SITING/INFRASTRUCTURE

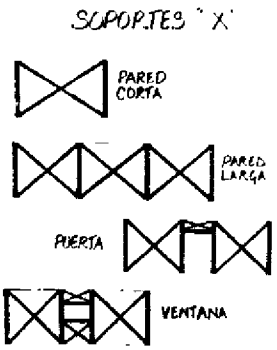
The recipient indicates on the information form where they desire to have the house built on their lot. No service connections are anticipated at this time.

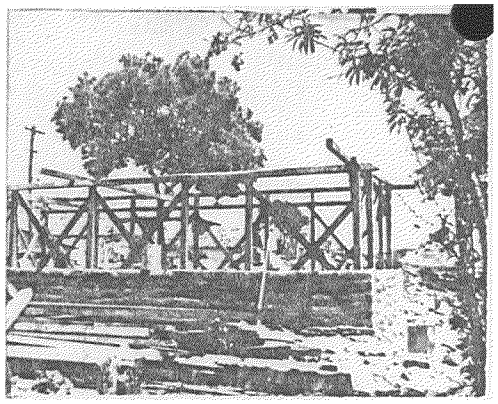
FUTURE IMPLICATIONS/CULTURAL SUITABILITY

The choice of cement asbestos roofing has better climatic qualities than zinc. The size and quantity of steel is very adequate for anti-sismic construction. Ease of future expansion and adding needed latrine and kitchen facilities will depend, in part, on the location of the single door in relation to the site.

OXFAM/WORLD NEIGHBORS
8a. Ave. 17-42, zone 13
Director: Reggie Norton
Telephone: 64482, ext. 8

model public buildings vary in plan





wood, adobe, cane, corrugated zinc roofing
material costs: lamina sold at half price, others self obtained
total costs: program minus subsidized materials Q.200,000
construction time: depends on house
number: estimated 250 models
sites: villages and rural areas of San Martín Jilotepeque, Tecpán, San José Poaquil, Municipality and surrounding area of Santa Apolonia

PROGRAM OBJECTIVES/DESCRIPTION

The OXFAM/World Neighbors program objectives are unique in that their central purpose is not to build houses directly. The approach is to support local organizations and to promote safe construction techniques using traditional materials.

The basic program consists of five parts plus several special projects. The first is the salvaging of materials from the damaged or destroyed homes. The second and the core is an educational program to disseminate information of safer construction techniques which utilize traditional materials and skills as much as possible. In each of the villages there are classes for representatives, generally who have some construction experience. This primary method is supported by the actual building of model structures by the class. Each participant is directed to build a house following the presented techniques, he then receives a certificate. Various illustrated manuals are distributed to reinforce the basic concepts. The subsequent spread of information in each village and application is the actual measure of the program.

The third part is the actual construction of model structures which are the chosen demonstration buildings in each village, often times it is a meeting place. The fourth part of the program is making available technical assistance on such subjects as block making and wood perservatives and giving advice to other groups. The fifth aspect is a subsidized distribution of corrugated zinc and other materials through the coop El Quetzal/Kato-Ki.

Special programs include sismic analysis and geology reports and a possible recovery of fallen cyprus wood from a forest. The program is scheduled to last until June 1977 so various other phases will develop.

A group of post disaster experts from the United States, INTERTECT, and personnel of World Neighbors worked closely with the Cooperative and

local representatives to work out the priorities of the program. From their observations of building materials and living patterns a set of 20 basic earthquake resistent construction techniques were developed and illustrated. These have been reproduced in several forms, from large posters to small booklets.

HOUSE DESCRIPTION/CONSTRUCTION

Exactly how the basic principles are applied depends on the decisions of the individual family in relation to their understanding and acceptance of the concepts, their site, resources and abilities. A typical house, however, is a wood pole frame with X cross bracing, balanced doors and windows on opposite walls, a simple rectangular plan with adobe half way and wood or cane on the top, with a corrugated zinc roof.

DISTRIBUTION/COSTS/FINANCING

The program is having a wide ranging influence on individual houses and other agencies' programs. It would be a rough estimate that some 20,000 houses have been built differently based on the construction principles; that would mean that each house costs OXFAM/World Neighbors about Q.10 in administration and demonstration materials. This cost includes salary for about twenty local bricklayers and extensionists who teach and build for the classes. The Cooperative is handling the distribution and sale of the corrugated zinc.

SITING/INFRASTRUCTURE

The majority of the houses are sited on rural lots where the owner choses. The classes teach the principles of siting houses including the idea that a minimum of 1 vara (equal to about 80 cm.) should be maintained between houses. Ideas about latrines or other sewage and water treatment are not presented.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

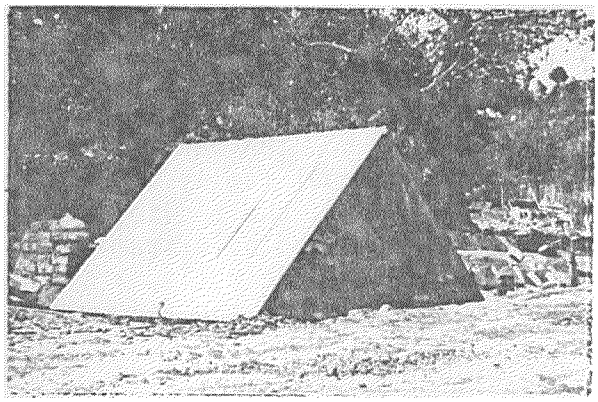
Replacement of rotted structural posts in the future is an important concern even if they have received preservative treatments. The amount of wood necessary for construction is sometimes not easily available to the participants.

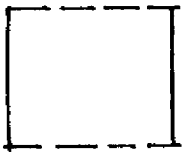
The X bracing has been a clear concept to communicate but in some cases where residents seek there are efforts to conceal it. (For example, cutting the adobe to fit around the wood which decreases the strength of the adobe). The basic use of traditional materials with some modifications, such as using adobe only half way up a wall, have been accepted. The question remains, however, over the years as the memory of the earthquake fades if the coldness of the climate might cause many to complete the wall with adobe.

Some fear for security may result in not having the doors swing out as advocated.

The application of this program does not easily extend to urban areas where traditional materials are harder to obtain and construction skills not in practice. The program's approach of demonstrating a single construction technique may be misinterpreted as the only practical solution for Guatemala, whereas other options should be made available for consideration.

PROJECT ALPHA
Guatemala City (ad hoc group)
Director: Armando Gobbate
Telephone: 42768





3.5m x 4.2m
14.7m^2

corrugated zinc on wood frame to be used as a roof
material costs: app. Q90
total costs: Q90 = Q.6.40/m^2
construction time: 2 man days
number: 100
site: San José Poaquil

PROGRAM OBJECTIVES/DESCRIPTION

The primary objective is to provide a roof for those lacking shelter. Made from corrugated zinc on a wood frame, it is used as an A frame initially with the potential of being raised up on permanent walls at a later date. The group's volunteers are coordinating other aid being received in the area.

HOUSE DESCRIPTION/CONSTRUCTION

The zinc sheets are attached to two panels made from 2x3s. These are hinged at the top and tension wires about 20cms. down from the top hold the 2 panels in a fixed open position.

This has generally been placed on the ground with miscellaneous materials used to fill in the ends. This can be transferred to a low wall of adobe or block and at a later time to a higher more stable wall. The angle of the pitch can be adjusted by changing the length of the wire or attaching the panels on top of completed walls and used as a standard roof. The maximum dimensions the roof will cover are 3.5m x 5.3m.

DISTRIBUTION/COSTS/FINANCING

Representatives of the Project Alpha selected families whom they regarded as the most in need of immediate shelter. The materials and food are given to the recipients in exchange for work. A member of the family must contribute work towards the panel construction and other public projects amounting to 20 days for the panels made of 10 foot sheets and 24 days for those of 12 foot sheets.

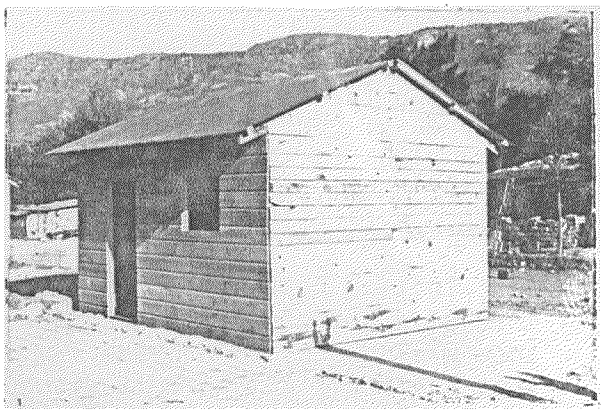
SITING/INFRASTRUCTURE

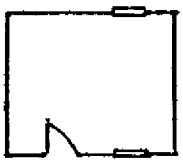
Each family sites the A frame at its convenience, a future move is quite easy. The only plans for improvement of services is that Project Alpha plans to cooperate with INCAP to provide latrines.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

Initial reaction to the first units was positive as it was seen as more of a potential resource than a tent. The final results and acceptance will depend on how the family develops the house. A potential problem is that the recipient is left without technical advice or assistance on earthquake resistant construction. To attach the roof to the walls and stabilize the angle of its slope are critical.

RED CROSS OF GUATEMALA
3a. Calle 8-40, zone 1
Director: José Alvarado
Telephone: 65498





3.66m x 4.27m 15m^2

dirt floor, wood walls, corrugated zinc roofing
material costs: Q.240
total costs: Q.275 = Q.18/m^2
construction time: 10 man days
number: 10,000
sites: El Progreso, Jalapa, Salamá, Sta. María Chiquimula and others

PROGRAM OBJECTIVE/DESCRIPTION

The Red Cross of Guatemala plans to construct 10,000 wood houses at the above mentioned municipalities. They have established production sites at El Progreso and Jalapa from which they truck the pre-fabricated panels to the house site. When work at the initial towns is complete the production crew and equipment will move to other sites.

The operation is directed by local committees of residents and officials. The houses are built under the supervision of members of the Christian Disaster Relief. The cost of the project is placed at Q.5,000,000.

HOUSE DESCRIPTION/CONSTRUCTION

The house consists of pre-fabricated wood panels and a corrugated zinc roof. There is no footing, the bottom sill plate is treated with preservative and sits directly on the ground. The panels have no diagonal bracing and several of the houses are already leaning badly out of plumb. The houses will be either 12' x 14' or 12' x 16' depending on the size of the family, although few of the larger have been built.

The construction techniques are basic carpentry with detailing kept to a minimum. The objective of the construction process is speed and efforts are being made to improve the rate of production . When using 4' x 8' plywood panels the El Progreso site could fabricate 20 units a day. With board siding production is 15 units a day. They calculate that by changing the roof design from two slopes to one they would save three man hours of construction time and are considering that possibility.

Even with more production units set up, it will still take the Red Cross several months to complete the project.

DISTRIBUTION/COSTS/FINANCING

The exact cost of the average house is not easily determined. Some supplies have come from California, U.S.A., other wood from Honduras and other wood from Guatemala. So the cost varies from one group of houses to another. A typical cost of materials would be Q.240. Other costs include Q.6000 for equipment, food for work, food for the volunteers and others. This adds about Q.35 to the material cost. Another real cost is the transportation of the volunteers for the United States, which so far has amounted to about Q.12,000.

The houses are to be given to the residents of these communities based on a priority of 1. low income, 2. without without resources to build a house, 3. elderly, 4. widows. The recipients are selected with advise of neighborhood leaders.

There are no apparent long range benefits to the local economy generated by the housing program in terms of ongoing industry or skills training.

SITING/INFRASTRUCTURE

The houses are to sited on the lot the recipient owned before the disaster. The Red Cross will cooperate with a public health agency to provide latrines for the families.

FUTURE IMPLICATIONS/CULTURAL ACCEPTABILITY

The residents choose the location within their lot for the house site. So far a vast majority of the units are up against the front property line, the traditional location. Most often they sit on the finished floor of the previous house. As the house is located on what is probably the most desirable part of the lot, it is difficult to imagine what will result when improvements and changes are made to the house over time.

The house may be small for many families and will require some additions. Because of concern for fire hazard of the wood construction and of the warm climate many will want kitchens outside, requiring at least this addition. The house has only one door. Presently about one half are facing the street, the other half the back. This indicates basically a need for both and likely the second door will be cut in at a later date. Because there are no diagonal braces nor any anchorage to the ground, the structure could be severly damaged in an earthquake.

ROTARY CLUBS
11 Calle 8-14, zone 1
6a. Ave. 6-92, zone 9
Project Director: Arturo Bianchi
Telephone: 682370

corrugated zinc
material costs: not available
total costs: not available
construction time: not determined
number: assist 4,000 families
site: San Pedro Sacatepequez

PROGRAM OBJECTIVES/DESCRIPTION

The objective is stated as the reconstruction of San Pedro Sacatepequez and surrounding aldeas. The program has three basic parts. The first is the distribution of corrugated zinc sheets for immediate shelter. The second is repair or construction of 8 public buildings, technical assistance and materials for utility system improvements and the planning for urban changes such as width of streets and open areas. The third is the coordination of credit and recommendations of permanent housing construction designs.

The two Rotary Clubs in Guatemala City have joined forces for this effort and are working through the Municipality officials.

HOUSE DESCRIPTION/CONSTRUCTION

A sketch of a suggested method of constructing a shelter is available and more instructive material may be distributed. At a later date recommendations and designs will be issued concerning more permanent housing.

The designs for the public buildings are being done by persons in the University Rafael Landívar. Technical advice on other infrastructure matters is given voluntarily by various Club members.

DISTRIBUTION/COSTS/FINANCING

The wifes of Club members made a survey. Based on its results a list of persons in various need classifications was compiled. The number of corrugated zinc sheets is distributed according to 3 categories of small, medium and large families.

The zinc sheets are given in exchange for 1 day of work per sheet. This labor will be done for community projects.

The future coordination of credit for permanent houses will be through BANVI and BANDESA according to their regulations.

The costs for materials of public building projects may be roughly 1 million Quetzales. Several other international Rotary Clubs are specially donating for particular buildings. Technical advice is being given free.

SITING/INFRASTRUCTURE

The program is unique in its focus on infrastructure rather than housing. Repair, improvements and construction, depending on the existing conditions, is planned for the Municipality building, market, schools, church, social center and health center. The two new functions which will be provided are a vocational center and artisan market.

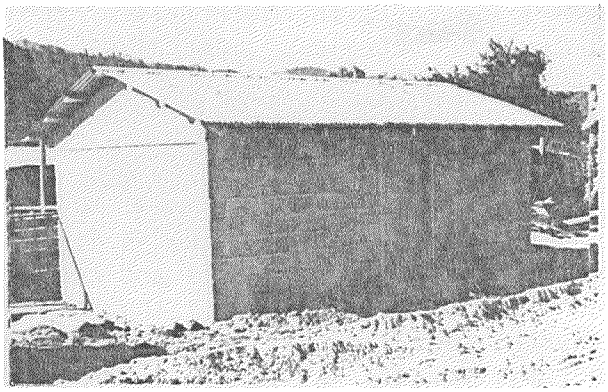
A master plan has been developed calling for widening of some streets by 50 cm. on each side and the designation of green areas. The improvements in the water, drainage and electrical systems are long term projects. These projects are to be implemented by the Municipality with technical advice from the Club members.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

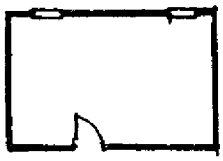
The follow through of the financing for permanent housing is a critical aspect.

Taking advantage of the opportunity to improve the urbanization and create new community image will probably be symbolically significant in how the residents perceive their town.

SALVATION ARMY
15 Calle 8-41, zone 1
Director: Major Bernard Smith
Telephone: 22964



3.65 x 5.47
20m^2



no floor, concrete block reinforced walls, corrugated zinc roof
material costs: app. Q.500
total costs: app. Q.500 plus overhead, at least Q.30/m^2
construction time: not determined
number: 129 initially, possibly 500
site: Tecpán

PROGRAM OBJECTIVES/DESCRIPTION

The Salvation Army plans the initial construction of 129 houses in Tecpán. They plan to build upward of 500 houses or more depending on future financing. There are intentions also to construct the municipal building and a hospital. Other public buildings and services are future possibilities.

A New York engineering firm has helped develop the organization and building plans. A model house has been built but it is unlikely that the next houses will be completed before the middle of May.

HOUSE DESCRIPTION/CONSTRUCTION

The house consists of a continuous concrete footing, dirt floor, concrete block walls with vertical and horizontal steel reinforcing, wood trusses and a corrugated zinc roof. Most houses will be 12 x 18 feet but some may be 12 x 14, 12 x 16 or 20 x 27.

The construction techniques are basic masonry with special attention given to the reinforcing and the diagonal bracing in the plane of the ceiling.

The recipients will be required to work on the houses and also the public buildings. They will receive food for work.

The unique feature of the construction process is to be a very large automated concrete block making machine which is capable of producing 4,000 blocks a day. The organization of 10 construction teams assigned to particular functions and a hierarchy of local and Salvation Army personnel to supervise has been planned.

DISTRIBUTION/COSTS/FINANCING

While exact amounts of materials have been calculated the cost has been estimated at Q.500 per unit. A major factor will be the prorated costs of the block machine and project administration.

The houses are to be given to those in greatest need which is difficult for the Municipality or Salvation Army to determine accurately.

The only conditions on the recipient besides work is to live in the house for 15 years before they can be sold or rented. This restriction may prove very difficult for some families to abide by and creates a negative form of control on the families.

SITING/INFRASTRUCTURE

The plans call for the initial 129 houses to be located on land provided by the municipality but to date many questions remain as to the actual site and layout. Some confusion remains if the houses will be separate or attached in rows of approximately 10 units. The residents may be required to pay the Municipality for the land.

Initially, the units will be built without water, sewage or electrical provision. In the future possible aid may be given for repairs and improvements of Tecpán utilities.

FUTURE IMPLICATIONS/CULTURAL ACCEPTABILITY

With a plan having only one door, presumably toward the street and two windows to the back, the design may have some functional problems and definately so if in an attached row. Many of the daily living patterns are often concentrated in the back yard as well as it being the location of the kitchen, latrine and future additions. Similarly visual access to the street without compromising the privacy or security by an open door is an important consideration.

The size of the units is sufficient to be divided into two small rooms. Because the bottom cord of the truss is at seven feet and the two windows are small the space may appear quite small. The block walls and pitched roof are desirable features. The possibility of a window in the front facade and replacing one back window with a door would resolve ease of access and future additions. The addition of a concrete floor, considering the permenance of the structure is probably the first improvement that will be made.

Some problems the program may face include the fairly complicated operations of the concrete block producing machine; resolving the machines' future disposition (whether or not it is a feasible base for a local industry); siting the houses on viable land; and justlying distributing the houses to the intended recipients of the communitv's poorest.

SAVE THE CHILDREN ALLIANCE

Edificio Triangulo Local 4V Zone 4
Director: Juan Satsaas
Project Director: Ron Sawyer

corrugated zinc sheets
material costs: unknown
total costs: unknown
construction time: unknown
number: unknown
site: Joyabaj and 52 villages

PROGRAM OBJECTIVES/DESCRIPTION

The program is in the process of formulation. The housing aspect will be similar to that of OXFAM/World Neighbors. In total however it is to be an integrat rural development program. It will aim to support local groups so they can in long range terms have a problem solving process to assess the needs, determine resources and have links to outside resources if needed. There is planned a large health component, school building and an effort to increase the economic base possibility through crafts. The present requests of the residents are for storage facilities for food supplies and a long term water program. These items plus a possible wood treatment set up are being considered by the Alliance.

There is presently and will continue to be a distribution of corrugated zinc sheets sold at half price.

The Alliance is a joining of efforts of 8 Save the Children organizations from England, Sweden, Denmark, Norway, United States, Canada and Austria. They will be working through Desarrollo de la Comunidad, Accion Catolica, League of Campesinos and local Comites de Premejoramiento in the villages.

The Alliance has commissioned two anthropologists and INTERTECT to help set up the program and organization.

HOUSE DESCRIPTION/CONSTRUCTION

The details have yet to be determined but the approach is to present earthquake resistant construction techniques as applied to traditional materials. In particular they hope to encourage paja (kind of straw) roofing which has recently been decreasing in popularity in favor of the heavier, therefore more dangerous teja (tiles).

In the more urbanized areas application of the basic principles may produce quite different results. Classes and printed material will be made available.

DISTRIBUTION/COSTS/FINANCING

Presently 10 corrugated zinc sheets are being sold to anyone that can afford Q30 in cash. There is a possibility that in the future a credit arrangement may be made. The limit of 10 sheets per family would be paid back in Q3 monthly installment with a Q1 interest at the end.

Future housing materials are to be distributed through the local groups but repayment will return to a central fund in either BANDESA or Fundacion del Centavo for future projects.

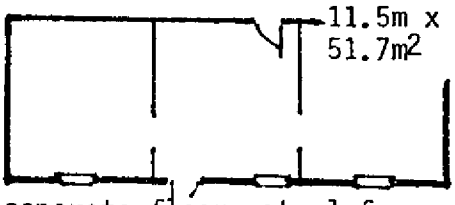
SITING/INFRASTRUCTURE

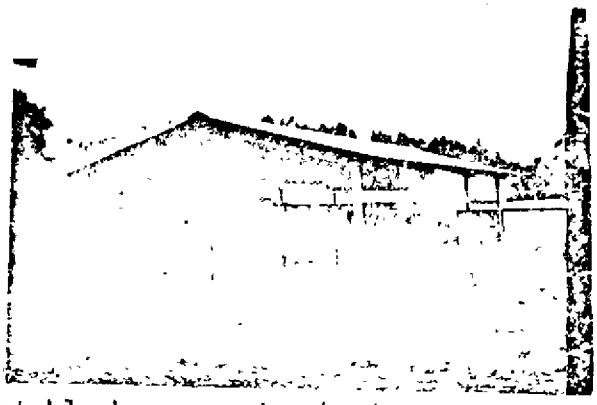
There are proposed water, health, and school projects. The overall intention of the program is to integrate the various aspects of development.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

The program is a long term commitment to the development of the area. The initial programatic process indicates the basic concern for cultural considerations.

SCOUTS ASSOCIATION OF GUATEMALA
9a. Calle 0-16 zone 1
Director: Dr. Ricardo Astudies Valenzuela
Telephone: 29605





concrete floor, steel frame, soil/cement blocks, cement asbestos corrugated roofing
material costs: Q.1,000
total costs: Q.1,200 = Q.23/m^2
construction time: not determined
number: 32
sites: Aldea Vista Bella, school and water project in Xenimajugo and possibily other projects in Cruz de Santiago, Aldea Viega, Paxorotoc and other areas undesignated as of yet.

PROGRAM OBJECTIVES/DESCRIPTION

This is a broad based program in which the provision of housing is just one component. In Aldea Vista Bella public education, health, religious and civic facilities along with roads, water, latrines and electricity are being provided. Funding is from such diverse agencies as UNICEF, UNDRO, ACAT (Association de Cafeteros de El Tumbador), other international Scout groups and private companies. This diverse funding plus the Scouts philosophical focus on personal development enabled such a comprehensive program.

With an expressed concern about indigenous living patterns the leaders of the Asociación Scouts de Guatemala, some who have engineering training, designed the houses and public buildings. The project is seen as development for the community and the member scouts who participate.

HOUSE DESCRIPTION/CONSTRUCTION

Initially the concrete footings for the steel structure are prepared and the remaining continuous footing for the block walls are dug. The structure is assembled and the corrugated cement asbestos roofing, which has been colored red, is put in place. All the houses are presently built this far. The work will continue with the infill of blocks at the pace of production and each recipients construction.

There are nine CINVA-RAM block making machines available for the community to produce their own soil-cement blocks. The wood doors and probably wood shutters, instead of glass, for the windows will be installed after the walls are built.

The first structure was assembled by factory personnel, the rest were done by the local recipients. With some supervision the recipients are doing most of the construction. Scout members often come on weekend to help and socialize.

DISTRIBUTION/COSTS/FINANCING

All but two of the families of Aldea Vista Bella are participating in the program. The costs of the steel frame and roofing is Q.680. The total costs will be between Q.1,000 and Q.1,200. The families will repay Q.5 monthly for 5 years which is about 1/3 of the costs.

SITING/INFRASTRUCTURE

This is one of the few comprehensive reconstruction projects which has done a site plan for the community. The lots and location of the houses were layed out reflecting the new road and locations for the 2 community buildings.

A 10m x 12m steel frame concrete block building is being provided for a classroom and health post. Another is provided for meetings, an office and chapel.

There is a latrine program with the housing. A pump for a public supply of water will be installed and a generator for electricity is also being given.

In the other villages where the Scouts will be working the focus is on the schools.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

The largeness of the house, the completeness of the public services and facilities establish a high standard for the future of the village. The red colored roofs and the walls of soil-cement blocks which can be plastered over seems to help make the transition easy for the cultural images to an improved safe structure.

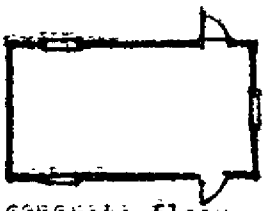
The kitchen and washing area just behind the house is an accomodation to previous activity patterns. Depending on how the apendage is attached to the main structure damage in an earthquake because of counter force directions could result.

The wood window shutters have been requested by the recipients. This reflects past custom and a need for security and protection from the cold.

The scale and simplicity of the public buildings and the level of services are adequate and may even encourage growth of the village. But future development may not be able to employ the same technology of steel frames unless there is continued financial aid.

SEVENTH DAY ADVENTISTS

1 Calle 18-24 Zone 15 and
1 Calle 32-51 Zone 7
Director: Robert Folkenberg
telephones: 691106, 41440



3.65m x 5.47m
20m^2

concrete floor, cement block walls. corrugated zinc roofing
material costs: est Q200
total costs: est Q300
construction time: est 32 man days
number: 2,000 - 3,000
sites: Santa Lucia Milpas Altas, Sto Thomas M. A., San Bartolome M. A., Sta Elena, San Mateo, Guatemala City, Jalapa, El Progreso, Joyabaj.

PROGRAM OBJECTIVES/DESCRIPTION

The stated objective is to help in the reconstruction by building houses. The criteria for the house design were stated as permanent, safe and of which the people would be proud.

HOUSE DESCRIPTION/CONSTRUCTION

Continuous concrete footings are built with reinforcing steel which is tied to the vertical bars. The walls are concrete block which are produced with an electric motor powered machine. The corners are interlocking blocks with the steel coming through the voids of the blocks and then filled in with concrete. This is done rather than poured in place columns. There is also a horizontal band of steel in the middle of the wall. Some of the wood for the rafters will be obtained from the selective cutting of a forest on the Adventist's property in Santa Lucia Milpas Altas. The roof will be a single slope with 14 feet long corrugated zinc.

There are paid supervisors and several helpers. Students of the Instituto Naturalista Adventista in Santa Lucia are also helping in the construction. So far the residents have not been too cooperative in the construction.

DISTRIBUTION/COSTS/FINANCING

The majority of the recipients are not church members.

The estimated costs of materials is Q200. There has been the purchase of 3 cement mixters, the block machine and the possible future donation of a truck, tractor and a large block making machine. In addition to the paid workers, transport of sand and administration were estimated by them to add another Q100 to the cost of each house.

The recipients are required to pay Q30 initially before construction begins.

Depending if other donations are received by the group the recipients may or may not be required to pay Q.20 more at some later date. In total the most they will pay is Q50.

SITING/INFRASTRUCTURE

The location of the house is determined by the decision of the recipient. Most have existing latrines from before. No other utility services are part of the program.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

The cultural acceptance and future expansion of the house appear to have been a design consideration by the Guatemalan architect. The two doors is a unique provision in the block houses discussed in this report. A comment was expressed by a resident doubting the size of the steel as sufficient but in general the appearance has met with approval.

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Ave La Reforma 7-01 Zone 10
Director: Edward Coy
Project Director: Fred Schick

corrugated zinc sheets, treated posts
material costs: sold at 1/2 price
total costs: varies
construction times: varies
number: up to 4,800 model structures
sites: initially San Juan Comalapa, Patzún and Patzicía

PROGRAM OBJECTIVES/DESCRIPTION

Of the $25 million which has been designated by the US Congress and President for aid to Guatemala, approximately $5 million will be allocated for the housing program. The major proportion of that is for purchase and distribution of corrugated zinc through the Municipalities. The other focus is to provide an educational program with classes, printed information and model buildings through voluntary agencies. In the program proposal they expressed concern for sensitive response to the local ideas and traditions which are to be incorporated into the promotion of sound, permanent earthquake resistent models.

The program reflects a study comissioned for AID by a North American anthropologist familiar with Guatemalan indigenous culture, the OXFAM/World Neighbors and CARE programs and survey of unmet needs.

Other funds are proposed for major water projects and public improvements. Approximately $7 1/2 million has been used to repair the major highway to the Atlantic coast.

HOUSE DESCRIPTION/CONSTRUCTION

There is to be 500,000 sheets of zinc, 40,000 preservative treated wood posts, and hand tool kits available to be distributed. The design of the houses are to reflect basic earthquake resistant construction techniques and incorporate local materials and ideas.

Where requested classes for bricklayers, printed material and model structures are to be provided.

DISTRIBUTION/COSTS/FINANCING

The materials will be distributed and sold at 1/2 price through the Municipalities. The repayment is to be used to establish work intensive public service projects such as municipal improvements. The intention is that this new and increased employment will in turn increase the cash supply in the local market

enabling still more people to purchase materials. The time lag, however, in that concept would indicate that future material purchases would not be for emergency shelter.

Voluntary agencies are to propose programs to USAID which fit their basic criteria and generally reflect the approach explained previously. Some will be funded and by this mechanism the educational model program will be implemented. The USAID does not have a field staff capacity except for monitoring and evaluation.

SITING/INFRASTRUCTURE

Land title or similar assurance of free, permanent use of land is to be obtained for all model structures. The particular siting of a model will depend on the situation.

Projects such as funding the repair of 100 water systems through CARE or new rural systems through INFOM are quite separate projects. The indirect funding of Municipal projects from the repayment of materials is the other approach to infrastructure.

FUTURE IMPLICATIONS/CULTURAL SUITABILITY

There are indications that USAID has tried to very carefully address the cultural issues so as to avoid "designed in failure". The basic concept of the program is that ideas should not be externally imposed on local people. While based on what appears to be successful programs and sound information the timing may be a bit late as reconstruction aid. The rural poor to whom the program is geared may have already rebuilt in some form or another.

The positive aspects of the program are the long term infrastructure supporting funds and the intended implementation with cultural sensitivity. The question if they are extending or repeating where others have already addressed the immediate problems rather than pursuing other difficult areas should be considered.