



SURVEY OF RECONSTRUCTION HOUSING IN HONDURAS

1 1/2 YEARS AFTER HURRICANE FIFI

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May 14, 1976

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INTRODUCTION

The following survey is a preliminary report of a study made of housing reconstructed in Honduras after the Hurricane Fifi disaster of September 1974. It is the first of such studies to be made by us of several Latin American countries often affected by natural disasters.

On September 18, 1974, Hurricane Fifi struck the north coast area of Honduras affecting approximately 20% of the country, but that part which is the industrial and agricultural heart. Following the hurricane 25 inches of rain were dumped on the area in two days. The majority of the damage inflicted on the country resulted from the flooding.

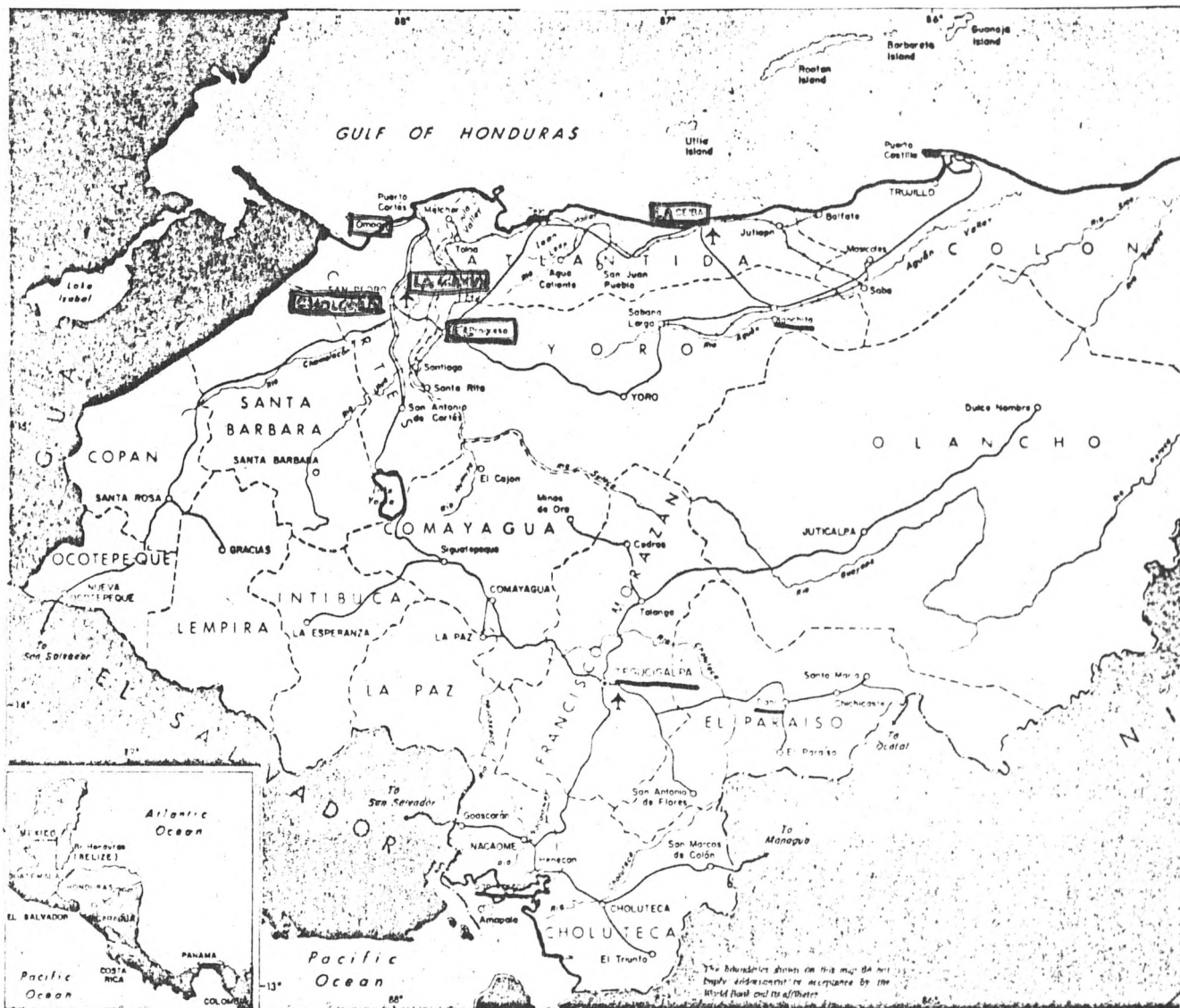
Two of the surveys made after the disaster showed slightly conflicting data regarding damages, but the magnitude is still clear. A study made by the United Nations showed 2998 housing units were destroyed and another 12,500 were damaged. A survey made by the Secretaria Tecnica del Consejo Superior de Planificación Economica on the other hand, counted 3,425 units destroyed and 11,945 damaged. The total losses of housing and urban infrastructure accounted for 1/9 of the entire loss due to the hurricane (\$29 million out of \$449 million in damage.)

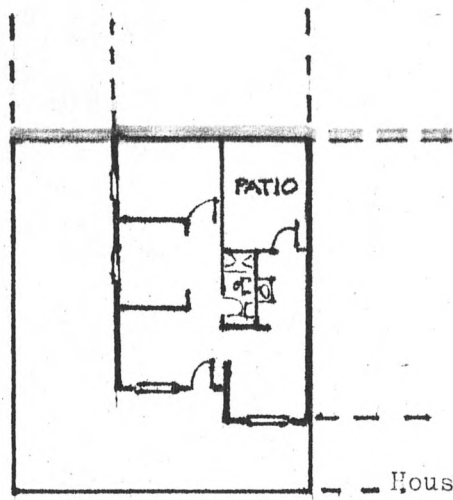
Approximately one and one half years after the hurricane we visited Choloma, a focus of much of the housing aid, Omoa, El Progreso, and La Ceiba. The following report discusses twelve projects and two other reconstruction programs. Basically our efforts were to observe the situation in relation to five hypotheses we established for the entire research project and to test the questionnaires which we had developed to collect data. Our final report will incorporate these findings. The following report only documents some basic information on each project and some preliminary impressions.

The first two weeks of the research were spent in Tegucigalpa interviewing various officials and reviewing reports which had been written. It is interesting to note that while everyone in the capital was very cooperative, the gap between their information and the reality in the affected sites was rather large. There is documentation on estimated damages and claims on contributed assistance but no comparison to see remaining need or evaluate the effectiveness of the efforts. The most glaring inconsistencies were statements made by COPEN claiming through the Instituto de la Vivienda to have produced 7,600 housing units when actually none directly related to reconstruction versus ongoing programs can be sited.

We then spent two and one half weeks in the north coast area. The projects we visited, along with interviews of residents, local leaders and other donor agency personnel covered the following totals. We feel they are the major projects except for the Care rural housing program but yet represent only a fraction of the estimated need.

In the area of the municipality of Choloma we saw projects totaling 430 houses, supposedly 500 were destroyed and 500 damaged. In the El Progreso area we visited 506 out of 500/3000. In La Ceiba 40 out of 150/500, and Omoa 102 out of 150/300. The project near La Lima was 134 houses. This totals 1,212 assisted houses in the 12 projects. Care verified 5,324 houses had been given roofing materials, a major portion which were in the Aguan Valley which reported 100 houses destroyed and 1,350 damaged houses. The following map locates the various projects.





-- House: $6.60 \times 9.66\text{m} = 48.27\text{m}^2$ patio = 11.4m^2 lot = 120m^2

total costs: \$2,150

construction time: 7 months terminating in June 1975

number of houses: 181 complete, 200 total projected

Help Honduras Foundation reacted quickly after the disaster to channel funds from Canada for the reconstruction efforts. The goal was to provide 200 houses and certain community facilities.

The site of Colonia Canada is unique in that it passed through an evolutionary process of emergency to permanent housing. It began as a refugee camp for 486 families housed in tents for the first few months. Later, due to the deterioration of the tents, their spacial inadequacy and the prolonged time required for the construction of permanent housing, the series of wooden barracks were built for interim shelter. Each family had a section in the mass accommodations. The wood was later used to construct the houses for Colonia Venezuela. By the end of November 1974 construction had begun on the permanent houses but they were not ready for occupancy until June 1975. To begin construction was seen as a way of obtaining a foothold on the property and exert pressure to lower the price.

The houses consist of concrete floors, 4 inch concrete block walls and a cement asbestos roof. The structures are steel reinforced at all corners and in the head tie beam. In general the houses appear very well built. Virtually all of the materials come from the San Pedro Sula area.

At \$2,150 these houses are by far the most expensive of those surveyed in this report. With 48.3m^2 of enclosed space they are also among the largest. They are unique by being constructed in complexes of four units, a quadruplex. There is little correlation of this form to previous houses in the region.

Each unit has two bedrooms, an indoor kitchen and bathroom and the enclosed patio. None of the rooms are cross ventilated which creates a problem of overheating in the house, especially those units facing south and west.

The reasons cited by the architect for the use of the quadraplex were that it was an economical configuration and that land should be minimized for the houses so community areas could be created. Residents, however, have raised objection to the house design. They were not consulted about its use and find the small patio a poor substitute for a back yard. Some stated they would like to raise chickens.

Some families have planted gardens in the front and side yards. The only other modification to the house on the part of some residents has been painting the house, putting up a fence or putting a roof over the patio.

The houses were constructed by masons paid \$1.50 a day plus some food. The use of hired labor as opposed to self-help construction was explained because there was not enough skilled builders among the group, it was too slow a process and for other complications involved with administration of such a program.

The families who received a house were selected from those who had been living in the refugee camp. The criteria placed on becoming a resident were 1) to have formerly been a resident of Barrio San Antonio, one of the flooded areas 2) to be a stable family unit as defined as man, woman and two or more children.

According to a survey taken of the residents 43% earned between \$3-10 a week and 45% earned between \$10.50 -25 a week. Original plans called for the residents to repay \$1,000 of the cost of the house into a revolving fund controlled by a newly formed cooperative representative of the Colonia. The monthly payments would be in amounts of \$5-\$7.50. The repayment money was intended to be used for financing other houses but as of March 1976, discussions indicated it would be used to build and equip a school and shops in the Colonia. The shops would be a source of employment. As of yet no monthly payments have been made by the residents.

Originally the Canadian funds were also going to finance the school and shops but after 43 houses were invaded illegally or occupied by refugees who did not fit the criteria, the Canadians have withdrawn further support.

However, approximately half of the site is designated for community facilities. A community center was nearly completed in March 1976. It will include facilities for health care, child care and a multi-purpose space. The cost of construction is approximately \$23,000. The plans appear to be creating a self sufficient village.

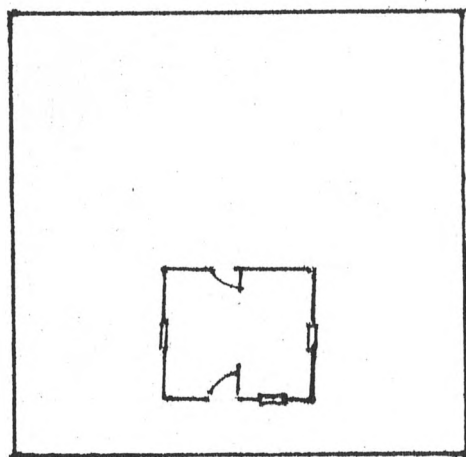
It does seem perhaps too much priority has been placed on the community space and not enough devoted to the individual lots. Also the colony is sited in a low area very near the edge of flooding. It is the only project in the Choloma area that is not built west of the San Pedro Sula highway and higher in the hillsides.

Each house has running water in the kitchen and bathroom for which they pay \$1 monthly. Connection is available for the residents to install a sink in the patio. Each house also has a connection to a city sewage system.

The Colonia Canada is one of the most thoroughly planned and administered of the new reconstruction projects. They have had continual professional services in the development planning. There was a committee of Choloma leaders involved in the decisions but only recently have the residents had a voice in the future direction.

The Canadian donors were described, by the architect, as very demanding of high quality results. The first intentions were to only build 100 houses. Presumably the donors had impressions of middle class housing at costs above Honduran standards. However, as it is, the high cost per unit and the unique floor plan needs to be seriously questioned. A greater involvement in the decision making process on the part of the future residents possibly would have resulted in a different kind of Colonia, perhaps constructed of individual and less expensive houses.

COLONIA CARE CHOLOMA Care



house: $4.9 \times 4.3 \text{m} = 21 \text{m}^2$ lot: $15 \times 15 \text{m} = 225 \text{m}^2$

total costs: \$409

construction time: 2 months, completed within 3 months after disaster

number of houses: 44

Colonia Care was only one part of Care's program, other facets will be discussed later in the report. This project is interesting in one aspect because it was the first to begin construction (within 10 days of the disaster) and the first to complete construction.

The project was organized as a self-help program with technical assistance from Care. Care also provided the food for work. The recipients of the houses were selected from an inscribed list of flood refugees in the municipality of Choloma. Some claimed that people had signed up on the list and therefore received aid when they had lost nothing.

The wood frame houses have concrete floors. Each house has a single room with two doors and three windows providing fairly good cross ventilation. However the zinc roof makes the room quite warm during the day.

The roof only has one slope, the high side facing the street. Since it seems the inclination for most people is a preference for two slopes, perhaps the house should have been reversed so that any addition would have tended to 'complete' the two sloped house.

As it is, a majority of the houses do have an addition of one sort or another. They are made from a variety of materials including scraps of wood, bahareque, cane and corrugated zinc used as walls. Very few made an addition of new wood that gave the appearance of a natural extension of the original house. The additions are put on by the resident without financial, material or technical assistance. Many have also created an interior partition.

According to the Care report the project cost them \$18,000, including an elementary installation of water. That averages out as \$409 per house. However, the municipality has retained ownership of the site and the residents said they are supposed to pay \$125 for their lot in order to receive the title.

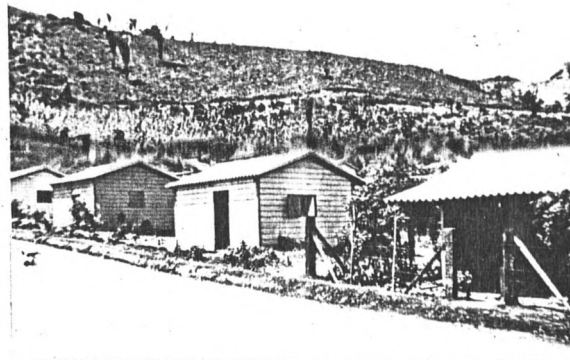
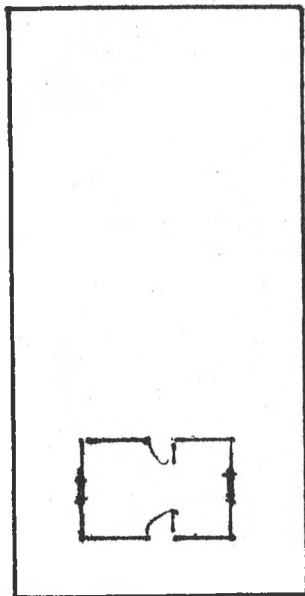
Some residents had previously lived in cane and thatched houses smaller than they presently have in Colonia Care. All people we talked to expressed the belief that their present house was better and safer.

The site of the Care project is on a gradual incline up the side of a foothill. Virtually all houses are sited on level ground with most of the lots also being level. Most front on a fairly wide street. However, there are some houses sited behind the houses on the street and access to them is only through the lot of the front house, a very unsatisfactory arrangement.

There is presently a water pump provided by Care but the Colonia will soon get an installation from the city's extended water system. The residents understand their payment will be \$0.50 a month. They also believe there will be no payment for an electrical installation when it comes.

Latrines were built when the houses were built. It was interesting to note that another colonia directly adjacent to Care and in many ways similar, was provided with precast concrete latrine floor plates. However they were not given further assistance and a year later the floor plates often stood leaning against the houses unused. These families had made no other visible accommodations for a latrine.

Of the new colonias built for the disaster victims, Colonia Care is the closest to the commercial area of Choloma of those on the other side of the main highway. The walk takes about 25 minutes and crossing the highway is somewhat dangerous for the children to go to the existing school. A new school for the area including Colonia Care was a high priority of the expressed needs.



house: $4.9 \times 3.3\text{m} = 16.2\text{m}^2$ lot: $\text{app}10 \times 20\text{m} = 200\text{m}^2$

total costs: not available

construction time: 1 1/2 months, completed 6 months after the disaster

number of houses: 22

Representatives of the group that built the project were no longer available for an interview. We were told the Mennonite group was in charge of making all arrangements for the program, there was no participation on the part of the future residents in decision making on the project.

The house is constructed on a concrete floor, wood frame and siding with a cement asbestos roof. The house consists of a single room with two doors and two windows. The quality of construction appears to be good but the houses are poorly ventilated for the climate.

They were built by volunteers of the Mennonite church without the help from the future residents or other Hondurans. All the materials came from the San Pedro Sula area.

In the one year since the completion of the houses until our visit very few additions or modifications had been made. A few gardens existed and no more than 1/4 had made additions for kitchens. Additions most commonly occurs when a family has a small grocery store or other business located usually at the front door.

Some residents indicated a preference for the wood houses to the block for fear of earthquakes. The houses were given to the families by the Mennonite group. They received a paper showing they have possession of the house but are restricted from selling it for two years.

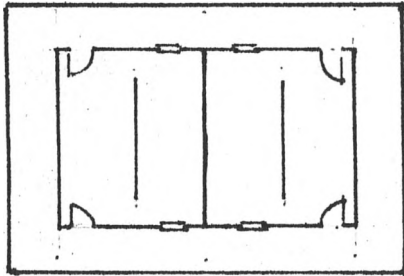
Figures for the cost of construction of the project were not available. The reaction of at least one house recipient was that he felt lucky in comparison to the recipients of other projects. There is a project immediately adjacent built by INFOP which has larger wooden houses for which monthly payments are made.

The Colonia Mariposa is located in the same area between two foothills as two other projects and some scattered non-project houses. The site plan is an extension of these other projects. This consists of two straight rows of houses fronting on a street about 12 meters wide. The lots are about 10 x 20 meters allowing room for gardens and additions.

There presently is no source of water within the project. Residents must either walk several hundred meters to a factory or up the mountain to a creek for their supply. The city, however, is building two large water tanks that will provide water to Mariposa and other nearby colonias upon completion. The installation will cost each resident about \$1 a month.

Each house has a latrine but few have electricity. The Colonia is located near a new school but they expressed a desire for a sports area.

The residents expressed satisfaction with their houses in general, though some commented they prefer a house with a roof that slopes in four directions instead of the two of their present house. The house has only one room, which is traditional, but they commented they also want privacy behind the house for family activities.



house: duplex 6x10.2m, each 30.6m²

lot: both 9x13m each 58,5 m²

total costs: est. \$955 for each unit

construction time: est. 5months

number: 24

Twelve duplex units of permanent construction were built with the donations collected in Mississippi. The houses have concrete floors, concrete block walls and cement asbestos roofing.

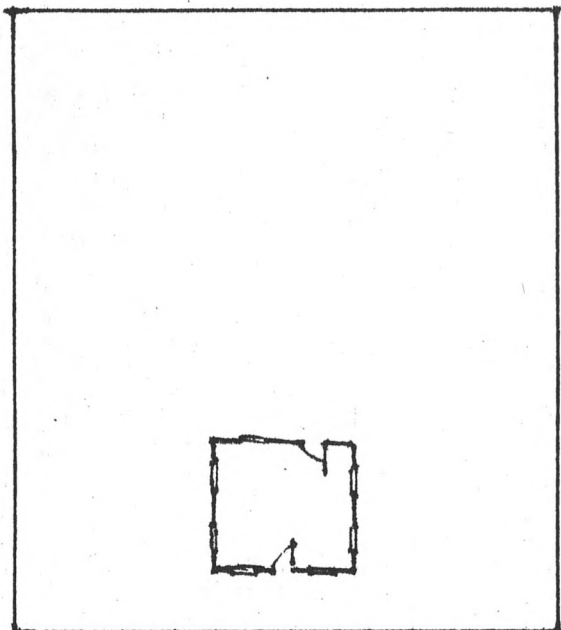
The cost of each unit was estimated by a concensus of residents as \$955. However no payment is expected to be required of the recipients.

There is only seven meters between the back of one house and the front of the next and only two meters between the sides of the duplex units. This allows a small area attached to the back for cooking and washing but nothing more. The paths are not meant for vehicles. The absolute limit of space in a lot for each unit is the least we have observed and isacause of serious criticism. Many residents said they would rather have wood houses and more land.

There is no access to water within the immediate area. There are several latrines on the hillside about 100 meters from the nearest row of houses. They are in poor condition and not used frequently.

The school built with funds from Spain is on a leveled area just above the Colonia. Access to it makes it appear hidden from the other nearby housing. The school still lacked equipment and desks and some residents claimed it was already too small.

In addition to the rescunding complaint about the lack of a backyard the residents indicated a preference that single units are better than a duplex and that there are no stores nearby.



house: $4.86 \times 4.36\text{m} = 21.36\text{m}^2$
lot; $18.2 \times 21.2\text{m} = 385.84\text{m}^2$

material costs: \$310
total costs: \$658 = \$26.50/m²
construction time: 153 man days per house
number of houses: 134

A community of the same name located about 5 kms away was destroyed by the floods. Most of these families were rehoused in the new Colonia. CEDEN, Comite Evangelico de Desarrollo y Emergencia Nacional, was providing emergency food to the community when the translocation of the whole project was initiated.

The initial 50 houses were constructed of four concrete tilt up panels. But after an evaluation of the construction process it was felt that the tilt-up technique was too slow, the required use of a heavy lift to upright the panels is difficult on hillside lots, and the system required extensive supervision. Consequently, a change to concrete block construction was made for the rest of the project. There was however not a significant decrease in the number of man days required to build each house.

All the houses have concrete floors and corrugated zinc roofs. They were built by the residents with supervision by volunteer North Americans affiliated with CEDEN.

After all houses were complete there was a drawing of numbers to determine who would receive which house. They now have title to the land and house with no further required payment. It is interesting to note the equivalent value of the house if it is calculated as wages paid to the worker-recipient. The average house took 153 man days to build. The total cost to CEDEN was \$658 per house including the daily allotment of food to each worker valued at \$1.27. This means 153 divided into \$658 indicates an "equivalent wage" of \$4.27 a day, an amount considerably higher than the current pay for a typical unskilled laborer.

A rather detailed cost analysis and evaluation of the four CEDEN projects was made by Harold B. Mathcott, vice president of Ray Fogg Building Methods Inc., Cleveland, Ohio, the company which helped design the tilt-up system. This study estimated \$90 per house for equipment largely due to the lifting device. The general conditions such as room and board for US volunteers, watchman, trucks and gasoline was \$56 per house.

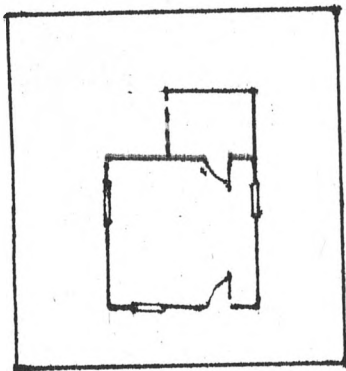
The Colonia is on 15 acres on the opposite side of the highway and approximately 4 kms. from the plaza and center of the town of Choloma. A part of the site which is in the foothills is not used for building. Each lot is approximately 390m² which is large compared to other Colonias but probably small for the residents who came from a more rural area.

There is an area of about 5,000 m² set aside for a 'town commons' to preserve an existing banana grove and is the present location of a social center/church. The school built by Texaco and another new church are close by up the hill on the same side of the highway.

Each lot has a latrine. There is some piping installed but not yet connected to either source or to each house to provide potable water. There is no electricity for public lighting or private use. The roads are dirt with drainage ditches on each side.

An evaluation of the project would illustrate some problems, especially with the tilt-up concrete panel houses. Where sand and gravel is readily accessible and manufactured materials are not, such a concrete panel system could be viable. But to be so it should consist of smaller panels that can be lifted by a few men. It should also be a relatively fast system when applied to a reconstruction problem. This project took a year to build.

The tilt-up panel technique is also a 'closed system,' that is, for families who choose to make an addition to the house they cannot continue using the tilt-up panels. The machinery and perhaps technical supervision is no longer available. A particular problem was the very critical joint of the two panels in the corner. For these reasons alone the concrete block houses are more appropriate for reconstruction.



House: $5 \times 4\text{m} + 2\frac{1}{2} \times 3\text{m} = 27\frac{1}{2}\text{m}^2$ lot: $12 \times 11\text{m} = 132\text{m}^2$

total costs: unknown
construction time: unknown
number of houses: 25

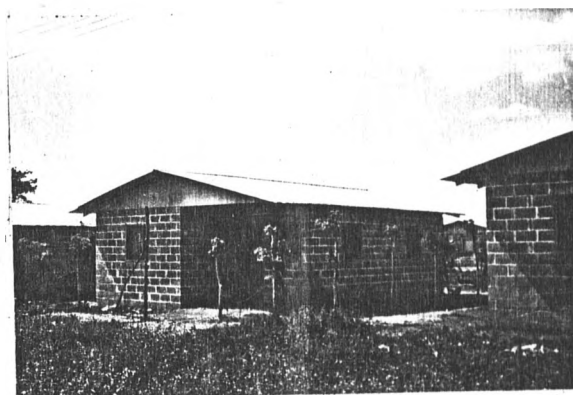
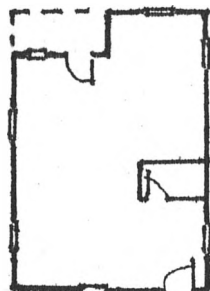
Colonia Venezuela resulted from the necessity to accommodate a greater number of households needing housing than was being built in Colonia Canada. The wood used in the second phase barracks of the refugee camp Canada was made into the houses for Colonia Venezuela. The name results from the first phase of the refugee camp where tents were provided by both Canada and Venezuela. It appeared from conversations that the residents of Colonia Venezuela were quite bitter about receiving what they regarded as an inferior house. Some had not qualified as complete stable family units for Colonia Canada and felt that was not sufficient reason to receive so little.

What they did receive is a wood frame and wood siding shell with corrugated zinc roofing. The floor is dirt. The one unique benefit is the kitchen area behind the main room.

From discussions with several residents the unclear status of land ownership or of required payments to the Municipality was a cause of concern. They were further worried about the safety of their land. A drainage channel passing above the site is incomplete and the residents fear landslides and flooding due in part to the cuts made for the road to the new city water tank above the Colonia.

The size of the lots were considered small, the type of soil made it difficult to grow things and the lack of latrines was seen as unhealthy. Very few have made additions in part probably because the kitchen area was provided. The area between the houses is barren even without fences.

The overriding feeling was that a year after the hurricane they finally occupied small individual wood houses which they had helped build while other families received the large block houses in Colonia Canada and were paying only half the cost. It had been a fight and what they have as a result is better than nothing but very inequitable.



house: $6.5 \times 9.3m = 61m^2$ lot: $15.3 \times 42.7m = 650m^2$

material costs: \$750

total costs: \$868 plus land \$1,000 = \$30.60/m²

construction time: 69 man days per house

number of houses: 28

Colonia Bendeck was constructed with the financial aid and technical assistance of the Central Mennonite Committee and the administrative resources of CEDEN for a group of families who had formerly lived nearby the new site. Their houses were destroyed in the flood.

The construction began in October and the houses were occupied Jan, 1975. The houses have concrete floors, concrete block walls and corrugated zinc roofing. The only internal partition provided was the bathroom. They were built by masons who were paid 3 cents per block.

In spite of the fact this house is the largest in the area surveyed, some families have added what appears to be approximately a 2x3 meter partial enclosure of zinc, wood and scraps for kitchen areas attached to the back wall.

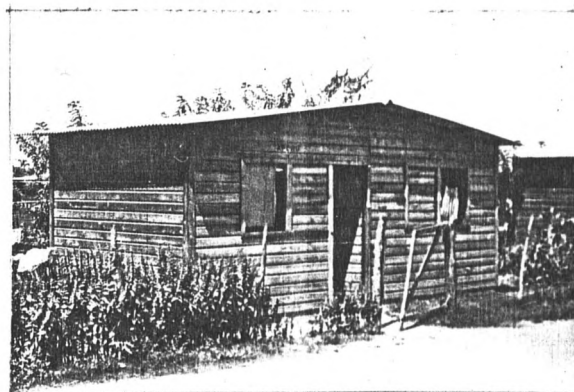
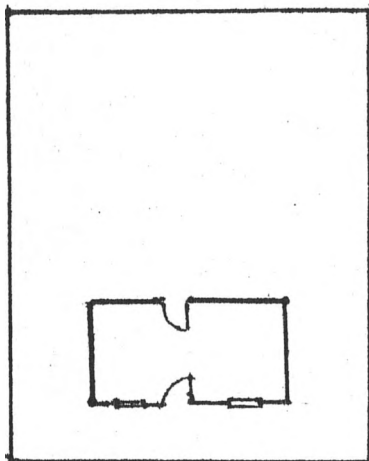
The houses were given to the families but the land belongs to a private landlord. To purchase the land for \$1,000 the families must pay \$10 a month. If they get behind in the payments for three months the land and the house may revert to the landlord. Already some families find they cannot afford \$10/month so have rented out the house.

The land ownership is the major problem. There are interior water and sewage connections to the city system. Electricity service is in the street but it is up to the family to pay for the connection to the house.

There is a school nearby where many of the families lived during the emergency period. Buses to the center of El Progreso are also nearby.

The recipients of this program received a house of ample size for most of their needs - if not planned well for their use of it. However, the decision that resulted in the project being built on private land is questionable. The price is quite high to begin with but the potential of a private party gaining even more in case of default in payment seems a regrettable prospect. It points out the problems of obtaining usable land in a time of emergency when the pressures of demand are exceptional, therefore prices may not be in line with values. It was a mistake though for CEDEN to go ahead and build in such circumstances.

COLONIA COROCOL EL PROGRESO La Fragua



house: $6.50 \times 3.25\text{m} = 21\text{m}^2$ lot: $12 \times 15\text{m} = 180\text{m}^2$

total costs: \$450

construction time: 4 months, completed 5 months after disaster

number of houses: 400 built after the disaster

The Colonia Corocol had been a housing project started before Fifi. Approximately 130 houses had already been built. The project is part of a housing program that is continuing in a large area around El Progreso by the Jesuits at La Fragua. Brother Jaime O'Leary has been the ongoing project coordinator.

The central objective of the program was to build the houses as fast as possible to relocate several hundred families temporarily living in very overcrowded schools in unsanitary conditions.

The construction began one month after the disaster with the first houses being occupied within two and a half months. The house consists of a concrete slab with one row of 8 inch high concrete blocks laid around the perimeter. This acts as a base to hold the wood panels off the ground protecting them from rot. The roof is of zinc laminas. The wood panels were pre-fabricated in Tegucigalpa by APRHU (Asociación de Promoción Humana.) The panels, purchased at a price of \$225, were trucked to the site from their factory. (Due to the lack of coordination between panel manufacturer and the block base detail, the doors were not made 8 inches longer than the panels so the block curb continues at the door.) Zinc roofing for 90 houses was given by Care.

100 men, some of whom now live in the colonia, were hired to build the houses and paid \$1.50 a day plus some food.

The houses appear well built, a large percentage of additions have been added on the back, usually kitchens and some have bedrooms. Many residents have painted their house, added glass windows or built fences. However, no additions have been made with additional panels from APRHU who in fact promote a program of expanding their house with their panels.

The criteria placed on the house recipients, other than being in an emergency situation was that they had to be willing to sign a contract for repaying the total cost of the house which was calculated at \$450. Each family is required to pay \$2.50 a month but about 85 out of 510 families are not meeting the payments. The payments are going into a rotating fund. A typical income for a family in Corocol was described as between \$40-50 a month.

For most families the house is an improvement over what they had before the hurricane, and therefore, a high degree of satisfaction on the part of the residents was expressed by the community social worker.

The project is broken down into three sectors each with its own neighborhood groups and activities. One sector is particularly well organized and pursuing a program of improvement of the neighborhood and keeping it clean. It appears to be successful.

The master planning for the colonis was done by Brother Jaime. The property had formerly been an orange orchard and a special effort was made to save the trees. The houses are laid out in rectangular blocks having from 10 to 20 houses each. Most lots are 12 x 15 and appear too small for adequate expansion or back yard gardens. The density is approximately 18 houses per acre.

The houses have about 1-2 meter front yard, 3 meter side yards. The streets are about 10 meters wide. Each house has a backyard latrine connected to large septic tanks. Pipes are laid for a water system to each house but a pump for the water tank had not been installed. In the meantime women have been working a hand pump. Each family will be charged \$15 for the installation of water and a monthly fee of \$1. There is no electricity in the colonia, the city so far has refused to extend their lines.

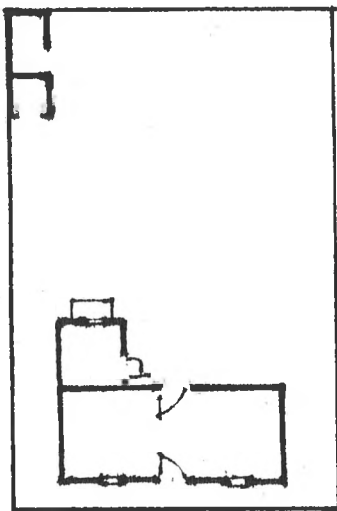
Several small stores have been established among the houses and Care provided funds for the construction of two schools which are staffed by the government. Other commercial stores are about 2 km to the downtown.

Because it is of wood panels, the house will require a certain amount of care and maintenance. A program is now under way to get the houses painted.

Some of the more serious problems for the project have been the difficulty of getting water and not being provided electricity. These issues are somewhat external to the resources of the colonia and suggests more cooperation is needed on the part of those agencies in charge of utilities.

The small size of the lot is in conflict with the families' rural tradition of a large amount of space, not only for keeping animals but also for additions. But this only reflects the original problem of a shortage of land available for the project.

COLONIA EMANUEL EL PROGRESO World Relief Council & Evangelistic
Mission of the State of Indiana



house: $7.60 \times 3.25\text{m} + 2.2 \times 2.2\text{m} + 29.5\text{m}^2$ lot: 187m^2

total costs: not available

construction time: $5 \frac{1}{2}$ months, completed $8 \frac{1}{2}$ months after the disaster

number of houses: 78

The houses have concrete floors, concrete block walls and corrugated zinc roofs. The houses were built by the future residents who received food for work. The concrete blocks were also produced by the construction crew. With eight machines they produced approximately 800 blocks a day. The other materials for the house generally came from San Pedro Sula.

The houses consist of a single room of approximately 24m^2 with a kitchen accessible from the outside and a wash sink on the kitchen wall. In the back corner of the lot is located a complex of four bathrooms, one for each of the four houses whose lots meet at that corner. The bathroom units were unfinished in March 1976 awaiting connections to a septic tank. Residents are presently paying \$1 monthly for bricklayers to finish the structure. They will also have running water.

Some houses have added an interior partition and covered part of the back area by the kitchen forming a patio. Few other additions have been made.

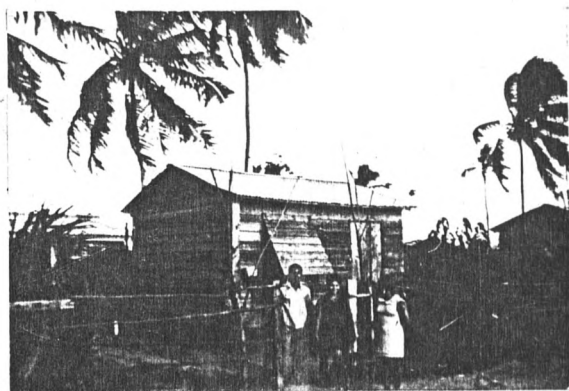
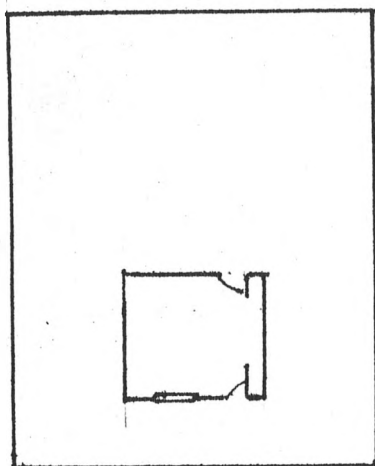
The materials for the houses were given to the families. After five years they are to receive title to the house. Although they are not suppose to be sold meanwhile, one resident claimed several houses have already been sold for about \$150 each.

This same resident also noted that there was little community organization and no efforts to make improvements. The expressed need was for a child care center and a school other than what presently exists nearby in Colonia Corocol. The area at one time designated for a large school has been occupied by squatters.

The houses are sited in four straight rows and all front on 12 meter wide streets. The lots are 11x17 meters with only a 1 meter front yard. Each house had running water but there was no supply of electricity available. There has been difficulty convincing the city and ENEE (electric utility company) to bring the main supply line out to the area.

Since the area is quite distant from the market area of El Progreso and there are only a few shops within the immediate communities the need for more frequent bus service was mentioned several times.

Some of the painting of the houses which have a diamond shaped pattern relief in each block is distinctive. One house, for example, painted all the diamonds pink.



house: $4.05 \times 4.56\text{m} = 20\text{m}^2$ lot $12.2 \times 15.2\text{m} = 190\text{m}^2$

total costs: not available
construction time: not available
number of houses: 40

Standard Fruit Company donated some land for reconstruction of housing located on the coast about 4 kms. west from the central pier in La Ceiba. Red Cross provided some tents initially, some of which are now used in pieces as room dividers. The Red Cross began building in November with the occupancy of the 40 houses in January 1975. Most of the recipients are fishermen. The remaining lots were allocated to families who were required to complete a house within 60 days. There are approximately 330 other houses now. Recently a Baptist group started building 18 concrete block houses. The size, quality and materials otherwise vary considerably. Some University personnel had initially laid out the sites but due to some invasions several intended roads became occupied.

The titles for the Red Cross houses and the parcels of land will be granted after two years. The houses have wood floors, wood siding and corrugated aluminum roofing.

The traditional houses in the area and several of the individually built houses are up on poles approximately two meters high. Most residents expect flooding to occur which, when normally happens, is a gentle rise. The houses on poles remain without serious damage. The Red Cross houses sit atop poles only about 30cms. high. Apparently the additional cost of the higher poles had kept Red Cross from accommodating this custom.

An estimated cost of the Red Cross house was \$400. The recipients helped in the construction and do not expect that they will be required to pay anything.

There is a school which needs to be expanded and a kindergarden being built within the overall area called Mira Mar. There is however no central community area. There are three public water faucets but more are needed. Only about half of the families have latrines.



house: $3.97 \times 6.1m = 24.2m^2$ lot: $15 \times 28m = 420m^2$

material costs: \$268
total costs: \$322 = \$13.30/m²
construction time: 46 man days per house
number of houses: 134

A group of families living and working on a large plantation approximately 10 kms. out of La Lima were in need of housing assistance after the Hurricane and floods. Initially Care made the corrugated roofing available. Then to help build the structure the Central Mennonite Committee, through CEDEN administration, assisted in a non-profit provision of wood and construction supervision. The land was designated and now owned by INA, the National Agrarian Institute, as part of the agricultural reform movement.

Construction began in November and they were occupied in April 1975. Part of the explanation for the long period of time for such a simple house is not the construction time but time necessary to coordinate!

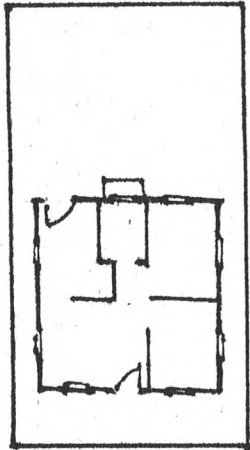
The houses are built on short concrete piers with no flooring. The wood panels for the walls were fabricated on the site. The roof is corrugated zinc. The residents commented the roof is very hot compared to previous use of campana (type of straw). The residents provided most of the labor and were paid with basic grains.

The recipients lived and worked on the plantation before the flood. It was not clear to those interviewed, but they thought they are to pay INA \$300 for the house at a rate of \$2.50 a month.

The location was flooded during Hurricane Fifi and could be again if a dike is not repaired. The residents stated a preference for houses on stilts. This form of construction would be a precaution against flooding in the traditional manner. They also felt it would provide better ventilation and be less susceptible to termite damage.

The overall layout is a grid pattern sitting surrounded by fields. There is a large area for a soccer field and a half finished church. There was previously and remains a school nearby. The buses pass on a main road about 1/2 km. away.

There are individual latrines and two hand pumps for water supply. The pumps are often broken. The water table rises during rainy seasons and could cause serious problems for the water supply.



house: $6.20 \times 6.20\text{m} = 38.4\text{m}^2$

lot: $8 \times 15\text{m} = 120\text{m}^2$

total cost: \$1,000

construction time: 17 months, termination Oct. 26, 1975

number of houses: 102

Financing for the project was a donation from the government of Costa Rica to Honduras. Technical services were provided by an engineer from San Pedro Sula. The residents comprise a large part of the population of Omoa although it is sited about 1 km. from the center of town.

The house is constructed of unreinforced 4inch wide concrete block walls on a concrete floor slab and has a roof of cement asbestos panels. Some concrete blocks were made on site others were purchased. The project was constructed by hired labor with some help of the residents.

The Guatemala earthquake of February 1976 structurally damaged several houses, two of which can not be occupied. The structural failures indicated a need for steel reinforcing, better quality block and mortar. In general the construction quality and workmanship was very poor implying possibly poor supervision.

The project did not get started for six months after the disaster and was not completed until 13 months after the disaster.

With two bedrooms, an interior kitchen and bathroom the house plan is probably large enough for most families. A clothes washing sink is on the back wall of the house. Few additions or modifications have been made, except for general improvements of gardens and fences.

Some residents of the project commented that they are unhappy with the poor quality of construction and being sited too close to their neighbors. On the other hand they appreciated the indoor bathroom.

The government of Costa Rica gave \$100,000 for the project, the total cost for each house is approximately \$1,000. The houses were distributed to those who had lost their homes in the flood at no cost to them, a complete gift. The residents expect to receive title to the property in the near future.

The houses are sited in rectangular blocks with 12 or 18 houses each on lots which are 8 x 15 meters producing a density of 30 houses per hectare. COPEN retains the ownership of the project land.

The streets are 10 meters wide and a boulevard bisects the rows of houses but none are paved.

There is a service charge of \$0.50 monthly for water which is not potable. A large tank is the present source of supply. Each bathroom is complete and functioning. For a sewage system, there are several septic tanks. A charge of \$5 is required for installation of electricity.

A community center consisting of one large multi-purpose room was built on the edge of the site. The community hopes to build a kindergarden and a clinic nearby.

The house plan is not like the traditional one room rural houses of the area, therefore, some residents may not easily adjust to using it. The lots are quite small, the houses sited close together and there is a feeling of being very crowded that is not otherwise existant in the region of Omoa.

Care Roofing Program

Most of the institutional assistance for reconstruction of houses produced new colonias of from 22 to 400 housing units. The roofing distribution program of Care, however was an entirely different approach.

The United States Agency for International Development contracted with Care and the Government of Honduras to have Care administrate a \$2.17 million program. The six month program began November 1974, was multifaceted including agricultural assistance and aid for the reconstruction of houses in rural areas. A total of \$540,000 was spent on materials for the housing program. All the building materials were purchased from suppliers in the San Pedro Sula area. This cost though does not include Care's cost of administration.

The essence of the program was quite simple and had a high degree of effectiveness. Care would give 27 corrugated zinc roofing sheets and 15 pounds of nails for each qualifying family. These sheets (lamina) were used for roofing to cover a house frame constructed by the recipient family generally about 5x8 meters in dimension.

In order to be a beneficiary of the program the family had to verify that it had been severely affected by the flooding, was a previous member of the community, and was a part or full time farmer. Care also needed assurance that the land for the recipients house belonged to him or that he was authorized to build on it.

In order to receive the free lamina the family had to agree to complete the construction of the frame (working in groups when possible) and cooperate in some other logistical details of the program such as loading and unloading materials.

The process of the distribution of the materials was perhaps the most problematic for Care. Because of the scale of the program was very large and spread out over a large geographical area Care tried to work through counterpart agencies and local groups to administrate the program at the local level. In this way Care hoped to support existing local groups and to provide enough manpower to execute the program within the six month limitation. But the objective became unworkable. According to Care's final report of the program "the response from counterpart agencies was spotty and in only a few cases did these agencies take full responsibility for implementating the projects in their area." (page 15)

Some of the reasons cited by Care for the ineffectiveness of the counterpart agency distribution system were:

- 1) Some agencies did not distribute immediately
- 2) If the community complained or questioned the practices of the agency they were no longer utilized by Care
- 3) Some agencies were incompetent or would implement the program according to their own priorities
- 4) Care found it more satisfying personally to work directly with the recipients and could therefore insure better selection and distribution.

On the other hand there appears to have been some problem in communication between Care and other groups. Some of them claimed Care threatened to take back some of the delivered lamina resulting in some confusion and complications.

As of April 15, 1975, Care verified the construction of 5,324 houses through their program and calculated a total of 8,200 units aided in one way or another. About 20% of the lamina was given to agencies building colonias as those surveyed in the other part of this report.

The cost to Care for the lamina and nails for one house was \$67.62.

The Care program approach to the problem of rehousing was determined by several influencing factors including the following:

- 1) a large number of campesino families spread out over a very large area
- 2) difficulty in supervising the construction of many houses under these conditions
- 3) the need to rebuild the houses quickly after the disaster while in some areas the water table was so high as to make the return to agricultural production difficult
- 4) the traditional roofing material of palm leaves was underwater, frayed, and therefore unusable
- 5) the ease of working with lamina

Whereas some governmental and agency officials did not place a high priority on the reconstruction of housing in the immediate post disaster period, Care did. Care felt that the building of houses was an essential and integral part of the agricultural program for psychological, economic, and health reasons.

In their report Care claimed that "the offer of providing assistance of corrugated galvanized zinc roofing sheets after the house frame was constructed was sufficient to stimulate the beneficiaries to commence work on reconstruction." (page 27)

They also found that the requirement to dig a latrine pit and put up the walls for it as a condition for receiving the lamina was a policy that did not always work. It essentially was abandoned and the 2 extra lamina sheets used to cover a kitchen. Some reasons for the abandonment of the latrine criteria were that 1. it was basically an educational program that required a prolonged period of time to communicate, and 2. in some areas the water table was too high to actually use latrines.

Care concludes "there is no doubt in Care's mind but that this type of program is the most effective type of intervention following a major disaster which affects rural families." (page 14)

To make an evaluation or draw conclusions about a decentralized dispersed program like Care's without seeing many results is more difficult than a more identifiable specific site like one of the new colonias.

But perhaps comparisons should be made. With \$540,000 Care helped generate or motivate the construction of over 5000 rural houses by May 1975. While with nearly as much money the Colonia Canada project produced 200 urban houses by June 1975. The Care houses were built by the owners who finished the houses themselves employing their own skills, preferences, and resources. The other project recipients were more or less bound to the specific quality and character of that project. Perhaps the former is simply well suited to a rural application and the latter results from certain dictates of urban development.

NEUVA JUTOSA



house: $5.2 \times 6.9\text{m}$ minus porch $3 \times 1.7\text{m} = 30.7\text{m}^2$ sited on individual lots

total costs: app. \$800

construction time: app. 40 man days per house plus block making

number of houses: 40

This village in the mountains approximately 30 kms. from Choloma initially did not receive aid after the disaster. But later received funds from a National TV Marathon. It is presently also representative of the agrarian reform efforts to negotiate the land for the local residents.

A French volunteer who was living in Neuva Jutosa before the Hurricane working in a clinic designed the houses. Care has given 2 block making machines and food for work for the construction. To date the initially funded 40 houses have not been completed but more funds have been given for additional houses.

The distribution of houses is based on a seniority system within the community. The elderly and active leaders tended to receive the houses first. Some residents said there is a sense of pride and status but not a social division due to receiving a new house. The slow pace of construction seems to indicate that others are not immediately eager to change from the traditional cane and palm leave houses to those of concrete block. The houses are ample sized, have a concrete floor and cement asbestos roofing. No payment is expected from the recipients.

Care gave the materials for the school which the residents worked on but did not finish. Care then came in to finish it and so it is now functioning. Efforts are being made to level the ground in front of the school for use as a basketball court.

There is a generator and ENEE is expected to come in soon to install the main wires for the area. The payment however is as yet unknown.

The basic issue in the community appears to be the ownership of the agricultural lands which has become quite political. To date since the flood no cash crops have been produced.

PRELIMINARY IMPRESSIONS

Method of Construction

Of the 12 colonias surveyed some patterns developed regarding the type of house selected and how they were built.

Contrary to what sometimes happens when there is large international assistance after a disaster, there were few innovations in construction or exotic house designs proposed. The most remarkable were the tilt-up concrete panel effort by CEDEN and the quadraplex house design for Colonia Canada.

Of the 12 projects 6 are of wood construction and 6 of concrete block (part of one is tilt-up panels). As a pattern the wood houses all have one room, cost less to build and were the fastest construction. Conversely the concrete block houses are generally larger with up to 5 rooms, took more time and money to build and have a longer life expectancy.

In the instances where it could be determined as with Colonia Care and Corocol, a selection of a wood house was in part based on a priority for speed of construction. These projects were among the first occupied. On the other hand the motivation to build a more permanent house, to establish a strong physical base to reinforce goals of social development produced the concrete block houses as with CEDEN and Colonia Canada. Since wood and cement essentially were equally available the choice of selection had important immediate and long range effects.

The living conditions of the temporary housing whether in schools or make shift shelters or tents was always described as unsatisfactory and in some cases became a health problem. The urgency of rehousing the people was obviously important, but the motivations of building permanent houses slowed the process for some. Most families have better houses now than before the disaster especially if they received a concrete block house. But while economical value has increased if the actual living conditions are improved correspondingly is doubtful.

The attitude expressed by a number of governmental and donar agency officials in Tegucigalpa was that the climate in the disaster affected area reduced the need for quick rehousing. That sentiment was not shared by the victims interviewed.

It would seem that the attributes of both speed of construction and a resultant house of good quality could have been achieved. A third sort of option could have been to erect a safe temporary shelter that would evolve into a well constructed house. It is not difficult to imagine this process being viable within the context of a strongly directed program or within a more individualistic approach.

It should also be noted that none of the construction processes included efforts to structurally improve the house against strong winds or flood damage. Nor did any of the projects include a basic educational or training program.

Design

Comments regarding the design characteristics of the houses have been made throughout the individual surveys, but some overall impressions remain. One is that none of the houses were carefully designed for the one common necessity, ie. ventilation. The traditional houses of cane were well ventilated and the houses of adobe have significant thermal protection. There are many simple, minimal cost features that would greatly increase the circulation of air in a house and thereby increase the occupants' comfort. These design features have yet to become part of the building vocabulary with the new materials now used in northern Honduras.

Another issue raised is the solution of a floor plan. There is a significant difference between the plans of one large room and the 4-5 room, 2 bedroom indoor bath and kitchen plan. In some cases people coming from similar background ended up in the different houses. As was suggested by the discussion on speed of construction, perhaps a more flexible solution would be preferable. That is, a house design or construction technique that allowed the families to make the room divisions to suit their living patterns and to not be locked into a fixed solution of someone else's conception. Such as the house plan of Colonia Canada is fixed and not expandable or easily modified.

Perhaps the house best suited to that concept is at Colonia Bendeck. It is large enough to allow for a multiple of alternative uses and divisions. It is essentially one room with the bathroom breaking up the space. However, the cost of such a complete shell is beyond the feasibility of most.

The discussion of house design and construction techniques used points out that there was little participation in the selection of either on the part of the recipients. The absence of such involvement can easily be interpreted as a cause of some of the problems that the residents are now complaining about.

The Care roofing program, more than any other, allowed the family to take more decisions about how the house would be used, of what materials it would be constructed, and to design in the subtle but important differences.

Siting

Site planning considerations are of major importance in understanding the reconstruction of housing after Hurricane Fifi. The twelve projects discussed were the major examples of exteriorly aided efforts. All were sited on new land, not occupied before and generally out of the flood plains. The exceptional program is the Care roofing scheme.

As a result each project in effect created a Colonia which is easily identified and credited to donors or group of donors. For the foreseeable future most of these areas will be called by the name of the major donor when being referred to locationally. This has some questionable connotations of dependent identity. But it also fits nicely into a pattern noted in Honduras that directions are not given by address or distance but rather by key landmarks such as major buildings known by commercial names.

On the whole we would judge the site layouts range from unimaginative to the cause for serious future difficulties. The majority are based on rectangular grids which at times is in conflict with the hillside terrain.

The respect of natural phenomena was not much above the fear of flooded areas. Colonia Canada and Colonia Flores de Oriente could both be quite easily flooded unless sufficient ditches are constructed or repaired. The placement of houses on the hillsides near the Colonia Care and the scars made by roads and shelves cut for water tanks and schools could cause landslide problems in a heavy rain. If the houses of Los Pescadores and of Los Flores de Oriente had been placed on traditional stilts some problems might be avoided.

The size of the lots varies from $58.5m^2$ (Mississippi) to $650m^2$ (Bendeck) while the houses are around $25m^2$ with four exceptions of 48, 58, 61 and $16m^2$. The houses occupy from $1/2$ to $1/17$ of the lots. The most common complaint we heard was that the lots were too small. Except for Mississippi and Canada the lot size will probably suffice though it may not be as large as desired or previously occupied.

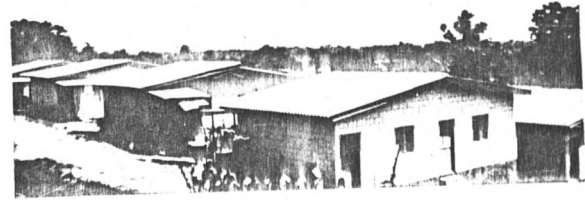
The lots of Colonia Corocol may be relatively small but extreme care was taken in saving the trees of the previous orange orchard in that site. Once the lots are laid out they can't really be increased in size. The real tragedy is in Colonia Mississippi. The houses are obviously permanent structures but enough land was not obtained for proper future expansion or present living patterns.

Then, the overall impact of a series of Colonias along the highway near Choloma, but with only a partial internal road connection, has some interesting results. The separation of the areas by foothills creates individual communities but all quite divorced from Choloma.

The following photographs illustrate the context and impact of the various siting patterns.



San Jose de los Laureles Choloma



Colonia Mississippi Choloma



Colonia Venezuela Choloma



Colonia Corocol

Infrastructure - Facilities

To support the individual Colonias as the community along with some of the individual houses in the same area could be done in several ways. The present status symbol and desire by others is to have your own school. However that may seem unrealistic depending on the number of children in each area and possible financing. Those donated however are well constructed buildings which probably can not be duplicated without outside funds.

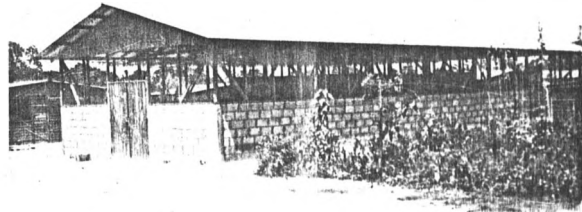
The effort to provide more schools might learn from three rather distinctive approaches taken by Corocol, Care and Coca Cola. The building in Corocol is very modest and cheap besides being good for climatic comfort. Care has a rather standard, moderate and satisfactory design which it uses for rural schools normally. But Coca Cola abused its charity of a school as pure advertisement. Besides the paint 12 signs, there is a large coke bottle fountain in the middle of the front yard.

The following photographs illustrate five schools built after Hurricane Fifi. Besides those mentioned before there are two built with donations from Texaco/Rotary Club and Spain , both substantial but moderate.

Other than schools there is a lack of additional types of community facilities except in Colonia Canada.

There is a question, however, in determining how many families are in a Colonia before the investment and operation of such as a clinic or meeting facility can be provided. More likely open areas for soccer or playgrounds are more immediately feasible.

The tendency for little stores to open up in various houses happens but some house designs are not particularly accomodating. Other 'tallers' or employment opportunities have not been encouraged.



Colonia Corocol



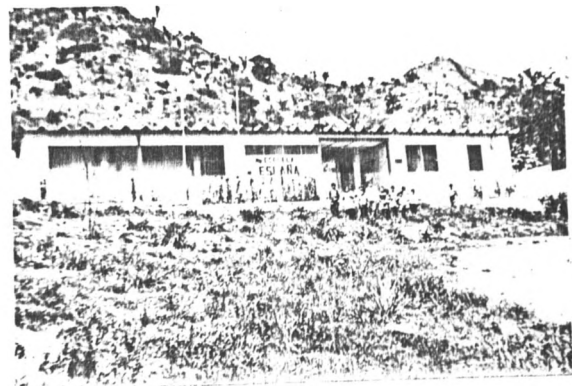
Neuva Jutosa (Care)



provided by Coca Cola



Texaco/Rotary Club



Government of Spain

The integration of activities within an area of housing because of the distance to the town centers is vital to the provision of shelter if it is to be a comprehensive understanding of the living patterns. Facilities need to be provided to support activities not just to have public buildings.

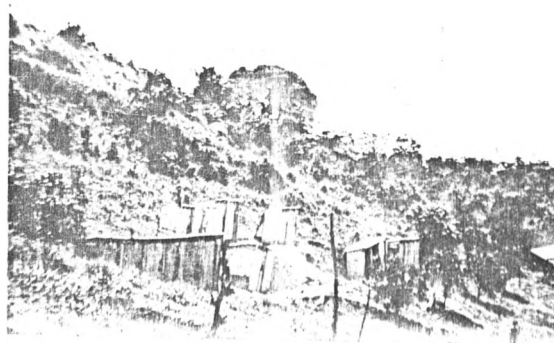
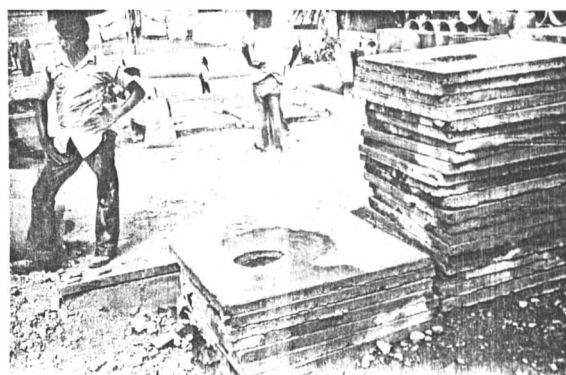
Infrastructure - Utilities

The site planning appears to not have been done in such a manner to carefully minimize future utility installation costs. The lots are generally deeper than wide which shortened the road lengths and will decrease the cost and the length of pipes if that is the future approach, remote as it now seems. But that is the extent of the actions taken for future planning.

The use of septic tanks appears to be realistic in the approach to this settlements which are rural but too crowded for latrines. However if the water supply was more limited other innovations should be considered. Also because of the agricultural base possibly the development of composting might be acceptable.

The three photographs show the latrine situations in quite different conditions. The fabrication of the plates is a project of La Fragua not related directly to a reconstruction project but similar to that which has been used by Care and proposed elsewhere. As noted with the Care roofing program such must be accompanied by an educational program to encourage the use properly.

The example in Mississippi shows how distance is a critical factor in the probability of use. Also the group together rather than associated to each house effects the privateness. The quadruplex of block bathrooms attached to a septic tank are now being installed in Colonia Emanuel.



Colonia Mississippi



Colonia Emanuel

The supply of water with the exceptions of Colonia Canada and Bendeck was public faucets or none within the immediate area. Only in Colonia Care and Corocol were the systems and a tank in the later case installed at the same time as the building of the housing. The Choloma municipal project, now, of building two tanks initially and later two more will increase the overall capacity of the area. This however, funded by BID, is quite separate from the reconstruction of the housing except in response to their location.

Fortunately there were no major health problems from lack of potable water and adequate sewage treatment immediately after the Hurricane. However the integration of these facilities which may not be seen as emergency needs in the same sense of shelter nor afforded at that time should be planned for and some innovations considered.

The problem of drainage was very apparent because of the flooding but addressed more in relation to agricultural replanting than the safety of the housing. There remains, especially around Colonia Venezuela, conditions which could cause serious problems in a heavy rain.

The roads for the Colonias were all put in new which provided an opportunity both in design layout, width and surface treatment to direct future development. They remain dirt and generally nothing special done to make the experience of walking or living on them different than the ordinary.

The critical need for bus service to the Colonias in El Progreso and Choloma because of their location should have been considered by the donors. While they probably would not provide such a service the arrangements with authorities in planning the locations could advance the possibility rather than after the fact 'maybe' service.

Financing

A fairly wide range of financing arrangements were made with the recipients of the houses. For seven colonias the houses were given to the residents, though in three cases the residents contributed their labor. In two other colonias they received their house but have to pay for the land, which never had belonged to the donor. In two other cases repayment of part of the material cost of the houses is required. And only in one is full repayment required.

The last project is Colonia Corocol and is part of an ongoing housing program established through La Fragua. A basic principle of the program is to pay back the cost of the house into a rotating fund which is used to build more houses in the area.

The issue of whether to give a house in time of emergency or to require some payment is an ongoing debate. There is a fear, especially among social-economic development agencies, that such a gift tends to develop a dependency on the part of the recipient. When an international donor comes in to assist in time of emergency, the pattern of giving away not only housing but food and clothing as well, may undermine the long range objectives of the permanent agencies. One of the objectives of APHRU is precisely not to perpetuate a dependency syndrome.

In determining the distribution and payment policies and the initial cost of the house it is important to have an accurate accounting of the income levels and future potential social-economic conditions of the disaster victims. A general picture from the AID Honduras Housing Sector Analysis Report of Aug '74 indicated that a year before the hurricane the following income figures. The average wage in Honduras was \$57 per month with 65% of the population earning less than \$500 annually. In rural areas where 2/3 of the population lives the majority earn only half of the national average. But here cash income may only a partial factor in a families economic situation. More individual case by case information is needed though often not immediately available after a disaster. However, the general level of income should indicate to donors the cost of housing that the residents could afford.

For the most part the housing built in Honduras was too expensive for the economic level of the population with the exception of the wood houses. But even more critical was the unknown or unexplained status of repayment or gift. To the residents, this uncertainty is a continual worry which should have been resolved quickly and directly by the donors before, as the houses were built or occupied or at least immediately thereafter.

Time Changes

One of the central foci of our study has been the observation of the changes, modifications or additions that have taken place to the original houses built after the disaster. Few of the houses in Honduras are more than a year old so there relatively hasn't been much time for changes in the reconstruction projects.

Where they generally do make changes is in conjunction with one room houses. Usually the additions were lean-tos for a kitchen and made of a wide variety of materials, usually inexpensive or no-cost materials except for a corrugated zinc roof.

The additions are always more visible and obvious with the concrete block projects. The reason being the contrast is often more than with wood. Few, if any, additions have been made using concrete blocks, resulting in a disharmonious appearance. Esthetics do not claim highest priority when building basic shelter but a successful house type would be one that easily accepts and accommodates such changes to the original structure. However the additions may also go in stages which while initially poor may be improved as financial priorities or conditions change.

It was noted by several donors that their house was intended as only a first stage house. However, we did not become aware of any programs of assisting the house recipients with advice, materials or technical skills to expand or improve on the first stage. There was no follow up as far as we could tell.

As noted earlier the Colonia Canada and Mississippi do not allow for significant modifications and this is a major problem with those projects. The architect of the first project explained that the residents must learn to live more like middle class citizens so not allowing chickens etc. was not seen as a loss but a restriction for their own upward improvement. Such rationale however goes beyond accommodating and improving the living patterns which must be realistic to existing conditions and wishes of the residents.

APPENDIX A

PERSONS INTERVIEWED IN TEGUCIGALPA

Anthony Cauterucci	AID
Paul Deco	UNDP
Salvador Mazier	INVA
Dr. Boetincke	German Ambassador
Tte Coronel Rigoberto Regalado Lara	COPEN
Eduardo Menendez	OAS/Consuplan
Fernando Montes	FUNHDESA
Fred Hanson	ROCAP
Raul Edgardo Fuentes	JNBS
Robert Clark	AID
Manuel Pacheco	APHRU
Fernando Cuznosdof	UN/INVA
Frank Valva	CRS
Tito Carranza	SANAA

PERSONS INTERVIEWED IN SAN PEDRO/ CHOLOMA/ EL PROGRESO

Angel Armando Irias Perez	Architect for Canada project
Arturo Correo	Priest Choloma
Fausto Deras Valasquez	Mayor Choloma
Charles Kiser	CARE San Pedro
Chet Thomas	CEDEN " "
Aristides Padilla	Caritas " "
Jaime O'Laire	La Fragua El Progreso
Charles Van Fossen	INVA San Pedro
Carlos Paz	JNBS " "
Alberto Diaz	Choloma
Bruce Baird	OAS becarlo Neuva Jutosa
residents in each of the 12 projects visited	

APPENDIX B

LITERATURE REVIEWED CONCERNING OR RELATED TO HURRICANE FIFI

AID; Disaster Relief: Case Report - Honduras Hurricane and Floods Sept-Oct '74

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COPEN, Consejo Permanente de Emergencia Nacional; Hurican Fifi

CONCORDE, Consejo de Coordinacion para el Desarrollo; Plan Global: Aporte del Concorde a la Rehabilitacion y Reconstruccion de Honduras, Oct., 1974

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INVA, Instituto de la Vivienda; Vivienda Emergencia Informe

INVA; Urbanizacion 18 de Septiembre, El Progreso, 1975

INVA; Vivienda Experimental Colonizacion del Valle del Rio Aguan, Honduras, 1969

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CEDEN; Evaluation of Housing Programs, by Harold, B. Mathcott

Junta Nacional de Bienestar Social, Division de Desarrollo de la Comunidad Proyecto SP0976, June 1976