may need to be located far away.

Influence of building types

The amount of time people require emergency or alternative shelter is much longer in the former Soviet Union than in other countries. Unlike many other countries, where the majority of the population lives in low-rise, single-family structures or small two- and three-story buildings that can be quickly erected or repaired, over 80 percent of the population in the former Soviet Union reside in massive, multi-family structures. In the larger urban areas, apartment complexes may rise to twenty or more stories. Even in the smaller towns, people often live in large complexes that are four to eight stories high. Only on collective farms and

¹ Buildings in the former Soviet Union are heated by hot water or steam produced by central power plants located throughout each community. Boilers -- fueled by coal, oil, natural gas and sometimes nuclear power -- heat the water that has been piped throughout the surrounding community. Many universities in the United States use a similar system.

in the smaller villages in central Asia are large numbers of single-family homes or even duplexes to be found. Thus, when buildings are destroyed, people may be forced to live in temporary accommodations for many years since the pace of construction even in the best of times is slow, and the construction of high-rise units may take up to two years, even with accelerated reconstruction techniques.

A number of relief specialists have pointed out that as long as government officials continue to favor high-rise buildings over low-rise, privately owned, single-family structures, any housing reconstruction program is likely to be prolonged due to the long lead times needed to design and build large structures. A strategy that supports private initiative and self-financed, or self-help, construction could greatly accelerate the reconstruction process and reduce the time that people must reside in temporary or emergency shelters.

As a consequence of democratization and a shift to the free-market system, there have been increasing demands for single-family housing. It would not be unreasonable to expect that housing officials might use a disaster as a means of accelerating production of private housing, especially if survivors are willing to build the houses themselves. In the aftermath of the 1992 Tajik earthquake, many people who were displaced asked for land and building materials to erect new homes. Officials of the U.S. Agency for International Development (USAID) should consider supporting this process, using shelter-to-housing strategies (see page 21).

Reconstruction strategies

Decisions about emergency shelter are affected by the reconstruction strategies that governments adopt. If buildings have been damaged or destroyed, the normal strategies used in the NIS include:

- repair of structures that have been lightly damaged (as a general rule, housing authorities only repair buildings that are less than four stories high);
- construction of new replacement buildings;
- provision of cash (via loans or grants) to help the disaster victims acquire land and build their own houses;
- establishment of new towns (when the old site is considered too unsafe for reconstruction).

If a substantial portion of the buildings have received only minor damage and can be repaired and reoccupied, emergency shelter requirements are fewer and of a shorter duration. If buildings are to be replaced with new construction, emergency shelter and temporary housing may be required for up to several years. If new towns are to be built, the time period is even longer.

The best way to reduce the time that people will be required to live in temporary shelter is to increase self-help activities by providing loans and grants. If a government can be convinced to adopt this approach, it will not only accelerate the reconstruction process, but will

also help stimulate the economy because a wide variety of construction materials and skills will be needed. In the former Soviet Union, however, little land has been designated for this type of construction and new subdivisions will need to be plotted and utilities extended. Since it is not economical to use central heating plants for heating single-family houses, a prime consideration will be the development of heating systems that are appropriate for these new houses.

The problem of central planning

A major problem that still permeates the Newly Independent States is the role of central planning. Despite the many reforms that have taken place since the mid-1980s, central planning is still prevalent in many sectors, especially housing. When disasters strike, state and municipal authorities tend to try to control all aspects of the relief and reconstruction program. This tends to slow both the delivery of relief supplies and the process of reconstruction. Housing reconstruction, for example, did not begin until almost six months after the earthquake in Armenia. In the West, reconstruction may start as early as one or two weeks after a major disaster. As long as a government insists that the development of reconstruction plans are its exclusive domain, shelter needs are likely to be prolonged. Thus, the provision of shelter must take into account that people are likely to live in shelters through both warm and cold weather periods.

Another legacy of the Soviet period is the belief that the government must provide both alternative and replacement housing for the people at little or no cost. Therefore, the government usually resorts to transferring funds from other projects. In the socialist era, when money could be printed at will, this was not a major problem. But under the new economic systems that are evolving, replacement housing for an earthquake-ravaged city or a nuclear disaster could bankrupt the country unless substantial foreign aid can be obtained. Investing in long-term temporary shelter for thousands of families could provide a major financial strain on already financially stressed economies. The financial impact of disasters is likely to force governments to provide land and loans to accelerate the transition from multi-family to single-family housing following disasters. In such a situation, the shelter-to-housing or core house strategies should be considered.

The provision of other services and their impact on shelter decisions

The social welfare system of the former Soviet Union provides many services that are used by authorities in disasters to support the displaced population. For example, low-cost meals are provided through a widespread network of *stolova* (canteens) that can be found in every factory and neighborhood throughout the NIS. Following major disasters, the survivors are given coupons that can be used in any *stolova* to obtain meals. Likewise, survivors receive coupons and vouchers that can be redeemed in state-owned stores for food, clothing and other necessities. Therefore, when a government is deciding where to locate emergency shelters (if they will not be in Pioneer camps or in rest and recreation facilities), a prime consideration will be the proximity of the site to existing state services.

The importance of *dachas*

In Russia, and in many of the former Soviet republics, many people were able to acquire small parcels of land upon which they could build small, summer cottages, or *dachas*. In the czarist period, only nobles and the wealthy were able to afford them. But during the communist period, millions of people were able to acquire the resources necessary to build a small cottage. In the post-communist period, food prices have escalated dramatically, thus *dachas* have become important for another reason — families plant vegetables in their *dacha* gardens and preserve them for the winter.

Most *dachas* are poorly constructed. Since they are designed for summer use, they are not properly insulated and many do not have heaters. Nonetheless, in a major disaster, *dachas* can become an important shelter resource. Following the 1988 earthquake in Armenia, approximately 20 percent of the refugees were sheltered in *dachas* in Yerevan and other cities south of the earthquake zone.

Dachas could play an important part in a shelter strategy in all republics except Tajikistan, Kyrgyzstan, Turkmenistan, Azerbaijan and Uzbekistan.

Emergency shelter strategies that accelerate housing reconstruction

Over the years, USAID has developed a number of approaches designed both to provide emergency shelter and speed housing reconstruction. Many of these can be funded using emergency grants from USAID's Office of U.S. Foreign Disaster Assistance (OFDA) or under the auspices of the Housing Guarantee Program administered by USAID's Office of Housing.

1. Subsidized material sales

The simplest and usually easiest way to provide emergency shelter is to set up a program to sell basic building materials such as galvanized iron roof sheets, cement, wood, ~~nails, etc.~~ at subsidized prices to the disaster victims. In the aftermath of an earthquake, provision of lightweight building materials and the components necessary to strengthen houses can be an important means of encouraging the use of safer materials.

Subsidized materials can be distributed at designated sites called material yards. Donors can purchase or donate materials and deliver them to the site(s) for sale. Sales can be controlled using coupons or vouchers issued by relief agencies.

Funding for this approach can usually be obtained from OFDA and other bilateral donors.

2. Cash and credit

The most important shelter and housing reconstruction resource for people is cash. In recent years USAID and other donors have begun to move more toward cash-based assistance programs, especially when local currency can be obtained as a result of PL-480 Title I food sales or other counterpart fund arrangements. The usual method is to provide small housing allowances in the form of cash grants to very low income people, and loans to families with higher incomes. Sometimes both grants and loans may be offered. In some cases the loans are

subsidized or offered at rates below the current market level, but the current thinking is that loans should be at the normal interest rate.

Funding for this approach can be secured from the Housing Investment Guarantee Program (HIG) or from OFDA, other bilateral donors and the European Community's Humanitarian Office (ECHO).

3. Sites and services

An approach that may be used in or adjacent to urban areas is the provision of land that is fully serviced by such basic utilities as water, gas, electricity and sanitary sewerage. In this scheme, known as "sites and services," the host government, supported with funding by international donors, provides free or at subsidized rates the land for self-financed or self-built construction. The objectives are to stimulate rapid reconstruction by supporting auto-construction and to steer urban development on the edge of the community.

Funding for sites and services programs can be secured from HIG. This strategy is also favored by several international lenders such as the World Bank.

4. Shelter-to-housing

Shelter-to-housing is a comprehensive program of material sales, technical assistance, local production of building materials and aided, self-help housing construction. The objective is to provide a range of building materials that can be used first to erect a temporary shelter, then reused in the building of a permanent house for the disaster victim. In this way, donor resources can be maximized and a sequential building process and program can be established.

Shelter-to-housing programs have sometimes been co-funded by OFDA and USAID's Office of Housing (under the HIG program). They have also been supported by Britain's Overseas Development Administration (ODA), the Norwegian Development Agency (NORAD) and the World Bank.

5. Core housing

In the core housing approach, a donor provides materials and technical assistance to enable a family to build a small but strong shelter that can later be expanded into a larger house. In seismic areas, an additional objective is the building of an initial core that is strong enough to provide a safe, central space in the home that people can flee to if another earthquake hits.

Core housing is an approach favored by many relief agencies and has been funded by various USAID missions, OFDA and other bilateral donors. It is also a favored approach of many European Red Cross societies.

Table 1

EMERGENCY SHELTER PRIORITIES FOR DONORS

DISASTER PREPAREDNESS

- Help identify threats and risks, i.e., encourage disaster preparedness planning. [Advocacy, technical assistance]
- Encourage development of a comprehensive shelter strategy according to disaster type, e.g., earthquake, nuclear disaster, etc. [Advocacy, technical assistance]
- Help inventory potential shelter resources (see "Checklist of Information Needs for Emergency Shelter"). [Technical assistance]

EMERGENCY RESPONSE

- Support evacuation operations. [Technical assistance, data processing support]
- Support winterization and/or climatizing of public buildings used as temporary shelters (see "Winterization Materials List"). [Cash, material support]
- Support winterization of *dachas* (see "Winterization Materials List"). [Cash, material support]
- Provide personal winter supplies such as sleeping bags, blankets, parkas, gloves, etc., to displaced families. [Cash, material aid, transportation]
- Support process of repairing damaged buildings (see "Material Aid Priorities"). [Cash, building materials and critical components, technical assistance]
- Advocate and support "adopt a displaced family" programs. [Cash]
- Advocate and support shelter-to-housing programs. [Cash, material aid, technical assistance]
- Support procurement of local forms of emergency shelter such as *yurts*, oil workers housing, etc., where appropriate. [Cash, transport]

LONGER-TERM ASSISTANCE

- Support measures that will accelerate reconstruction or permanent solutions to the housing problem, such as
 1. provision of land for single-family housing;
 2. provision of infrastructure for new housing sites;
 3. provision of credit for owner-financed or -built housing; [housing guarantee]
 4. provision of building materials for owner-financed or -built housing; and,
 5. provision of technical assistance for the above.

III. EARTHQUAKES

High-risk areas

The map on the following page depicts the principal seismic regions of the NIS. In the last fifty years, major earthquakes have occurred in Tashkent, Ashkhabad, northern Armenia and Georgia. In 1988, a landslide triggered by an earthquake destroyed a village near Dushanbe.

Earthquakes are the most serious natural disaster likely to be faced in Russia or the southern states.

Urban verses rural vulnerability

Within each of the high-risk areas, the places of most concern are the urban areas. This is because high-rise buildings are the prevalent form of housing in cities; in the smaller towns and on the collective farms, low-rise buildings and single-family structures predominate. Low-rise structures are generally stronger than high-rises, and single-family houses tend to be built with lighter-weight materials and to be better made.

The Armenian earthquake of 1988 demonstrated that most Soviet-era high-rise buildings were poorly designed, used building systems that were inappropriate for seismic zones and exhibited extremely poor quality construction. The same types of buildings are found throughout all the seismic areas of the NIS, and building failures on a similar scale can be expected should earthquakes strike any city in the zone. (Reconstruction standards in the aftermath of the earthquake did not improve. A 1989 survey by engineers under the auspices of the United Nations Disaster Relief Office reported very low standards of concrete work in the replacement housing in Armenia.²)

Earthquakes and their effects

The effects of earthquakes can be classified according to primary and secondary effects. Primary effects are those caused directly by the earthquake itself. These include:

- damage to and destruction of housing and other buildings;
- damage to infrastructure, such as water and sewer lines, electrical power, communications, and transportation arteries.

² "Multisectoral Study on Disaster and Management Planning in Armenia: Mission to Armenia 11-30 September 1989," United Nations Disaster Relief Office, 1990.

SEISMIC ACTIVITY

• - recorded earthquake



The secondary effects include:

- landslides or avalanches triggered by the earthquake;
- fires;
- industrial disasters caused by rupture of lines or storage tanks holding hazardous materials.

Emergency shelter requirements as a result of the primary effects of disasters depend on the extent of damage to the facilities. If high-rise housing has been destroyed, alternative shelter will be required for extended periods of time. But if the houses have only been damaged, short-term emergency shelter may be all that is necessary. Evacuations forced by damages to infrastructure are usually short-term; water mains, sanitary sewer lines, gas mains and power lines can usually be quickly repaired. Exceptions include power generating plants that have been damaged and dams that have been damaged or destroyed, reducing hydro-electric power potential. Landslides and avalanches require the permanent relocation of the people who survived. Families can usually reoccupy sites of houses that have been burned.

The most serious problem created by secondary effects is the release of hazardous materials. This requires instantaneous evacuation. If the material is a gas, the site can usually be reoccupied as soon as damages have been repaired and the gas has dissipated. If it is in a liquid form, however, or if the gas has a persistent aftereffect, it may be many months before the site can be decontaminated properly and, in a few cases, the site may have to be abandoned altogether.

Shelter strategies for earthquake survivors

The usual objective of emergency shelter following an earthquake is the provision of nearby, temporary residences for survivors so that they can participate in the reconstruction of their community and benefit from reconstruction aid. In urban areas in the NIS, it will be necessary to provide long-term shelter since the majority of housing being rebuilt is likely to be high-rise structures.

The usual shelter strategies employed in the former Soviet Union are:

1. to encourage people to stay with friends or relatives;
2. to use nearby rest and recreation facilities (Pioneer camps, sanatoria, resort hotels, etc.);
3. to use railway sleeper cars; and,
4. to provide temporary housing, such as that normally used by oil field workers, or at work camps in remote areas.

Tents are rarely used due to the extreme climate in most of the region, though the Soviet Army provided some tents for use in Armenia for families to store belongings. A number of relief agencies provided winterized military tents with heaters, but the cost of procuring, shipping and erecting the tents was excessive and fewer than several thousand were used.

In some Central Asian countries, governments have provided traditional *yurts*, large, portable structures made from animal skins or heavy woolen felt stretched over a wooden frame. These would only be appropriate in certain rural areas and are not likely to be acceptable to many urban dwellers.

Priorities

Shelter priorities change as time passes. In the aftermath of an earthquake, shelter will be needed according to the following priorities:

1. emergency shelter for those forced to evacuate due to secondary threats;
2. longer-term shelter for families whose buildings have been destroyed or severely damaged;
3. temporary shelter for emergency workers (search-and-rescue teams, demolition teams, etc.); and,
4. longer-term shelter for reconstruction workers and security forces.

SEISMIC HISTORIES (BY COUNTRY)

Armenia

Armenia is located within an earthquake zone that extends from the northern part of the Crimea over the Caucasus region to the Caspian Sea.

An earthquake that registered 6.9 on the Richter scale, struck the northern part of Armenia on December 7, 1988. (Its epicenter was near the Armenian-Georgian border.) At the time, it was the strongest earthquake to hit the Caucasus in more than eighty years and one of the worst in Soviet history.

The death toll from the earthquake was more than 25,000 people. Another 12,000 were hospitalized; almost 15,000 people were pulled alive from the rubble of collapsed structures. More than 500,000 people were left homeless. The earthquake also destroyed more than 50 towns and villages and damaged 100 more. The cost was estimated at \$15 billion.

The seismic zone on which Armenia lies is one of the most active in the world and future earthquakes can be expected.

Azerbaijan

Azerbaijan lies in the earthquake zone that stretches from Crimea across the Caucasus to the Caspian Sea and on into Central Asia. Oil drilling in fault zones can increase an area's seismicity because it affects the subterranean structure, thus the towns in the east near the principal oil fields are of special concern. However, most of the urban buildings in Baku and eastern Azerbaijan are solidly constructed, many of them having been erected in the late Victorian or early Edwardian periods. There are a few high-rise structures in Baku, but even there, the majority of the structures are only a few stories high. If an earthquake strikes the country, the buildings of most concern will be those the Soviets constructed from the 1960s-80s.

Georgia

Georgia lies within the seismic zone that begins at the Crimean peninsula and extends across the Caucasus and is considered one of the most active in the region. Earthquakes strike the republic with some regularity. In the spring of 1991, for example, three earthquakes occurred in the north-central part of Georgia, destroying numerous homes in small villages in the South Ossetian autonomous *oblast*. Another earthquake in October 1992 rocked southern Russia, Georgia and Armenia, killing one person in the Georgian village of Barisakho, ninety kilometers northeast of Tbilisi. A number of people were injured and several dozen homes destroyed in the sparsely populated Caucasus.

Kazakhstan

Large areas of southern Kazakhstan are located in the earthquake zone that runs through Central Asia. A major earthquake hit Alma-Ata (then called Verny) in 1887, destroying the city. Another earthquake rocked Alma-Ata in the early part of the 20th century, leveling sixty percent of the area. Minor seismic events are recorded regularly and seismologists have classified the region as a high risk area.

Kyrgyzstan

Kyrgyzstan lies in the seismic zone that stretches from Crimea through Central Asia. On August 19, 1992, an earthquake measuring 7.5 on the Richter scale occurred in eastern and central Kyrgyzstan. Although the epicenter was in a fairly remote and mountainous region 120 kilometers southwest of Bishkek, the earthquake caused extensive damage to agriculture, livestock and infrastructure. The areas most heavily affected were the Toktogul *rayon* of Djalal-Abad *oblast*, the Suusamyр Valley and some areas of Naryn *oblast*. By August 23, the extent of the destruction was estimated at 10.8 billion rubles, of which 3.1 billion rubles was for reconstruction. Sections of the Bishkek-Osh highway were severely damaged, both power and communication lines were destroyed and houses, schools, hospitals and community medical clinics were damaged, some beyond repair.

The August earthquake was not the first one to hit Kyrgyzstan in 1992. Between May and July of 1992 the regions of Djalal-Abad and Osh experienced an earthquake as well as a flood and landslides. The government of Kyrgyzstan estimated the damages of these earlier disasters at 7 billion rubles, of which 4.5 billion was for reconstruction of housing.

The government reported damages in the May to July disasters at 17,665 houses, 5,961 of them destroyed; 500 shepherd's houses and livestock facilities; 48 schools; 22 kindergartens; 20 hospitals; 51,440 hectares of crops; 493 kilometers of power lines; and 1,370 kilometers of communication lines. The August earthquake damaged an additional 16,020 houses and destroyed another 10,846.

Engineers are extremely worried about the quality of buildings in Bishkek and other large cities since they are essentially the same design (and poor workmanship) as the structures that failed in Armenia.

Russia

Russia has two major areas of seismic activity. One is the earthquake and volcanic region of the far east (along the Pacific Rim), the most active of which is the northern Kamchatka Peninsula. However, the region is not densely populated. Therefore, earthquakes in that region will not produce major damage except in the larger cities. One location that has received a lot of attention from seismic engineers recently is the city of Petropavlovsk.

The second area involves the Northern Caucasus. The Northern Caucasus — primarily a grouping of autonomous republics on Russia's southern border with Georgia — fall within the seismic zone that begins at the Crimean peninsula and extends across the Caucasus to Central Asia. Although much of the area is sparsely populated, it does contain several cities with sizeable populations, including Vladikavkaz in North Ossetia.

Tajikistan

Tajikistan lies in the earthquake zone that extends across much of Central Asia. Severe earthquakes are common along with floods and mudslides. In fact, the earthquake risk in Tajikistan is possibly the highest in the former Soviet Union, with the entire republic subject to severe quakes. Each year, there are an estimated 100 earthquakes with a Mercalli reading of III (felt motion) or above.

The last major earthquake occurred in 1990. In 1988, an avalanche caused by an earthquake buried an entire village near Dushanbe. Engineers are concerned about the newer high-rise buildings in the capital, many of which are the same style and quality as those that failed in Armenia in 1988.

Turkmenistan

Turkmenistan lies in the seismic zone that extends from the Crimea through Central Asia. However, only four cities in the country count any sizeable population: Ashkhabad, the capital, which is on the country's southern border, has approximately 400,000 people; Chardzhou, on the northeastern border, has 161,000; Tashouz, to the north, has 112,000 residents; and

Krasnovodsh, on the Caspian Sea, has 55,000 people. Much of the land in between these cities is largely uninhabited desert.

In 1944, a major earthquake hit Ashkhabad and a large area surrounding it. The city was entirely rebuilt and provisions were made to increase seismic protection by restricting the height of new construction and increasing the space between buildings. Of all the cities in the seismic areas of the former USSR, Ashkhabad is considered the safest.

Uzbekistan

Uzbekistan lies in the Central Asian seismic zone. The country periodically experiences earthquakes. For example, almost all of Tashkent's mud-walled buildings and many of the lower quality Soviet built high-rises were destroyed in a major earthquake that hit the city in 1966. Replacement houses were not made well and engineers fear that many would collapse in a future earthquake. In addition, many of the houses in the rural areas of the country are still made of traditional, unreinforced, earthen masonry and are considered very vulnerable to earthquakes.

Additional considerations

There are several countries among the Newly Independent States that will have great difficulty in providing emergency shelter due to competing demands or a lack of space in the usual facilities that are used for shelter. The following situations should be noted for specified countries:

1. Countries where shelter space is already exhausted:

In the following countries buildings that normally would be used to provide emergency shelters for earthquake survivors have already been saturated by refugees or persons displaced by internal conflict.

- Armenia
- Azerbaijan
- Tajikistan

The housing situation in Armenia has also been exacerbated by the shortage of housing in areas affected by the 1988 earthquake in Leninakan and Spitak.

In southern Russia and northern Georgia, the following autonomous republics have also been inundated by refugees and displaced persons:

- Abkhazia (Georgia)
- Chechen (Russia)
- Ingushia (Russia)
- North Ossetia (Russia)
- South Ossetia (Georgia)

2. Countries with minimal rest and recreation facilities:

The following earthquake prone countries have minimal rest and recreation facilities of the type that are normally used for emergency shelter:

- Tajikistan
- Turkmenistan

3. Countries with different/additional emergency response capabilities:

- Kyrgyzstan (Committee for Emergency Situations)
- Uzbekistan (Center for Emergency Preparedness; Federation of Trade Unions)

Because of recent earthquakes, the following countries have developed specialized agencies to deal with earthquake preparedness and response or to coordinate relief programs:

- Armenia
- Kyrgyzstan
- Uzbekistan

4. Countries shifting toward single-family housing:

The following countries are encouraging the development of single-family housing. Therefore, emergency shelter programs such as shelter-to-housing and core housing approaches would be appropriate.

- Armenia
- Azerbaijan
- Kazakhstan
- Russia
- Tajikistan
- Uzbekistan

COUNTRY SPECIFIC WORKSHEETS

The following worksheets should be completed by USAID missions in each of the following countries:

- | | |
|---------------|-----------------|
| 1. Armenia | 6. Russia |
| 2. Azerbaijan | 7. Tajikistan |
| 3. Georgia | 8. Turkmenistan |
| 4. Kyrgyzstan | 9. Uzbekistan |
| 5. Kazakhstan | |

CHECKLIST OF INFORMATION NEEDS FOR EMERGENCY SHELTER

ABSORPTIVE CAPACITY OF LOCAL HOUSING

1. Average number of people per unit.
2. Housing surplus or deficit (estimated number of units).
3. Competing demands for available space (refugees, people displaced from previous disasters, etc.).
4. Survey of empty housing and other buildings to determine extent of unused space.

REST AND RECREATION FACILITIES

5. Number, location, capacity and occupancy status of Pioneer Camps.
6. Number, location, capacity and occupancy status of hostels.
7. Number, location, capacity and occupancy status of sanatoria.
8. Number, location, capacity and occupancy status of resort hotels.
9. Competing demands on any of the above.

DACHAS

10. Approximate number and location of *dachas* (many are located at "villages" near main towns).
11. Percentage of people owning *dachas*.

OTHER POTENTIAL SOURCES OF EMERGENCY SHELTER

12. Tents (list number and location stockpiled by Civil Defense, Red Cross/Red Crescent, etc.).
13. Availability and sources of temporary buildings that could be used as shelters, e.g., oil field worker houses, container housing, etc.
14. Number, location and estimated capacity of public buildings that could be used as shelters, e.g., schools.

15. Approximate number of railway sleeping cars that could be acquired for use as temporary shelters.

NEW HOUSING

16. Production rates of new housing by public sector.
17. Production rates of new housing by private sector.
18. Availability of land for owner-financed or owner-built housing. (Determine amount of land available, size of parcels, infrastructure supplied, etc.)
19. Availability of financing for owner-financed or owner-built housing. (Determine terms, amounts available for lending, etc.)
20. Availability of building materials for owner-financed or owner-built housing. (Determine shortages.)

CONTACT LIST

I. PRINCIPAL EMERGENCY AGENCIES

Government agencies

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
3.				
4.				
5.				

Red Cross/Red Crescent

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
3.				

II. PRINCIPAL GOVERNMENTAL SHELTER AGENCIES

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
3.				

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IV. NUCLEAR DISASTERS

High-risk areas

There are hundreds of nuclear sites throughout the NIS. These include: nuclear power stations, nuclear material processing facilities, nuclear weapons laboratories, scientific research stations, hazardous waste sites, reprocessing facilities, nuclear weapons storage areas and numerous nuclear powered ships and service facilities. The map on the following page shows the location of the principal nuclear power stations and research facilities and sites of major radioactive contamination.

Nuclear safety standards during the Soviet period were dangerously lax. In the period from 1945 to 1992, there were half a dozen major nuclear incidents. The most widely known is the Chernobyl incident of 1986, when one of the reactors at the plant exploded and dumped nine tons of radioactive material into the atmosphere. Tens of thousands of people were forced to leave the area, but 2.6 million still live on contaminated soil.

Response scenario

The three main priorities in a nuclear disaster are:

- evacuation,
- decontamination,
- resettlement.

When a nuclear accident occurs the highest priority is evacuation. The distance that people will need to be moved will depend on the type of disaster and its potential for worsening. (Unlike many other types of disasters, nuclear disasters can grow rapidly and the zone of contamination can expand.) Unfortunately, few of the Newly Independent States have adequate evacuation plans. Even in the aftermath of Chernobyl, the nuclear industry downplayed the seriousness of the threat and has tried to minimize the public's concern about nuclear safety by keeping nuclear evacuation plans secret and by refusing to hold evacuation drills (using the excuse that they might alarm the public). The result is that evacuees and the vehicles they use to leave an area often spread contamination to areas that would otherwise not be affected.

The International Atomic Energy Agency recommends that evacuation plans be developed for three types of victims:

1. people who have been exposed to high levels of radiation;
2. people who have been exposed to moderate levels of radiation; and,
3. people who have been exposed to minimal levels of radiation and/or those who should be evacuated to prevent them from being exposed.

NUCLEAR REACTOR SITES & RADIO ACTIVE CONTAMINATION



RBMK (graphite moderated) reactors - ■
 VVER (water moderated) reactors - ●

Planned or under construction - ○
 Breeder reactors - ▲

Radio active contamination - ▨

2/12

Emergency shelters for each of these groups should be segregated to prevent cross-contamination and to permit officials to treat the first two groups according to their special needs.

In all three cases, shelter requirements are likely to be long-term. Large areas around the site of the accident may need to be permanently vacated, and decontamination of the less hazardous areas may take many years. Officials planning emergency shelter programs should be encouraged to consider permanent resettlement possibilities when they designate shelter areas.

Shelter strategies

In developing an emergency shelter strategy for a potential nuclear disaster, it is important to remember that:

1. The evacuation of the surrounding area may be total.
2. The numbers of people affected could be massive.
3. The distance to safe areas may be quite far.
4. Radiation contamination is affected by both upper and lower level wind patterns.
5. Many families will need to be sheltered for long periods (and eventually resettled to other areas).

Relief authorities used the following means for providing emergency shelter after the previous nuclear disasters in the Soviet Union.

For short term needs, they:

1. used railway sleeping cars;
2. placed evacuees in warehouses, aircraft hangars and other large, open buildings;
3. put evacuees in military barracks; and,
4. used gymnasiums and other enclosed sports facilities as short-term shelters.

For long-term needs, they:

1. used rest and recreation facilities;
2. encouraged family and friends to take-in the evacuees; and,

3. established temporary camps using a variety of emergency shelter systems from tents to temporary workers' buildings.

To help get people out of structures with inadequate sanitary facilities and those that lacked privacy, authorities in some towns in Belarus initiated an *adopt-a-family* program: families outside the contaminated area were encouraged to take in evacuees and were offered a stipend and additional incentives to adopt a family of evacuees. This strategy is credited with substantially reducing the number of people living in welfare centers and was considered less costly than maintaining camps and other special evacuation centers.

Reconstruction strategies

Permanent solutions to the shelter crisis caused by a nuclear disaster are likely to be expensive. Depending on the extent of radioactivity, large areas may need to be decontaminated. This may require that some buildings be destroyed, soils be removed and other types of installations be demolished, removed or subjected to decontamination treatment. Many buildings in the vicinity of Chernobyl were considered too radioactive to reoccupy and had to be destroyed. In other areas, villages were simply abandoned because they were too contaminated to be approached.

Once decontamination has been completed and areas that can be reoccupied have been delineated, a portion of the population can be returned. In most cases, government authorities will want to reduce the population and may suggest that only certain groups return to those areas. While it may be difficult to restrict all the population from going back, authorities tend to encourage women of child-bearing age, children and others who might be at special risk to resettle in other locations.

To keep people from returning, governments normally adopt several strategies including:

1. expanding the housing supply in towns that are considered safe; and,
2. building new towns in safe areas.

In both of these cases, one measure that has been successful in convincing people to relocate is offering the people low-cost or free land and an opportunity to move into single-family housing. If authorities can be convinced to pursue this approach during disaster preparedness planning or in the early stages of the emergency, USAID can assist by supporting self-help construction, shelter-to-housing or core housing strategies.

NUCLEAR HAZARDS (BY COUNTRY)

Belarus

Belarus was the republic most seriously affected by the explosion at Chernobyl — perhaps seventy percent of all the radioactive fallout from Chernobyl landed on its territory.

The radiation contamination on some 7,000 square kilometers of land within the republic currently exceeds the maximum permissible norms. And people still live on 1,160 square kilometers with the highest measured levels of Cesium 137. Prior to 1989, surprisingly little was reported on the effects of the explosion on Belarus. (It is also difficult to separate figures for Belarus from those for the total disaster.) In early 1989, almost three years after the accident, authorities decided to evacuate twenty additional villages from the regions of Gomel and Mogilev. Persistently high levels of cesium 137 had been found in the area. In Belarus, as in Ukraine and Russia, contaminated dust is a major problem. Dirt has been sprinkled, asphalted and sprayed with thin plastic films. Contaminated crops also had to be destroyed.

Kazakhstan

Kazakhstan is one of the former Soviet republics that still has nuclear weapons on its soil. It has also been the site of nuclear weapons production and nuclear reprocessing. The area around Semipalatinsk is of special concern. Beginning in 1951, a bomb-building plant in Kazakhstan dumped its nuclear waste into the 100-acre Lake Karachay. Ten years later, the lake held twenty-four times the radioactive content of the debris from the explosion at Chernobyl. In 1967, during a hot, dry summer, some of the waters of Lake Karachay evaporated. Radioactive dust from the exposed bed blew onto lands and buildings, exposing 41,000 people, as far as fifty miles away.

Russia

Numerous nuclear sites exist within the Russian Federation, including nuclear power stations, nuclear material processing facilities, nuclear weapons laboratories, scientific research stations, hazardous waste sites, nuclear weapons storage areas and nuclear powered ships and service facilities. Many of those sites are disasters in the making. Others have already produced serious nuclear problems.

In the Urals, for example, several disasters have occurred in the nuclear weapons facilities near Ekaterinburg (Sverdlovsk) and Chelyabinsk. In 1957, an explosion occurred at a nuclear storage site that sent eighty tons of radioactive material into the atmosphere. Ten thousand people were evacuated. The material settled into rivers and lakes; the former carried the fallout beyond the original zone of contamination. Later, wind storms picked up radioactive dust from dry lake beds and deposited it over wide areas. The extent of the radiation hazard is still not clear. Thousands of square kilometers are considered to be at risk. (One of the more serious nuclear problems facing Russia — as well as other former republics of the Soviet Union — is the spread of dust from nuclear-contaminated areas.)

Other problems abound. One radiation map of the former Soviet Union reportedly pinpoints more than 130 nuclear explosions, most of them in European Russia. The explosions apparently were conducted for geophysical investigations, to create underground pressure in oil and gas fields or to move earth for building dams. The extent of the damage to the land, water, people and wildlife is unknown.

The Soviets intentionally dumped tremendous amounts of radioactive waste into the environment. The worst of the sites is Novaya Zemlya, two of Russia's Arctic islands that were turned into a nuclear waste site after being contaminated by bomb fallout. As many as 17,000 barrels of radioactive waste — some of them shot full of holes to make them sink — were dropped into the surrounding seas. In addition, at least eight marine reactors were scuttled there.

However, nuclear power plants may pose one of the biggest threats to Russia. Eleven of the 16 Chernobyl-style nuclear reactors still in operation are in Russia. The Russian government refuses to shut them down, saying they are necessary to its economy. There are also plans to extend the life of some of the other types of old reactors and to lift a post-Chernobyl moratorium on completing others. In Russia, the Chernobyl-style reactors are located at the Sosnovy Bor plant near St. Petersburg (formerly Leningrad), which has four; the Smolensk facility at Desnogorsk, which has three; and the Kursk plant near Kurchatov, which also has four. In March 1992, the Sosnovy Bor plant leaked radioactive gases into the atmosphere. It is impossible, of course, to predict whether nuclear reactors in Russia will have serious problems, and, if they do, at which reactors the problems will occur.

There are also many other nuclear facilities and installations that could cause problems in the Russian Federation.

Ukraine

The Number 4 reactor at the V.I. Lenin Chernobyl nuclear power plant — located seventy-two miles north of Kiev and only a short distance from the Belarus border — blew up while a generator was being tested in April 1986. Almost nine tons of radioactive material escaped into the atmosphere. Over the next few days, winds blew the fallout into Belarus, Russia and the Baltic region (as well as elsewhere in Europe). In Ukraine alone, the Chernobyl disaster affected some five million hectares of land. The reactor was eventually contained in a concrete-and-steel sarcophagus.

In the weeks following, more than 100,000 people were evacuated from a 20-mile oval zone surrounding the plant. Over the next four years, 90,000 other residents were forced to move from areas farther away, and in April 1990, 14,000 additional people were ordered to leave their homes in Belarus and Ukraine. However, the exact number who have moved is not known since many left of their own accord. Additionally, millions of people in Ukraine, Belarus and Russia continue to live on radioactive soil and raise and consume contaminated food. Some 2.6 million in Ukraine alone live in contaminated areas. Another 12,000 people in Ukraine still need to be moved from the mandatory evacuation zone.

Although the Ukrainian government has signed a contract with an American firm, Los Alamos Technical Associates, to clean up the contaminated area, the republic doesn't have the money to move ahead with the project. News reports indicate little progress has been made in

cleaning up the region. Ukraine lacks the equipment to decontaminate topsoil. In addition, contaminated groundwater reportedly is backing up behind a concrete barrier near the reservoir that supplies water to Kiev. News reports also claim that more than 700 peasants evacuated in 1986 have moved back to their farm plots, where they eat contaminated meat and produce.

In September 1992, the Ukrainian government announced that Chernobyl would partially reopen in October to provide energy for the winter. (The station's operative reactors, which were being repaired at the time of the announcement, were fitted last summer with new pressure tube valves like the ones that caused a radioactive leak at the nuclear power station in St. Petersburg in March 1992.) Ukraine's parliament has demanded the station be closed permanently at the end of 1993, but some observers think it will remain open five or six more years, possibly longer. However, Ukraine has said it hopes to complete three nuclear plants of a different design elsewhere in the Ukraine to replace Chernobyl. Work on those stations was halted after the Chernobyl accident.

Nobody, of course, can predict whether another accident will occur at Chernobyl. However, another serious accident would in all likelihood necessitate the evacuation of additional people.

But even without restarting the plant, Chernobyl may present another nuclear disaster. The sarcophagus, according to news accounts, is cracked and crumbling and could collapse.

Additional considerations

Several countries among the Newly Independent States will have a great deal of difficulty providing emergency shelter because they face competing demands or a lack of space in the facilities usually used for shelter. The following situations should be noted for specified countries:

1. Countries where shelter space is already exhausted:

In the following countries, buildings normally used to provide emergency shelters have already been saturated by refugees or persons displaced by internal conflict.

- Armenia
- Azerbaijan
- Moldova

2. Countries with different/additional emergency response capabilities for nuclear disasters:

- Belarus
- Russia
- Ukraine

3. Countries shifting toward single-family housing:

The following countries are encouraging the development of single-family housing. Therefore, emergency shelter programs such as shelter-to-housing and core housing approaches would be appropriate.

- Armenia
- Kazakhstan
- Russia
- Ukraine

4. Regions difficult to assist due to the security situation:

A nuclear disaster in the following countries would be difficult to respond to because the security situation would make it difficult to gain access to some areas, but would also prevent evacuees from going to neighboring countries. Those countries are:

- Armenia
- Azerbaijan
- Georgia
- Moldova

COUNTRY SPECIFIC WORKSHEETS

The following worksheets should be completed by USAID missions in each of the following countries:

1. Belarus
2. Kazakhstan
3. Russia
4. Ukraine

CHECKLIST OF INFORMATION NEEDS FOR EMERGENCY SHELTER

ABSORPTIVE CAPACITY OF LOCAL HOUSING

1. Average number of people per unit.
2. Housing surplus or deficit (estimated number of units).
3. Competing demands for available space (refugees, people displaced from previous disasters, etc.).
4. Survey of empty housing and other buildings to determine extent of unused space.

REST AND RECREATION FACILITIES

5. Number, location, capacity and occupancy status of Pioneer camps.
6. Number, location, capacity and occupancy status of hostels.
7. Number, location, capacity and occupancy status of sanatoria.
8. Number, location, capacity and occupancy status of resort hotels.
9. Competing demands on any of the above.

DACHAS

10. Approximate number and location of *dachas* (many are located at "villages" near main towns).
11. Percentage of people owning *dachas*.

OTHER POTENTIAL SOURCES OF EMERGENCY SHELTER

12. Tents (list number and location stockpiled by Civil Defense, Red Cross/Red Crescent, etc.).
13. Availability and sources of temporary buildings that could be used as shelters, e.g., oil field workers houses, container housing, etc.
14. Number, location and estimated capacity of public buildings that could be used as shelters, e.g., schools.

15. Approximate number of railway sleeping cars that could be acquired for use as temporary shelters.

NEW HOUSING

16. Production rates of new housing by public sector.
17. Production rates of new housing by private sector.
18. Availability of land for owner-financed or owner-built housing. (Determine amount of land available, size of parcels, infrastructure supplied, etc.)
19. Availability of financing for owner-financed or owner-built housing. (Determine terms, amounts available for lending, etc.)
20. Availability of building materials for owner-financed or owner-built housing. (Determine shortages.)

CONTACT LIST

I. PRINCIPAL EMERGENCY AGENCIES

Government agencies

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
3.				
4.				
5.				

Red Cross/Red Crescent

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
3.				

II. PRINCIPAL GOVERNMENTAL SHELTER AGENCIES

	Name of Agency	Address	Principal Contact	Phone
1.				
2.				
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III. GOVERNMENTAL HOUSING AUTHORITIES (usually called the Ministry of Construction or the Ministry of Architecture and Construction)

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V. INDUSTRIAL DISASTERS

Risks

As in all modern industrial countries, each of the former Soviet republics produces a number of substances that are toxic, flammable or explosive. Some are associated with the petrochemical industry, others with agriculture and many with the military-industrial complex. The specific risks are far too numerous to list but can be broken-down according to the types of consequences they would have. The principal categories of industrial disasters are:

1. Chemicals

Chemicals pose a danger in all forms including gases, liquids and solids with the first two being the most hazardous and the most likely to require evacuation. The disaster that occurred in Bhopal, India, when toxic gases escaped into the atmosphere and killed several thousand nearby residents, provides a good example of what could happen at industrial sites worldwide. Many of the older petrochemical facilities in the former Soviet Union are considered to be hazardous by both national and foreign experts. An unintentional release of toxic gases is the most likely industrial disaster that could cause a need for emergency shelter.

Evacuation forced by a release of toxic gases is likely to be short-term; therefore, most emergency shelter needs can be met by placing people upwind of the point of release, and most could be housed in temporary quarters, such as rest and recreation facilities, hotels, etc. The stay will need to be longer only if the chemical has persistent properties (until decontamination is complete).

Hazardous liquids also pose a threat, especially if large amounts were to spill into nearby streams or seep into the water table. In the first case, localized evacuations might be necessary. In the second, whole communities might need to be moved. In both cases, however, emergency shelter requirements are likely to be minimal.

2. Industrial explosions

There is always a risk of explosion associated with chemical processing and oil refining. The 1947 oil refinery explosion in Texas City, Texas, (which was touched off by a burning fertilizer ship) illustrates how nearby communities can be effected. The blast area around the exploding refineries destroyed houses up to two miles from the center of the explosion, and secondary fires destroyed many others. Shelter will be required to house the evacuees; this group would include not only those whose houses have been destroyed, but those who are being evacuated as a precautionary measure. As soon as the fires are extinguished, most people can return to the homes that were not affected or were partially damaged. Survivors whose homes were destroyed require longer-term shelter until their structures can be rebuilt.

Industrial disasters can be triggered by other types of disasters. For example, earthquakes can damage chemical plants, leading to the release of toxic materials; floods may

Industrial Hazards / Former Soviet Union



 = Areas with concentration of hazardous industries.

penetrate industrial facilities and carry away liquid or solid materials that are hazardous; and fires can trigger explosions or start secondary fires in chemical facilities or petroleum distilleries.

While virtually every region of the former Soviet Union has industrial areas that produce or store hazardous materials, certain areas are considered to be of higher risk than others. These are depicted on the map on the accompanying page.

Priorities

When considering emergency shelter needs related to industrial disasters, it is important to remember that shelter needs are usually relatively small-scale and of short duration.

The priorities, in sequence, following an industrial accident are:

1. evacuation;
2. control of the incident;
3. decontamination;
4. reoccupation of the site; and,
5. resettlement or relocation of the evacuees.

Shelter strategies

Initially, shelter requirements could be substantial, but in a short period of time the majority of families are likely to be able to return to their homes. Longer-term shelter needs are likely to be required only for a relatively small percentage of the population and can normally be met using the following shelter strategies.

1. placing evacuees with family and friends;
2. using rest and relaxation facilities; and,
3. placing short-term evacuees in public buildings.

Additional considerations

Industrial accidents are not likely to create a demand on housing that is so substantial that they would be affected by competing emergency shelter demands. The only countries where an industrial disaster could create a demand for shelter that could not be met locally are:

- Armenia
- Azerbaijan
- Tajikistan

Petro Chemical Refineries / Former Soviet Union



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▲ = Refineries

INTERTECT

COUNTRY SPECIFIC WORKSHEETS

The following worksheets should be completed by USAID missions in each of the following countries:

1. Armenia
2. Azerbaijan
3. Belarus
4. Georgia
4. Kazakhstan
6. Kyrgyzstan
7. Moldova
8. Russia
9. Tajikistan
10. Turkmenistan
11. Ukraine
12. Uzbekistan

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4.	Other Housing Authority	Address	Principal Contact	Phone

VI. CONFLICTS

The dissolution of the Soviet Union permitted many long-standing ethnic and national quarrels to erupt into civil conflict. Each has displaced thousands of families and saturated the available facilities that are normally used as emergency shelters. Current conflicts include:

1. War between Armenia and Azerbaijan over the disputed enclave of Nagorno-Karabakh

This has led to direct displacement of people living in the conflict zone as well as a massive migration and exchange of populations between the two countries as people of Armenian or Azeri origin fled the countries they were living in to return to their countries of origin.

2. Civil war in Georgia

Tens of thousands of displaced persons have fled fighting in Abkhazia and South Ossetia. Shelter resources in Georgia proper and in the *oblast* of North Ossetia in Russia have become inundated with refugees from the fighting.

3. Civil war in Tajikistan

The country is engaged in a civil war that has displaced approximately half a million people. In addition, periodic outbursts of fighting in Afghanistan, particularly around Kabul, sends Afghan refugees into Tajikistan.

4. Civil war in Moldova

Following the breakup of the Soviet Union, ethnic Russians in Moldova feared the republic could become annexed to neighboring Romania. In December 1991, forces of the hard-line communist leaders seized police and administrative buildings in several towns in the Trans-Dniester region and in the city of Bendery. This triggered a civil war that produced tens of thousands of displaced persons and refugees. A cease-fire was signed in July 1992 and the area has calmed down considerably; however, several thousand displaced persons are still being housed in temporary quarters.

5. Conflict between North Ossetia and Ingushia

In December 1992, fighting erupted between North Ossetia and Ingushia, two neighboring autonomous republics in the Northern Caucasus. The Ingush, who were among the peoples deported during World War II, returned home in the

1950s to discover that part of their republic had been given to North Ossetia. Now they are fighting for the return of that land.

In addition to the current conflicts, there are several areas where political unrest could erupt into armed confrontation. Some autonomous republics in the Northern Caucasus are talking about breaking away from Russia; Chechnya has already declared its independence. Another republic, Tatarstan, has refused to sign a treaty establishing a relationship with the federal government. Some experts believe that other autonomous republics could also opt for independence — a move that could create problems for the Russian Federation and lead to Russians leaving those areas.

More than 10 million Russians live in the twenty or so autonomous republics within Russia that constitute the homelands of other indigenous peoples.

Patterns of flight among refugees and displaced persons

The migration of people out of a zone of conflict may be triggered by several factors. These factors may occur independently or simultaneously.

1. Military Operations

Ground operations by combatants are a major trigger to migration out of a conflict zone. Ground operations could include invasions of an area, military sweeps, sustained military occupation, foraging or widespread impressment/conscription. It should be noted that aerial bombing rarely causes widespread migration out of rural areas, although if towns or cities are attacked and urban dwellers have open escape routes, many may evacuate.

2. Destruction of Crops or Economic Assets

If military activities destroy standing crops, livestock, harvested grains or the economic assets of villagers on a wide scale, people in the affected area are likely to migrate.

3. Food Shortages

Conflict can disrupt both agricultural production and food marketing, creating both a shortage of food and a lack of income for people in the food production and supply chain. As food shortages increase, migration will increase proportionately.

4. Collapse of Agricultural Systems

The agricultural systems of the Newly Independent States are extremely vulnerable to conflict. Conflict can cause a break anywhere in the production sequence, thereby causing a substantial reduction of output. If this production loss is

substantial, the agricultural system can break down and create food shortages and, more importantly, loss of income for many people. When that occurs, food shortages will be widespread and large numbers of people will be forced to migrate.

5. Collapse of the Economy

Conflict can cause the collapse of an economy in several ways. It can destroy or disrupt marketing systems. It can destroy the economic assets of a community. It can push the cost of doing business to a level that destroys profitability for even the most basic enterprises. It can deplete the labor market. And it can establish a cycle of migration that strips the economy of both labor and purchasers. As people begin to migrate out of the conflict zone, sellers will gradually find the number of buyers declining and at some point will find it unprofitable to continue; thus they will close their shops and, in many cases, join the migration stream.

In the initial stages of civil conflict, the people most likely to flee are those who live in the countryside, such as farmers, pastoralists and rural laborers. This is not only because armies and insurgents maneuver in the field, but also because cultivation is one of the enterprises most vulnerable to disruption by warfare. Furthermore, rural people living isolated on farms or in remote villages feel their vulnerability more acutely.

Migration from conflict can be classified as sudden, precautionary or economically induced.

1. Sudden Migration

Sudden migration usually occurs as the result of military operations. Sudden migration is often characterized by people fleeing out of fear when sudden, unanticipated events occur that force them to abandon their homes and move out of harm's way.

2. Precautionary Evacuation

Precautionary evacuation occurs when people decide to move, as in anticipation of violence, to avoid an aspect of the conflict (such as conscription) or to leave while they can still sell their assets and evacuate in an orderly manner.

3. Economically Induced Migration

In sustained conflicts, studies have shown that the majority of people leave for economic reasons. These factors could include substantial increases in the cost of living due to shortages of basic commodities, collapse of local economies, collapse of the macro-economy, the unavailability of work or alternative income or the lack of buyers for goods produced.

Identifying the predominant types of migration helps determine the types of resources that need to be applied at different points in the migration stream. For example, people who migrate suddenly as a result of conflict usually have few assets when they reach areas where relief agencies can provide assistance. Therefore, their assistance needs are more likely to be of an emergency nature; in terms of emergency shelter, this group will require the most assistance.

People fleeing as a precaution normally have time to convert their assets to cash and usually require less in the way of immediate assistance. Furthermore, their pattern of migration will be substantially different from those making a sudden evacuation. In most cases, they have an idea of where they are going and usually have friends or relatives with whom they can live.

Economic migrants, too, are likely to have more assets than those who evacuate rapidly. However, if they have been holding out until the last possible moment, the relative amount of cash or convertible assets that they are bringing may be less than those making a precautionary move.

The pattern and direction of migration may be influenced by several factors.

1. Original Location

The first factor is the migrants' original location. People who live on the periphery of a conflict zone are more likely to migrate out of the war zone; those who live near the center may move to towns held by the government or other areas they consider safe. People living near an international border may attempt to find asylum in the neighboring country. In short, migration is highly influenced by the choices available.

2. Migration Types

People who are forced to evacuate suddenly generally have fewer assets and therefore tend to migrate in stages, first moving to an area of safety and regrouping, then to a nearby town in search of work. As the family accumulates assets, they then move on to a larger town or labor pole where they accumulate more assets and then begin moving on toward the larger cities.

People who migrate as a precaution usually tend to go farther in their initial move, sometimes moving directly to a large city or, in some cases, to a neighboring country.

Persons moving for economic reasons also tend to go farther in their initial move, depending on the amount of cash they have been able to generate by selling their assets.

3. Local Conflicts/Pressure Points

Migration routes are highly influenced by traditional rivalries and conflicts. For example, people of one ethnic group will often adjust their migration routes by hundreds of kilometers to avoid passing through an area where traditional rivals live. Conflicts can also arise in the locations where the migrations terminate. The

migrants may bring traditional rivalries into their new community or conflict may develop as a result of competition for scarce employment opportunities. If an incident occurs, word will quickly spread to others who are still in the process of migration, and migration routes may be adjusted to avoid the pressure points.

For the majority of displaced persons, movements of individual families can best be characterized as sequential or as following a "stepping stone" pattern.

For victims of violence, the first move is usually into the countryside. Families may flee into areas near their homes where they can hide in relative safety and where members of the family separated by the violence can regroup. How long they remain in the countryside is usually a function of the presence and movement of combatants. If combatants remain in the area, the family will only pause long enough to regroup, acquire some supplies, and then move on. When the combatants withdraw, the family may choose to remain for a period of time to test whether or not they can return home. If it becomes apparent that the family cannot return in safety, they will move to a new area in search of sanctuary.

The next stop is normally a town or a small city. Who controls the town is not usually as important a factor in their choice as the likelihood that food and relief supplies will be available. The displaced often feel that towns are less violent than rural areas. They also know that relief systems will operate close to major communications links. Since a government must keep communications open to its administrative centers and ultimately has a greater capacity to feed people, families are more likely to head to cities controlled by the government than to areas held by insurgents. In other words, no matter what political sympathies are held by the people, they instinctively feel that their best chance of survival is in government-held towns.

Whether or not the displaced remain in the town of first refuge is a function of three factors:

- the availability of emergency shelter;
- the ability of the community to absorb the migrants and offer them at least minimal jobs and services; and,
- the amount of relief that can be provided by government authorities.

There are no hard and fast rules about what rate or percentage of increase can be sustained by a community before subsequent arrivals must go elsewhere; in fact, the transfer of populations appears to have more to do with government refugee policies than anything else. In Azerbaijan in 1992, it was observed that displaced populations in the smaller towns were not transferred to other towns until all available emergency shelter space had been taken. However, it is clear that, if relief assistance is minimal in the towns nearest the conflict, families must move on to larger cities where broader economies promise a higher likelihood of jobs and resources to support them.

Population exchanges and Russian emigration

A unique feature of the conflicts in the former Soviet Union has been the exchange of populations between states that occurred at the outset of several of the conflicts. When fighting erupted in Nagorno-Karabakh, demonstrations and rioting broke out in both Armenia and Azerbaijan and forced hundreds of thousands of Armenian and Azeri families to leave the country in which they were residing and return to their respective countries of origin. The displacement occurred simultaneously and amounted to an exchange of populations between the two countries.

In the cases of Moldova and Tajikistan, large numbers of Russians and other people of Slavic origin left those countries and returned to Russia, Ukraine or Belarus. In any future conflicts in Central Asia, large numbers of Russians and other Slavs are likely to be displaced or immigrate.

Shelter strategies

In developing an emergency shelter strategy for conflicts in the NIS, planners should consider the following:

1. In conflicts between neighboring countries, shelter will be required not only for those persons displaced as a direct consequence of fighting (i.e., evacuees from the conflict zone), but also for the people forced out as a result of ethnic or national tensions or population exchanges. Virtually all persons of ethnic or national origin residing in the opponent country are likely to be forced to evacuate and will probably attempt to return to the country of origin. Not only will they need accommodation, but families that are a product of mixed marriages may need to be isolated from others or otherwise provided a protective environment.
2. Shelter needs are likely to be long-term. Not only do conflicts take a long time to resolve but official policies often prolong the time that people live in shelters. For example, government officials may resist finding permanent resettlement opportunities for displacees because they want the people to return to their former homes when the areas are recaptured and worry that people who have resettled would not want to go back. Conversely, families that have immigrated from the opposing country are usually given priority for new housing (and in many cases have been given the houses vacated by those who fled the country during the population exchange).

The following strategies are typically used to house refugees and displaced persons:

- Sheltering with family and friends.
- The use of rest and recreation facilities.

- The establishment of refugee camps adjacent to large towns or in abandoned military camps.
- Resettling of refugees in houses abandoned by people returning to Russia or other countries.
- Use of "adopt-a-refugee family" schemes.

Strategies for international donors

Refugees and displaced persons often become pawns in conflicts. It is not uncommon for governments to attempt to prolong the period that evacuees are forced to reside in shelters as a means of maintaining popular enthusiasm for a war or for propaganda purposes. In many cases, evacuees will never be able to return to their original homes; their situation, and that of the country, could be eased by helping them to integrate into the communities where they have been temporarily settled or to resettle them to other areas where they could be absorbed into the work force. Donors should quietly review the situation and where local integration or resettlement is possible, provide assistance to speed construction of new housing to help absorb the evacuees. This should be done subtly so as not to become embroiled in the politics of the conflict. Often the best way to promote permanent solutions is through the support of what is known as Refugee Affected Areas programs (RAA). These are carried out where communities have been impacted by an influx of refugees; they receive a variety of economic and development support designed to increase the economic base of the community and create a substantial number of new jobs. Housing and shelter construction could be a part of an RAA program.

Another strategy which should be considered is spot reconstruction. In most conflicts there will be areas on the periphery of, and sometimes within, the conflict zone that are relatively quiet and stable. Displaced persons may be attracted to these areas and as long as fighting remains outside the area, people can maintain a relatively normal lifestyle. It is important to support those areas for two reasons. First, by providing a range of development and relief assistance, population migrations can often be prevented. And, second, economic activities can offer an alternative to people joining the conflict. By supporting a wide range of reconstruction activities, especially in agriculture and housing, donors can play a major role in reducing levels of violence and stemming the spread of the conflict.

When additional emergency shelters are required, the following approaches can be used:

- Provision of tents (only winterized tents with accompanying stoves should be provided).
- Provision of plastic sheets and other winterizing materials for repairing damaged housing or improving temporary buildings.
- Provision of materials for sub-dividing and, if necessary, heating large open structures such as warehouses.

Civil Conflict - Nogorno/Karabakh

 = Area of Conflict



INTERTECT

- Promoting self-help and shelter-to-housing strategies for persons permitted to permanently settle.

CURRENT CONFLICTS IN THE NIS

1. Nagorno-Karabakh: Armenia and Azerbaijan

Armenians in Azerbaijan and Azeris in Armenia were forced to leave those countries after fighting began in 1988 over Nagorno-Karabakh, an area in Azerbaijan primarily populated by Armenians. (The region is separated from Armenia by a four kilometer-wide strip.) The roots of the present-day conflict go back generations and derive from ethnic, religious and linguistic differences.

Over the years, the Armenians never gave up hope of joining the enclave to Armenia. In early 1988, there were massive demonstrations in Yerevan and Stepanakert, the capital of Nagorno-Karabakh, in favor of annexing the territory to Armenia, but Azeris alleged they were being pushed out of Armenian-dominated towns in the *oblast*. The conflict turned ugly when two Azeri youths were killed during a protest march leaving Agdam, a town just outside Nagorno-Karabakh. The reaction to the shooting was swift, and pressure on Azeris to leave Armenia and on Armenians to leave Azerbaijan increased significantly.

On February 20, the Nagorno-Karabakh parliament passed a resolution attaching the region to Armenia. The Azeris regarded the vote as a challenge to their territorial integrity and as a threat to the Azeri population in the enclave. Within days, ethnic tensions developed into mob violence. In Sumgait, a town 30 kilometers north of Baku, a mob killed approximately fifty Armenians. The militia and security forces stood by, failing to intervene to protect the victims. At that point, a mass exodus of Armenians began from Azerbaijan. The arrival of refugees in Yerevan escalated tension in Armenia. Discrimination increased, and the Azeris began to evacuate women, children, and the elderly to Azerbaijan in growing numbers. By the end of the year, almost all Azeris had left Armenia. People were killed during the evacuation, but the number is in dispute.

Fighting escalated in the enclave and occasionally spread to the cities. The most serious violence took place in Baku, where mobs killed between 60 and 100 Armenians in January 1990.

Following the abortive *putsch* in 1991, the Armenian community in Nagorno-Karabakh and in the adjacent Shahumian *rayon* in Azerbaijan declared their independence and announced the establishment of the independent republic of Nagorno-Karabakh. In response, the national assembly of Azerbaijan adopted a resolution canceling the autonomy of the region.

Fighting again escalated. Armenian forces took advantage of political chaos in Azerbaijan in the spring of 1992, launching an assault that succeeded in driving the last Azeris out of Nagorno-Karabakh and establishing the Lachin Corridor, a land bridge to the enclave. Azerbaijan mounted a major counteroffensive, and by summer, had gained control of the northern part of the enclave.

The Nagorno-Karabakh conflict has resulted in more than 500,000 people being displaced on both sides; the death toll stands at over 2,000.

3. Georgia

Two areas of Georgia, South Ossetia and Abkhazia, are attempting to break away from that country.

The movement in Abkhazia began in 1988, after Abkhazian intellectuals and Communist Party leaders formed *Aidgilara*, or National Forum, and called for Abkhazian secession. (There are some 70,000 Abkhazians, and they have no homeland outside Georgia. However, only about eighteen percent of the population of Abkhazia, an autonomous republic, is Abkhazian.)

Although there was some early violence, serious armed conflict didn't break out in Abkhazia until August 1992, when Georgian troops marched into Sukhumi allegedly attempting to prevent terrorist attacks by the supporters of the deposed president Zviad Gamsukhurdia. Abkhazians claim the invasion was a pretext to clamp down on the region. Volunteers from the Northern Caucasus in southern Russia have joined the fray, exacerbating the situation. The situation created tens of thousands of refugees and displaced persons.

In the case of South Ossetia, the Georgian government claimed the Ossetians were "settlers" who had arrived in Georgia during the 19th century. Ossetians, however, dispute that, saying their ancestors have lived in the region for hundreds of years. (According to 1989 census figures, Ossetians composed sixty-six percent of the population of South Ossetia, Georgians accounted for twenty-nine percent, while Russians and other ethnic groups made up the remainder. Additional numbers of Ossetians also lived elsewhere in Georgia.) The Georgian government claimed the Bolsheviks had illegally granted the Ossetians autonomy in 1922 as a reward for anti-Georgian activity — Ossetians tended to be Bolsheviks while Georgians were Mensheviks — during the civil war following the October Revolution.

In 1990, Gamsukhurdia suggested South Ossetians should return to what he claimed was their homeland in neighboring North Ossetia, an autonomous republic in Russia. The sequence of events that followed is not totally clear. However, at some point the Georgian government abolished the South Ossetian autonomous region, and South Ossetians asked Russia to join them to North Ossetia. Russia refused, so South Ossetia declared itself independent.

Georgian troops entered Tskhinvali, the capital of South Ossetia in early January 1991, and arrested Ossetian officials, including the head of its parliament. Civil war ensued. In the spring of 1992, Georgian troops stepped up their attack on Tskhinvali and the surrounding Ossetian villages, destroying numerous buildings and creating thousands of new refugees. By mid-June, Georgian troops had taken most of Tskhinvali and ordered remaining residents to leave. Fighting continued until August 1992. By that time, more than eighty percent of the housing in Tskhinvali reportedly was in ruins and much of the population had fled. An estimated 120,000 refugees fled South Ossetia and Georgia for North Ossetia during the duration of the war.

Civil Conflict - Abkhazia, North & South Ossetia

 = Area of Conflict



INTERTECT

4. Moldova

After the breakup of the Soviet Union, ethnic Russians in Moldova feared the republic would fairly quickly become a part of neighboring Romania.

After the Soviet Union had annexed the country in 1940, Stalin carved a sliver of land, now called the Trans-Dniester, out of Ukraine, and added it to Moldova. Russians and Ukrainians were moved into Moldova after annexation because the Soviets didn't trust the Moldovans' loyalty. Although the Russian-speakers were a minority in the country, they controlled its political life. They also controlled the Trans-Dniester, where much of the country's industry was located. The region is also home to the Russian 14th Army.

In December 1991, the "Dniester SSR" forces of the hard-line Communist leaders — allegedly armed and trained by elements of the Soviet military in the area — seized police and administrative buildings in several Trans-Dniester towns and in the important right-bank city of Bendery. The area erupted in civil war, creating tens of thousands of displaced persons and refugees. A cease-fire was signed in late July 1992.

5. Tajikistan

The ongoing civil war in Tajikistan has geographic and clan overtones as well as political and religious ones. Western news reports have tended to refer to one side as "the supporters of ousted President Rakhmon Nabyev, an old-style Communist" and the other as "a coalition of Moslem and democratic forces", but the conflict is based in tribal and geographic differences as well. (The Bolsheviks, who created Tajikistan in 1924 from an assortment of warring tribes, suppressed the ancient tribal hatreds that had periodically incited the region to war in the past.)

Nabyev's supporters include much of the former power elite, remnants of the ousted Communist Party, who, like Nabyev, came from the Khojand region of the north. Khojand is an economically developed area where Islamic influence is relatively weak. Other Nabyev's supporters include people from the Kulyab region in the south, an area with long ties to the communists, and by the sizeable Uzbek population in Tajikistan. The Islamic party's support is based in the west and south, particularly in the Kurgan-Tyube region. Nabyev's main opponents were the Garm, named after their homeland in central Tajikistan, and the Pamirs, who live in the mountainous region in the southeastern corner of the country. The current conflict began in the spring of 1992 when a loose alliance of Islamic and democratic forces demonstrated against Nabyev's government. Supporters of the government held counter-demonstrations nearby. In mid-May, opposition leaders and Nabyev agreed to a coalition government and an interim legislature until new elections could be held in December.

In late June, the conflict moved to Kurgan-Tyube, a rich agricultural area in the southwestern part of the country, eighty kilometers south of Dushanbe. In the early 1930s, people from Garm and Kulyab were forced into the Vakhsh River basin to begin cultivating cotton for export to Russia. Sixty years later, the two groups — who are longtime enemies — retain much of their regional animosity. The new conflict pitted the Garm and other Islamics against the Kulyabs living in Kurgan-Tyube. The Islamics had weapons, so Kulyabs from Kulyab region came to defend their kin. By the time fighting stopped at the end of July, some 130,000 displaced persons had fled Kurgan-Tyube for Kulyab.

Civil Conflict - Trans Dnestr

 = Area of Conflict



INTERTECT

61a

Civil Conflict - Fergana Valley and Tajikistan

-  = Area of Conflict, Tajikistan
-  = Area of Tension, Fergana Valley



INTERTECT

On September 7, Nabyev was forced to resign, apparently at gunpoint. Fighting erupted again in Kurgan-Tyube, resulting in tens of thousands of newly displaced persons. Fighting continued through the fall, with the government changing hands several times. By December, fighting was still going on.

Russian-speakers could be the next target of the Tajiks. According to the 1989 census, more than 400,000 ethnic Russians and other Slavs were living in Tajikistan. However, an estimated 100,000 to 120,000 ethnic Russians had already left Tajikistan before the latest round of fighting began, many of them from Dushanbe. Many more would like to leave, but the lack of jobs and housing in Russia — as well as difficulties in selling their apartments in Tajikistan — have slowed their departure.

POTENTIAL CONFLICTS

1. Kyrgyzstan

Some observers think Kyrgyzstan could experience major problems with ethnic conflict in the not-too-distant future.

A report in the spring of 1992 from the U.S. government's Newly Independent States Task Force indicated there is significant tension among the main ethnic groups. Ethnic Uzbeks, who number about 580,000, live almost entirely in the two southeastern *oblasts* of Osh and Jallalabad, where they make up between forty and fifty percent of the population. The Uzbeks are primarily engaged in agriculture but, unlike the Kyrgyz, are generally cultivators rather than pastoralists and live in the fertile valleys. Many left Uzbekistan after Moscow dictated increasing cultivation of cotton in Osh and Jallalabad, which occurred about the same time the Kyrgyz were moving from the mountainous areas of those *oblasts* to the cities.

Kyrgyz are essentially an underclass in their own country, faring less well than ethnic Uzbeks or the ethnic Russians, who are employed in technical jobs. Ethnic Kyrgyz are showing signs of resentment that they cannot compete on an equal footing with other ethnic groups in the society. The souring economy will only exacerbate those differences.

In fact, it already has. Privatization of one state farm in Osh *oblast* led to armed ethnic conflict in June 1990. Ethnic Kyrgyz protested that land distributions in the area had favored ethnic Uzbeks. In response, party leaders too hastily overruled the existing allocations, thereby enraging the Uzbek community. Open conflict between the two communities raged for five days, resulting in as many as 1,000 deaths.

2. Russia

The Russian Federation faces several problems involving ethnic conflict:

- Before the dissolution of the Soviet Union, twenty-five million Russians were living outside Russia. Many of them want to return to their homeland. They are concerned about the passage of discriminatory laws, the loss of economic and political power and the rise of Islamic traditions. Some are fleeing ethnic conflicts in such places as Nagorno-Karabakh, South Ossetia, Moldova, Abkhazia and Tajikistan.

- Like czarist Russia before them, the communists had a difficult time exerting control over the people of the Northern Caucasus. In fact, some of them weren't subdued until Stalin deported them to Central Asia during World War II for allegedly collaborating with the Germans. Today, parts of the Northern Caucasus are again talking about breaking away from Russia. One of them, the autonomous republic of Chechnya, has already declared its independence. Meanwhile two of the groups within the Northern Caucasus, Ingushia and North Ossetia, have been at war with each other. To complicate matters, the Cossacks, who had a historical role in the region protecting Russia's borders, have re-emerged.
- Although they reside in the Russian Federation, more than ten million Russians live in the twenty or so autonomous republics within Russia that constitute the homelands of other indigenous peoples. Two of them, Chechnya and Tatarstan, refused last spring to initial a treaty establishing relationships between the republics and the federal government. Some experts believe that other autonomous republics may opt for independence — a move that could create problems for the integrity of the Russian Federation and lead to Russians leaving those areas. Tatarstan has been targeted as a potential hot spot.

3. Ukraine

In Ukraine there is both a return movement of Tatars to their homeland in the Crimea and a simmering independence movement in the area. The current Crimean Tatar problem dates back to 1944, when Stalin claimed the Crimean Tatars had collaborated with German troops that had briefly occupied the area; he deported an estimated 200,000 — most of the Tatar population — to Central Asia. The Soviet government gave the Crimean Tatars permission to return home in 1967, but administrative obstacles kept the vast majority of them in Central Asia. By 1985, only about ten percent had managed to get back to Crimea. The number returning increased significantly beginning in 1987. Today, approximately 200,000 Crimean Tatars have returned to Crimea. As many as 600,000 of them are expected to eventually return.

In 1783, the Russians, under Catherine the Great, managed to wrest the Crimean peninsula from the Crimean Tatars, and in the ensuing years, Russians became the majority population in the area. In 1921, the Soviets created the Crimean Autonomous Republic as a part of the Russian Federation, but the republic was abolished in 1945 and replaced by a non-ethnic *oblast*. Then, in 1954, Nikita Khrushchev gave Crimea to Ukraine. The Ukrainian government established a new Crimean Autonomous Republic after a referendum in 1991, but the Crimean Tatars did not participate in the vote and do not recognize the governmental unit. Instead, they held their own conference and established a parliament for what they called the Crimean Tatar Nation, which the Ukrainian government has not recognized.

In the winter of 1991, several high-ranking Russian officials suggested the current border with Ukraine might be revised so that the Crimea would be returned to Russia. On May 21, 1992, the Russian parliament declared void the 1954 transfer. Earlier in the spring, the Crimean parliament adopted an ambiguous declaration of independence and scheduled a confirming referendum for August 2. But the Crimean parliament, under pressure from the Ukrainian

government, withdrew the declaration and canceled the referendum. Meanwhile, the Crimean Tatars insist they, rather than the Russians, should decide Crimea's affiliation. A poll conducted in early 1992 showed opinion divided on the issue: forty-two percent wanted to remain an autonomous republic linked to Ukraine; fifteen percent wanted to return to Russia; twenty-two percent wanted a sovereign Crimean republic within the Commonwealth of Independent States; and eight percent favored complete independence. Approximately sixty percent of the 2.5 million people in Crimea are ethnic Russians.

4. Uzbekistan

One of the areas within Uzbekistan with the highest potential for ethnic conflict is the Fergana Valley, a 300-kilometer-long agricultural area that the communists arbitrarily divided among Uzbekistan, Tajikistan and Kyrgyzstan. The most fertile area in Central Asia, it provided about a quarter of the cotton raised in the former Soviet Union. Most of the best agricultural lands are in the Uzbek and Tajik parts of the valley; the mountains on three sides belong to the Kyrgyz. The region is also the most densely populated in the former Soviet Union. Andijan *oblast*, for example, reportedly has 435 people per square kilometer.

In May 1989, the opposing team failed to show up for a football game in Andijan, so disgruntled fans stormed out of the football stadium and burned down 20 houses belonging to some of the wealthiest people in town, primarily Russians and Armenians. After the incident, half the Russian population in the *oblast* reportedly left the country.

The next month, violence erupted in the city of Fergana after Uzbeks and Meskhetian Turks got into an argument at the market. Five people were killed. The riots ended only when the Russian military airlifted 30,000 Meskhetian Turks out of the area into Russia and Azerbaijan.

Some ethnographers think the situation in the Fergana Valley has the potential for additional explosive conflicts. They point to the chronic, but low-level, displacement of populations in the region. Since 1990, ethnic Uzbeks have been moving from Kyrgyzstan and Tajikistan back to Uzbekistan. Similarly, Kyrgyz have been leaving Fergana and Tashkent *oblasts* to return to Kyrgyzstan. This migration was not constant enough to be called a flow, the experts said, but it is an indication of the insecurity minorities feel in several regions of Central Asia.

In addition, several other potential problems could develop in Uzbekistan:

- The country has suggested it has claims to the city of Osh in Kyrgyzstan's part of the Fergana Valley.
- Tajikistan has said the Uzbek cities of Samarkand and Bukhara were historically Tajik and perhaps should be again.
- The spread of Islamic fundamentalism could lead to civil war.

Additional considerations

There are several countries among the Newly Independent States that will have a great deal of difficulty in providing emergency shelter due to competing demands, or a lack of space, in the usual facilities that are used for shelter. The following situations should be noted for specified countries:

1. Countries where shelter space is already exhausted:

In the following countries, buildings normally used to provide emergency shelters have already been saturated by refugees or persons displaced by internal conflict.

- Armenia
- Azerbaijan
- Moldova
- Tajikistan

In southern Russia, the following autonomous republics have also been inundated by refugees and displaced persons:

- Abkhazia (Georgia)
- Chechen (Russia)
- Ingushia (Russia)
- North Ossetia (Russia)
- South Ossetia (Georgia)

The housing situation in Armenia has also been exacerbated by the shortage of housing in areas affected by the 1988 earthquake in Leninakan and Spitak.

2. Tajikistan has minimal rest and recreation facilities of the type that are normally used for emergency shelter.

3. The following countries have established specialized agencies to deal with the problems of refugees and displaced persons:

- Armenia
- Azerbaijan (State Committee for Refugees)
- Georgia
- Moldova
- Russia (Subcommittee on Refugees of the Russian Parliament; Subcommittee on Human Rights of the parliament's House of Nationalities)
- Tajikistan
- Ukraine (Ukrainian Commission on the Relations Between Republics and Nationalities)

4. Countries shifting toward single-family housing:

The following countries are encouraging the development of single-family housing. Therefore, emergency shelter programs such as shelter-to-housing and core housing approaches would be appropriate.

- Armenia
- Azerbaijan
- Kazakhstan
- Russia
- Tajikistan
- Uzbekistan

COUNTRY SPECIFIC WORKSHEETS

The following worksheets should be completed by USAID and Refugee Program officers in each of the following countries:

1. Armenia
2. Azerbaijan
3. Georgia
4. Kyrgyzstan
5. Moldova
6. Russia
7. Tajikistan
8. Turkmenistan
9. Ukraine
10. Uzbekistan

CHECKLIST OF INFORMATION NEEDS FOR EMERGENCY SHELTER

ABSORPTIVE CAPACITY OF LOCAL HOUSING

1. Average number of people per unit.
2. Housing surplus or deficit (estimated number of units).
3. Competing demands for available space (refugees, people displaced from previous disasters, etc.).
4. Survey of empty housing and other buildings to determine extent of unused space.

REST AND RECREATION FACILITIES

5. Number, location, capacity and occupancy status of Pioneer camps.
6. Number, location, capacity and occupancy status of hostels.
7. Number, location, capacity and occupancy status of sanatoria.
8. Number, location, capacity and occupancy status of resort hotels.
9. Competing demands on any of the above.

DACHAS

10. Approximate number and location of *dachas* (many are located at "villages" near main towns).
11. Percentage of people owning *dachas*.

OTHER POTENTIAL SOURCES OF EMERGENCY SHELTER

12. Tents (list number and location stockpiled by Civil Defense, Red Cross/Red Crescent, etc.).
13. Availability and sources of temporary buildings that could be used as shelters, e.g., oil field workers houses, container housing, etc.

14. Number, location and estimated capacity of public buildings that could be used as shelters, e.g., schools.
15. Approximate number of railway sleeping cars that could be acquired for use as temporary shelters.

NEW HOUSING

16. Production rates of new housing by public sector.
17. Production rates of new housing by private sector.
18. Availability of land for owner-financed or owner-built housing. (Determine amount of land available, size of parcels, infrastructure supplied, etc.)
19. Availability of financing for owner-financed or owner-built housing. (Determine terms, amounts available for lending, etc.)
20. Availability of building materials for owner-financed or owner-built housing. (Determine shortages.)

CONTACT LIST

I. PRINCIPAL REFUGEE ASSISTANCE AGENCIES

Government agencies

Name of Agency	Address	Principal Contact	Phone
1.			
2.			
3.			
4.			
5.			

Red Cross/Red Crescent

Name of Agency	Address	Principal Contact	Phone
1.			
2.			
3.			

II. PRINCIPAL GOVERNMENTAL SHELTER AGENCIES

Name of Agency	Address	Principal Contact	Phone
1.			
2.			
3.			

III. GOVERNMENTAL HOUSING AUTHORITIES (usually called the Ministry of Construction or the Ministry of Architecture and Construction)

1.	National Housing Ministry	Address	Principal Contact	Phone
2.	Regional Housing Authority (<i>oblast</i>)	Address	Principal Contact	Phone
3.	Municipal Housing Authority	Address	Principal Contact	Phone
4.	Other Housing Authority	Address	Principal Contact	Phone

IV. INTERNATIONAL RELIEF AGENCIES

1.	UN High Commissioner for Refugees (UNHCR)	Address	Principal Contact	Phone
2.	International Committee of the Red Cross (ICRC)	Address	Principal Contact	Phone
3.	PVOs	Address	Principal Contact	Phone

Appendix A

MATERIAL AID PRIORITIES

Materials for Subdividing Open Areas in Large Buildings to Give Privacy to Displacees

- Non-transparent, rip-resistant, plastic sheeting [available from the Office of U.S. Foreign Disaster Assistance (OFDA)]
- Canvas sheeting
- Military blankets
- Plywood (1/4") and 2"x 4" boards (for framing)

Materials for Building Temporary Shelters

- Corrugated iron roof sheets (plan a minimum of 10 per family, 26 or 28 gauge)
- Pressure-treated wood posts for framing and roof supports
- Cement
- Concrete blocks or fired bricks (if appropriate to local building styles)
- Basic building tools (hammers and nails, saws, roofing nails, etc.)³

Materials for Repairing Damaged Structures

- Cement
- Shoring timber
- Construction-grade plastic sheeting
- Concrete blocks and/or fired bricks (where appropriate)
- Iron rebar

³ There are few hardware stores in the former Soviet Union and basic tools are in short supply; relief agencies will need to provide most tools to families.

- Construction wire
- Tools for concrete work (trowels, levels, mixing pans, etc.)

Materials for Winterizing Shelters or Partially Damaged Houses

- Plastic insulating sheets (sheets with small air pouches)
- Rolls of fiberglass insulating material
- Insulation pads
- Plastic sealing tape
- Tacks

Appendix B

GENERAL STRUCTURE OF HUMANITARIAN AID IN THE NIS

Most of the Newly Independent States have similar systems for handling incoming foreign humanitarian assistance, and most mirror the system set up in the Russian Federation. The following is a generic description of a typical system.

Coordination of Incoming International Aid

Incoming international humanitarian assistance is usually coordinated by a Commission on International Humanitarian Assistance. It is made up of representatives of key ministries including:

- Social Protection
- Trade
- Civil Defense
- Foreign Affairs
- Health
- Education

National Level (Russian Federation)

The ministry responsible for coordination and planning of social services in Russia is the Ministry of Social Protection. It is the executing agency and works through offices in the *oblasts*. In natural disasters, Civil Defense provides coordination and security through its local offices while the national office provides support to the *oblasts*.

Local Level

Oblast:

Each *oblast* has established an organ to coordinate humanitarian assistance. The group usually consists of the local heads of the national-level social welfare ministries, civil defense and, in most cases, representatives of the main local religious groups, NGOs and sometimes representatives of the municipal governments in the *oblast*. The purpose of the committee is to help identify needs, target aid and provide the public assurance that the process is open and fair. The principal criticism of the *oblast* committees is that most of the people on the committee are appointees of the national government.

Municipalities:

Many cities have established charity committees. Representatives are usually appointed by the mayor. They, too, include the heads of the various city government offices in charge of social welfare and public charitable institutions and representatives of the main local religious groups, NGOs, and sometimes elected members of the local government. Because the mayors and city council are elected, they are usually viewed by the people as more democratic and open in their workings.

Note:

In many cases, there is a struggle between the *oblast* and municipal government over control of the humanitarian resources that are expected. The assessment teams believe, however, that it is possible to use the two concurrently by asking that representatives of the municipalities and elected deputies (parliamentarians) sit on the *Oblast* Committee and that their role be focused on selection of areas and municipalities that should receive aid. Once the communities are selected, the local municipal committee should be approached to help select specific beneficiaries and be responsible for monitoring the aid.