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Dear Sir:

The USAID's Regional Housing and Urban Development Office for South America (RHUDO/SA), through the Latin American Center for Urban Management (LACUM), contracted the Inter-American Planning Society (SIAP) for the development of short studies in the Municipalities of Paraguay and Chile. The studies were lead to generate basic knowledge in areas such as: the Market Land Values, Urban Infrastructure, Formal and Informal Housing, Local Services Provision and Property taxes.

The studies were carried out at low cost rate by professionals who were taking Post Graduate courses in the University of Texas. The studies consist of basic analysis of information, data processing and comments on concrete situations.

Please find enclosed two copies of the following documents:

- "Assessed and Market Land Values in Concepción, Paraguay".
- Housing Market Tends in Paraguay: An analysis of Urban Housing in the Formal and Informal Sectors (the case of Encarnación)".
- "Urban Infrastructure and Citizen Participation in the Marginal Settlements of Asunción, Paraguay".
- "Municipal Solid Waste Service Provision in Chile: Possibilities for Greater Cost Recovery (the case of San Antonio)".
- "Property Tax Assessment and Municipal Strengthening in Chile (the case of Quillota)".

Sincerely,

Marino Henao
Executive Director, RHUDO/SA-LACUM

Enclosed: a/s
MH:pc

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**SOCIEDAD INTERAMERICANA DE PLANIFICACION
INTERAMERICAN PLANNING SOCIETY**

**Housing Market Trends in Paraguay:
An Analysis of Urban Housing in the
Formal and Informal Sectors**

Sarah H. Andre
August 15, 1993

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Executive Summary

Housing markets follow a similar pattern across Latin America. The characteristic structure consists of a quantitative and qualitative deficit, a financing system that excludes the very poor, and an overburdened public housing ministry. This structure, combined with economic and social trends, leads to the creation of an informal market. The informal market is one characterized by owner built structures made of recycled materials. Informal settlements are typically substandard with poor or no infrastructure and crowded living conditions. In addition to this marginal housing, some informal dwellings are of good quality. Owners are shut out of the formal financing system due to stringent requirements and a difficult application process. An investigation of Paraguay's national housing market shows that the country follows the former model quite closely.

From the 1960s until 1983, Paraguay experienced a period of strong economic growth. Foreign aid, high demand for Paraguay's agricultural products and the construction of a major hydroelectric dam all contributed to this growth. As a result, urban migration increased during this period. Although Paraguay's strong economic position created an active construction industry and enabled people to build new homes, supply could not keep up with demand and the housing deficit took root in this era. A financial crisis in 1982 and 1983 created high unemployment and inflation further contributing to the housing deficit. The construction industry took a major downswing and the gap between supply and demand widened.

During the economic boom, Paraguay created its first housing ministry. The Paraguayan Institute for Housing and Urbanization (IPVU) was created in 1966. IPVU undertook the task of building housing for Paraguay's low income population. As a complement to IPVU, the Paraguayan government created a national bank for housing and a system of savings and loans that would provide mortgage loans for middle income people. Unfortunately, IPVU was largely ineffective in accomplishing its goals. IPVU provided only a very small number of houses, the majority of which were in urban areas. In response to this system's failures the new government of 1989 created a new official body to deal with housing issues.

The National Council on Housing (CONAVI), originally a consulting body for matters of housing, eventually expanded its duties and IPVU was dissolved. Currently CONAVI constructs housing and provides various loan programs for groups and individuals. The savings and loans system was privatized and still provides loans for the middle income population.

Paraguay's demand for housing is illustrated in its quantitative and qualitative deficits. CONAVI estimates that a standing deficit of 200,000 homes increases by 15,000 annually. This deficit is worsened by the qualitative aspects of the housing that does exist. Overcrowding is severe with large families living in one bedroom houses. Infrastructure, especially sanitation services, is also lacking. Roughly one half of the homes in Paraguay suffer from poor construction and need repair.

Housing production in Paraguay is intricately linked to financing. While the majority of families is able to obtain some sort of structure to live in, what this

structure will be is dependent upon the family's financing options. The mortgage system is not widely used and most people build their homes as they can afford to pay for the construction. Formal sector financing is provided on the public level by CONAVI and on the private level by the savings and loans for housing system mentioned above. There are only a few non governmental organizations that attempt to provide housing and their work is on a small scale. Cooperatives, which function like credit unions provide a savings system for the less financially able and their lending practices are very similar to that of the private banks involved with the national system of savings and loans for housing.

Each entity in the formal financing sector typically lends to an income range which is based on the national wage system of minimum monthly salaries. The public sector, represented by CONAVI, builds housing settlements for people earning up to two minimum monthly salaries and has other programs for people earning up to three and from three to five minimum monthly salaries. In the past year CONAVI has provided 9382 housing solutions. A solution may be improvements as well as loans and new home construction.

The savings and loans for housing system, known as SAPV, does not have an official minimum salary range but generally works with people earning five minimum monthly salaries and up. The interest rates at these banks is a market rate and tends to be high. In addition, private banks in this system have stringent requirements for obtaining a loan which may be frustrating to potential borrowers if not impossible to fulfill. In the past year the SAPV banks have extended credit for housing in the form of 8229 loans.

A case study of the city of Encarnación, located on the border with Argentina, demonstrates exactly how the market functions on the municipal level. Encarnación is experiencing rapid growth and problems with financing, loan and registration requirements, and housing quality are all present. Like the national system, the main sources of financing are CONAVI and the SAPV banks. An examination of the municipal register of construction revealed that most of the construction in the city was neither registered nor financed by the formal sector. However, some of the informal construction was found to be of good quality. Many homes were not registered simply because of the time involved in registering or the prohibitive cost of taxes.

As the above patterns indicate, in order to improve housing Paraguay must restructure its financing system. Prohibitive requirements and time constraints shut out financially qualified people and very few options are available to the poor. Government provided housing is unappealing to many and provides little choice for its recipients. Because a proposal to restructure the national market has already been provided by the Interamerican Development Bank, the most beneficial actions by any other agency would be at the municipal level. Suggestions for improving the housing market include technical assistance for the municipality and creative financing for groups normally excluded from the formal sector.

Housing Market Trends Across Latin America

Municipal stability and the housing market: growth that exceeds supply.

The stability of a municipality and its housing market are intertwined. The fundamental unit on which society is built, a household is also fundamental to the municipal structure. The ability to provide public works is dependent upon a stable tax base which is, in large part, provided through the household. Because this resource is so basic to the effective functioning of a municipality, it is important that the housing market function in a way both beneficial to those in need of a home and the government structure. It is important to fully understand the housing market because any dysfunction can lead to an unstable municipal base. A review of the literature on housing will show the current trends in Latin American markets. The common strengths and weaknesses of housing markets will help provide an idea of what may be expected for the region as well as how well Paraguay's market functions in comparison. A detailed investigation of Paraguay's specific market characteristics will indicate what can be done to improve the market in order to benefit both citizens and municipalities.

With a history of physical growth that out-paces economic development, the Latin American city has been portrayed in the academic literature as an entity unable to fulfill its citizens' demands for goods and services (Hardoy). The housing market is no exception to this lag. Important issues such as squatter settlements, rural housing, service availability and the urban poor have occupied the majority of research on housing. Unfortunately most of the literature available on housing *markets* is methodological rather than descriptive in nature. Equations for estimating housing costs in urban Latin America abound as do actual applications of these methods. These studies are not entirely devoid of interest for the present inquiry as they provide a necessary guideline and foundation for methodology. Recent studies of housing markets with concrete instead of theoretical data are difficult to find. Therefore a comparison between Latin American markets and Paraguay will, be made based on theoretical trends.

The characteristic market structure found across the region consists of a housing deficit and poor financing options which contribute to the development of an informal market.

Vliet's *International Handbook of Housing Policies* covers all parts of the world. The Latin American countries included are Cuba, Mexico, Brazil and Colombia. While each of these has had unique problems with different policies and approaches towards housing, there are several shared elements among these nations. Housing markets roughly follow the following model in the countries surveyed: a housing deficit, both quantitative and qualitative; a financing structure that excludes the poor; a centralized government agency that is overburdened but creates some production; and a lack of involvement by the private sector which leads to production on the informal, often called 'illegal' level.

From this brief review it is obvious that the major pitfalls of housing markets are in two areas: supply and financing. Specific supply side problems other than a shortage are inappropriate design and construction of housing

projects, a lack of infrastructure, and overcrowding. The downfalls of financing are also linked to supply and include very small amounts of low income construction by *all* sectors, an all too centralized housing authority that is usually the only provider of subsidized loans, and only small amounts of social interest funding from the church or non governmental organizations.

According to Francis Violich, housing is the launching pad for other essential facilities such as education, sanitation, health care, and employment. (1987: 33) His book, *Urban Planning for Latin America*, discusses metropolitan development across the region and highlights the historical development of housing policies and markets in many of the major Latin American capitals. Violich demonstrates how the inability of national economic development to keep up with urban growth has left consumer demands unmet. This factor, combined with an unequal concentration of wealth and industry, has led to an economic dualism which manifests itself in two distinct sectors: formal and informal. The formal market serves middle and upper income groups while the informal market serves the poor. The rise of the informal sector may be due to poor supply. Historically low cost housing programs have been insufficient to solve the problems of informal slums created in part by mass urban migration. The weak buying power of the poor creates an inability to buy on the open market and the poor become dependent upon government housing projects to provide housing. The major problems of government housing are also spelled out by Violich: a concern with number of units over quality, a creation of too costly housing, insensitive and spatially impractical relocations, and non-comprehensive planning (1987: 124).

With the inadequacy of the formal market, private and public, informal housing solutions are inevitable. Three housing options are generally available on the informal market: central city slums, land invasions and unauthorized, unplanned settlements. (Violich, 1987:32). The important characteristics of the informal economy outlined by Violich are its inventiveness, small scale, labor intensiveness, and trend towards rudimentary technology. Typical problems of informal housing as provided by Violich's examples are similar to those discussed earlier: overcrowding, lack of proper facilities for construction and sanitation services. (1987: 159).

The informal sector, typically the market of the poor, is characterized by self building and the use of scrap materials.

The informal sector as the market of the poor is a common theme. W. Paul Strassmann's chapter on the housing market in *The Transformation of Urban Housing*, divides the market into income levels. In his investigation of Cartagena, Strassmann found that income level was more important than location in determining market activity and that the greatest supply deficiency was in the lowest and highest income groups. While a willingness to improve housing facilities was spread across income levels, (1982: 140) the failure of a low income supply was the most important factor in the creation of informal dwellings and settlements. Strassmann investigated two strata of low income people who must resort to 'informal' housing provision rather than buying on the open market. This is important to the investigation on Paraguay because it shows that while deficits exist across the market, supply is more scarce among lower income groups.

One of the first tasks in describing the housing market is to define the formal and informal sectors in a meaningful way so that actual structures can be categorized and the results given a reference point. While the definition will vary from nation to nation, one article attempts to create a theoretical framework for categorizing dwellings as informal or formal: Peter Ward's *Articulation Theory and Self Help Housing Practice in the 1990s*. Ward clearly models the informal and formal sectors as well as a 'middle' realm of neither formal or informal while accounting for both demand and consumption.

This article groups housing (as a commodity) and modes of housing production to divide housing into the 'industrialized' (formal) mode, the 'manufactured' (neither) mode, and the 'artisanal' (informal) mode. Ward also discusses the valorization process in each of these modes and provides a case study to exemplify the concepts. While the formal sector uses established supply channels and all manufactured materials, the informal, or artisanal mode is one of self building and labor exchange using recycled materials along with a small amount of manufactured (bought) materials.

Informal production has a quantifiable monetary value.

Housing valorization on informal markets is the subject of Jimenez's 1982 article on squatter settlements. *The Value of Squatter Dwellings in Developing Countries* shows that informal houses do have a measurable monetary value. In the past, these settlements have been looked upon as temporary and unstable. As permanence increases, Jimenez argues that, like houses in the formal market, informal homes are economic goods and possess a measurable market value (1982: 739). Because informal housing is usually beyond the scrutiny of government activity its value is hard to assess but the determinants outlined by Jimenez, outside appearance, quality of materials, sanitary services and age, are similar to those of the formal market (1982: 752). Jimenez also found that owners in informal settlements generally valued their homes at levels on par with those of an appraiser. This article emphasizes the value of including the informal sector when examining the housing market because of the real value possessed by these areas. This often dismissed value of informal dwellings should be quantified and used to inform policy, according to Jimenez. Governments will be able to act more efficiently with regard to housing if they take into account the value of informal housing to its inhabitants.

Cooperation between private and public sectors is necessary to improve financing for low income housing.

In his address to the twenty fourth Interamerican Conference on Housing, Eric Carlson attempts to tackle the issue of financing for low income housing, especially that of the informal market. Carlson called for the integration and/or cooperation between the private and public sectors when it comes to financing housing for the poor. His recommendations for such integration and improvement of loans to the poor reflects some of the current trends in formal financing for the poor, typically consumers in the informal market. These recommendations, many of which are currently undergoing implementation in Latin America, aim to

integrate the informal market into the formal while providing 'social interest' housing to Latin America's poor. The most important of these recommendations are: 1. the encouragement of a secondary housing market; 2. the encouragement of public and private financial institutions to have a greater response to basic housing needs of the poor by implementing subsidized loan programs for particular groups (offering incentives would be part of this); 3. promoting and supporting community based financial institutions such as cooperatives and credit unions; 4. revision of the politics of loans in order to make them more accessible for the poor; and 5) the creation of aid programs that have built in cost recuperation, in order to create a revolving fund for the use of new housing programs with reasonable payments focused on the resources of the group involved. (1986: 115).

Supply deficits and the rental market interact.

In their article *Housing Demand in Developing Countries*, Malpezzi and Mayo introduce rental housing as an emerging topic in the housing market. The number of rentals in Latin America has increased, especially among the urban poor. Rental value and availability, on both the supply and demand side of the market, must be taken into account when attempting to describe the entire housing market. Rental units may be used to indicate a deficit or seen as an affordable supply alternative. Malpezzi and Mayo also examine the differences between renter's and owner's housing consumption and found the propensity to consume nearly identical (1987: 217). Sensitivity to the renter market is important because it can represent a deficiency in supply, either physical (there are no houses to buy) or financial (people cannot afford to build or borrow to build). And while housing prices tend to increase with development, renters are even more adversely affected by this development than owners, paying higher prices for the same amount of consumption when land values increase (1987:217).

New research should incorporate the informal market.

Although supply and financing are important, new topics in housing market literature are emerging. *Housing Markets in Third World Cities: Research and Policy into the 1990's* by Carole Rakodi points towards new directions that need to be explored in the housing market. The article provides a thorough overview of past research and policy's response to that research and then redefines information needs for the creation of future housing policy. Rakodi rejects the traditional targeting of urban poor and squatter settlements as a separate research topic and calls for the integration of this sector into a wider analysis which examines the informal sector within the context of the entire housing sector (1992: 39). Policies must be informed by an understanding of general market tendencies and address all income levels rather than just the poor. Future research should focus on the process by which housing is produced and the effects of housing supply on consumption. It is the intervention of these points, according to Rakodi, that defines and determines the market. In addition Rakodi identifies gaps in credit provision, rental studies and secondary exchange of housing. She calls for the recognition of housing as a "productive capital good rather than a purely consumptive good" (1992: 50) and asks that "the housing

finance system has a wider economic role" in order to justify the increased allocation of resources to the housing sector (1992:50).

After examining the above framework on housing markets in Latin America, specific information on Paraguay's market shows that Paraguay follows a similar pattern of poor supply. As the following evaluation and case study will demonstrate, Paraguay exhibits signs of a housing deficit and a financial structure that is unable to respond to those most in need, creating an atmosphere that is ripe for the cultivation of a huge informal market. A discussion of the informal market is also included, creating a comprehensive picture of the housing sector in Paraguay.

Paraguay's National Housing Market

History and background: Paraguay develops and revises a national housing ministry in response to needs created by many years of economic growth.

Economic development. From the implementation of the first National Plan for Economic and Social Development in the 1960s until an economic crisis in 1982 and 1983, Paraguay experienced a period of stable and strong economic growth. High growth rates during this period were due to an influx of international aid, high external demand for Paraguay's agricultural products, and the construction of two major hydroelectric dams, Itaipú and Yacyreta (CONAVI Diagnostico, 1989: 110). This long period of growth has affected the housing market in several ways. Urbanization occurred as people migrated to growing cities in search of jobs creating a strain on urban markets, but even more significantly construction of homes was simply unable to keep pace with growth. In 1982 and 1983 a cessation of dam construction combined with depleted monetary reserves and a high national deficit sparked high unemployment and high inflation (CONAVI Diagnostico, 1989: 114). This crisis virtually shut down new construction in Paraguay and the gap between growth and production multiplied.

Administrative development. A housing deficit has been a problem long in the making for Paraguay but administrative and financial resources to alleviate this problem have not been available until recently. Until 1966, Paraguay did not even have a housing ministry and informational gaps were widespread. The Paraguayan Institute for Housing and Urbanization (IPVU) was created in that year to build housing for the poor. However, this structure was largely inefficient in serving the country, especially rural areas. IPVU's projects focused on the area around the capital and any activity outside of the capital was located in the primary cities. In its entire 22 year existence, IPVU built only 5906 houses or 11.8 percent of all public sector houses provided to date (CONAVI, Memoria, 1993: 154). Deemed inadequate, additional measures were taken to expand the housing supply in 1973. Thus the National Housing Bank (BNV) and the National Society of Savings and Loans for Housing (SNAPV) were born.

Created with funds from the United States Agency for International Development (USAID), BNV and SNAPV were made legal entities of unlimited duration and the BNV was given its own financing. The BNV's goal was to facilitate

and promote financing (through the SNAPV institutions) for the acquisition, construction, improvement and amplification of housing as well as the land upon which to build housing (CONAVI *Diagnostico*, 1989: 284). Of the start-up funds, \$100,000 was marked to develop the administrative capacity of the National Housing Bank. The goal of this action was to generate an efficient system through the establishment or improvement of legal proceedings, administrative and accounting functions of the bank.

The remaining funds, (US \$2 million) were used as starter capital for the savings and loans. The SNAPV system created a set of savings and loans with a housing mission. These institutions were to provide loans for the 'middle' income sector. (CONAVI *Diagnostico*, 1989: 284). While these banks made other types of loans, the primary goal of SNAPV banks was to provide loans for housing. Unfortunately the housing deficit and overcrowding are most common in the lower middle and lower income economic strata and SNAPV institutions were not created with this group in mind. As housing problems have continued to persist, the current administration of Paraguay has revised IPVU, the BNV and SNAPV institutions in hopes of responding more effectively to housing needs.

The creation of CONAVI. With a new government in place, President Rodriguez created the National Housing Council (CONAVI) in 1989. CONAVI was created as a part of the National Savings and Loan system (BNV) (CONAVI *Memoria*, 1993: 15) and at first was viewed as a consulting body on matters of housing. Its specific objective was to bring together organizations dedicated to solving the housing problem in Paraguay. (CONAVI *Diagnostico*, 1989: 285). However, CONAVI was formally legalized by a congressional law in 1990 and IPVU, formerly charged with coordinating programs with CONAVI, was dissolved (CONAVI, *Memoria*, 1993: 19). Thus the design and development of a "National Plan for Economical Social Interest Housing" became the task of the newly created CONAVI. CONAVI has set out to promote, finance and execute, through SNAPV members as well as other public and private entities, its plan for low cost social interest houses. (CONAVI *Diagnostico*, 1989: 285).

The actions of 1989/1990 set in place the general structure for housing provision under the public sector and parts of the private formal sector. A few years before the creation of CONAVI, SNAPV lost its subsidy from AID and became a commercial group, with 30 to 40% of its lending portfolio in housing (Sorenson Interview). SAPV now acts as the regulating body for its member institutions (Interview with Sorenson). Other private lending institutions exist in Paraguay but they do not lend for housing, or do so only rarely. It is the six institutions which belong to SAPV that are the primary private lenders for housing.

Paraguay's demand is illustrated by its housing deficits.

When analyzing the housing market, housing deficits may be seen as demand. The housing deficit in Paraguay is both quantitative and qualitative. With a population increase of 36 percent from 1982 to 1992, Paraguay's housing facilities, while also growing, are overburdened (Censo De Poblacion, 1992). Because information for a more recent year is unavailable, figures from 1982 will be used to demonstrate some of the problems in current Paraguayan housing.

Overcrowding, with two or more families in one house, unsanitary conditions with open sewage in the streets, lack of garbage collection, and a lack of infrastructure, not to mention poor quality construction and materials are all problems for Paraguay. Access to housing is heavily restricted by the current finance systems. A mortgage system is practically nonexistent in Paraguay and many people are shut out from the lending programs that do exist. This factor is intertwined with quality because people cannot afford to construct sound homes with adequate space and are forced to build as they can afford to, building out of income rather than financing.

Overcrowding. Like the Latin American markets described earlier, Paraguay's market suffers from a supply deficit attributable to severe overcrowding and poor quality construction. Overcrowding is a huge problem, especially in Paraguay's rural areas. A seemingly positive indicator in terms of demand is the average number of persons per household. In 1982 the average number of persons per household was 5.2 and by 1992 had decreased to 4.8 (Censo de Poblacion, 1982 and 1992). A closer look at the numbers reveals that Paraguay's situation is not so easily reconciled. In 1982 the national average number of rooms per house was 2.8, but only 2.3 in rural areas. At the same time, 48 percent of all homes had only one bedroom (CONAVI *Diagnostico*, 1989: 136). The total percentage of deficient houses, measured by overcrowding was 55 percent. (CONAVI, *Diagnostico*, 1989: 149). Obviously the number of persons per household is misleading. A one bedroom home is not sufficient for five people. Statistics say nothing of room size or more qualitative factors (such as the presence of animals in the house) that affect overcrowding.

Qualitative deficits. The conditions in which people live is possibly the best indicator of demand as practically every family can create some type of shelter. Measured in terms of a lack of services and poor construction, the qualitative deficits in Paraguay are astounding. Although the percentage of homes in Paraguay with unacceptable or doubtful water supplies was 79.5 percent in 1982, this figure was 98.8 percent in rural areas. Waste water facilities fared only slightly better with national and rural percentages of 62.4 percent and 81.5 percent respectively (CONAVI *Diagnostico*, 1989: 145). Using construction and material quality as an indicator, the same study that uncovered the above figures, found that 51 percent of homes in Paraguay had floors that needed replacing, 55 percent needed new roofs and 52 percent needed new walls. While the total number of houses in urban areas that needed all three was only nine percent, it was 52 percent in rural Paraguay (CONAVI *Diagnostico*, 1989: 136 and 138)

Numerical deficits. Paraguay's National Housing Council has also projected a numerical demand for housing in the nation. The running deficit according to CONAVI is 15,000 new homes per year and the standing deficit is 200,000 (CONAVI *Diagnostico*, 1989: 154,156). These figures were based on the 1982 Census and while production has likely increased, so has the number of people in need of homes. In the meantime, the existing homes have declined in quality.

Housing production in the formal sector is provided by several entities, each of which targets a specific income range.

In order to create a better picture of who supplies each portion of the population with housing a discussion of the wage system and distribution of wages is necessary. Paraguay uses a system of minimum monthly salaries. Currently adjusted twice a year in order to ensure that wages keep pace with inflation, the minimum monthly salary is paid to formal sector, full time workers. In July, 1993, the minimum monthly salary was three million guaranies or roughly US \$175. Many workers, however, are not paid the minimum salary. With an unofficial underemployment rate of sixty percent, a large amount of workers in Paraguay are not making the minimum salary (Sorenson interview, 1993). Informal workers wages are completely unregulated and even legal work may not be paid the minimum wage. For example, a carpenter who works for himself and is employed on a day-to-day basis charges by the job; market prices for labor may not allow him to pay himself the minimum monthly wage.

Table 1 illustrates the distribution of wages in Paraguay for urban areas, demonstrating what portion of the population is in each group. Workers in rural areas undoubtedly earn even less. This distribution allows an idea of how many people are affected by various housing programs. Each financing institution works within a range of minimum monthly salaries. These salary ranges and their target groups will be highlighted as they arise.

Table 1: Distribution of Monthly Family Incomes

Number of Minimum Monthly Salaries	Percentage of Families	Average Monthly Income
up to .75	7.5	127.500 Gs
.72 to 1.25	25.0	236.910 Gs
1.25 to 1.5	6.4	341.160 Gs
1.5 to 1.85	7.8	398.231 Gs
over 1.85	53.3	825.208 Gs

Source: 1991 Hedonic Survey, Bureau of Statistics and Census, Asunción.
 from: *Interamerican Development Bank Proposal for Loans to Support the Reorganization of the Housing Sector*. Unpublished report to the Board of Executive Directors, 1993: 8.

Public sector supply. All public Sector housing in Paraguay is provided by CONAVI. From its creation in 1989 to the present, CONAVI has provided 15,496 'solutions'. Solutions are any type of housing solution, including new homes, loans for homes, home improvements and loans for improvements. CONAVI has several types of programs to aid in housing production. These include self help (Ayuda Mutua), building on an owner's lot (Construcción en Lote Propio); CONAVI constructed settlements (Construcciones Económicas); and loans to individuals (Viviendas Productivas) and groups (Viviendas por Cooperativas) to finance construction. The amount of each type of solution provided since the creation of CONAVI is outlined in Table 2. In the past year, as the administrative capacity and experience of CONAVI have solidified, production has increased and in the

past year, CONAVI provided 9382 solutions. Table 3 outlines the location of each building project completed by CONAVI. The totals show that production has been almost equally divided between urban and rural areas.

Table 2: Quantity of CONAVI Solutions by Type

1989/1990

Type	Quantity
Ayuda Mutua	58
Viviendas Económicas	1736
Viviendas de Interés Social	235
TOTAL	2029

1991/1992

Type	Quantity
Ayuda Mutua	47
Viviendas Económicas	3399
Viviendas Productivas	25
Viviendas por Cooperativas	405
Construction in Lote Propio	209
TOTAL	4085

1992/1993

Type	Quantity
Ayuda Mutua	514
Viviendas Económicas	6314
Viviendas por Cooperativas	863
Construction in Lote Propio	78
Prestámos por Viviendas Económicas (NGO's etc.)	1613
TOTAL	9382
TOTAL FOR ALL YEARS	15496

*Total runs through April 20, 1993
Source: CONAVI Memoria, 1993: 152.

Table 3: Completed CONAVI Projects by Year

1990

#	Location	Quantity of Houses
1	Nemby V	170
2	Fernando de la Mora	160
3	Mariano Roque Alonso	75
4	Mariano Roque Alonso	50
	TOTAL	455

Table 3 (cont): Completed CONAVI Projects by Year

1991

#	Location	Quantity of Houses
1	<i>Limpio</i>	50
2	Cocueré	40
3	Itauguá	50
4	<i>Capiatá</i>	50
5	<i>Itá</i>	50
6	Pedro Juan Caballero	50
7	Villarrica	50
8	Caaguazú	144
9	<i>San Lorenzo</i>	100
10	San Juan Bautista	30
11	<i>Limpio</i>	50
12	<i>Villa Hayes</i>	20
13	Ciudad del Este	50
14	Concepción	100
15	Coronel Oviedo	137
16	Caazapá	40
17	<i>Capiatá</i>	360
TOTAL		1331

1992

#	Location	Quantity of Houses
1	Hernandarias	145
2	<i>San Lorenzo</i>	150
3	Yaguarón	550
4	<i>Capiatá</i>	200
5	Caacupé	50
6	<i>Luque</i>	100
7	Carapeguá	50
8	<i>Limpio</i>	47
9	<i>Areguá</i>	100
10	Itauguá	100
11	<i>Luque</i>	100
12	Ypacaraí	50
13	<i>San Lorenzo</i>	100
14	Ciudad del Este	100
15	San Ignacio Misiones	60
16	<i>San Antonio</i>	100
17	<i>Mariano Roque Alonso</i>	100
18	Itapúa	100
19	<i>Villa Elisa I</i>	100
TOTAL		1802

1993

#	Location	Quantity of Houses
1	<i>Villa Elisa II</i>	100
2	Caaguazú	50
3	Hernandarias	100
4	Coronel Oviedo II	100
5	<i>Limpio</i>	90
6	<i>San Antonio</i>	200
7	<i>Ñemby</i>	100
8	<i>Capiatá</i>	25
9	Presidente Franco	100
10	San Estanislao	100
TOTAL		965

Source: CONAVI *Memoria*, 1993: 148-151. Settlements in italics are in the metropolitan area surrounding Asunción.

Although CONAVI has made a significant contribution towards the annual deficit its methods apparently suffer from some of the problems shown to be characteristic of Latin American housing markets. CONAVI construction is typical of government built housing, with poor design (physical and theoretical) and construction, a lack of crucial social facilities such as churches and schools and poorly thought out locations. In addition, CONAVI programs do not necessarily reach those most in need. The greatest number of CONAVI solutions have been in its low cost housing settlements (table 2). Other projects have increased in numbers and plans to implement more are underway. CONAVI settlement projects are not legally allowed to provide housing for those making over two minimum wages, but their loan packages work with people earning considerably more. Therefore although some financing has been provided for the poor, it is only within rigidly defined programs. Other projects are designed for higher income groups leaving the very poor unreached.

Non governmental organizations and cooperatives also attempt to provide 'public interest' housing.

Other groups supplying public interest housing in Paraguay are Cooperatives, and non governmental agencies (usually the church). While these are private institutions, their projects are largely oriented towards the public interest. On a national level, none of these groups is supplying a significant amount of housing and most of their projects are concentrated around the capital.

NGOs. Active primarily in the metropolitan area of Asunción, non governmental organizations (NGOs) that have responded to the housing problem in Paraguay are the Comité de Iglesias, the Equipo Nacional de Pastoral Social, and Obras Sociales Salesianas (OSS). The overall goal of these groups is seeking alternatives to housing production for the poor and the organization of the poor. The Comité de Iglesias is the oldest of the three, beginning its housing work after a 1979 flood in the capital area (Moringo, 1991: 108). The Pastoral Social began its work in 1980

and OSS started in 1983. Like the Comité de Iglesias, neither of these groups has constructed large amounts of housing and the Pastoral Social ceased working on housing construction in 1986. From 1980 to 1986 it built 216 houses while OSS built 473 from 1983 to 1990 (Moringo, 1991: 110). Despite their lack of production, the NGO approach to housing provision is quite interesting. The most active group, Comité de Iglesias provides an excellent example of a public interest housing project.

The church's view towards housing provision is very different from that of CONAVI and other public interest groups. The Comité sees its relationship to government as complementary, despite conflicting ideologies. The goal of the Comité de Iglesias is not to solve Paraguay's housing problem through mass construction of housing. It is to create settlements which form a community base from which citizens may improve all aspects of their lives. In the past year only about 300 new homes were built through the church; the majority of these were in semi-rural areas surrounding the capital (Cargoso interview, 1993).

The program is self admittedly uneconomical, as it only recoups approximately fifty percent of its monetary investment (Cargoso Interview, 1993). Monthly payments are made by the families involved but this is only to recuperate land costs. Materials and administration costs are lost. The Comité de Iglesias builds, through mutual aid of the owners, entire settlements rather than individual homes. By building a nucleus of people, the church attempts to create solidarity in the neighborhood that can help the group to solve other problems in the future. These are environmentally sensitive programs that do not raze land in order to construct. (This is seen as one of the major pitfalls of CONAVI by the Comité).

The process for creating a settlement is quite lengthy and involved. First the church must seek grant type funding (rather than loans) to buy land upon which to build. Much of this is foreign aid from churches and other organizations. Secondly, meetings are held among the people that live in the area of the future settlement. Attendance at a series of meetings are required of interested persons. This is part of the church's attempt to create solidarity. In these meetings the people decide what their needs are, what possibilities they have to fulfill these needs, and also make a technical analysis of the land and construction materials and methods to be used. Thirdly, teams of families are formed, each containing four to six families. Occupational skills such as carpentry and electrical engineering are divided among groups as much as possible and leaders are chosen so that each team will have the necessary skills to complete its own housing. Finally work begins. Construction is only done on Sundays in order to enable participants to continue their normal work schedules. Periodic general meetings of all families involved in the settlement are held to discuss rights of the owners and needs, abilities and disabilities of the groups.

As illustrated in the description of how settlements are formed, the Church's goal is one of social and political mobility of its participants. While not exactly radical in its stance, the church seeks to inform and empower its participants with the tools to solve problems for themselves and to participate in the larger political sphere. In addition to these settlement projects the Comité de Iglesias has a department for the defense of land. This department seeks legalization of occupations through purchase or grant and also conducts a program for environmental defense which educates people about sanitation problems and implements improvement projects for contaminated water.

Cooperatives. Cooperatives began in Paraguay in the 1960s primarily as agricultural entities. Until recently national support for coops was almost exclusively in rural areas. Under President Stroessner, financing coops got either no support or were repressed. The first cooperative laws were created around 1973 and are currently under revision. Since 1989 the number of cooperatives in Paraguay and the number of people in the savings and loans system has doubled. (Sorenson interview, 1993) indicating that cooperatives have promoted the use of savings and loans among lower income groups.

Cooperatives are not necessarily special interest groups, as in the United States, but function more similarly to a credit union. While some special interest cooperatives do exist, for members of a specific profession for example, the requirements for membership are usually more open. To become a member one must attend a talk or workshop about the cooperative and keep a minimum savings balance. As a loose rule, cooperatives only keep about 30 to 35 percent of their lending portfolios in housing (Sorenson interview, 1993). Construction of housing only occurs at larger cooperatives. The reason for the low percentage of housing loans among cooperatives is due to the risky nature of these loans. Borrowers generally do not have collateral that is worthwhile to the institution and are only able to make small payments.

Credi-Coop. An interesting development unique to Paraguay is Credi-Coop. Created by USAID in 1991, Credi-Coop is an umbrella group for cooperatives (currently there are eighteen members with US \$1.3 million in loans) that provides a financing line for individual coops to make housing loans. This project works in conjunction with CONAVI in that it acts as a guaranteeing institution. Credi-Coop guarantees CONAVI loans to cooperatives. While no new construction has been undertaken by Credi-Coop, it has provided 918 solutions since its inception. Approximately 50% of these solutions consist of home expansions, 30% are new bathrooms and 20% are new floors, roofs and other improvements (Sorenson interview, 1993).

Credi-Coop attempts to reach some of the lower income groups in Paraguay by providing loans at a subsidized seven percent interest rate for those earning between one and two minimum monthly salaries. This rate is used only in loans that are connected with CONAVI. Other loans at cooperatives are made at market or near-market rates. One aspect of cooperatives that does allow them to reach some of the informal workers is that rather than requiring a formal wage certificate, members are often allowed to have other members of the community vouch for their income (Sorenson interview, 1993).

International aid to the housing market. Another possible development in the provision of housing and access to financing is a loan proposal by the Interamerican Development Bank to support the reorganization of the housing sector. The goals of this project are: 1. to help the government reorganize the housing sector in technical, financial, economic, legal and administrative aspects and 2. to help raise the quality of life for 12,500 low income families by giving a direct subsidy to purchase housing on the private market. The program would provide a total of US \$54 million divided into three areas: \$25 million for direct housing subsidies, \$25.2 million for a rediscounting fund and 3.3 million for institutional strengthening (IDB Proposal, 1993: 20-23).

As the IDB proposal states, four different income groups would be targeted by the program for various levels of aid. This structure is as follows:

Group A, over two minimum monthly salaries (US \$371). For this group, the project would simplify the formalities and streamline requirements for borrowing on the private market.

Group B, 1.85 to 2 minimum monthly salaries (US \$343-371). In addition to the previous goals, the state would offer a rediscount line for mortgage loans extended by the private sector and administered by second tier financial institutions (currently BNV). These loans would, under market conditions, offer resources at real interest rates.

Group C, .75 to 1.85 minimum monthly salaries (US \$140-343). Just over 39 percent of all urban families fall into this income group. These families would refer directly to the private market for construction and financing but the state would extend direct housing subsidies to supplement savings and mortgage loans. This program would be executed through CONAVI and the above described rediscount line would also be available.

Group D, Less than .75 minimum monthly salaries (US \$140 or less). Under the proposal the state will build housing options with sites and services and a sanitary core unit which consists of one room with a bath. Implemented through CONAVI and NGOs an explicit subsidy would be awarded that would be directly discounted from the sale price, based on a family's income. Because these families can only pay a very small amount each month, CONAVI will extend a long term loan which will add the unpaid balance (that has not kept up with the inflation rate) to the end of the loan. As these loans get paid back this money will be transferred to NGOs with the stipulation that the money be reinvested in the same communities.

The private sector supplies housing financing through the system of savings and loans for housing.

Formal private sector. Formal sector housing as provided by the private market in Paraguay is represented by the number of loans given by SAPV banks (table 4). Quite a few loans for housing were granted in the past year, but not every bank appears to be loaning to full capacity. In addition, as the interest rates shown in Table 5 indicate, only those in the upper income brackets can afford to borrow money from these institutions. Requirements for loans are also strict, requiring large amounts of paperwork. Many people would rather build their homes as they can afford to rather than undertake a loan application.

Table 4: Number of Loans per Month for SAPV Banks, Year 1992-1993

MONTH	Progreso	H. Propio	Ah. Parag.	Itapua	Oga Rape	Solar	TOTAL
JAN 92	0	25	144	118	82	42	402
FEB 92	0	9	144	98	132	50	396
MAR 92	0	19	174	100	286	53	632
APR 92	0	12	115	83	100	51	361
MAY 92	0	14	95	120	131	48	408
JUNE 92	0	20	118	156	231	49	574
JULY 92	0	20	74	139	528	58	819
AUG 92	0	18	93	146	580	60	897
SEP 92	0	15	74	133	141	47	470
OCT 92	0	17	28	123	171	45	384
NOV 92	0	28	43	136	141	50	398
DEC 92	10	29	68	134	239	36	576
JAN 93	0	17	36	96	82	25	256
FEB 93	0	17	64	120	132	18	351
MAR 93	0	30	90	111	146	42	419
APR 93	2	22	77	99	788	18	1003
TOTAL	12	312	1437	1912	3864	692	8229

Sources: Boletín Estadístico Número 9, 1992: 17 and Boletín Estadístico Número 10, 1993: 18.

Table 5: National Interest Rates for Paraguay's Financial System (monthly averages in annual percentages)

Institution	1992		1993	
	low/high	average	low/high	average
SAPV Banks	27.53/31.59	29.22	25.50/32.24	29.90
CONAVI	14/20	14-20	14/20	14-20
Cooperatives	30/33	30-33	30/33	30-33
Commercial Banks	40.43/44.18	41.98	45.11/45.66	45.42

Source: Unpublished data from the Superintendent of Banks and the Banco Nacional de Vivienda, 1993.

With a current inflation rate of eighteen to twenty percent, the SAPV banks have exceeded that rate by ten to twelve percent. The lending rate at Cooperatives, which deal with financially more 'risky' clients, charge the same as SAPV banks if not more. As a point of comparison, commercial banks, which do not loan for housing but tend to make consumer loans of a short term, charge rates double the inflation rate. These short term loans are occasionally used to complete housing projects. The contrast between all these lending rates and the subsidized CONAVI rates is clear. Table 5 shows that CONAVI charges rates that vary from below the inflation rate up to it, dependent upon the program.

The preceding discussion of the national housing market shows that Paraguay follows the Latin American trend. Significant housing deficits exist and supply is restricted by financing. The public sector provides housing from a centralized agency. This agency's programs for the very poor are limited to building settlements which have several design limitations. The private sector provides loans for housing but not at a level that has a significant impact on the nation. The interest rates provided by the private sector are also prohibitive for the majority of the population.

Case Study of Encarnación

Encarnación is a regional growth center with high levels of housing construction.

The city of Encarnación provides an excellent case for a closer look at the housing market because of its dynamic level of growth which has subsequently created a high level of housing production. People of all income levels are building homes in Encarnación, making the city abundant with examples of dwellings as well as financing methods. Despite the high level of production, a housing deficit, typical of Paraguay, is present in Encarnación. This deficit is not just a numerical one but manifests itself in the quality of the units built as well as overcrowding of these units. Despite this apparent housing deficiency, land invasions are unknown to the city.

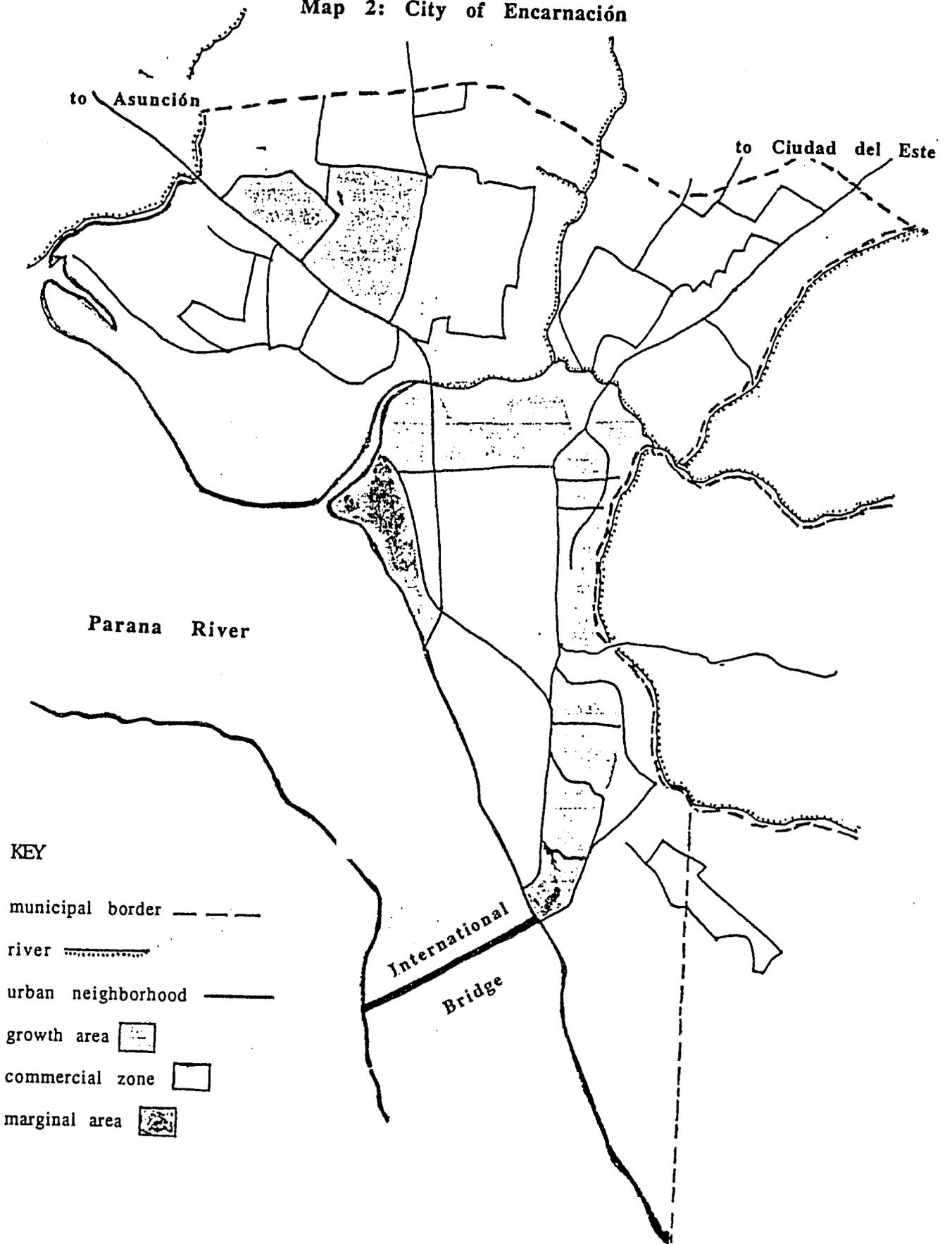
Encarnación is growing rapidly for many reasons. A thriving commercial center, located on the border with Argentina (map 1) international trade is heavy. The retail sector is especially large and vendors crowd the streets to compete for Argentine patronage. Prices are given in both currencies, indicating the abundant trade from Argentineans crossing the border to buy goods at a lower price. Even staples such as food and clothing are less costly in Encarnación than in neighboring Posadas due to a price differential. This large commercial sector attracts many people to the area with the promise of work, and migration is heavy.

Another growth factor is the geographic and political position of Encarnación. The capital of Itapúa district and the only significant city within a large radius, Encarnación is a regional center (map 2). Migration occurs on a state level as well as internationally. A high level of construction exists due to this position as a regional and economic center, (estimated to have increased 100% from 1990 to 1992) and lures unskilled migrants into the city. (Gonzalez interview, 1993).

Map 1: Position of Encarnación Within Paraguay



Map 2: City of Encarnación



All indicators point towards sustained growth for Encarnación over the next decade. A new hydroelectric dam in the area and the impending MERCOSUR trade agreement will both boost Encarnación's position as a commercial center. Most importantly, the dam, Yacyreta, due to begin the first of three stages of flooding in September of 1994 and to be completed within three years, will make Encarnación a port and open the city to further regional trade with Argentina and Brazil as well as wider international trade (Gonzalez interview, 1993). International trade will also be bolstered by the MERCOSUR trading pact with Uruguay, Brazil and Argentina. Before complete flooding occurs, however, the relocation of people, housing, bridges and public buildings will provide more jobs in the construction industry adding to growth *and* the housing problem.

Housing demand in Encarnación, qualitative and quantitative, is the result of high growth.

Growth is also an indicator of increased demand. The average annual rate of growth in Encarnación from 1982 to 1992 was 3.7 percent (Censo Nacional, 1992: 6). This is the fourth highest urban growth rate in the nation as reported by the Census. The two highest growth rates, Ciudad del Este and Asunción, respectively, were in well established urban areas and reflect the common rural to urban migration pattern. Encarnación's growth, however, is also due to commercial factors. The actual population increase from 48,006 persons in 1982 to 68,962 in 1992 (Censo Nacional, 1992:6) represents an increase of nearly 44 percent in ten years. In 1992 the number of houses in Encarnación was 15,299 (Censo Nacional, 1992: 14). Comparing the population with the number of houses shows that the average number of persons per household in the city for 1992 was roughly 4.5. While this figure is actually lower than national levels, local sources estimate that the actual housing deficit is far worse. With an official deficit of 2500 houses (Zárate interview, 1993), Encarnación makes up one-sixth of the nation's deficit of 15,000 units per year. Yacyreta dam is due to displace another 7000 families, more than doubling the physical deficit (González interview, 1993).

Table 6: Demand Indicators for Encarnación

Growth Rate	Population Increase 1982-1992		Number of Houses	People per House	Quantitative Housing Deficit	
	actual	percent			actual	projected
3.7	20,956	44	15,299	4.5	2500	9500

While numbers are important, the quality of housing can be the best indicator of a deficit. If 4.5 people are living in one room, then a demand exists that is not charted by the pure facts. A qualitative deficit exists on many levels in Encarnación. Inadequate housing units lack access to electricity and sufficient amounts of clean water, and are structurally unsound. People often live in unsanitary conditions. Spatial deficiencies are overwhelmingly common. A typical practice, indicative of demand is the illegal subdivision of lots. In this practice an owner will divide his property to create three or four lots out of one. Additional

units are then built on the land and rented. This creates a crowded situation which is neither regulated nor taxed by government.

Throughout all socioeconomic levels, including precarious housing situations, renting is quite common as in the above example or in a legal manner. While renting is better than no home, it may be considered an indicator of a deficit. Paraguay's population is not as mobile as those of more developed nations and people tend to live in one place for long periods, if not their entire lives. Thus renting a home is not only uneconomical but promotes transience and a lack of investment in the area. A renter, seeing the situation as temporary is less likely to make improvements. As time goes by, however, the temporary situation becomes long term, yet the property and the living conditions have only deteriorated.

The municipal department of statistics in Encarnación estimates that 43 percent of the population does not own their own home. This portion of the population either rents or lives with other family members in a crowded situation. Often multifamily dwellings created out of what was formerly a single house, rental units are generally overcrowded as well. The statistics department estimates that sixty percent of the population lives in these overcrowded conditions. (Baez interview, 1993).

Housing financing in Encarnación is provided by CONAVI and SAPV banks. The municipal register also indicates the formal housing supply.

Formal public supply. The public sector, represented by the National Housing Council (CONAVI) only covers a very small amount of the housing supply in Encarnación. Three of the CONAVI projects are offered in the area: economical housing construction (Viviendas Económicas), self help (Ayuda Mutua) and construction on owner's lots (Construcción en Lote Propio).

With its regional office opened in June of 1992, CONAVI has two low cost housing construction projects in the Encarnación area, only one of which has been completed. These are Trinidad, with 100 houses, and still under construction, Santo Domingo with 200 houses. These settlements are groups of economical homes with one, two or three bedrooms (usually two). All basic infrastructure has been provided, including roads, septic systems, water supply and electricity. Geared towards people earning one to two minimum monthly salaries (US \$175. - \$350) these homes are financed by ten year mortgages with average monthly payments of 62,000 guaranies (US \$37.). Clearly this is affordable housing, especially when considering that precarious rental units can cost 100,000 guaranies per month, but other problems that may supersede cost are present (Zarate interview, 1993).

These projects are designed to cater to the population of Encarnación yet they are located outside the main city (twenty two and ten kilometers, respectively) and transportation into the city is infrequent and expensive. The remote location makes employment more difficult and contributes to a lack of other services. While there is a school near the Trinidad settlement (a Peace Corp project), the presence of a church, policemen and telephones are sorely missed. A limited social life due to the distance from 'town' is also a factor in the ability of these settlements to succeed. One resident of Trinidad, while personally satisfied

with her choice to move there, cited the lack of sidewalks and grass (the settlement rests on a downhill dirt slope) as well as the small size of the houses and lots as common complaints by prospective tenants. And in fact, many units remain vacant.

The self help program in Encarnación is targeted towards cooperative type groups. Currently CONAVI is working with a teacher's association. The income level of these groups is in the one to three minimum monthly salary range, but is usually at the higher end of the scale, approximately US \$525 per month. CONAVI extends credit to the group as a whole which then builds its own housing with guidance from CONAVI. The association decides which members will receive loans for the new housing, and then is responsible for repayment to CONAVI as a whole (Zárate interview, 1993). Although the teacher's group was self formed, CONAVI has been instrumental in fostering the solidarity, organization and leadership of the group as well as providing technical assistance.

The second loan program, building homes on owner purchased lots is targeted towards income levels of three to five minimum monthly salaries, once again tending toward the upper end of the scale (US \$875.). In this program, up to 24 million guaranies (currently about US \$14,000) can be loaned at a subsidized yearly interest rate of 18%. This is to be paid back over a fifteen year period. The approximate monthly payment in this program is 400,000 guaranies (currently US \$235.) or 1.3 minimum monthly salaries but loans will not exceed an amount that cannot be paid with 25% of the borrower's monthly wage (Zárate interview, 1993). This program is not a factor in the most recent supply because it was only authorized in March, 1993 and has not yet been implemented in the area. Obviously, other than the settlement housing built by CONAVI, there are no programs available for the very poor, making two or fewer minimum monthly salaries.

Formal private supply. Housing of all types is currently being built in Encarnación. From the most basic shelter to luxury homes, construction abounds throughout the city, especially in the northern subdivisions (map 1). The municipal register of construction permits highlights formal private sector construction for the past year. As the following chart indicates, the most common type of dwelling is a house without a commercial attachment. The most common quality level is 'good' with 'average' and 'luxury' construction levels extremely close to one another. Each quality category indicates a level of construction and material quality and a higher price per square meter, as well as increased infrastructure. A definition of each category is found in Appendix A.

Table 7: 1992 Registered Construction in Encarnación by Type and Class

Type	Quantity		Classification			
	Number	Percentage	Economical	Average	Good	Luxury
House	151	69.6	-	56	61	34
Business with House	19	8.8	-	2	14	3
Apartment	25	11.5	-	1	18	6
Business with Apt.	22	10.1	-	-	16	6
TOTAL	217	100		59	109	49
Percentage				27.2	50.2	22.6

Source: Unpublished Municipal Registration Records, Department of Public Works, Encarnación, Paraguay.

Registered housing, however, only reflects a very small portion of the growth occurring in Encarnación. One reason for the low registration rate is the level of difficulty involved in registering a new construction. Besides title to the land, an architect's blueprints in triplicate, tax payment and numerous other pieces of paperwork must be filed and then approved by the municipality. Many people simply cannot afford to undergo such a process. Others do not want to wait for this process to be completed. Registration can take months, therefore many people who have sufficient money and even hire an architect for their plans do not register their construction with the municipality (Martinez interview, 1993).

Another indicator of formal private sector construction is the number of bank loans made for housing in the past year. Of the thirteen banks in Encarnación, only three are affiliated with the Savings and Loans for Housing System (SAPV) and give loans for housing construction or additions. The basic loan structure, as illustrated in Table 8, is stringent, making it unaffordable to many.

Table 8: Basic Loan Structure for SAPV Affiliated Banks in Encarnación

	ITAPUA	Ahorros Paraguayos	SOLAR
Maximum loan amount	up to 50% of appraised land value	up to 50% of appraised land value	up to 80% of appraised and value
term length	36 months	up to 5 years	6-10 years
interest rate [^]	28 %	30-34%	28%
minimum salary of borrowers *	1/4 of loan amount	1/4 of loan amount	-
estimated number of loans for 1992	50	5	5

[^] yearly interest rate. * The average reported by Itapua was 5 minimum monthly salaries. Source: Inquiries at each bank made by the author, July 1993.

As shown, interest rates are extremely high and a relatively high salary is necessary to be able to pay back the loan on the bank's terms. But requirements also eliminate many potential applicants. The requirements to obtain bank loans are as stringent, if not more so, than those required for municipal registration. The applicant must have a savings account at the bank, a loan application must be made with a certificate from the municipality stating that all taxes have been paid, a formal salary declaration, identity documents and other forms are also required. Banks do require registration from the municipality and may ask for a work proposal including the number of workers, a list of materials and the costs for each. Additional technical requirements were made by at least one of the banks in Encarnación. Only those that can afford, both financially and chronologically, to meet those requirements, can obtain a loan. Other commercial banks do exist but these banks do not loan for housing. Their primary loans are small consumer loans with short terms.

Informal market production. The formal market does not demonstrate the entire housing supply of Encarnación for several reasons. As mentioned above, many people do not register their construction and bank loans are difficult to obtain. Public production is limited and options for financing are not available for low income groups. The formal sector may spur informal construction by shutting out a large proportion of the population. The informal sector is not isolated from the formal sector and may make use of the formal sector in several ways. To take advantage of bank loans that are obtainable, many people secure loans for other purposes and use them for their homes. One common practice is to obtain a small business loan, which has easier requirements, and then use it to build or add on to a home. The use of guarantors or cosigners of more secure financial status to ensure a personal loan is also highly utilized. Therefore the number of mortgage loans given out does not fully indicate the number of loans or amount of money loaned that is used for construction of houses.

Another part of Encarnación's demand market which is shut out of the formal financing sector is one that is not necessarily financially disadvantaged. Ambulatory vendors fill the sidewalk, with umbrella covered stalls and cater to the Argentine market. This sector consists of an estimated 1000 families who typically earn considerably more than average salaries. Sometimes even up to ten minimum monthly salaries (Gonzalez interview, 1993). This is obviously sufficient to pay for the construction and maintenance of a home but other constraints keep these families out of the formal market. One problem is a lack of ability to prove on paper what exactly is earned per month. Without proof of stable employment or income, credit is unavailable. Therefore construction by this group does not show up in the formal records of CONAVI or the municipality.

Many people finance their homes outside of the mortgage market. 'Pay-as-you-go' or financing out of one's income is the most common financing method. People gather a sum of money to begin construction and oversee or participate in that construction themselves. When the money runs out, construction stops until the owner can save enough to add another room, another wall or additional facilities. Figure 1 is an excellent example of a home that has been built in stages. The different construction materials and style of the two parts are an obvious sign of their different ages.

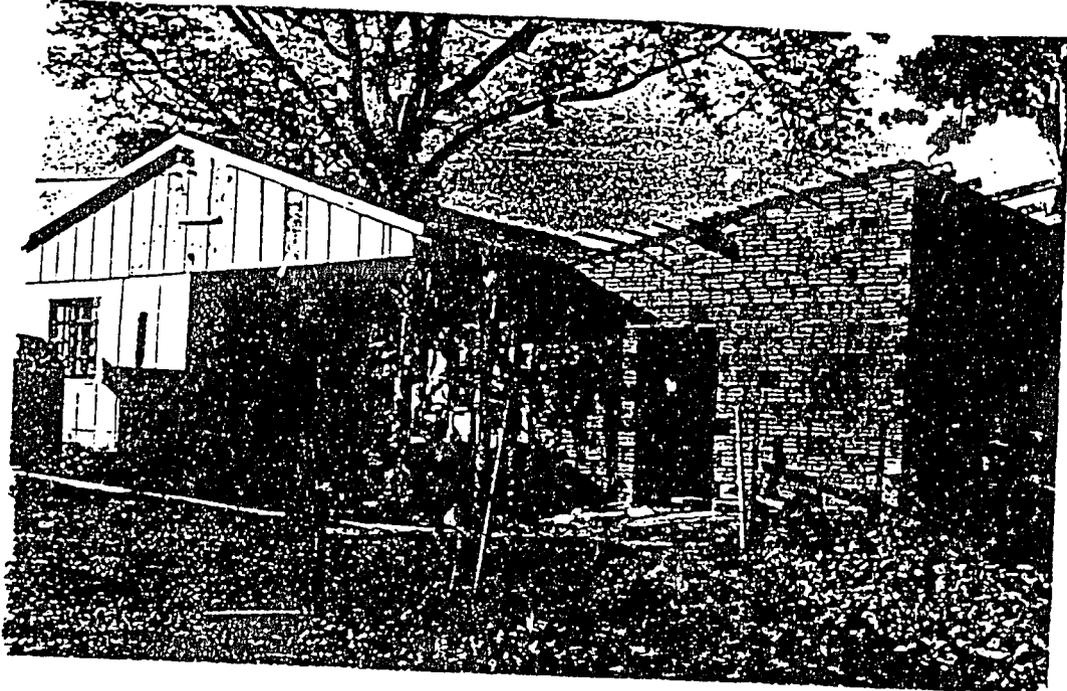


Figure 1: Many people complete construction of their homes when they can afford to. This photo illustrates a home undergoing another phase of construction.

Both the CONAVI programs and bank lending practices cover a sector of the market with above average income levels. Those earning even two minimum monthly salaries would be hard pressed to find a loan program in which to participate. For the extremely poor, earning less than one minimum monthly salary both public and private sector financing are out of reach. The only options available to this group are renting or building informally with what funds they can obtain. This housing is precarious in nature but is found side by side with other quality levels.

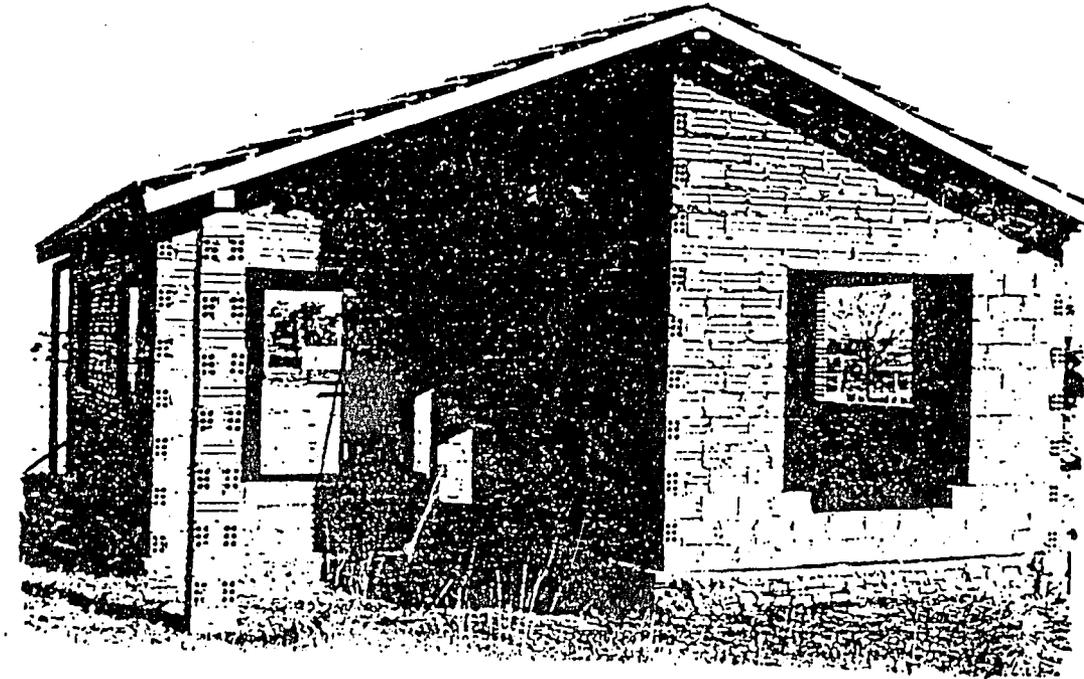


Figure 2: Informal construction is often of good quality but remains unregistered for a variety of reasons.



Figure 3: Precarious housing is typical of the informal sector.

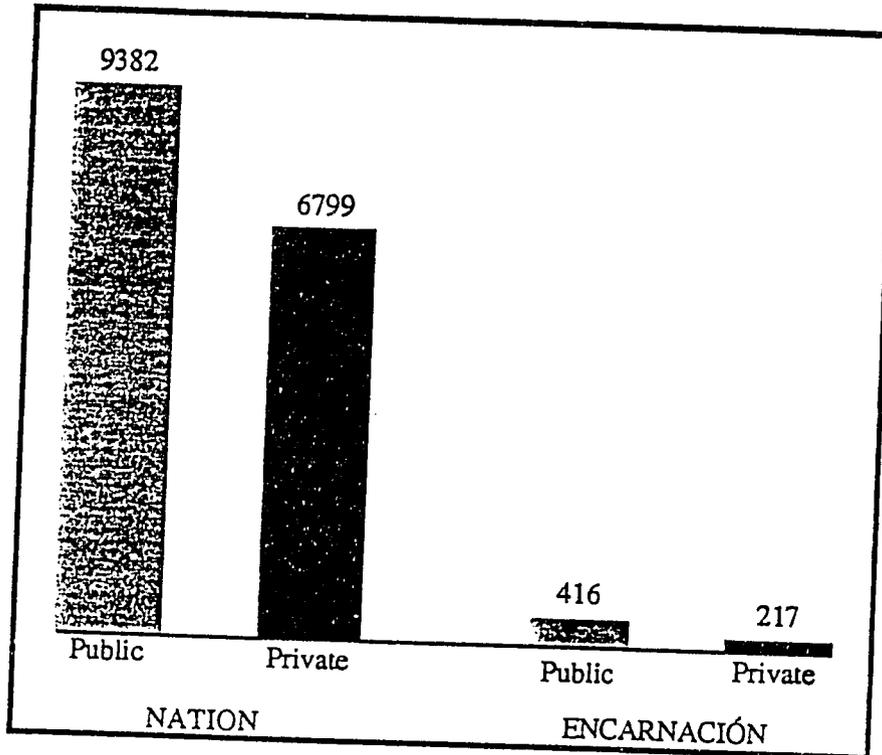
Constructed with found materials, the majority of this type of housing is on land very near the river (map 1), subject to the threat of periodic flooding and without complete infrastructure or sanitation services. Water is provided at occasional outdoor spigots and livestock-type animals typically live inside the house with the family (figure 3). These are overcrowded and often unsafe constructions. Some of these areas were more established than others and had obtained electricity. Surprisingly even a large percentage of precarious housing without infrastructure is rental property. As previously noted, rental costs can be very high, especially for someone earning only one minimum monthly salary. A rent of 100,000 guaranies (US \$59.) is about 34% of the minimum monthly salary of US \$175.

In response to a restricted financing supply, characterized by difficult requirements and high interest rates, there is a large informal sector in Encarnación. There are also few programs for low income groups to receive financing for homes. As illustrated by Encarnación, the administrative capacity of the municipality is low due to a lack of technical abilities. Information is poor, making the ability to chart housing developments, ownership and other pertinent details. The technical assessor of the municipality strongly feels the lack of readiness on the part of the city to adequately handle growth and emphasized this lack of technical capabilities. While growth has been increasing steadily for some time, the municipal system has only been in place a few years. Proper cadastre maps which detail dwellings, street quality, sewage and electric hook ups as well as other infrastructure are completely missing. Accurate statistics and other measures of land use, land value and population data are lacking. This detailed information informs the municipality of general trends in the housing market which is necessary for tax decisions and the creation of policy. Without a rapid improvement in information, as well as financing methods, housing in Encarnación will become more problematic.

Conclusion

Table 9 shows housing construction for the past year as recorded by formal financing and building institutions. The total number accounted for by this sector was 16,181. Many of these are only solutions, as provided by the public sector and do not represent new home construction. Loans also do not necessarily represent a completed structure of good quality. Difficulties in receiving loans keep many potential borrowers out of the mortgage market.

Table 9: Formal Sector Housing Construction for the Past Year



Public construction figures are from CONAVI. In Encarnación, CONAVI has only completed 100 of the 416 homes. Private construction for the nation is represented by SAPV loans. In Encarnación it is registered housing which includes SAPV loans.

As indicated by interviews, private sector construction is only about thirty percent of all housing construction, the remaining seventy percent is built in the informal sector. This would mean that another 37,756 houses built in the nation went uncounted by government. The informal sector is the only response available for people shutout of the private sector. High interest rates, extremely strict requirements for loans and formal registration force many people to build outside of the formal sector. In addition, a lack of programs for those members of the population that have practically no financial resources contributes to the creation of precarious housing.

A huge amount of construction is uncharted and unregulated each year. The role played in the housing sector by municipal governments, as illustrated by the case study, is a limited one. Administrative capacity is weakened by poor information systems. Not only are poor construction and a lack of infrastructure problems, the amount of homes escaping taxes and accountability weakens the government's ability to make decisions and thereby weakens their responsiveness to the citizens.

Recommendations

Providing technical assistance and innovative loan programs at the local level will strengthen Paraguay's municipalities.

For an unprepared municipality, rapid growth could be highly detrimental. Migration into urban areas creates spontaneous settlements without proper infrastructure. In most cases, this informal construction provides housing that is of a substandard quality, weakening both the immediate and larger structures. People living in poor conditions have less access to social mobility as provided by schools, health care and access to employment opportunities. The most effective way to alleviate and prevent these situations is to improve housing. Paraguay is in need of a regional and municipal programs. by strengthening housing at a local level, municipalities will be strengthened, creating a stronger decentralized state.

Localized assistance. Because the Interamerican Development Bank is already planning to provide assistance on the national level through its proposal to streamline loan requirements and create a secondary mortgage market, the obvious place for an AID program is at the municipal level. Assistance at this level could strengthen both the housing market and the municipality. Municipalities are in dire need of both technical assistance and housing programs. Action taken before problems arise will strengthen the ability of the municipality to respond to the needs of its citizens and would help prevent deterioration of already existing structures.

Technical assistance. Urban growth management, an important step to strengthening government, could be greatly enhanced through technical assistance to Paraguay's municipalities. By checking growth, a municipality can help reduce or eliminate problems such as squatter type settlements, pollution, and health problems caused by unsanitary conditions. By improving its abilities to track and regulate housing, a municipality will be able to make more informed decisions and respond more effectively to the needs of its specific neighborhoods and its population. in general. Effective policy responses are essential to strong leadership.

Loan programs for the informal sector. A municipality also gains strength through the incorporation of informal sector participants into the formal sector. One way to do this is by providing more flexible loan programs that account for the needs of people who normally buy housing on the informal market. In the case of people that have difficulty fulfilling loan requirements (such as proving a stable income of a certain level) peer lending groups, already in worldwide use for small business loans, would effectively guarantee loans and provide financing while including people in the formal sector. The problem presented by the informal sector is also social. A large portion of the population is not accustomed to acting in the formal sector, nor are they used to participating in the municipal structure. Participation in the formal economy will make citizens better participants in their community and the democratic process at large. by providing innovative loan programs, AID can ameliorate the housing sector as well as strengthen the municipal structure of Paraguay.

Bibliography

- Boletín Estadístico Número 9*. December, 1992. Asunción: Estudios Económicos del Banco Nacional de Vivienda y Sociedades de Ahorro y Préstamo para la Vivienda.
- Boletín Estadístico Número 10*. April, 1993. Asunción: Estudios Económicos del Banco Nacional de Vivienda y Sociedades de Ahorro y Préstamo para la Vivienda.
- Carlson, Eric. 1986. "Entidades de Financiamiento para la Vivienda del Mercado Informal." *Revista Interamericana de Planificación*. Vol. 20 Número 80, 111-121.
- Censo Nacional de Población y Viviendas, Cifras Provisorias*. 1982. Asunción: Secretaría Técnica de Planificación, Dirección General de Estadística, Encuestas y Censos. Asunción, Paraguay.
- Censo Nacional de Población y Viviendas, Cifras Provisorias*. 1992. Asunción: Secretaría Técnica de Planificación, Dirección General de Estadística, Encuestas y Censos. Asunción, Paraguay.
- CONAVI. 1992. *Deficit y Demanda Habitacional en Las Localidades Afectadas por las Licitaciones L1/92 y L2/92*. Investigación Monográfica Número 2. Asunción.
- 1989. *Documento de Diagnostico*. Asunción.
- 1993. *Información y Relatorio de la Zona de Itapúa y Encarnación*. Unpublished information compiled by the regional CONAVI office, Encarnación.
- 1993. *Memoria 1989-1993*. Asunción.
- 1991. *Plan de Acción a Corto Plazo para el Año 1991*. Asunción.
- 1992. *Plan de Acción, 1992*. Asunción.
- Edwards, Michael. 1986. "La Vivienda en Arrendamiento Entro Grupos de Bajos Ingresos." *Revista Interamericana de Planificación*. Vol. 20 Número 77, 152-176.
- Estudio de la Vivienda Informal*. 1989. Asunción: Fundación Paraguaya de Cooperación y Desarrollo.
- Estudio Para la Planificación y el Financiamiento del Sector de Sanamiento del Paraguay*. 1992. Proyecto Preliminar Abastecimiento de Agua Encarnación. Asunción: Secretaría Técnica de Planificación.
- Hardoy, Jorge E. 1992. "Theory and Practice of Urban Planning in Europe, 1850-1930." in Morse, Richard M. and Jorge E. Hardoy, eds. 1992. *Rethinking the Latin American City*. Washington D.C.: The Woodrow Wilson Center Press, 20-49.

- Huelsz, Antonio. 1987. "FONHAPO: Nuevos Sistemas de Financiamiento para la Vivienda Popular." *Revista Interamericana de Planificación*. Vol. 21 Números 83-84, 127-141.
- International Development Bank. 1993. *Loan Proposal for Loans to Support Re-Organization of the Housing Sector*. Unpublished report from the Secretary of the Bank to the Board of Executive Directors.
- Jimenez, Emmanuel. 1982. "The Value of Squatter Dwellings in Developing Countries." *Economic Development and Cultural Change*. Vol. 31, 379-752.
- Jones, Gareth and Peter M. Ward, eds. Forthcoming 1994. *Methodology for Land and Housing Market Analysis*. London: University College Press.
- Malpezzi, Stephen and Stephen K. Mayo. 1987. "User Cost and Housing Tenure in Developing Countries." *Journal of Development Economics*. Vol. 25, 197-220.
- Mejía, María Clara, Consultor. 1992. *Plan de Acción para el Reasentamiento y Rehabilitación: Informe Final*. Empresa Binacional Yacyreta.
- Moringo, Jose Nicolas. 1991. *Pobreza Urbana y Vivienda*. Asunción: Comité de Iglesias.
- Registered Construction Records*, 1992. Unpublished Data from the Department of Public Works, Municipality of Encarnación, Paraguay.
- Rakodi, Carole. 1992. "Housing Markets in Third World Cities: Research and Policy into the 1990s." *World Development*. Vol. 20, 39-55.
- Strassmann, W. Paul. 1982. *The Transformation of Urban Housing*. Baltimore: Johns Hopkins University Press. 133-148.
- Superintendencia de Bancos. 1993. *Interest Rates of the Financial System*. Unpublished data, Asunción.
- Violich, Francis with Robert Daughters. 1987. *Urban Planning for Latin America: the Challenge of Metropolitan Growth*. Boston: Oelgeschlager, Gunn & Hain, Publishers, Inc.
- Vliet, Wran, ed. 1990. *International Handbook of Housing Policies*. New York: Greenwood Press. 379-489.
- Ward, Peter M. and G. Chris Macoloo. 1992. "Articulation Theory and Self-Help Housing Practice in the 1990s." *International Journal of Urban and Regional Research*. Vol. 16 No. 1, 60-80.

Interviews

- Baez, Lucio. Architect, Municipal Department of Statistics and Information. Interview July 7, 1993. Encarnación, Paraguay.
- Cargoso, Ramón. Comité de Iglesias. Interview July 13, 1993. Asunción, Paraguay.
- González, Hildegardo. Asesor Técnica de la Municipalidad. Interview July 8, 1993. Encarnación, Paraguay.
- Knapps, Francisco. Architect, CONAVI. Interview July 14, 1993. Asunción, Paraguay.
- Martinez, Roberto. Architect with the Municipal Department of Public Works. Interview July 7, 1993. Encarnación, Paraguay.
- Patrini, Renaldo. Facultad de Arquitectura, Universidad Católica. Interview June 25, 1993. Asunción, Paraguay.
- Rivarola, Domingo. Centro Paraguayo de Estudios Sociológicos. Interview June 25, 1993. Asunción, Paraguay.
- Sorenson, Todd. CHF Consultant, Credi-Coop. Interview June 30, 1993. Asunción, Paraguay.
- Zárate, Dario. Architect, CONAVI, Encarnación Office. Interviews July 5, 1993 and July 7, 1993. Encarnación, Paraguay.

Appendix A: Construction Quality Classifications for the Municipality of Encarnación per Ordinance Number 209

ECONOMICAL CONSTRUCTION: 60,000 guaranies per square meter

Roof	corrugated iron or tiles without insulation between roof and ceiling.
Walls	common bricks or planks with gaps
Floor	rough or common cement; common rough brick; or common wood.
Electricity	space for an electric meter with one line
Water	well water and a collection pit for waste water

MEDIUM CONSTRUCTION: 90,000 guaranies per square meter

Roof	tile with insulation
Walls	common brick or planks without gaps, painted one time
Floors	paving stones (thin ceramic style)
Electricity	space for a meter with one electric line
Water	running water with modern bathroom, collection pit with septic tank
Paint	walls painted with Cal, a chalk like whitewash

GOOD CONSTRUCTION: 125,000 guaranies per square meter

Roof	tiles with insulation of tile or large sheets of planed wood
Walls	common bricks or pressed bricks, painted two times
Ceiling	uncorrugated metal or planks without gaps
Floors	ceramic paving stones of 7.5 x 15 cm
Paint	latex paint without spackling
Foundation	stone or reinforced concrete
Foundation	
Top	reinforced concrete or planed wood
Electricity	space for three electric lines, outlets for television, telephone, and a line for air-conditioning and heating
Water connection	Running water with modern bathrooms, sewer line

LUXURY CONSTRUCTION: 150,000 guaranies per square meter

Roof	Tiles with tile insulation or varnished wood, no gaps
Walls	common brick, pressed brick, painted twice
Floors	ceramic tiles larger than 7.5 x 15 cm, granite mosaic, parquet
Foundation	reinforced concrete and smooth wood
Paint	Latex paint and spackled walls
Electricity	space for three lines, tv and telephone outlets, lines for air conditioning and heating
Water	running water with modern bathrooms, sewer line connection.

Source: Unpublished Municipal data from the Department of Public Works, Encarnación, Paraguay.