

PD - AAI - 736

ISN 363

520-024/001801



Auditor General

AUDIT REPORT
GUATEMALA EARTHQUAKE DISASTER RELIEF PROGRAM
PROJECT No. 520-15-0241
USAID/GUATEMALA

Audit Report Number 1-520-81-10

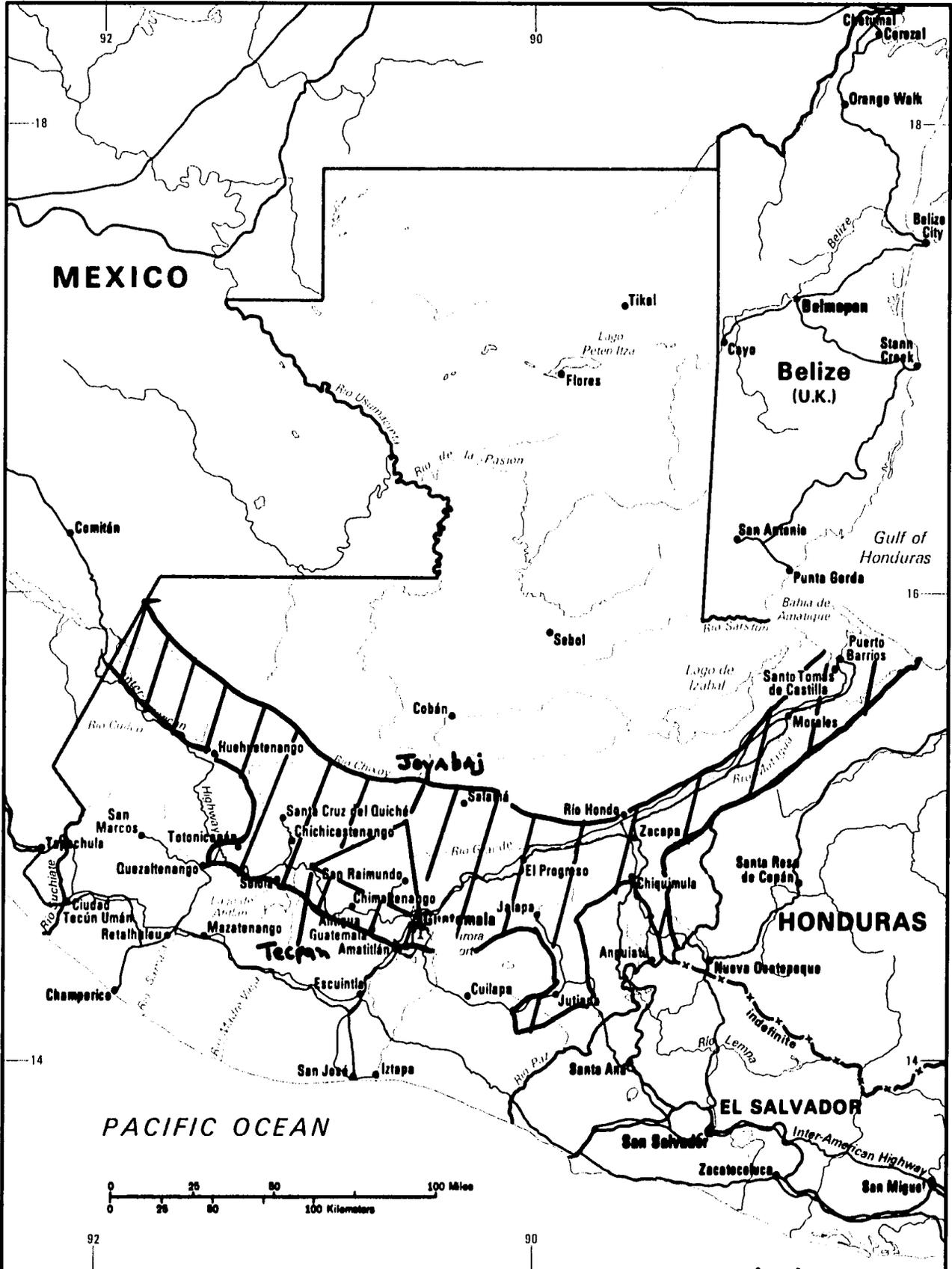
Issue Date March 31, 1981

Area Auditor General Latin America
Agency for International Development

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	1
Introduction	1
Scope	1
Audit Conclusions	1
Recommendations	11
BACKGROUND	1
Prior Audit Coverage and Other Reviews	5
Purpose and Scope	5
AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	7
Purpose of Disaster Relief and Rehabilitation Funds	7
Disaster Preparedness	11
Butler Buildings	13
Save the Children Alliance	15
Water Tanks	19
Government of Guatemala Trust Funds	20
EXHIBIT A - FINANCIAL STATUS AS OF DECEMBER 31, 1980	22
EXHIBIT B - ACTIVITIES IMPLEMENTED	24
APPENDIX A - LIST OF RECOMMENDATIONS	30
APPENDIX B - LIST OF REPORT RECIPIENTS	32

Guatemala



802473 1-76 (841403)
 Lambert Conformal Projection
 Standard parallels 9°20' and 14°40'
 Scale 1:2,800,000

Boundary representation is
 not necessarily authoritative

EARTHQUAKE IMPACT ZONE

AREA OF GREATEST DAMAGE



— Railroad
 — Road
 ▲ Airport

Guatemala Earthquake Disaster Relief Program
Project No. 520-15-0241
USAID/Guatemala

EXECUTIVE SUMMARY

Introduction

On February 4, 1976 Guatemala was struck by an earthquake that resulted in the deaths of about 23,000 people, injuries to 77,000, and 1.2 million homeless. In all, the disaster directly affected about 1 of every 5 Guatemalans. The earthquake area encompassed Guatemala City and a wide surrounding area.

The earthquake, essentially a rural disaster in a populous area of small towns and villages, had its greatest impact on the poor who generally lived in clustered adobe houses, shacks, and make-shift huts. The quake crumbled the abode walls and the heavy clay tile roofs fell in, killing or seriously injuring the occupants. The Government estimated that over 222,000 homes were destroyed and it required between \$150 and \$250 million to replace the houses.

The response to the President of Guatemala's appeal to assist his stricken country was generous and immediate. Within hours, plane-loads of medical supplies, food, shelter, and clothing began arriving at Guatemala City's airport.

Initial U.S. assistance was provided by the U.S. Southern Command utilizing AID disaster relief supplies located in Panama. Follow-on emergency relief was financed by the International Disaster Assistance account. Subsequently the Guatemala Relief and Rehabilitation Act (PL 94-276) was approved by Congress on April 21, 1976. The act provided \$25 million in four categories. (1) Emergency Relief Operations - \$7.5 million, (2) Rural Rehabilitation - \$7.5 million, (3) Transportation Links - \$7.5 million, and (4) Other Engineering and Construction Requirements - \$2.5 million.

Scope

The purpose of the review was to determine whether: funds provided were effectively and properly utilized, activities were appropriately monitored by USAID/Guatemala, and if management action needed to be taken to complete the program.

Audit Conclusions

The scope of activities undertaken (see Exhibit B for a brief description of each activity) adequately addressed the needs and has made a significant contribution to the relief and rehabilitation effort. For the most part the funds provided were effectively and properly utilized and activities appropriately monitored. We found however, that some of the projects implemented should have been funded from development funds, there was a need to be

better prepared for a disaster, and some residual activities need management's attention.

- Some of the activities should have been funded as part of the regular development program. Examples are: purchase of \$1.3 million of new heavy equipment; \$1.3 million for the urbanization (water, drainage, sewer, lighting and streets) of seven new towns. AID/Washington guidelines do not offer adequate descriptions of what projects should or should not be funded by disaster relief funds (page 7).
- USAID/Guatemala was not prepared as it should be for another disaster. The designated Mission Disaster Relief Officer (MDRO) was not knowledgeable about his duties and the Mission's Disaster Plan was outdated. The Mission blamed the situation on a lack of staff and expertise in updating the Disaster Plan (page 11).
- The Government of Guatemala had not maintained some of the 399 Butler buildings that were procured to alleviate the public building shortage (page 13).
- Reflow funds generated from the sale of building materials were being held by the organization Save the Children Alliance. No decision had been made to determine the usage of the reflow funds (page 15).

Recommendations

We made 9 recommendations in this report directed towards improving project implementation and resources utilization.

BACKGROUND

The February 4, 1976 earthquake, measuring 7.5 on the Richter Scale, occurred at about 3 a.m. when most people were asleep and unable to respond quickly. What electricity was available was turned off to prevent fires and electrocution from broken and exposed wires. Although the initial shock caused most of the deaths and destruction, there were at least two other major aftershocks--one measuring about 6.0 on the Richter Scale at 12:20 p.m. on February 6, and another measuring 5.5 at 2:14 a.m. on February 8. In all, more than 1,000 aftershocks of varying intensity were reported.

The major shock area encompassed Guatemala City and a wide surrounding area. As the map of Guatemala shows, the area most affected was a densely populated belt about 35 miles wide. Towns within the smaller triangle-shaped zone at the western edge of this area were almost totally destroyed.

Official casualty figures showed about 23,000 people killed, 77,000 injured, and 1.2 million left homeless. More than 5,000 children reportedly were orphaned. In all, the disaster directly affected about 1 of every 5 Guatemalans.

The earthquake, essentially a rural disaster in a populous area of small towns and villages, had its greatest impact on the poor who generally lived in clustered adobe houses, shacks, and make-shift huts. The quake crumbled the adobe walls and the heavy clay tile roofs fell in, killing or seriously injuring the occupants. In the major urban centers, modern residences constructed of brick or cement and commercial building designed to absorb shock generally withstood the earthquake. The Government estimated that over 222,000 homes were destroyed and that it required between \$150 and \$250 million to replace the homes.

Although damages to commercial, church, and public buildings occurred primarily in the smaller towns, Guatemala City was the only major urban center to incur substantial casualties and destruction. For example, 2 of 7 first-class tourist hotels continued normal operations after the initial shock and the water distribution system was out in about 40 percent of the city. Only 2 of 7 major hospitals continued to function without major interruptions. One hospital evacuated 500 patients after being severely damaged by the second major shock, and 4 hospitals moved operations to other locations. There were reported shortages of food, water, and beds for patients.

The earthquake seriously disrupted transportation. Routes from Guatemala City through the surrounding mountain terrain to the most damaged areas were blocked. Roads were covered by landslides, bridges were out, and the railroad was disrupted. This hindered officials from immediately assessing the scope of damage and assistance needed following the earthquake.

The Inter-Ocean highway from Guatemala City to Puerto Barrios, the primary transportation link to the outside world, was cut when the earthquake triggered more than 100 landslides, a major bridge collapsed, and a second

major bridge was unsafe to cross. Although a smaller mountain road was passable, it increased the one-way travel distance 100 miles, and the travel time at least 7 hours.

Local and international communications were interrupted throughout the area. Radio stations were off the air for 6 hours.

Water stations and storage systems were generally intact but many distribution systems were damaged or developed leaks that prevented the water from reaching its destination. Water and sewer lines which paralleled each other cracked, permitting sewage to contaminate the water lines. In Guatemala City, some sections were without water and in others the water was not chlorinated. Water was supplied by mobile trailer tanks or by U.S.-provided and installed 3,000-gallon, rubberized canvas, water containers in the earthquake areas. However, keeping them filled was difficult. In the rural areas, water sources were generally available but most distribution systems were destroyed. Partial or complete restoration was accomplished in some areas by self-help and efforts of relief assistance representatives. Eventually, large water tanks were positioned in the larger population centers and 5-gallon containers were flown to the isolated areas.

The full effects of the earthquake on Guatemala's economy were difficult to assess. At the end of calendar year 1975, the country reportedly had a net foreign exchange reserve of \$280 million, including \$70 million in tourist income. Because of the earthquake, 1976 earnings declined and large stocks of reconstruction materials and manufactured goods had to be imported. Also, much arts and crafts material was lost in the destroyed homes, and the income from this home industry were reduced temporarily. However, agricultural foreign exchange earners, primarily coffee, sugar, cotton, bananas, and meat, were not affected and most industrial production capacity remained intact.

Following the earthquake, the President of Guatemala appealed to the world community for food, medicines, tents, and other relief supplies to assist his stricken country. The response was generous and immediate. Within hours, planeloads of medical supplies, food, shelter, and clothing began arriving at Guatemala City's airport. By the first week of March, the Government of Guatemala calculated that more than 4,200 tons of supplies from 31 countries had been airlifted to Guatemala.

The U.S. Ambassador was responsible for the U.S. disaster relief operation. At his disposal were the Department of State, Agency for International Development (AID), and U.S. military contingent in-country, augmented by civilian and military specialists. He designated the AID Mission Director as Disaster Relief Coordinator. The commander of the military advisory mission assumed operational authority over all U.S. military forces in Guatemala and reported directly to the Ambassador.

The AID Mission was responsible for logistical matters, such as marshalling U.S.-provided relief supplies in Guatemala and channeling them to private organizations or Guatemalan agencies for distribution. It also informally attempted to establish an information exchange system to help the voluntary organizations coordinate their programs. Information on local

conditions and unmet needs came from the individual voluntary organizations, Peace Corps volunteers, National Emergency Committee, helicopter pilots, U.S. military personnel, private groups operating in rural areas, and others. AID established an ad hoc committee to gather, assemble, and distribute the information through a daily bulletin. In addition, U.S. officials referred requests for supplies and other assistance from the voluntary organizations and private individuals to the National Emergency Committee in order to strengthen the Committee's coordination role.

The U.S. military helped to assess the earthquake damage, provided air medical evacuation and supply transportation to otherwise inaccessible areas, and operated an emergency hospital in the hardest hit area. This required additional personnel and material to be integrated into the existing military organization.

Beginning February 5, the U.S. Disaster Area Survey Team from the Southern Command in the Panama Canal Zone made a broad assessment of the earthquake's impact. The team surveyed Guatemala City and tested the city's water system for contamination. Subsequent surveys and random spot checks of the rural countryside were made by helicopters. The assessment included:

1. Initial damage survey in the capital and rural areas.
2. Survey the Inter-Ocean highway.
3. Locate possible landing zones for helicopters.
4. Detailed surveys of small outlying villages by two-man paramedic/communication teams.

The first part of the assessment served as the basis for the U.S. and the National Emergency Committee initial relief effort.

Major U.S. inputs to the disaster relief effort included medical supplies from an AID stockpile in the Panama Canal Zone; a 100-bed, fully equipped and staffed field hospital from the United States; and 17 heavy-lift and utility helicopters from the United States and the Panama Canal Zone. Guatemala asked the United States to concentrate its medical relief efforts in the area most seriously damaged by the earthquake, so the field hospital was situated near the town of Chimaltenango and operated in conjunction with an existing private clinic. It treated 460 people requiring hospitalization and averaged nearly 36 surgeries a day for the 7 days it operated. The U.S. helicopters flew nearly 1,000 hours to evacuate almost 800 injured people and carry 1,000 tons of cargo.

Other U.S. assistance was provided by numerous technicians and advisors, such as public health officers, pharmacists, engineers, and a water purification expert. Also, the U.S. AID mission authorized private voluntary organizations to distribute directly to recipients 5,500 tons of Public Law 480 food for emergency relief.

U.S. emergency relief was initially financed by the International Disaster Assistance account. Subsequently the Guatemala Relief and Rehabilitation Act (PL 94-276) was approved by Congress on April 21, 1976. The act provided \$25 million to four categories.

--(1) Emergency Relief Operations (\$7.5 million)

For continuing costs of initial emergency relief operations provided by the Department of Defense, other participating U.S. agencies, procurement of supplies, transportation, grants to U.S. Voluntary Agencies, the Organization of American States, replacement of disaster stocks in Panama and other support costs.

--(2) Rural Rehabilitation (\$7.5 million)

(a) Shelter - To supply needed supplementary building construction materials and hand tools for up to 100,000 units of rural and small community housing in the devastated highlands. It was hoped that affected families would be helped before the onset of the rainy season. The roofing materials supplied would be usable in more permanent construction.

(b) Supporting Community Facilities - To restore a minimum of vital community services (small farmer markets, schools, slaughtering facilities, health posts, etc.) to permit communities to continue their traditional role as providers of social stability and cohesion in the Indian areas. Such assistance will be limited to keeping communities socially and economically viable until broader, more durable, public services can be restored.

--(3) Transportation Links (\$7.5 million)

Restoration of the Guatemala City - Caribbean Highway and opening up vital farm to market roads in the highland areas. The destruction of these roads had cut-off the communities from access they needed to maintain their economy.

--(4) Other Urgent Engineering and Construction Requirements (\$2.5 million)

To correct topographical changes in the earthquake - affected area. Possible flooding from the rupture of naturally-formed dams as water accumulation occurred.

Financial status of disaster relief funds at December 31, 1980 is summarized below and detailed in Exhibit A.

	<u>Net Obligated</u>	<u>Expended</u>	<u>Unexpended Balance</u>
Emergency Relief	\$ 3,985,476	\$ 3,985,476	\$ -0-
Shelter and Rural Rehabilitation	12,679,026	12,567,378	111,648
Transportation Links	4,014,408	4,014,408	-0-
Other	3,380,838	3,380,308	530
	<u>\$24,059,748</u>	<u>\$23,947,570</u>	<u>\$112,178</u>

Prior Audit Coverage and Other Reviews

The earthquake relief effort was thoroughly reviewed in its early stages. Reviews were conducted by the A.I.D. Regional Inspector General/Audit/Panama (RIG/A/P), the General Accounting Office (GAO) and the Senate Sub-committee on Foreign Assistance. The reviews covered the period February 4, 1976 (date of the earthquake) to mid-August 1976.

The purpose of the RIG/A/P reviews was to determine whether A.I.D. had provided the emergency assistance needed and the program had been effectively and prudently administered.

The GAO review emphasized the roles of the Guatemalan Government, major donors, and the U.N. Disaster Relief Office.

The primary objective of the Senate Sub-committee review was to evaluate the U.S. response to natural disasters. The review was done in conjunction with a review of the 1972 earthquake in Nicaragua.

The reviewers found weaknesses in implementation and in planning but overall conclusions were positive:

RIG/A/P - "The USAID role in the recovery effort has been well played both in the interest of effect and economy".

GAO - "The general consensus among donors, shared by GAO, is that the Government of Guatemala did an exceptional job organizing and directing the relief operations and that, overall, the relief effort was successful."

Sub-committee - "...The conclusion seems justified that the U.S. response to the disaster was effective and well managed."

Purpose and Scope

The purpose of this audit was to determine whether the funds provided under the relief act were effectively utilized, project activities

appropriately monitored by USAID/Guatemala and any management action needs to be taken to complete the program.

Sub-project activities selected for detailed review were based on a survey made of the overall program. Because emergency operations were covered by multiple reviews and many other recovery activities i.e. rubble removal, water system repair, road repair, etc. were completed by early 1978, we concentrated our efforts on sub-projects completed in 1980, where sales of building materials generated funds which were used in infrastructure projects, and in active sub-projects.

We reviewed program records and correspondence files maintained by USAID/Guatemala and selected records kept by various voluntary agencies. We discussed the program and problems with USAID/Guatemala, Government and voluntary agency officials. Visits were made to three agriculture cooperatives, three heavy equipment maintenance centers, fifty butler buildings being used as schools, health posts, social welfare centers and offices, six housing sites and ten temporary water tank sites.

The audit was conducted in November and December 1980 and covered the period February 4, 1976 through December 31, 1980.

AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Purpose of Disaster Relief and Rehabilitation Funds

Several projects that were undertaken and the use of some project funds is questionable. These activities either were not appropriate, did not provide direct assistance to people affected by the earthquake or can be viewed as long-term reconstruction because their implementation covered several years and should have been subject to normal AID programming procedures. Because some projects have taken longer than two years to complete, they have made unanticipated demands on the Mission to adequately monitor the projects.

In its report on the Guatemala Relief and Rehabilitation Act of 1976 the Senate Committee on Foreign Relations emphasized that it was recommending authority to provide assistance for relief and rehabilitation. These funds were not to be used as a supplement or addition to an economic development program or activities under other sections of the Foreign Assistance Act.

The committee had taken note of reports that, in the past, funds intended for direct assistance to people affected by disasters had been used to procure and provide to host country governments expensive capital equipment of questionable value to those who were bearing the greatest burden of the disaster. Funds authorized to be appropriated under this Act were not to be used to provide such equipment. The Committee understood that the transfer to the Government of Guatemala of some equipment for road construction or medical purposes was desirable, but the committee would not expect other transfers, and certainly not any significant deviation from these understandings without prior consultation.

AID Handbook No. 8 briefly touches on the various degrees of disaster assistance:

- **Emergency Relief:** aid given to alleviate immediately the suffering of disaster victims or to repair and restore essential services. Normally the emergency period does not exceed 60 days.
- **Short-run rehabilitation:** help given to repair or construct roads, bridges, schools, communications, or other facilities necessary to restore a country's equilibrium and to assist disaster victims to return to self-reliance. Short-run rehabilitation assistance requires AID/Washington approval and is normally limited to 90 days after plans are drawn and funds are made available.
- **Long-term reconstruction:** attempts to bring the system (public facilities, infrastructure, agriculture, economy) back to its pre-disaster level. Reconstruction to develop a sector of the damaged economy beyond its pre-disaster condition. Funds normally come from either special legislation or AID's

regular development assistance accounts. Long-term reconstruction assistance may cover several years and is subject to normal AID programming procedures.

Inappropriate Uses of Disaster Relief and Rehabilitation Funds

Some of the activities that were undertaken do not fit into the Senate Committee's intended use of disaster relief and according to AID's definition of long-term reconstruction should have been part of the regular development assistance accounts. Examples of such activities are:

- (1) Because of landslides and rubble, there was an immediate need for heavy equipment. Normally the lead time to get heavy equipment on site from off shore sources would be at least 3 to 6 months. A survey by AID revealed the type of equipment needed was already in Guatemala. The equipment owned by the Department of Roads was inoperable because of the lack of spare parts and repairs. AID correctly judged the biggest impact could be made in the shortest time by providing technical assistance and funds to repair the deadlined equipment in Guatemala using commercial establishments. The program was undertaken in 3 parts: (a) approximately 153 pieces of Government owned highway equipment were repaired at a cost of \$635,000 (b) USAID/Guatemala contracted with 4 local commercial firms to provide field service and maintenance. In a year's time, 355 units of road equipment were serviced. The contract costs totalled \$330,000, and (c) \$616,000 of excess property road equipment and \$1.3 million of new road equipment were purchased.

We believe the purchase of the excess property equipment coupled with the extensive repair program adequately addressed the heavy equipment need. Therefore, we believe the use of \$1.3 million for the purchase of new equipment was questionable.

The sub-committee on foreign assistance which reviewed the Guatemalan program also cited the purchase of new equipment as questionable. In discussing the draft audit report, USAID/Guatemala officials said the purchase of new equipment was partially justified because the Government needed trucks and trailers.

- (2) AID paid \$1.3 million for the urbanization (water, drainage, sewer, lighting and streets) of seven new towns near Guatemala City. The houses were provided by various international voluntary agencies. Land was sold to house occupants by the National Housing Bank in all but one location. At that location, land and building were paid for by a religious order. About 3,800 houses were built and are inhabited by approximately 20,000 Guatemalans. The project was started in February 1977 and was to be finished by May 1977. However, this did not happen and the AID grant was subsequently amended 18 times and the termination date extended to April 30, 1981. All but \$11,648 of the funds have been expended.

We believe the payment of infrastructure for the seven towns is a questionable use of disaster relief and rehabilitation funds. The intent of these funds according to the Act was to provide a temporary shelter with materials that could be used in the future to build a permanent shelter. Long term shelter programs are more appropriate to development programs.

We visited the general areas that were vacated by the residents of six of the seven new towns. These vacated areas were again filled by new occupants. These sites did not have adequate water, sewer, lights, etc., nor were the shelters of a permanent nature. AID may have inadvertently contributed to the continuing uncontrolled urban growth caused by rural people moving to the capital, Guatemala City, which was and is wholly unprepared to accommodate them.

- (3) AID provided \$2.7 million for 399 Butler steel buildings that were to replace damaged or destroyed buildings. Some of the buildings, average cost \$6,700, were used for other purposes.
 - a) Eight buildings were given to the newly relocated National Seismological, Meteorological, Hydrological Institute. The buildings did not replace earthquake damaged or destroyed buildings.
 - b) Forty-eight buildings were used as health posts. We visited six health posts and found

at only two of the six had replaced earthquake damaged or destroyed buildings. One Butler building was constructed along side the old building which was still in use.

c) Eleven Butler buildings were used as social welfare centers. We visited two centers and found the units had not replaced earthquake destroyed or damaged buildings.

d) Other Butler buildings were used as government offices which had no relationship to the earthquake.

- (4) The two projects implemented by Save the Children Alliance were not valid projects for disaster assistance funds. (See Save the Children Alliance section of this report for a discussion of the subject.)

Unanticipated Monitorship

AID Handbook No. 8 and the legislative history leading to the authorization of the Guatemala Relief and Rehabilitation Act points out that disaster funds are provided to meet temporary reconstruction requirements arising from the earthquake and should therefore terminate when these temporary requirements are satisfied. This interpretation implies a grant life span of less than one year. Considering construction may take two dry seasons (most all construction in Guatemala is done in the dry season mid-October through mid-May), in some special cases a project's life span could stretch to a maximum of 2 years from the date of the earthquake.

Our review showed several projects had exceeded the general time frame and more properly should have been classified long-term reconstruction projects and should have been subject to normal AID programming. For example:

- (1) Save the Children Alliance
Joyabaj Project - start 5/76 end 5/79
Chichicastenango - start 12/77 end 8/78
- (2) Church World Services - start 2/77 end 4/81
- (3) Rural Water Systems - start 4/76 end 8/78
- (4) School furniture - start 3/76 end 4/80

These long-term projects made unanticipated demands on Mission monitoring resources. Before the 2 year period was past the temporary help (TDY personnel and contractors) that had been assigned to assist in carrying out the projects were withdrawn. This resulted in the Mission having to continue working on its regular program duties plus monitoring the long term disaster programs. Since Mission staffing was based on the regular development program, the disaster projects were given a low priority and did not receive the monitoring attention required.

Most of the decisions that were taken on selecting projects and activities were made in late 1976 and early 1977. Supporting data which would explain the decisions were no longer available and all personnel involved in the decision process had left post.

The AID Handbook discussion on appropriateness of relief and rehabilitation funds is broad and brief. We believe a more extensive discussion of the subject would be very helpful to USAIDs in selecting and approving disaster relief projects and thereby better assuring that relief and rehabilitation funds are used as intended by Congress. New guidelines should address such points as: Temporary versus permanent repair or reconstruction; erection of new facilities; disaster relief versus development assistance including duration of activity and specific examples of activities normally considered appropriate relief and rehabilitation and those which are not.

Recommendation No 1

The Office of Foreign Disaster Assistance (PDC/OFDA), AID/Washington should include in AID Handbook No. 8 specific guidelines on the use of disaster relief and rehabilitation funds.

Disaster Preparedness

The USAID/Guatemala Mission was not prepared as it should have been for a disaster. The designated Mission Disaster Relief Officer (MDRO) was not knowledgeable about his duties or the details of the Mission Disaster Plan nor were aspects of the plan up to date.

Disaster preparedness is covered by AID Handbook No. 8. The Handbook stresses: (a) the appointment of a Disaster Relief Officer; (b) a Mission Disaster Plan in a readily accessible place known by cognizant personnel; (c) contact names, addresses, and telephone numbers in the plan are to be periodically reviewed and updated; (d) each newly appointed Disaster Relief Officer is to read the plan at the time of his appointment; and (e) the Disaster Relief Officer is to select from among Mission personnel a Disaster Relief team ready to swing into action as soon as a disaster of significant proportions occurs.

We interviewed the designated Mission Disaster Relief Officer to ascertain compliance with the provisions of AID Handbook No. 8. We found:

- The MDRO had been orally named in response to a cable dated October 15, 1980 requesting that the Office of Foreign Disaster Assistance, AID/Washington be notified of the appointment of a MDRO. The prior MDRO left post in May 1980. So between May 1980 and October 15, 1980 no one was designated Mission Disaster Relief Officer.

- The Guatemala Disaster Plan was not current. Contact names, addresses and telephone numbers were not periodically updated.
- The Plan had not been read by the newly designated MDRO.
- Disaster Relief Team designations were not current. Only three of eleven team members were still at post. The plan was prepared in mid 1977 and had not been updated since that time.
- In explanation of why the Mission was not prepared, the MDRO pointed out that he had been designated less than 2 months at the time of our review and because of other work priorities had not had time to familiarize himself with the Disaster Relief Program. We advised the MDRO of the necessity to make time available pointing out that when the 1976 earthquake occurred the Mission had not been prepared. In its report the Senate Sub-committee said:

"...The most serious deficiency was inadequate preparation for a disaster. Despite clear directives from the Office of Foreign Disaster Relief Coordination, the U.S. Mission's disaster plans were neither adequate nor used." and "One of the most important lessons to be drawn from the Guatemala experience is that each U.S. Mission should ensure that its disaster relief plans are up to date and adequate."

In a country like Guatemala which is transverse^d by a major geological fault the Government and AID must always be prepared. It is incumbent upon the Mission to assure the designated MDRO has the time to fulfill the duties of MDRO.

In discussing the draft report, USAID/Guatemala told us it agreed with us on the importance of disaster preparedness. But, not being prepared was due to lack of staff (two persons were on loan to another Mission) and expertise in updating a disaster plan. It felt that in disaster proven countries like Guatemala, which has a complex disaster plan, AID/Washington's Office of Foreign Disaster Assistance should provide on site technical assistance. We agree with USAID/Guatemala.

Recommendation No. 2

USAID/Guatemala should update its Disaster Plan.

Recommendation No. 3

The Office of Foreign Disaster Assistance, AID/Washington, should coordinate with and assist USAID/Guatemala to update the Disaster Plan.

Butler Buildings

Overall the Butler building program was a success. The buildings were well constructed and erected and should serve the Government of Guatemala for many years. We did note possible misuse of some of the buildings because of the lack of criteria for determining proper use. Other deficiencies included failure to use excess flooring as called for, non-installation of a door in the center partition of schools and building maintenance had not been provided as required by grant agreements.

A comparison of planned and actual use shows that some buildings were not used as originally intended.

<u>Number of Buildings</u>	<u>Plan</u>	<u>Actual</u>	<u>*Difference</u>
Schools	302	309	+ 7
Health Posts	48	48	-0-
Social Welfare Centers	26	11	-15
Municipal and Service Organizations	23	31	+ 8
	<u>399</u>	<u>399</u>	

* We were unable to determine why buildings slated for social welfare center were switched to schools and municipal/service organizations.

A total of 399 Butler steel buildings were procured for use as schools, health posts, social welfare centers, and government offices. The first group of 300 buildings arrived in Guatemala in May 1976 and a second group of 99 buildings in late 1976. A team of U.S. Navy Seabees trained Ministry of Communications and Public Works and contractor personnel in the techniques of erecting the Butler building. The first 20 buildings were erected as part of the training exercise. Three hundred and ninety four buildings were erected between May 1976 and December 1977 and by October 1978 the building program was completed.

Total cost of the program was:

<u>Item</u>	<u>Amount</u>
Buildings	\$1,481,388
Erection	996,129
Supervision	18,017
Transportation	57,021
Painting	82,938
Miscellaneous	37,450
	<u>\$2,672,943</u>

Site selection criteria was established for schools: 1) the previous primary school was totally destroyed or was to be demolished, 2) available land for construction belonged to the state or city or would be given to the state, 3) access to the site was adequate for transport of materials and 4) each school would be fully utilized. No site selection criteria was established for government offices, social welfare centers or health posts.

The plywood floors supported by steel joints were not needed because the new buildings were erected on concrete slabs. The steel assembly joints were to be used as ceiling purlins in the construction of schools under an AID loan. The plywood floor boards were to be used to build a center partition and as half walls in the Butler buildings to protect the masonite walls. USAID/Guatemala also purchased doors with hinges to be placed in the center partition.

We visited 26 schools, 6 Health Posts, 2 Social Welfare Centers and 16 Municipal and Public Service Organizations. We found:

- Site Selection Criteria: Schools had been placed as called for by the established criteria. Criteria was not established for locating health posts, social welfare centers and buildings for general government use. We were told placement and use of these structures were agreed to by the USAID/Guatemala Director's Office. In our opinion, many of the buildings did not replace destroyed and damaged facilities and therefore did not meet the intent of the Guatemala Relief and Rehabilitation Act of 1976. We discuss this under the "Purpose of Disaster Relief and Rehabilitation Funds" section of this report.
- Excess plywood (approximately 18 sheets totalling 576 square feet per school) was not used for half walls. The plywood was reportedly used by the Public Works Ministry for other programs.
- 302 doors and hinges costing \$13,000 were not installed in most schools. The doors were given to other government institutions. For example 100 doors were issued to a prison. Sixty-one doors were still in storage at the Public Works Ministry at the time of our review.
- The exterior of nearly all the health posts, schools and social welfare centers we visited were not being maintained. Commonly noted deficiencies were 1) weeds growing up the walls, 2) paint chipping away, 3) concrete slab underfilling wearing away, and 4) windows and screens broken and exterior doors disintegrating. The grant agreement called for the appropriate government Ministry to provide adequate maintenance.

Most of the deficiencies noted by our review cannot be corrected now. health posts, social welfare center and public use buildings not meeting relief and rehabilitation criteria cannot be moved. The plywood has been used elsewhere to the detriment of the schools. Most doors and hinges had been used for other purposes. Something can and should be done to require the cognizant Government Ministry to maintain the Butler buildings.

Recommendation No. 4

USAID/Guatemala should assure that the 61 doors are installed in schools and require the GOG to institute a Butler building maintenance program as agreed to in the grant agreements.

Save the Children Alliance

In our opinion the two projects undertaken by Save the Children Alliance (SCA) were not appropriate activities to be funded by disaster relief and rehabilitation funds. One project is a long term effort and the other project is questionable because it is doubtful if it was needed. Both projects generated funds from the sale of grant purchased building materials. Most of the funds are still being held by SCA.

Save the Children Alliance is an entity made up of seven similar organizations with Redd Barna Organization of Oslo, Norway as the responsible coordinating office. AID executed six agreements with SCA which provided up to \$982,974 as well as direct contributions of tool sets and building materials (pressure treated wooden poles, nails and roof ridge rolls).

Two projects were undertaken. One centered in Joyabaj and the other in Chichicastenango. Project end financial status is summarized below:

<u>Grant No.</u>	<u>Date</u>	<u>Joyabaj</u>	<u>Chichicastenango</u>	<u>Total</u>
AID-DR-6	5/17/76	\$415,600	-0-	\$415,600
AID-DR-10	4/28/76	32,300	-0-	32,300
AID-DR-73	12/30/77	-0-	\$299,815	299,815
*AID-DR-74	12/30/77	235,259	-0-	235,259
		<u>\$683,159</u>	<u>\$299,815</u>	<u>\$982,974</u>
Deobligated		47,162	63,435	110,597
Net Grant		<u>\$635,997</u>	<u>\$236,380</u>	<u>\$872,377</u>

* Extends Grant AID-DR-6

Joyabaj Project

The purpose of the Joyabaj project was to stimulate and provide assistance for construction homes and schools using Earthquake Resistant Construction Techniques (ERCTs). The objective was to assist in the construction of 4,000 homes, 65 model homes, 15 schools and to train 8,500 people. In accomplishing the objective of the project, it was planned to sell building materials to those affected by the earthquake at subsidized prices.

The program was originally scheduled to be implemented between May 17, 1976 and December 1976. The program termination date was subsequently extended to May 31, 1979.

In a March 1981 letter the following accomplishment were reported:

Houses built	-	892
Model Homes built	-	66
Schools built	-	15
People trained	-	Over 8,500

Project Duration

The project was needed but in our opinion is not an appropriate use of disaster funds. The projects overall goal -- to convince area residents to adopt ERECTs by demonstration and instruction -- seems to be a far too ambitious goal to be achieved in 7 months, but is an appropriate goal for a long-term reconstruction project. Some elements of the project taken individually could be achieved in a relatively short time and be valid uses of disaster funds i.e. selling of building materials and training of a limited number of semi-skilled workmen.

It subsequently became clear that the project could not be accomplished in 7 months. The original grant was extended 8 months. A second grant was entered into providing additional funds but continuing the same project. Instead of a 7 month project, the project was implemented over a 30 month period. SCA when requesting the second grant acknowledged the program was a long-term investment and justified the undertaking by saying traditional relief-emergency type programs may serve short term shelter needs but if such an approach was taken, it would not be possible to make any great progress in getting area residents to adopt ERECTs.

Funds Generated by Sale of Building Materials

At June 30, 1980, SCA had deposited in a Joyabaj banking account \$175,480.80. These funds were generated by selling of grant financed building materials. By September 30, 1980 the balance was reduced to \$145,480.80 as follows:

Balance 6/30/80		\$175,480.80
Donations to various water projects	\$13,375.36	
Payment to Labor Pension of the Joyabaj project	*16,624.64	30,000.00
Balance 9/30/80		<u>\$145,480.80</u>

*Questionable use of reflow funds.

The AID Grant Agreements do not adequately state how and when the funds should be used. Grant Agreement AID-DR-6 is silent. Grant Agreement AID-DR-74 Attachment "A", Appendix "B" states "Ninety percent of the money from the sale of these materials will be used for reflow projects and 10% will be used to purchase more materials".

The question of what to do with funds generated by sale of grant purchased building materials was recognized in on AID Fiscal Review of SCA grants in December 1978. The report recommended "procedures for use of reflow funds should be spelled out". The recommendation was pursued in April 1980 but no effective action has been taken.

In discussing the subject, the SCA Director acknowledged little had been done with the reflows. He pointed out the agreements did not specify a time frame or the use of funds. He told us SCA personnel had been studying what to do with the funds and their thinking was to: 1) donate some funds to Joyabaj communities for activities such as water projects and 2) invest the bulk of the funds in revolving loan fund. The fund, administered by SCA, will lend out money at 6 per cent interest for projects that benefit the community and are income generating.

We see two problems 1) the AID Grant project has ended and the payment from reflow funds of \$16,625 to the Pension Fund is questionable and 2) the Joyabaj grants are non-specific as to how the reflow funds are to be used. Some guidance is available in other Guatemala disaster relief projects. For example, under the USAID/Guatemala lámina distribution program, funds were generated by selling building materials. The activity agreement required the funds to be used in the community that purchased the building supplies. The implementation period for projects was not stated but it was understood that projects would be undertaken as soon as possible.

We agree with the policy of using the money for community projects in the areas which purchases the building materials. We do not believe that the disaster funds or any reflow funds resulting from disaster financed activities should be used to establish a loan fund.

Recommendation No. 5

USAID/Guatemala and SCA should formally agree on the use of funds generated by the sale of disaster relief financed building materials. The use of such funds should be consistent with AID policy.

Chichicastenango Project

The purpose of the Chichicastenango Project was to sell 30,000 sheets of lámina (steel corrugated roofing sheets) and 15,000 bags of cement at subsidized prices. The materials were to be used to reconstruct homes damaged or destroyed by the earthquake.

The program included educating the public about ERCTs and training local builders in ERCTs. One model house was to be built in Chichicastenango as an example for the local builders. The funds generated by selling building materials would be used for two purposes: 1) the funds generated by sale of cement (about \$37,500) would be used to build schools and 2) the funds

generated by selling lamina (about \$90,000) would be used for work projects in the communities buying materials. This project was to be implemented between December 30, 1977 and August 31, 1978. The project termination date was subsequently extended to December 31, 1978 and all materials were sold.

In a March 1981 letter the following accomplishments were reported:

Model Homes built	-	1
Schools built	-	12
Homes built	-	1,394
People trained	-	2,447

Project Need

It is questionable whether the Chichicastenango project should have been funded by AID. First, the project was started in January 1978 (agreement signed 12/30/77) which was 20 months after the earthquake and second, there were doubts from the beginning if there was a need for this type of project in the Chichicastenango area.

The Guatemala Relief and Rehabilitation Act set aside \$7.5 million to be used for temporary shelter and supporting community facilities. The intent of the Act is clear: to provide temporary shelter as soon as possible to enable affected people to build a shelter before the onset of the rainy season. The type of assistance contemplated under the Act for temporary shelter was consistent with AID regulations for emergency relief projects. The AID regulations state that emergency relief does not ordinarily extend beyond 60 days after a disaster. The time frame for execution of this project makes it ineligible under both the Act and AID regulations.

In November 1977 a USAID/Guatemala representative visited the proposed project site. The representative reported "the problem here is that the prime motivating factor for distributing more materials is to keep the promise made to Chichicastenango's Mayor rather than address an urgent need (underscoring supplied). The Chichí staff claims they get frequent requests for lámina primarily from Chichicastenango area, but not from other southern Quiché municipalities. This leads me to believe that rumors continue to circulate in mayorial circles, that the possibility of more material exists, and groups are pressing SCA Chichí.

"Whether AID wants to fund a program for basically politically face-saving reasons is the issue. Of course, the lámina will be used and appreciated, but is the demand really that great? I think it is not".

The view of the USAID/Guatemala representative proved to be true. The program scheduled for completion in 8 months was extended another 4 months. In order to get rid of roofing sheets and cement, SCA received authorization from USAID/Guatemala to increase from 32 to 55 the number of communities receiving benefits.

Funds Generated by Sale of Building Materials

At September 30, 1980 SCA had deposited in a Chichí bank account \$44,882.25. This was the balance of funds generated by selling grant financed

building materials. The total amount of funds generated by material sales had not been reported to USAID/Guatemala but SCA said substantial funds were spent on school construction and some funds were given to a cooperative.

Use of funds generated by sale of grant financed building materials (reflow funds) was prescribed in Attachment "A" to Grant Agreement AID-DR-73. The agreement provided that funds generated by the sale of cement were to be used to build schools (estimated to be \$37,500) and funds generated by the sale of lámina would be used to finance community and reconstruction activities (estimated to be \$90,000).

We discussed use of funds with the SCA Director. He told us communities did not want to undertake community work projects, and preferred that the funds be used in a more beneficial way. The Director told us SCA had decided, with the concurrence of Redd Barna, to use up to \$90,000 generated by sales of lámina to establish an Agriculture Cooperative. SCA entered into an agreement with Cooperative "Juan Timmet" of Chichicastenango whereby SCA would provide funds for in the purchase of a building, fertilizer, insecticides, tools, etc. So far SCA had paid the Cooperative over \$50,000 in two installments. The remaining \$40,000 will be made available in accordance to the needs of the cooperative as agreed to by SCA.

No precise figure for the amount of cement sale reflows was available. The Director said about \$8,000 remains to be spent.

We told the Director that he should have consulted with USAID/Guatemala on the use of reflow funds because the use of the funds was covered by agreement and we believed that forming and financing a cooperative was not intended. We also pointed out that an accounting of all reflow funds should be provided to USAID/Guatemala.

Recommendation No. 6

USAID/Guatemala should 1) determine the appropriate use of funds generated by the sale of items funded under grant agreement AID-DR-73, and 2) require SCA to make a full accounting of the reflow funds.

Water Tanks

We were unable to fully account for 134 portable rubberized canvas (3,000 gallon capacity) tanks. The acquisition cost plus transportation of the tanks was approximately \$150,000.

The tanks came from two sources. Ninety seven tanks were obtained from the AID disaster relief stockpile in Panama, the other 37 were purchased by AID on behalf of the United Nations Disaster Relief Organization who donated the tanks to Guatemala.

Grant Agreement AID-DR-8 dated April 9, 1978, transferred title to 97 water tanks, accessory equipment and spare parts to the Institute for

Municipal Development (INFOM). INFOM was to manage the use of the tanks until they were no longer needed. When the emergency conditions ended, the tanks were to be cleaned, completely dried, treated with talcum powder, folded and packed into appropriate containers for use should subsequent emergencies arise.

Two weeks before our audit field work ended, we asked INFOM to provide the location of the 134 tanks. We were told the National Emergency Committee (NEC) had them.

We visited the NEC and found that it had 66 tanks under its control. The officer in charge said NEC had received 49 tanks from INFOM and had picked up 17 more which had been abandoned. NEC accounted for the tanks as follows:

1. In NEC warehouse	28
2. Still in use	35
3. In military installations	3
	<u>66</u>

We test checked the location and use of 35 tanks distributed in Guatemala City and found that they were still in use. They were being used to service areas that had no other water supply.

Of the 28 tanks in the NEC warehouse 11 were in good condition and 17 were awaiting repair. None were stored as prescribed in the grant agreement.

Since we could account for only 66 tanks, we again asked INFOM officials for information concerning the missing tanks. We were told the information would be difficult to develop. Although several attempts were made no additional information was provided during the audit.

These tanks filled and are filling an important need as recognized by the grant agreement. We believe that proper accounting and storage of the tanks should be maintained in case they are needed in another emergency.

Recommendation No. 7

USAID/Guatemala should request an accounting of the water tanks from INFOM and request INFOM to store unused water tanks as required in the Grant Agreement.

Recommendation No. 8

USAID/Guatemala should determine if tanks at military installations meet relief and rehabilitation criteria.

Government of Guatemala Trust Funds

The Government of Guatemala Trust Fund was established to pay for equipment used in earthquake reconstruction. The equipment was obtained through AID's excess property program. All equipment has been received but a balance of \$122,989.47 remains in the fund. USAID/Guatemala contacted the

U.S. Army, New Cumberland, PA., and asked assistance from AID/Washington in clearing the account. These requests for assistance have gone unanswered.

On April 14, 1976, \$811,580 was deposited by the GOG with USAID/Guatemala. The purpose of the fund was to pay for equipment to be used in earthquake reconstruction. All funds have been expended except for those deposited to buy two Bailey bridges and an erection set. The bridges and erection set were received but parts were missing. USAID/Guatemala notified the billing authority on July 12, 1978 that invoices would be paid but requested that the invoices be adjusted downward to reflect the missing parts.

Of the funds deposited by the GOG, \$225,572 was to cover the cost of the bridges and erection set. USAID/Guatemala refunded \$102,582.53 (the value of the missing parts) to the GOG thereby reducing the deposit to \$122,989.47. This balance agrees with the amount required to pay for the portions of the bridges and erection set that were delivered.

Since July 1978, USAID/Guatemala has asked help on several occasions to resolve the problem by writing and cabling the AID/Washington Office of Financial Management and the billing office. We were advised that therequests were never answered. The most recent follow-up effort was dated December 8, 1980.

These funds cannot be held forever. Since the billing authority is located in New Cumberland, Pa., we believe AID's Excess Property Division (CM/EPD) located in New Cumberland, Pa. would be an appropriate organization to determine the status of the U.S. Army's outstanding account.

Recommendation No. 9

USAID/Guatemala should provide AID's CM/EPD data covering the Bailey Bridge/Erection set transaction and request it to meet with U.S. Army officials to settle this account.

GUATEMALA EARTHQUAKE -- DISASTER RELIEF PROGRAM
PROJECT No. 520-15-023-0241
FINANCIAL STATUS AS OF DECEMBER 31, 1980

	Obligated		Expended	Unexpended Balance
	AID/W Allotment	USAID/G Allotment		
A. <u>Emergency Relief</u>				
1. Provided by U.S. Dept. of Defense	\$ 3,035,179	\$	\$ 3,035,179	\$ -0-
2. Replenishment - Panama Stockpiles	186,086		186,086	-0-
3. Transport. PVO Commodities	491,123	136,806	627,929	-0-
4. Temporary Duty Experts	136,282		136,282	-0-
Total Emergency Relief	\$ 3,848,670	\$ 136,806	\$ 3,985,476	\$ -0-
B. <u>Temporary Shelter and Rural Rehabilitation</u>				
1. <u>Shelter Program</u>				
a. National Reconstruction Committee	\$ 4,360,388	\$ 791,451	\$ 5,151,839	\$ -0-
b. Save the Children Alliance		872,377	872,377	-0-
c. Church World Services		1,353,333	1,341,685	11,648
2. <u>School Buildings/Furniture</u>				
a. School Buildings	1,062,724	753,256	\$ 1,815,980	-0-
b. Repair of Four Schools		67,312	67,312	-0-
c. Furniture		320,700	220,700	100,000
3. <u>Health Posts and Gov't. Offices</u>		856,963	856,963	-0-
4. <u>Water Systems</u>		989,975	989,975	-0-
5. <u>Purchase/Dist. Handtools</u>		291,661	291,661	-0-
6. <u>Commodity Work Projects</u>		13,836	13,836	-0-
7. <u>Transport - PVO Commodities</u>		925,850	925,850	-0-
8. <u>Construction Community Services</u>		19,200	19,200	-0-
Total Shelter/Rural Rehabilitation	\$ 5,423,112	\$ 7,255,914	\$ 12,567,378	\$ 111,648

	Obligated		<u>Expended</u>	<u>Unexpended Balance</u>
	<u>AID/W Allotment</u>	<u>USAID/G Allotment</u>		
C. Road Repairs	\$ 1,059,919	\$ 2,954,489	\$ 4,014,408	-0-
D. Municipal Reconstruction		3,092,154	3,092,154	-0-
E. Miscellaneous	65,783	222,901	288,154	530
GRAND TOTAL	\$10,397,484	\$13,662,264	\$23,947,570	\$112,178

ACTIVITIES IMPLEMENTED

A. Emergency Relief

1. United States Department of Defense (DOD):

The DOD transported and operated a 100-bed Army Field Hospital near the town of Chimaltenango, 56 Kms. west of Guatemala City. The hospital functioned for a period of 7 days, during which time a total of 460 patients were attended. For 3 weeks after the earthquake, the DOD provided the use of nine HU-1H and eight CH-47 helicopters, for distributing emergency supplies; one CH-1 observation plane, to photographically assess the damage; the services of the Disaster Area Survey Team; and air transportation of communications equipment to assist the Guatemalan telephone company to reestablish communications in rural areas.

2. AID Disaster Relief Supplies

Stockpiled disaster relief supplies were brought into Guatemala by the Department of Defense from stocks maintained in Panama. Items provided were: (1) Family Tents; (2) Blood Plasma; (3) Anti-Biotics; (4) Operating Room Sterilizer; (5) Field Cooking Outfits; (6) Field Electric Generators; (7) 3,000 gallon water tanks; (8) Water Pumps and Tank, and (9) 5 gallon water containers.

3. Transportation of Commodities Donated by PVO's

a. United States to Guatemala -- Shipping costs of commodities donated by 13 PVO's, and the shipment of 6 Disaster Package Hospitals donated by the States of Alabama, Oregon and South Carolina. Items included: steel and aluminium roofing sheets; nails; lumber; hand-tools; block making machines; trucks, tractors; back-hoes; blankets; tents; drugs and medical supplies.

b. In-land - Guatemala -- Shipping costs of Church World Service commodities and medical supplies donated by various organizations to the Guatemala National Reconstruction Committee.

4. Travel and Expense - Temporary Duty Experts and Miscellaneous Expenses

It was necessary to bring in experts for temporary duty to perform jobs where these job skills were not available in Guatemala. Approximately 19 experts provided assistance such as: (1) establishing a disease epidemic surveillance system, (2) erecting a packaged disaster relief hospitals, (3) evaluating local conditions, devising a plan to salvage useable materials and removing rubble, (4) assessing the damage done and determining the emergency supplies required to provide relief to earthquake victims, (5) providing USAID/Guatemala monitoring assistance in reopening of the Atlantic

Highway between Puerto Barrios and Guatemala City, and (6) coordinating the shipment of relief goods to earthquake victims.

B. Shelter Program

1. National Reconstruction Committee Shelter and Work Programs

The National Reconstruction Committee (NRC) and AID distributed 650,000 corrugated steel roofing sheets (lámina), 40,000 creosote-treated wood poles, 60,000 ridge caps and assorted nails. These materials were utilized in efforts to promptly construct temporary shelters, and in the eventual reconstruction of permanent rural homes. These materials were purchased in the U.S. and sold at a reduced price of approximately 1/4 to 1/3 regular Guatemalan market prices. (For example, 20 sheets of lámina which provides approximately 306 sq. ft. coverage, cost \$50 through the program compared to \$125 in the commercial market.) To manage the distribution program, 14 established and functioning cooperatives were selected and contracted to sell the materials through local service agencies in 28 of the most seriously affected rural municipalities, whose population totaled approximately 365,000. AID financed the overhead costs of the service agencies, transportation costs of materials to the service agencies, and training of the required personnel. At the height of the sales period, 350 persons were working in this program, all of whom were residents of the communities where the service agencies were located.

Proceeds totalling approximately \$1.6 million were generated from the sales of materials and were deposited in special bank account for the Work Projects Program. These funds were earmarked for reinvestment in originating community for labor-intensive projects identified and executed by the local reconstruction committees. The project funds were controlled and administered by the same cooperatives service agencies which sold the materials. This system was adopted to address the following issues:

a. A region-wide net drain of \$1.6 million through cash sales of relief materials would have created economic hardship for the disaster victims, especially at a time when cash was needed for reconstruction, agriculture, etc.

b. Because a substantial portion of the population could not afford the purchase of materials from their subsistence cash reserves alone, this system provided employment opportunities in order that individuals could generate funds to purchase additional construction materials.

c. Through the development of useful projects, local committees were able to assume a responsible, active role in reestablishing damaged infrastructure in their communities.

The Work Projects Program supported projects which the communities independently undertook, and it provided an opportunity to reinforce the role of local leadership in the reconstruction effort. Local reconstruction committees were formed by local citizenry to execute all aspects of each project, and in many cases this provided the first opportunity for them to manage resources from communal benefit.

2. Save the Children Alliance

The purpose of the Alliance program was to teach Earthquake Resistant Construction Techniques (ERCTs) to residents in the Joyabaj and Chichicastenango regions and have these techniques adopted by residents when reconstructing their homes. Teaching was done using classes and demonstration structures.

In the Joyabaj area over 8,500 persons were trained; 65 model houses and 15 schools were built; construction materials were provided at subsidized prices. About 900 private homes were reconstructed under the project.

For the Chichicastenango project the Alliance sold at subsidized prices approximately 30,000 galvanized roofing sheets and 15,000 bags (100 lbs.) of cement and built one model house. About 1,400 homes were built using ERCTs.

Funds generated by sale of materials were to be used to build schools and fund community work projects.

3. Church World Service Program

Church World Services helped to build approximately 4,300 houses in seven new urban communities in outlying areas of Guatemala City. The purpose of the AID Grant combined with other donor funds was to provide urbanization infrastructure to the seven communities. The urbanization includes:

- Installation of water and sewer lines
- Construction of Streets
- Electrification

The community provided about 7,500 man-days of labor in assisting paid skilled labor.

C. School Building and Furniture

1. Schools and Miscellaneous Buildings

Provided 322 Butler buildings. Three hundred nine to be used as schools and 13 for government offices. The school buildings were erected on sites jointly selected by GOG/AID teams. Training of GOG and contractor personnel was provided by U.S. Navy Seabees. As the school building were completed the Ministry of Education provided teaching staff and essential supplies and equipment. The schools were included in the Government inventory for the purpose of budgeting and scheduling required maintenance services.

2. Repair and Renovation of Four Schools

Reparation and reconstruction of four rural schools consisting of a total of 43 classrooms. The Grant provided materials and labor for work done by the Ministry of Communication and Public Works.

3. School Furniture

Approximately 10,000 chairs and 22,000 desks were provided to the Ministry of Health for distribution to the most needy public schools in the earthquake affected area giving priority to the Butler building schools donated by the U.S. Government. Some chairs and desks were built under contract in Guatemala. The majority were donated by the School Board of Memphis, Tennessee. For furniture donated by the school board, AID funds paid for transportation from Memphis to Guatemala's Atlantic port. In-land transportation and distribution cost were contributed by the Government of Guatemala.

D. Health Posts and Government Offices

The importation and erection of 77 Butler buildings. The buildings were to be used for Health posts (48) Social Welfare Centers (11) and Agriculture and other government offices (18).

E. Water Systems

1. Municipal Systems

USAID/Guatemala entered into three agreements with the National Municipal Development Institute (INFOM) to assist in a program of emergency repairs to 75 municipal water systems.

2. Rural Systems

A program administered by CARE for the repair of earthquake damaged potable water systems in towns and villages outside of Guatemala City. The project was designed to provide significant public health protection by assuring that the population would have potable water available at central points. The area of operations was in the five most affected departments east of Guatemala City. About 114 systems were repaired.

F. Handtools, Building Materials and Miscellaneous Items

Approximately 250,000 houses were either damaged or destroyed. It was anticipated that most of the housing construction and general clean-up effort would be done on a self-help basis. To assist in the rubble removal and general clean-up, and the reconstruction of housing in the rural areas, AID provided about 950 community-tool sets and rubble removal tools, 18,000 pressure treated wooden poles and other items (i.e. lámina, nails, shovels, picks and wheelbarrows) which were distributed through 32 public and private assistance agencies.

G. Community Work Projects

A CARE administered part cash, part food for work program in four communities heavily damaged by the earthquake. For each day's work an individual received \$1.00 and 5 lbs. of food.

H. In-country Transport -- PVO Commodities

To facilitate the efforts of registered private voluntary agencies (PVO's) in reconstruction activities, AID funded contracts with private Guatemala trucking firms for in-country transport of PVO provided reconstruction materials.

I. Construction and Equipping Two Community Centers

Through the YMCA, two community centers were built and furnished in two towns near Guatemala City. The centers are used by the communities Tierra Nueva and Sakerti for training, recreation, social events, and nutritional activities in order to promote social organization among the resident youths.

J. Road Repair

1. Reopening the Highway from Guatemala City to the Atlantic Port City Puerto Barrios

Guatemala's only major road from the area hardest hit by the earthquake to the Atlantic port city was closed in several places by landslides, road failure and collapsed or damaged bridges. This road needed to be opened as soon as possible. At the request of the Government of Guatemala the job be done by a U.S. Army Engineer Battalion. Most of serious damage occurred between Guatemala City and El Rancho a distance of about 60 miles.

2. Reopening Roads

The Ministry of Public Works (MINISCOP) was charged with primary responsibility within the National Earthquake Recovery Plan to carry out emergency clearing, repair and maintenance activities on the transportation networks in the portions of 16 departments affected by the earthquake. To assist the MINISCOP with its emergency recovery activities AID granted funds for emergency equipment repair, procurement of heavy equipment, and heavy equipment maintenance services. Procurement of equipment through commercial sources totaled 42 pieces and through AID excess property sources 22 pieces.

K. Emergency Municipal Reconstruction and Repair

Through the Municipal Development Institute (INFCM) a program was devised to assist municipalities to recover and reinitiate public community services. The program included in part such activities as:

- Cleaning, repairing and restoring grade to streets including water control structures to prevent erosion.
- Remove rubble that remained after pulling out other rubble removal equipment.
- Restore surface drainage.

- Inspect, clean and repair underground sewage and storm drainage systems.

- Perform minor repairs to municipal structures and erect temporary buildings until permanent replacement buildings are completed, such as roofs for public water sources; and market places.

LIST OF RECOMMENDATIONS

Recommendation No. 1

The Office of Foreign Disaster Assistance (PDC/OFDA), AID/Washington should include in AID Handbook No. 8, specific guidelines on the use of disaster relief and rehabilitation funds. (Page 13)

Recommendation No. 2

USAID/Guatemala should update its Disaster Plan. (Page 14)

Recommendation No. 3

The Office of Foreign Disaster Assistance, AID/Washington, should coordinate with and assist USAID/Guatemala to update the Disaster Plan. (Page 14)

Recommendation No. 4

USAID/Guatemala should assure that the 61 doors are installed in schools and require the GOG to institute a Butler building maintenance program as agreed to in the grant agreements. (Page 17)

Recommendation No. 5

USAID/Guatemala and SCA should formally agree on the use of funds generated by the sale of disaster relief financed building materials. The use of such funds should be consistent with AID policy. (Page 19)

Recommendation No. 6

USAID/Guatemala should 1) determine the appropriate use of funds generated by the sale of items funded under grant agreement AID-DR-73, and 2) require SCA to make a full accounting of the reflow funds. (Page 21)

Recommendation No. 7

USAID/Guatemala should request an accounting of the water tanks from INFOM and request INFOM to store unused water tanks as required in the grant agreement. (Page 22)

Recommendation No. 8

USAID/Guatemala should determine if the tanks at military installations meet relief and rehabilitation criteria. (Page 22)

Recommendation No. 9

USAID/Guatemala should provide AID's CM/EPD data covering the Bailey Bridge/Erection set transaction and request it to meet with U.S. Army officials to settle this account. (Page 23)

LIST OF REPORT RECIPIENTS

	<u>Copies</u>
IDCA, AID/W	1
IDCA's Legislative and Public Affairs Office, AID/W	1
Deputy Administrator, AID/W	1
Assistant Administrator - Bureau for Latin America and the Caribbean (LAC), AID/W	5
Mission Director, USAID/Guatemala	5
Assistant Administrator - Bureau for Private and Development Cooperation (PDC)	1
Assistant Administrator, Office of Legislative Affairs (LEG), AID/W	1
Office of U.S. Foreign Disaster Assistance - (OFDA)	5
Office of Financial Management (OFM), AID/W	1
General Counsel, AID/W	1
Country Officer, ARA/CEN, AID/W	1
Audit Liaison Officer, LAC/DP, AID/W	3
Director, OPA, AID/W	1
DS/DIU/DI, AID/W	4
PFC/E, AID/W	4
Inspector General, AID/W	1
RIG/A/W, AID/W	1
RIG/A/WAFR, AID/W	1
RIG/A/Cairo	1
RIG/A/Manila	1

RIG/A/Karachi	1
RIG/A/Nairobi	1
IG/PPP, AID/W	1
IG/EMS/C&R, AID/W	12
AIG/II, AID/W	1
RIG/II/Panama	1
RIG/A/La Paz Residency	1
RIG/A/NE, New Delhi Residency	1
General Accounting Office, Latin America Branch, Panama	1