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Housing for Haiti's Middle Class

Post-Earthquake Diagnosis and Strategy

**Final Report
29 September 2010**

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Executive Summary

This document, *Housing for Haiti's Middle Class*, grew out of a recognition by the Government of Haiti (GoH) that, while all suffered grievously by the 12 January earthquake, the nation's middle class may actually have been most devastated. Many middle-class families suffered not only the loss and injury of loved ones but also the loss of their greatest material asset—their house, typically an investment many years in the making. The present analysis aims therefore to understand who is the middle class in Haiti—not a straightforward task—and then explore their post-quake housing situation and to propose a housing assistance strategy for USAID/Haiti. Although this document examines middle-class housing, other plans being sponsored by USAID/Haiti examine the housing requirements of Haiti's lower income population. This document does not analyze the net benefits and costs of middle-class housing against the needs of the broader population, nor does it aim to integrate its proposed strategy in a general framework of USAID housing goals and resources. But such analysis and integration will be required in the future, with the present findings as an input to the process.

Nathan Associates, of Arlington Virginia, and Atlantis Global Vision, of Port au Prince, prepared this analysis between August 6 and September 14, 2010. A major data resource was the Haiti living conditions survey database obtained from the Institut Haïtien de Statistique et d'Informatique (IHSI): the Enquête sur les Conditions de Vie en Haïti (ECVH). For estimates of the earthquake's effect on the stock of housing, the team referred to data compiled by UNOPS and information from Dalberg Global Advisors. Extensive interviewing in Haiti's public and private sectors and in the international community—including focus groups with representatives of Haiti's middle class—plus review of a broad range of documents, extended and deepened the team's understanding of Haiti's housing sector, the middle class, and housing development issues and options.

STRATEGIC CONTEXT

Several factors influence the focus of this analysis. The first of these is, of course, the priority attention to the middle class. As noted, this arises from concerns in the GoH that the middle class finds itself in a particularly difficult situation, being “decapitalized” by the earthquake, losing livelihood in the disaster, and now facing skyrocketing rents as large numbers of middle-class families try to resettle. The middle class plays a strategic role in the economy as managers, skilled technicians and social stabilizers, and if these families become discouraged they will emigrate, severely undermining Haiti's recovery and development. Some targeted support for the middle class is in order and is this assignment's rationale.

But other factors also condition our analysis and the conclusions. For example, Haiti's distinctive economic structure has an impact on housing development options and potential. Poverty and inequality is extreme—77 percent of the population reported to be living on less than US\$ 2 per day and a Gini coefficient of 0.595, denoting the second most unequal income distribution in the world. These numbers mean that Haiti's middle class is inevitably a very limited and relatively wealthy group in the universe of all the country's households. Formal sector employment is also limited: 5.5 percent of total workforce. This suggests that households with stable, salary-based income flows—the natural clients for conventional housing finance approaches—are a very small group. Additionally, after 26 years of continuous contraction of per capita income between 1980 and 2006, Haiti's economy is very weak. While an economic turnaround was just starting to take hold in 2009, the fact is that remittances from abroad have been critical to economic wellbeing of households. Remittances increased by 136 percent between 2001 and 2010.

Whatever economic progress Haiti was starting to make was abruptly halted by the 12 January disaster. The catastrophe has had enormous impact: 222,000 dead, 310,000 injured, losses and damages amounting to US\$7.8 billion or 120 percent of Haiti's GDP. Port au Prince, the nation's economic and political and administrative center, home to 23 percent of the population—and probably three-quarters of the middle class—was hit hard. Many buildings were destroyed or damaged, but the value of housing losses and damages alone is estimated at over US\$ 3 billion. The share of the middle-class households is not known, but believed to be very significant and disproportionate to their numbers in the overall population. The disaster made it clear that uncontrolled and anarchic urban growth, characterized by overcrowding and technically unsafe construction, can only amplify human and physical destruction of such natural disasters. As a result, the GoH and the private sector have renewed policy emphasis on economic decentralization and regional growth. The USG-supported development corridors—Port au Prince Metropolitan Area, Saint Marc-Cabaret and Cap Haïtien—are consistent with this policy emphasis. Where possible, the present analysis will use ECVH survey data to broadly depict middle-class households and housing stock in these corridors.

DEFINING HAITI'S MIDDLE CLASS

A clear understanding of the target population—Haiti's middle class—is the first step in our diagnosis. Interviews with representatives of the private sector (banks and firms), government, NGOs and bilateral and multilateral agencies convinced us that the most important single criterion of middle-class status is household income. However, the interviews also underscored the importance of occupational status and educational attainment as a secondary criterion. For example, observers frequently pointed out that teachers, nurses and policemen are all low-paid in Haiti, but have attained an educational level and a social recognition that should put them in the middle class, especially because they have a steady income—again, the influence of income.

With a range of converging opinions from our interviews as a reference, we established the following definition of Haiti's middle class (2010):

- Upper bound—monthly household income of HTG 160,000 (US\$4,000)
- Lower bound—monthly household income of HTG 20,000 (US\$500)

Within this interval, a monthly household income of about HTG 80,000 (US\$2,000) to HTG 100,000 (US\$2,500) might be considered the heart of the middle class. This definition, although stated in income terms, can encompass households with teachers, nurses, and policemen as key breadwinners.

To situate the middle class thus defined in Haiti's income distribution, we applied this income criterion to the ECVH database, after first bringing the survey's information on 2001 household incomes up to date (2010) using both an inflation factor and a remittance adjustment factor to reflect the dramatically increased remittance flows of the past few years. After these adjustments, using the above definition of middle-class status, we see that this group is anything but "middle" in Haiti's income distribution. In fact, based on the updated ECVH dataset, the middle class is only about 7 percent of Haiti's total households, and holds 41 percent of total household income. Given the relative poverty and inequality of Haiti, the middle class is very high in the national income distribution, somewhere between the 93rd and 100th income percentile. Breaking Haiti into zones of residence, the pattern is a slightly different. In the Port au Prince Metropolitan Area alone, the middle class is 23 percent of all households and holds 61 percent of household income. It is located between the 76th and 99th income percentile. About three quarters of all Haitian middle-class households are in the Metropolitan Area. In the Other Urban zone of Haiti (all urban areas except Port au Prince) the middle class represents about 5 percent of zone households and holds 31 percent of zone income; and in Haiti's Rural zone the middle class is about 2 percent of zone households and has 13 percent of zone household income, respectively.

One implication of our analysis is that a "gap class" may exist in USAID/Haiti's housing sector planning. We understand that the Dalberg analysis, focused on Haiti's low income population, defined this group as households with monthly household income of about US\$240 or less. Between that low income household ceiling and our middle-class household income floor (US\$500) is an "uncovered" population interval representing about 10 percent of all Haiti's households (and about a fifth of all Metropolitan Area households). The housing needs of this gap class may be missed in USAID/Haiti planning. The gap class represents a group into which many of the lowest level civil servants might fall.

MIDDLE-CLASS HOUSEHOLD CHARACTERISTICS

We use the ECVH database to describe characteristics of middle-class households. Type of household is one. Compared to all households, middle class ones tend to be made up of extended or complex families (the latter including non-relatives). More than 70 percent of middle-class families are so composed, versus about 48 percent for the average Haiti household, which often have nuclear families (26 percent) or single parent families (12 percent). Reflecting this composition, middle-class households are slightly larger (+ 0.8 persons) than the average. Heads of households for middle-class families are different than the all-Haiti average as well. They are more likely to be men (60.2 percent vs. 54 percent for the Haiti average household), married (37 percent vs. 28 percent) and younger (41.5 years vs. 45.2 years). They are also likely to be better educated (13.8 percent with a university education vs. 1.8 percent for the all-Haiti average). And they are likely to be employed (71 percent vs. 68 percent), especially as salaried employees (34.5 percent vs. 12.2 percent for Haiti as a whole), and less often self-employed (36 percent vs. 54.7

percent) than the average head of household. Middle-class households have more persons working than the average (1.5 persons vs. 1.3 persons).

Other characteristics also stand out. More middle-class households have savings accounts (58.9 percent vs. 11.5 percent of all Haitian households) and more have health insurance (21.5 percent vs. 5.3 percent). Middle-class households are also better able to afford certain purchases than the average: school fees (80.6 percent vs. 55.6 percent); furniture (55.8 percent vs. 14.9 percent); new clothes (65.4 percent vs. 24 percent); and meat consumption 3 times per week (61.1 percent vs. 18.3 percent). Nearly three quarters of middle-class households report receiving remittances (72.1 percent vs. 45.9 percent). Remittance income is a slightly higher share of total household income for the middle class compared to the average household in Haiti (29 percent vs. 26.6 percent). The importance of remittances may in part reflect the tighter ties of middle-class households to the Haitian Diaspora: 71 percent of middle-class households report a family member living abroad (31 percent for the average Haitian household). And nearly half (45.6 percent) can mobilize significant resources from own-funds or personal networks vs. about only 12 percent of all Haiti's households.

At the time of the ECVH, only 11.1 percent of middle-class households had built a house in the last 12 months—but this was twice the rate for Haiti's households as a whole (4.5 percent). And while Haiti's households generally do not obtain credit from formal financial systems, the middle class is still modestly more likely to do so than the average household. In 2001 13.3 percent of middle-class households had obtained a loan in the last 12 months from a credit union and 6.4 percent from a bank (vs. 4 percent and 0.6 percent from these sources for the average Haitian household).

HOUSING STOCK FOR THE MIDDLE CLASS

According to Institut Haïtien de Statistique et d'Informatique (IHSI) estimates, in 2009 there were about 2.2 million housing units Haiti-wide, including 492,000 units in the Metropolitan Area. With the middle class representing about 7 percent of all households in Haiti and about 23 percent of households in the Metropolitan Area, this means that there may have been about 148,000 middle-class housing units including 113,000 housing units in Port au Prince Metropolitan Area at end 2009.

This middle-class housing stock has several distinguishing characteristics. Most middle-class families live in one-story houses (54.8 percent), a lower proportion than for all households (72.6 percent), but another 40 percent of middle-class families live in multistory houses or apartments (45 percent in the Metropolitan Area). Only about 7 percent of all Haiti's households live in such structures. More than half of all middle-class families live in four- or five-room houses (54.2 percent) vs. about one fifth of all households (20.2 percent). Overall, the middle-class household averages 5.5 persons per house, 2.8 rooms per house and 2 persons per room, larger but less crowded than the 4.7 persons per house, 2.1 rooms per house and 2.2 persons per room that represent the average Haiti household.

Compared to the average household in Haiti, the middle class has far greater access to amenities: electricity at home (84.3 percent vs. 31.4 percent); water at home (by home or courtyard tap or courtyard well, 39.9 percent vs. 11.8 percent); individual bathing facilities (39.9 percent vs. 7.6

percent); and WC or residents-only latrine (57.9 percent vs. 21.5 percent). Middle-class households are more likely than the average to use charcoal (57 percent vs. 36.5 percent), propane (19.6 percent vs. 4.3 percent) or kerosene (18.2 percent vs. 7 percent) as kitchen fuel, rather than wood (5.2 percent vs. 51.8 percent). And they are far more likely to have a fan (70.3 percent vs. 18.7 percent) than the average household.

With regard to tenure, about 60 percent of middle-class households owned their houses and about 36.4 percent were renters or leaseholders. For all households the proportion of owners is higher (76.2 percent) and renters/leaseholders lower (19.2 percent). This is because more than 81 percent of rural zone households own their houses. Among owners, middle class and for Haiti as a whole, proof of ownership is most often by notarized deed (*acte notarié*), and very infrequently through possession of a sales receipt.

HOUSING MARKET OPERATIONS AND BEHAVIOR

In pre-earthquake 2009, annual effective demand for middle-class housing was probably growing at about 3 percent per annum, or 4,500 units per year, with 60 percent of this total (2,700 units) in demand for owned units and 40 percent in demand for rental units. Significant latent demand existed, however, and was intensifying every year.

The dynamic of the housing sector can be described in four separate but inter-related components: consumption, production, policy-institutional, and financing. For the consumption component, middle-class households preferred to own their homes, but faced two realities. First, there are “no final housing products” in Haiti—few opportunities exist to enter the market and purchase a house newly built or as an existing home. Weak household financial capability, high cost of finance, and high commercial risk discouraging developers seems to have hindered this market from emerging. Second, as a result, a “house is not a product but a process” in Haiti, to be undertaken by individual households idiosyncratically, as a very long-term proposition, depending on flow of funds and with a desire to cut costs that has now proven to have had disastrous results. On the rental side, short-term (“*loyer*”) or longer-term (“*affermage*”) house rental is considered a second-best solution to ownership for households. Rents had risen about 7.7 percent yearly between 2006 and 2009, but in the latter the rate slowed to 3.7 percent.

Housing production capability in Haiti was limited. About 400 construction firms were registered, but 75 percent of these were very small (5 employees or less). In fact, the bulk of house construction in Haiti was delivered by a vast number of unregistered informal construction teams. Construction costs had been rising constantly for many years: between 1991 and 2009 costs increases averaged over 10 percent per year. Nearly all construction inputs were imported—all except sand, water, and labor. There had been some attempts to produce modern, scaled-up housing development projects—Belvil most successfully and Florida Homes less so—but no real efficiencies of scale had been achieved in housing construction.

No policy or institutional framework existed in practice in the housing sector, and no orderly system of housing or urban development had evolved. Several constraints were obvious. A weak land and property rights registration system meant that titles were frequently in dispute, hampering construction and commercial financing. No building code existed, so quality control of construction standards and materials was absent, leading to shoddy and ultimately dangerous

building practices. Housing sector laws and regulations were old, outmoded, and unsuited for present conditions, leading parties to ignore them and encouraging anarchy in the market. Absence of some modern legal provisions—e.g., a condominium law—hampered innovation. Fragmented and ineffective institutions were unable to perform the regulatory or planning duties assigned to them for housing development. And the public sector entities tasked with ensuring water and power infrastructure were unable to deliver, further constraining sound housing and urban development.

In housing finance, even though they are highly liquid, banks have had little interest or incentive to lend. Housing lending is only about 8.4 percent of the overall bank sector loan portfolio for Haiti. Even the leading lender for housing (SOGEBEL) probably grants less than 100 mortgage loans per year. Because banks fear risks in housing lending, terms and conditions are stiff and transaction costs high. Conventional housing finance is therefore out of reach for nearly all households, including middle-class ones. Alternatives are few. Microfinance products exist for housing, but they are also expensive and not widely used. Whether they wish to or not, households have been forced to adopt the traditional approach and make housing acquisition a very long-term, phased, and self-financed process.

EARTHQUAKE IMPACT ON MIDDLE-CLASS HOUSING

Estimates vary on the number of houses destroyed and damaged in the earthquake. Perhaps the most accurate estimates are the result of an MTPTC/UNOPS inventory of green/yellow and red and red-reparable buildings, which will cover 400,000 houses. It suggests that about 72,000 houses were destroyed by the disaster, or about 15 percent of units in the Metropolitan Area. These houses will need to be replaced. Accounting for multifamily dwellings among them, this means that something like 79,000 households will need to replace housing units. (MTPTC/UNOPS inventory finds that another 126,000 units are likely to be reparable to habitation.)

The middle-class share of lost housing stock is unknown. Observers suggest that the middle class loss of housing was disproportionate to its overall share of households. As a working hypothesis, assume that about half the households that will need to replace housing units are in the middle class. This means about 40,000 units of the total 79,000 to be replaced will be middle-class ones (about 35 percent of the Metropolitan Area's middle-class households will need replacement units).

Beyond the physical damage suffered in the earthquake, the disaster has also affected middle-class housing sector operations and behavior. In short, the distorted dynamic and shortcomings apparent in middle-class housing have only been made more acute by the earthquake:

- **Consumption.** Middle-class housing demand has exploded and over the next five years could amount to 62,500 units (40,000 replacement units and 4,500 additional units per year). Rentals and rents have increased massively, with the latter up 10 percent between January and June 2010 alone. The urgent need to meet middle-class housing demand and generate large-scale investment for recovery reveals the inadequacy of the traditional “long-term housing as a process” approach.

- **Production.** Construction costs have skyrocketed by 25 percent or more since the earthquake. The need for new cost-effective and sound construction technologies is more apparent than ever. A new emphasis on scaled-up housing construction projects is also evident, both to attain economies and support decentralization policies through spatially rational housing and community development projects. But local production capacity is overwhelmed. Partnerships with foreign construction firms will be needed to undertake large-scale programs for housing recovery and redevelopment.
- **Policy-institutional framework.** While the new decentralization policies and growth pole/corridor concepts are rational and innovative, the institutional base to implement the new housing sector and urbanization policies is weaker than ever. A new public sector housing sector institution—just now being discussed in the GoH—is unlikely to command the resources needed to perform the job.
- **Housing finance.** There is no indication that the banks will change their pre-earthquake stance on lending, at least without new incentives. They see increased risk in housing lending and have reduced their housing loan portfolios by almost 9 percent since January. For borrowers, the “decapitalized” middle-class households have little immediate capacity or appetite for credit. And the earthquake may have weakened Haiti’s insurance sector, making for a new set of risks for banks and borrowers both.

These housing sector challenges are formidable. A completely new approach is required to make a clean break with the past and approach problems in a new way. Elements of a successful middle-class housing solution would need to yield rapid and tangible results—say, half the housing gap filled in three years. It would need to be adapted to Haiti’s priorities, including economic decentralization and cultural acceptability and financial affordability. It would have to be transparent, impartial, and free of corruption. And it would have to be responsive to stakeholders, occupants, builders and developers, lenders, and government. With return to normalcy, the solution could be flexible enough to devolve to durable free enterprise-based housing construction and finance system.

HHP&T : PROPOSED MIDDLE-CLASS HOUSING STRATEGY

A new organization—the Haiti Housing Partnership & Trust (HHP&T)—would implement the proposed solution. Its mission would be to help the middle class—especially the lower-middle class—solve the consumption, production, policy-institutional, and financing problems described above. It would be a public–private and national–international partnership, autonomous and governed by an independent public–private board of directors. Day-to-day HHP&T operations would be the responsibility of a management contractor: a world-class housing development/management firm and a Haitian partner.

HHP&T activities would feature:

- **Housing project development**, including carefully designed specifications for large-volume turnkey projects adapted to the needs of middle-class Haitian households and supporting the economic decentralization/growth corridor theme. These projects would be put out to competitive bid.

- **Housing project delivery**, with award of large-scale housing programs to Haitian-foreign consortia to perform. Loans and grants from the Interim Haiti Reconstruction Commission/Multi-Donor Trust Fund, individual donors, and (eventually) HHP&T own-funds would finance these contracts.
- **Housing sales**, selling finished units to target households, including condominiums and apartments, using select subsidies (infrastructure cost, interest rates, real estate taxes) and long-term mortgages with DCA credit guarantees to make units affordable to the middle class.
- **Lease-purchase-based rentals**, managing a portfolio of rental units, especially targeted to lower and mid-middle class, converting to mortgage-financed sales to occupant households whenever feasible.
- **Mobilization of own funds**, floating bonds in international capital markets, with a triple-A guarantee from international institutions (but only after proving itself with a solid track record of efficiency).

Organizationally, in addition to its independent board, the HHP&T would have a Planning and Construction Management Department to handle project design and delivery. It would also have a Property Management and Sales Department to take charge of unit sales activities and lease-purchase rentals. And it has an HHP-Trust unit, organized as a special purpose vehicle under an offshore location to mobilize and manage funds.

USAID/Haiti's support for the HHP&T could feature assistance to plan, organize, and launch the institution. To prepare the way for HHP&T USAID/Haiti could support a portfolio of a few near-term developer-based pilot projects in scaled-up housing and community development aimed at the middle class (and possibly the "gap class"). These could focus on the USG priority growth corridors and explicitly test and perfect HHP&T principles of project design and development, project turnkey delivery, and unit sales and lease-purchase property rental programs along the lines that the organization would eventually apply. A pilot-basis DCA credit scheme could be part of the mix to try design a formula to engage Haiti's banking community. USAID/Haiti might also sponsor housing consumer surveys and design competitions to enhance the acceptability and affordability of eventual HHP&T project specifications.

In addition, related to but not directly involved in HHP&T, USAID/Haiti could provide technical assistance in key construction industry regulatory functions (e.g., quality control of building materials and norms), as well as in regional planning tied to growth corridors, in property registration systems, and in insurance industry regulation. Policy analysis support for such issues as infrastructure subsidies and other housing finance-related subsidies (mortgage interest and terms, and property tax reductions or exemptions) could also be provided.

POST-DISASTER RECONSTRUCTION BEST PRACTICES

Best practices specific to middle-class housing reconstruction do not exist separate from overall reconstruction best practices. But some of the principles that may have resonance with Haiti's middle-class housing reconstruction, organized by four major themes, are as follows:

Beneficiaries. Establish early on who are the beneficiaries of a given housing reconstruction concept, and what their needs and objectives are as *they* themselves see them. Conduct extensive surveys of consumer preferences and design requirements for housing solutions, as well as analysis of the affordability of these solutions.

Government's role. Make sure that government is involved in planning and decision-making, since marginalized officials and the appearance of government inaction can erode citizens' confidence and lead to civil unrest.

Rebuilding activities. Identify all reconstruction actors, and make certain that their roles fit the circumstances they confront (e.g., what works in Aceh for homeowners may not work in Haiti). Also, establish land ownership laws and regulations, and appropriate new building codes—and resist “building back fast” before appropriate standards and codes have been put in place. Decide on minimum equity requirements for beneficiaries in housing recovery programs. And make certain that housing and community development projects are planned in close connection with livelihoods and social services.

Financing. Consider an array of financing options, including innovative credit enhancements and flexible payment approaches (i.e., lease-purchase arrangements). Also consider tailor-made insurance instruments to mitigate future risks.

Introduction

The tragic Haiti earthquake of 12 January brought enormous injury and death to the population as well as massive and widespread damage and destruction to private and public property. All levels of Haitian society suffered grievously, but in relative terms the losses incurred by the nation's very small middle class may have been particularly devastating. In the political and economic turmoil that Haiti has experienced over the last 25 years, middle-class families have had to struggle especially hard to accumulate assets upon which to build some measure of economic security and stability. A house was typically the most valuable asset acquired. But for a significant number of families in the middle class this asset—and the years of effort it embodied—was wiped out in 35 seconds on the afternoon of 12 January. The implications are dire, both for the future wellbeing of households involved and for Haiti's overall recovery and development.

OBJECTIVES OF THE ANALYSIS

In light of the crisis of the 12 January earthquake, the present analysis aims to explore the housing situation of Haiti's middle class, and propose a strategy for an appropriate U.S. Agency for International Development (USAID) program response. Specifically, our objectives are to

- Identify who the middle class is in Haiti, particularly for housing issues
- Understand the general impact of the earthquake on the housing sector
- Analyze the implications of this disaster for middle-class housing
- Recommend a strategic approach by which USAID can help the Haitian middle class rebuild, expand, and improve its housing assets for the long term.

It is important to underscore that the mandate and focus of our work is Haiti's middle class, with our terms of reference explicitly directing us to define a middle-class housing sector assistance strategy. We understand that along with our assignment, USAID/Haiti is sponsoring at least two other simultaneous housing analyses and planning efforts—work by Dalberg Global Advisors as well as the activities of a separate internal USAID working group on housing solutions—both dealing with housing issues and requirements of Haiti's lower income populations. We were not, however, asked to analyze the net benefits and costs of a middle-class housing strategy against the needs of Haiti's lower income populations, nor to integrate our proposed strategy into any larger framework of USAID/Haiti housing goals and resources that may exist. Nevertheless, such analysis and integration should take place, and we assume that USAID/Haiti intends to do so once its various housing sector assignments have been completed, with our analysis and proposed strategy as one input to the process.

The major geographic focus of the analysis turns out to be the overall Port-au-Prince economic region—“Metropolitan Area”—that was the site of the earthquake destruction and represents the home of most middle-class households in Haiti. This zone constitutes one of the growth corridors preselected by the U.S. Government (USG) for post-earthquake support. However, middle-class housing characteristics and housing stock are also considered for the “Other Urban” zone and the “Rural” zone of Haiti.¹ These two zones are likely to be broadly representative of middle-class housing conditions and issues in two other growth corridors of interest to the USG: the growth corridors of Saint Marc-Cabaret and Cap Haïtien, respectively.²

STUDY TEAM AND RESOURCES

The diagnosis and strategy that follows was prepared in Haiti between August 6 and September 14, 2001. It represents the work of a joint team composed of Nathan Associates, consulting economists of Arlington VA (USA), and Atlantis Global Vision, socioeconomic analysts of Port-au-Prince, Haiti. For the pre-earthquake conditions, the analysis draws heavily on a living conditions survey database obtained from the Institut Haïtien de Statistique et d’Informatique (IHSI): the Enquête sur les Conditions de Vie en Haïti (ECVH). Secondary sources dealing with IHSI’s Enquête Budget et Consommation des Ménages (EBCM) were also consulted, but this database itself posed a range of operational problems and practical questions and could not be integrated in the present analysis in the way the ECVH was used. For estimates of the earthquake’s effect on the stock of housing, the team referred to data compiled by UNOPS and to information developed by Dalberg Global Advisors, a management consulting firm working with the USG. Throughout the analysis, extensive interviewing in Haiti’s public and private sectors and in the international community—notably including “focus group” sessions with representatives of middle-class households—plus review of a broad range of documents, extended and deepened the team’s understanding of the housing sector, the middle class and priority housing development needs.

ORGANIZATION OF THE ANALYSIS

This document is organized into seven chapters. Chapter 1 provides a strategic context for the diagnosis and strategy formulation, including a highlighting of factors and trends in Haiti’s economy that shape the orientation of the present analysis. Chapter 2 addresses the fundamental question of a definition for the target population—the middle class—not necessarily a straightforward matter in Haiti. Chapter 3 provides an overview of the characteristics of middle-class households, while Chapter 4 describes Haiti’s housing stock pre-earthquake, with a focus on housing for the middle class. Chapter 5 analyzes market behavior and function in the middle-class

¹These “zones of residence” are defined by the Institut Haïtien de Statistique et d’Informatique (IHSI) for presentation of the results of its Enquête sur les Conditions de Vie en Haïti (ECVH), a major data input to our analysis. Following IHSI terminology for ECVH, in this report “Metropolitan Area” signifies the Greater Port au Prince zone, “Other Urban” designates a broad zone made up of all Haiti’s other urban areas outside Port au Prince, and “Rural” designates Haiti’s overall rural zone.

² The middle-class housing characteristics and housing stock in these two zones are also no doubt broadly representative of conditions for the middle class in the southern Les Cayes-Plaines des Cayes growth pole that is also a priority for the Government of Haiti (GoH) along with the aforementioned growth corridors supported by the USG.

housing sector before the earthquake. This diagnostic estimates pre-earthquake housing demand, and highlights key components of the housing sector—consumption, production, institutions and policy, and financing—relative to middle-class needs and conduct. Chapter 6 deals with the middle-class housing sector after the earthquake: post-earthquake housing demand, and post-earthquake impacts on the same key consumption, production, institutions and policy and financing components of the housing sector. Chapter 7 provides recommendations for USAID action to help Haiti address its middle-class housing crisis. Finally, as a backdrop to these recommendations, Chapter 8 offers a summary of international best practices for housing sector reconstruction. Annexes include a methodological note on the handling and analysis of ECVH data (Annex A); a summary of Haiti’s housing types (Annex B); and case studies relevant to Haiti’s overall housing recovery (Annex C).

1. Strategic Context

Several factors influence the focus of the present analysis. First among these is our priority attention to the problem of housing for the middle class—albeit while still acknowledging that inadequate housing is a pressing issue for virtually the entire population of Haiti. But in thinking through appropriate responses to housing recovery for the middle class, several more macro variables must also be taken into account: Haiti’s fundamental economic structure, major trends driving recent economic performance, and the nature and extent of losses and damage caused by the 12 January earthquake. Finally, as Haiti’s policymakers, investors and the international community look to the future, the importance of economic decentralization is apparent and should have implications for all sectors, including housing. To help give context to the diagnosis and strategy offered below, a brief review of this set of factors is in order.

FOCUS ON THE MIDDLE CLASS

The genesis of the present analysis is the concern of a very high-level official of the Government of Haiti (GoH) for the particular difficulties of the middle class in the aftermath of Haiti’s earthquake of 12 January. He notes that many senior-, mid- and lower-level managers and technicians in Haiti’s government and private sector—the functional middle class—lost the homes they owned or rented on the afternoon of 12 January. Moreover, he emphasizes, as they seek replacement housing, these families are now also facing sharply rising rents—often while simultaneously suffering loss of livelihood due to the death or injury of the household’s primary or secondary breadwinner. And, given Haiti’s social structure, even if their own homes were untouched by the earthquake, many middle-class families are grappling with situations in which retired parents or other close relatives have lost homes and property and must now be supported as they strive to re-house and recover from the disaster.

The result, as the very senior official points out, is a powerful “squeeze on the middle class,” in which households struggle to solve newly urgent housing problems but with greatly diminished family resources to do so, especially in an environment of sharply rising costs. Given the economic turbulence Haiti has experienced in the current decade, the middle class was already under great economic pressure before the earthquake. But now, severely decapitalized by the earthquake, the danger is that these weakened and discouraged families are in no state to play the critical socioeconomic functions as managers, skilled technicians, small business owners and social stabilizers normally expected of the middle class. Without hope for improved prospects, many middle-class households will emigrate to solve their problems. Others will continue to flounder as they lack a clear path to restore lost assets—notably housing—and income. Either way, the risk is that Haiti’s already tiny middle class will shrink even more, further undermining the strategic energy that the middle class brings to the economy, and thus impairing Haiti’s

immediate recovery and ultimately its long-term development. This then is the rationale for the present priority focus on housing needs and solutions for Haiti's middle class.

HAITI'S ECONOMIC STRUCTURE

Two characteristics of Haiti's economic structure are particularly striking for purposes of the present analysis: widespread poverty and income inequality and the very limited dimensions of formal sector activity in the economy.

Poverty and Inequality

In Haiti, poverty is deep and pervasive. With an estimated 77 percent of the population living below the threshold of poverty (i.e., less than \$ 2 PPP per day), Haiti is the poorest country in the Western Hemisphere and one of the poorest in the world. Extreme poverty—persons living on less than US\$1 PPP per day—may characterize as much as 56 percent of the population. By zone of residence, poverty is most severe in Haiti's Rural zone, where an astounding 88 percent of the population is reported to exist on less than \$2 PPP per day, followed by the Other Urban zone and Port-au-Prince Metropolitan Area (Table 1-1). These figures are based on data collected in the 2001 Enquête sur les Conditions de Vie en Haïti—ECVH, or Household Living Conditions Survey—the most recent of its kind for Haiti. But little may have changed in the years since, even before the earthquake; for example, in a survey reported in 2008, 70 percent of household heads questioned believed poverty to be increasing, especially in recent years.³ Deteriorating conditions and loss of employment and livelihood since the earthquake have surely extended and intensified poverty in Haiti's population.

Table 1-1

Overall and Extreme Poverty in Haiti: Total and by Place of Residence

| Place of Residence | Extreme Poverty US\$ 1 per day or less (PPP) (percent of population) | Overall Poverty US\$ 2 per day or less (PPP) (percent of population) |
|---------------------------|---|---|
| Metropolitan Area | 23 | 45 |
| Other Urban zone | 57 | 76 |
| Rural zone | 67 | 88 |
| Total | 56 | 77 |

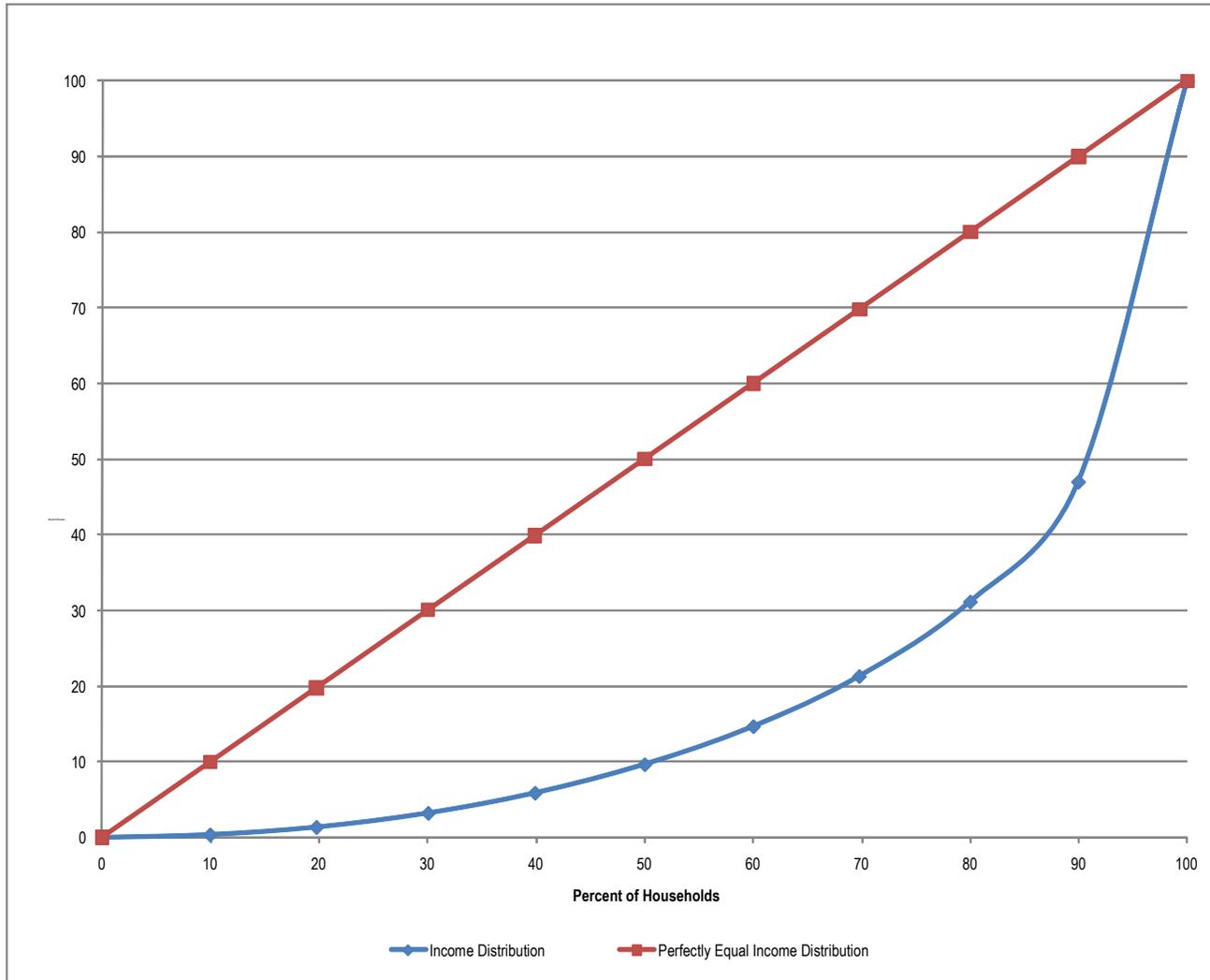
SOURCE : IMF, Haiti Poverty Reduction Strategy Paper (March 2008), Table 2.

A highly unequal distribution of income is the corollary to Haiti's extremely wide and deep poverty (Figure 1-1). Based on the latest World Development Indicators (WDI) of the World Bank, Haiti's Gini Coefficient stands at about 0.595—signifying that this nation has the second most unequal income distribution in the developing world (after Comoro Islands). Analysis of

³ International Monetary Fund, Haiti: Poverty Reduction Strategy Paper, IMF Country Report No. 08/115 (March 2008), p. 20

Figure 1-1

Estimated Income Distribution for Haiti, 2001 (Lorenz Curve)



SOURCE: Nathan Associates calculations based on IHSI, Enquete sur les Conditions de Vie en Haiti (2001)

ECVH data indicates, for example, that the first and second quintiles of households (i.e., the poorest 40 percent of all Haitian households) has only about 6 percent of total income, while the richest fifth (i.e., the most wealthy 20 percent of all households) holds about 69 percent (Table 1-2). This sharply unequal income distribution greatly impacts the situation of the middle class, as will become clear in Chapter 2, and housing sector problems and potentials.

Table 1-2

Haiti's Income Distribution, 2001

| Quintile | Average Annual Income (HTG) | Percent of Total Income |
|----------|-----------------------------|-------------------------|
| Q 1 | 1,738 | 1.4 |
| Q 2 | 5,610 | 4.6 |
| Q 3 | 10,925 | 6.9 |
| Q 4 | 20,564 | 16.6 |
| Q 5 | 85,014 | 68.6 |
| Total | 24,784 | -- |

SOURCE: Ministère de la Planification et de la Coopération Externe, *Inégalités et Pauvreté en Haïti (March 2006)*, p.15.

Limited Formal Sector Activity

Informal activity dominates Haiti's economy. Estimates of employment status by sector underscore this fact. At the end of 2009, the total Haiti labor force was probably about 4.2 million persons.⁴ Given an overall unemployment rate of about 27.4 percent, the number of active employed persons may have approached 3.05 million in 2007.⁵ Of this total, agricultural employment was about 38 percent (1.16 million workers) and nonagricultural employment about 62 percent (1.89 million workers), according to preliminary labor market analysis. Within nonagricultural employment, the informal sector may have accounted for about 1.7 million workers. Virtually all of these were in the informal private sector, with a small balance employed in households. Most of these informal sector workers—over 70 percent of total—were independent own-account workers, but nearly one fifth were salaried workers in informal enterprises or owners of such enterprises (Table 1-3).

By contrast, the formal sector may have represented about 170,000 workers (about 5.5 percent of total employment, agricultural and otherwise). The formal private sector (registered firms with tax numbers, paying pension and health insurance contributions), government (civil service and public enterprises together) and NGOs and international agencies are the sources of formal sector employment. The private sector, government, and NGOs/international agencies appeared to generate about one third, 57 percent and less than one tenth of total formal sector employment,

⁴ Based on an estimate of the economically active population in 2010 (4.247 million persons) assumed for 2009 to be about 4.2 million persons. The estimate for the 2010 economically active population is presented in Institut Haïtien de Statistique et d'Informatique, *Estimations et Projections de la Population Totale, Urbaine, Rurale et Économiquement Active (May 2008)*, p. 25.

⁵ Unemployment rate cited in Jacques Charmes, *Stratégie de réduction de la pauvreté*, report prepared for UNDP (2003), p.17, and drawn from IHSI, ECVH 2001.

respectively. Nearly all of this formal employment—about 150,000 persons—represented salaried workers at all levels. The stability that formal sector salaried employment implies makes this group a likely target for possible housing upgrade initiatives at various income levels, albeit quite a limited one within Haiti’s overall population and market place. Such initiatives could also address the needs of members of the middle class in the informal sector as well (e.g., owners of various (unregistered) small businesses and the higher-paid salaried and independent workers).

Table 1-3

Haiti’s Employment Structure by Sector and Category of Employment, 2007

| Sector | Estimated Number of Employed Persons (000s) | | | | |
|-----------------------------|---|----------|--------------|--------|---------------------------------------|
| | Total | Salaried | Unsalaries | | |
| | | | Ind. Workers | Owners | Trainees, Apprentices, Family Workers |
| Agriculture | 1,160 | 36 | 981 | 12 | 131 |
| Nonagriculture | 1,890 | 512 | 1,191 | 53 | 134 |
| Informal sector | 1,725 | 362 | 1,185 | 50 | 128 |
| Private | 1,669 | 309 | 1,185 | 50 | 125 |
| Household | 56 | 53 | 0 | 0 | 3 |
| Formal sector | 166 | 150 | 6 | 3 | 6 |
| Private | 57 | 50 | 3 | 2 | 2 |
| Government | 94 | 91 | 1 | 0 | 2 |
| Civil service | 79 | 76 | 1 | 0 | 1 |
| Public enterprises | 15 | 14 | 0 | 0 | 1 |
| NGOs/international agencies | 15 | 10 | 2 | 1 | 2 |
| TOTAL | 3,050 | 549 | 2,172 | 65 | 265 |

SOURCE: Nathan Associates’ calculations based on IHSI preliminary data.

RECENT ECONOMIC TRENDS

Until the mid-2000s, Haiti suffered from prolonged economic decline for many years. Real per capita GDP shrank by more than 35 percent between 1980 and 2006—the trough—a decline in real terms every year for 25 years, at an average of -1.8 percent per annum. Continuous political turmoil (e.g., 15 governments between 1985 and 2006), macroeconomic mismanagement, and a series of exogenous shocks, among them sliding commodity prices and natural disasters, combined to produce this result. But in the second half of the 2000s, starting in 2006, a fragile reversal of trend had begun to take place, although Haiti’s per capita income still stood far below its 1980 level by end 2009.

Pre-earthquake Progress

With the resignation and departure of former President Aristide in February 2004, and election of the Préval government, some turnaround in economic performance began to occur. Each year

between 2006 and 2009, Haiti experienced an increase in real GDP, culminating in a growth rate of 2.9 percent in FY2009,⁶ the second best in the Caribbean. Agriculture and industry both contributed significantly to this growth, propelled by rising public sector investment in agricultural inputs and infrastructure and road-building in several regions (South, Artibonite and Central Plateau). Garment sector assembly operations also began to show signs of a modest revival in response to incentives in the HOPE II program. Prudent macroeconomic policies also had an impact, and helped to control fiscal and current account deficits. Foreign direct investment rose, with projects in the North (Royal Caribbean Cruise Lines investment in Labadie) and in telecoms (cell phones), energy, flour milling, and other sectors. Credit to the private sector was expanding, but inflation slowed after a price spike in FY2008 (19.8 percent) and was negative in FY2009. In short, by 2009 Haiti's economic prospects were improving for the first time in years.

Importance of Remittances

Whatever modest progress Haiti may have been achieving before the earthquake, the economic condition of the vast majority of people still remained very difficult, as the statistics of poverty cited above make clear. A good indicator of the seriousness of the economic situation has been the massive increase in remittances flowing to Haiti throughout the decade. The numbers suggest a rapidly growing dependence among households on private transfers from out-migrant Haitian workers in the United States and Canada, as well as in the Dominican Republic and elsewhere in the Caribbean and Central America. This flow of remittances has been estimated by the IMF to have increased from \$582 million in 2001 to nearly \$1.4 billion in 2010, a rise of 136 percent.⁷ Responses to the ECVH indicate that remittances averaged over 25 percent of all household revenues in 2001, and an even greater share (30 percent) of revenues for households in the highest income decile.⁸ With the sharp rise in remittance volumes, the prominence of these transfers in household incomes has surely increased. Surveys suggest that the major part of remittances is devoted to consumption—basic living expenses—but at least a fifth of total is invested in family assets, including housing.⁹

ECONOMIC EFFECTS OF 12 JANUARY DISASTER

The earthquake abruptly halted Haiti's modest economic progress and darkened future prospects. The facts of 12 January are stark: an earthquake of magnitude 7.3 struck at 4:53 in the afternoon and caused unprecedented damage and destruction for Haiti. The epicenter was about 17 kms southwest of Port au Prince, at Léogâne, 80 percent of which was destroyed. The Metropolitan Area of Port au Prince was severely shaken. More than 222,000 people were killed and more than 310,000 injured. Some 2.3 million people were displaced, including 570,000 who fled Port au

⁶ Haiti's fiscal year runs from October 1 to September 30.

⁷ Figures from International Monetary Fund, Staff Report for Article IV Consultation for 2001 (IMF Country Report No. 02/17), p.25; and IMF, Staff Report for the 2010 Article IV Consultation 2010 and Request for Three-Year Arrangement Under the Extended Credit Facility (IMF Report EBS/10/139), p. 29.

⁸ Institut Haïtien de Statistique et d'Informatique, ECVH, table 7.3.2.15, p. 453.

⁹ Inter-American Development Bank Haiti Remittance Survey, March 6, 2007, accessed at http://www.bendixenandassociates.com/studies/Public_Opinion_Survey_of_Remittances_to_Haiti.pdf 22 August, 2010.

Prince for refuge elsewhere in Haiti, notably Sud, Ouest (outside Port au Prince) and Artibonite Departments.¹⁰

Damages and Losses and Economic Prospects

Total damages and losses associated with the earthquake are believed to be about \$7.8 billion, equivalent to 120 percent of Haiti's GDP in 2009 (\$6.5 billion).¹¹ Damages to structures, equipment, and infrastructure (e.g., destruction of assets) amount to about \$4.5 billion, or 58 percent of total. Losses (i.e., reduced value of economic returns due to disappearance or impairment of assets) amount to about \$3.3 billion or 42 percent of total. Within totals, damages and losses to the public sector are estimated at nearly \$ 2.1 billion and to the private sector at \$5.7 billion (Table 1-4). As a result, in the disaster's aftermath, Haiti's economy is projected to contract in real terms for FY2010 by 8.5 percent, with employment dropping a similar magnitude.

Table 1-4

Summary of Damages and Losses to Haiti from 12 January Earthquake (US\$ million)

| Sector | Damages | | | Losses | | | Total | | |
|--|---------------|----------------|----------|---------------|----------------|----------|---------------|----------------|-------------|
| | Public Sector | Private Sector | Subtotal | Public Sector | Private Sector | Subtotal | Public Sector | Private Sector | Grand Total |
| Environment and disaster risk management | 3.0 | 0.0 | 3.0 | 321.4 | 175.0 | 496.4 | 324.4 | 175.0 | 499.4 |
| Social Sectors ^a | 153.8 | 805.4 | 959.2 | 197.8 | 355.6 | 553.4 | 351.6 | 1,161.0 | 1,512.6 |
| Infrastructure, of which ^b | 628.1 | 2,538.6 | 3,166.7 | 774.2 | 520.6 | 1,294.8 | 1,402.3 | 3,059.2 | 4,461.5 |
| Housing | 0.0 | 2,333.2 | 2,333.2 | 459.4 | 279.3 | 738.7 | 459.4 | 2,612.5 | 3,071.9 |
| Urban and community infrastructure | 352.8 | 58.8 | 411.6 | 162.0 | 21.8 | 183.8 | 514.8 | 80.6 | 595.4 |
| Productive Sectors ^c | 3.1 | 394.0 | 397.1 | 0.0 | 933.3 | 933.3 | 3.1 | 1,327.3 | 1,330.4 |
| TOTAL | 788.0 | 3,738.0 | 4,526.0 | 1,293.4 | 1,984.5 | 3,277.9 | 2,081.4 | 5,722.5 | 7,803.9 |

Notes

^a Water and sanitation, health, education, food safety and nutrition

^b Housing, transport, telecommunications, energy, urban and community infrastructure.

^c Agriculture, industry, retail, finance and banking, tourism.

SOURCE: Government of Haiti, Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs, March 2010

Depending on the breadth, intensity and speed of recovery and reconstruction, Haiti should return to real economic growth in FY2011, with GDP increasing at about 9.8 percent in that year.¹²

¹⁰ Figures as reported in Gouvernement de la République d'Haïti, Plan d'Action Pour le Relèvement et le Développement d'Haïti; except for estimated number of 2.3 million displaced persons, reported in Dalberg, Haiti Development Strategy Housing Sector; and the number displaced from Port au Prince, reported in Karolina Institutet and Columbia University, Internally Population Displacement in Haiti, (May 14, 2010)

¹¹ Data cited in this paragraph from Government of Haiti, Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs (March 2010), p. 7 and p. 18.

¹² Projected economic growth rates cited in this paragraph from International Monetary Fund, Staff Report for Article IV Consultation for 2010 and Request for Three-Year Arrangement Under the Extended Credit Facility (IMF Report EBS/10/139), p. 71.

Thereafter, between FY2012 and FY2015, the economy is forecast to expand at an average of around 7 percent per annum. Assuming large-scale programs to rebuild infrastructure and housing can be rapidly organized and launched, construction is projected to be a leading growth sector, with output expanding at 23 percent annually over the period to FY2015. And, given continuation of the kind of improved performance in agriculture achieved in FY2009, production in this sector is also projected to increase at a pace of about 4.6 percent per year between FY2011 and FY2015. A scenario can thus be envisaged in which Haiti's urban and rural sectors both begin to feel a measure of economic improvement within a year of the earthquake.

Housing Sector Impacts

Damage to buildings and structures was massive. Based on remote sensing techniques, initial estimates suggested that just under a third of the stock of buildings in earthquake-affected zones were destroyed or suffered considerable damage.¹³ Initial estimates indicated that more than 1,300 schools and 50 hospitals and health centers collapsed or are now unusable. Public buildings lost include the Presidential Palace, Parliament, Law Courts, and almost all ministries.

But private housing suffered the greatest damage (Table 1-4). First approximations suggested that 105,000 houses were destroyed, and more than 208,000 damaged. The estimated cost of damages and losses to housing amounted to more than \$3 billion, including debris removal and cost of providing temporary shelters. Later, about six months after the earthquake, more detailed analysis suggested that 340,000 permanent houses would be required to settle the roughly 1.8 million people estimated to be still displaced by the disaster. (This figure includes some unknown number of occupants of still inhabited informal homes that predated the earthquake but are now to be replaced by community upgrading programs.) This resettlement will cost about \$2.3 billion. (Table 1-5). The housing arrangements that this represents will be a combination of families returning to existing homes that are judged safe to live in (34,000 houses); replacement of destroyed houses (88,000 houses) through new construction or making permanent various household hosting arrangements established after the earthquake; and conversion or upgrade of transitional or informal houses, the latter including some informal structures that survived the earthquake itself (218,000 houses).

No statistics are available on the proportion of Haiti's population displaced by the earthquake by income level. Some observers have suggested that the number of middle-class households displaced from their homes may be as high as 50,000. This estimate is an informed guess based on a scan of parts of the shake zone in which middle-class families tended to live pre-earthquake (Canapé Vert, sections of Delmas, Haut Turgeau, etc.). Whatever the actual numbers, anecdotal evidence is abundant that large numbers of middle-class homes were lost or damaged on 12 January, and that many middle-class households continue eight months later to live in makeshift circumstances, ranging from hosting arrangements with friends and relatives, to tents beside their collapsed or damaged houses, to living in cars or occasionally in the tent settlements that cover Port au Prince Metropolitan Area. The needs of such households intensify and expand pre-earthquake middle-class housing demand.

¹³ Government of Haiti, Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs (March 2010), p. 22.

Table 1-5

Estimated Housing Actions Required to Resettle Persons Displaced by Haiti's Earthquake (Estimates of July 2010)

| Categories of Housing for IDP Resettlement | No. of Houses | | No. of IDPs | | Total Cost of Resettlement | |
|---|---------------|-----|----------------|-----|----------------------------|-----|
| | Units (000s) | % | Persons (000s) | % | US\$ million | % |
| Return to green houses ^a | 34.0 | 10 | 234 | 13 | 92 | 4 |
| Replacement of destroyed houses | 88.4 | 26 | 378 | 21 | 667 | 29 |
| Permanent hosting arrangements ^b | 27.2 | 8 | 108 | 6 | 23 | 1 |
| New permanent houses constructed | 61.2 | 18 | 270 | 15 | 644 | 28 |
| Repair or upgrade of houses | 217.6 | 64 | 1,170 | 65 | 1,518 | 66 |
| Converted transitional/upgraded informal homes ^c | 132.6 | 39 | 594 | 33 | 1,150 | 50 |
| Repaired yellow/red houses ^d | 85.0 | 25 | 576 | 32 | 368 | 16 |
| TOTAL | 340.0 | 100 | 1,800 | 100 | 2,300 | 100 |

Notes: All figures rough approximations and may not add to totals due to rounding; IDP = internally displaced person

^a Green houses are judged presently habitable by Ministry of Public Works/UNOPS.

^b Represents households that have made permanent living arrangements with relatives, friends or others.

^c Includes some unknown number of informal homes that existed before the earthquake but now to be replaced in post-earthquake community upgrading programs.

^d Yellow houses (relatively less extensive repair needed) and some red houses (considerable repair needed) are judged reparable for future habitation by Ministry of Public Works/UNOPS.

SOURCE: Dahlberg Global Advisors, data provided to Nathan Associates on 18 August 2010.

ECONOMIC DECENTRALIZATION

One fall-out of the earthquake has been the renewed concern and concentration of Haiti's political and business leaders and partners in the international community on the need for and benefits of economic decentralization. Port au Prince is simply too dominant in Haiti's economy and this has spawned a dense, disorderly, and ultimately unhealthy pattern of urbanization in the capital.

Uncontrolled Growth in Port au Prince

A major amplifier of death and damage in the earthquake was the overcrowded, uncontrolled, and too often unsafe nature of urban development in Port au Prince. Such anarchic growth reflects economic incentives in an impoverished country. An estimated 65 percent of Haiti's total economic activity is generated in Port au Prince. The Metropolitan Area is home to 75 percent of all civil servants and government employees, and 80 percent of Haiti's industrial, commercial, and banking facilities are located there as well.¹⁴ Port au Prince is therefore the center of all political, public administration, and private sector decision-making. But this also makes it a magnet for powerful rural-to-urban migration such that by 2009, nearly one quarter (23.1 percent)

¹⁴ Gouvernement de la République d'Haïti, Plan d'Action Pour le Relèvement et le Développement d'Haïti, p. 11 and p. 43.

of Haiti's population (pre-earthquake) is estimated to have lived in Port au Prince.¹⁵ The number of people in the Metropolitan Area more than tripled in the last 30 years, and absent the earthquake, this explosive trend would have very likely continued.

Under such mounting pressure, Port au Prince has developed huge bidonvilles (slums).¹⁶ Pre-earthquake, bidonvilles in the major Metropolitan Area communes of Port au Prince and Cité Soleil encompassed as much as one third of the land area and housed 40 percent of the population. The same pattern is evident in other communes: in 2009, bidonvilles are estimated to have been home to one third of the population of Delmas and Tabarre, 15 percent of Carrefour and 11 percent in the wealthier commune of Pétiion-Ville. Most of the unauthorized, unsuitable, and technically unsound structures that make up bidonville housing—home to hundreds of thousands—collapsed in the earthquake. In the wake of 12 January, Haiti's leaders and international partners are determined to respond by “building back better” in the disaster zone and achieving rational spatial development and spurring regional growth.

Regional Growth Poles and Corridors

The Government of Haiti presented its plan for recovery and long-term development at a high-level UN donor's conference on 31 March.¹⁷ This plan is built around four pillars, the first of which is territorial rebuilding, designed to de-concentrate Port au Prince and shift economic activity to the regions. Regional urban hubs and economic centers will be promoted: a well-ordered hub at Port au Prince, following strict town planning principles; another in Mirebalais for industry; and a third between Hinche and Pignon for residential, industrial, and agricultural development. Additional development hubs will also be created in the North (tourism and industry), Center (agro-industry) and South (ecotourism and agro-industry).

Haiti's private sector also strongly embraces a thrust for regional decentralization. This is evident, for example, in the Private Sector Economic Forum's (PSEF) plan for Haiti's reconstruction (PSEF 2010).¹⁸ Starting from the premise that expansion of the middle class in Haiti is fundamental, PSEF proposes that such expansion be grounded in the creation of small and medium enterprises via improved access to credit and elimination of business constraints. Pillar 1 of PSEF 2010 focuses on near-term employment in construction plus longer-term visions of new competitive economic growth poles in a rebuilt Port-au-Prince; in the North (Cap Haïtien and Ouanaminthe, for tourism, garment manufacturing, and agriculture), on the Center-coast (Gonaïves and La Pierre, for agriculture and tourism); and in the South (agriculture, garments, tourism). Over a 2-3 year reconstruction period, PSEF envisions 1 million Haitians to be settled in 250,000 new permanent housing units primarily in the new growth poles and agricultural areas.

¹⁵ Institut Haïtien de Statistique et d'Informatique, *Population Totale, Population de 18 Ans et Plus, Ménages et Densités Estimées en 2009* (March 2009), p. 57.

¹⁶ Figures in this paragraph from Gérald-Emile Brun, *Etat des Lieux du Secteur Logement*, presented 13 October 2009 at *Conférence-Débat on Politique de l'Habit en Haïti : Défis et Perspectives*, p. 16.

¹⁷ Gouvernement de la République d'Haïti, *Plan d'Action Pour le Relèvement et le Développement d'Haïti* (Mars 2010).

¹⁸ Private Sector Economic Forum, *Vision and Road Map for Haiti* (23 March 2010).

The Haiti Economic Recovery and Road Map (ERRM) recently prepared by the public-private Presidential Commission on Competitiveness also emphasizes decentralization.¹⁹ First, ERRM sees the post-earthquake exodus of 500,000-plus people from Port au Prince as a chance to reverse harmful urbanization trends. Reconstruction should thus feature job creation in the provinces to maintain this outflow. ERRM's possibilities for regional growth centers are consistent with PSEF ideas: agro-industry around Port au Prince, Fort Liberté and Les Cayes; garment industry based on industrial park development in the same zones; and tourism in the North and elsewhere. ERRM would also stress housing in reconstruction and decentralization. Housing upgrade initiatives would support regional development projects for industry, agriculture, and tourism. And they would follow a "rebuild outside in" principle, with housing projects prioritized by provincial cities, Port au Prince satellite cities, and finally Port au Prince itself.

For its part, in a post-earthquake program for Haiti, the USG is prepared to reinforce these decentralization policies. The USG has tentatively selected three growth corridors for special support. These include certain zones in the Port au Prince area itself, the Saint Marc-Cabaret development corridor, and the Cap Haïtien development corridor. Detailed information on the proposed boundaries of the corridors is not available. However, the present analysis will provide insights into middle-class housing characteristics and needs for these corridors, largely by highlighting ECVH housing data according to the survey's three designated "residence" categories for Haiti (i.e., Metropolitan Area, Other Urban zone, and Rural zone). Data offered for these three categories will describe conditions found in one or another of all three proposed USG-supported corridors: the Metropolitan Area category for the Port au Prince development corridor; and the Other Urban and Rural categories for both the Saint Marc-Cabaret and the Cap Haïtien development corridors.

¹⁹ Presidential Commission on Competitiveness, Haiti Economic Recovery and Roadmap (August 2010).

2. Defining Haiti's Middle Class

Clear understanding of the middle-class target population is the first step in our diagnosis. In this chapter we explore parameters that define the middle class in Haiti. We then select criteria by which to identify the middle class, and, applying these criteria, describe this middle class within Haiti's overall income distribution, including its shares of total households and income.

MIDDLE CLASS CRITERIA

Across all societies the notion of the middle class tends to be fairly fluid: the group of households who are not wealthy, but who enjoy greater economic security and social recognition than the wage-earning working class. In Haiti, this broad concept of the middle class prevails, but on the basis of conversations in the private sector and government, it is possible to formulate criteria to more narrowly define a middle class household.

Household Income

The single most important criterion of middle-class status revolves around household income.²⁰ Discussions with senior officials in such institutions as the Ministry of Economy and Finance (MEF) and the Bank of the Republic of Haiti (BRH), as well as with a variety of representatives of the private sector—banks and firms—and NGOs and bilateral/multilateral agencies, strongly underscore this fact. Both level and stability of the household income stream are critical dimensions to this criterion.

While a by-the-numbers household income criterion may make definition of the middle class seem straightforward, complications can still arise. Families who consider themselves, and are considered, “middle class” in Haiti earn their livelihoods across a variety of sectors. On the formal side, these include government: both civil service and independent public enterprises (e.g., BRH and CAMEP); private firms, large (e.g., Digicel, banks, CEMEX Haiti) and small (SMEs), all duly registered and tax- and pension-paying; and the quasi-public sector, including NGOs and foreign bilateral and multilateral agencies. Households can also earn middle class incomes in the informal sector, namely in unregistered but profitable and economically vibrant SMEs. But each of these sectors operates under a different compensation structure, with the largest gap likely between the relatively lower public sector scale and the higher scale of large private companies. Positions that might command a solidly middle-class salary in a private firm or an NGO may in

²⁰ Indeed, as a working hypothesis, the terms of reference established for the present study specifies the middle class to be those households falling in the 3rd and 4th income quintiles of Haiti's income distribution. But with Haiti's extreme income inequality this orientation turns out to be unrealistic.

government result in more borderline middle-class income levels. This means that while income is ultimately determinative for middle-class status, other criteria cannot be completely ignored.

Occupation and Education

The most consistently cited non-income criteria for middle-class status in Haiti are the occupation and educational qualifications of a household's primary earner. In discussions in both government and private sector, consideration of "who is middle class?" frequently turned to consideration of teachers, nurses, and police officers. Haiti's teachers, for example, are relatively poorly paid—on the order of HTG 8,000 to HTG 10,000 per month—a fact that might exclude them from the middle class on a strict income standard. But observers emphasize that teachers will have completed secondary school and will possess a post-secondary normal school diploma as well. This educational achievement combined with teachers' social role commands respect. Nurses and policemen, especially those with seniority and advanced technical training, are in a similar position: low paid but educated and performing respected functions that confer social distinction. Moreover, observers also pointed out that teachers, nurses, policemen and those similarly occupied can generally count on a stable if modest income stream, and that this seems to bolster their claim to be considered part of the middle class. Again, the influence of income is present, even within non-income criteria.

Rural Middle-class Status

A second set of complications has to do with defining Haiti's middle class in rural versus urban settings. With employment opportunities more limited and income levels generally more depressed in Haiti's rural regions than in its urban locations, observers suggest that a household generating, say, HTG 20,000 per month might be readily considered middle class in a rural environment, but more marginally so in an urban one. They also suggest that middle-class status in rural areas may derive more from assets owned—particularly animals—than income earned. Both insights are useful, but with data limitations (e.g., no data on value of animals and other assets of rural households) and with a goal of setting a Haiti-wide middle-class standard as a reference to simplify strategy development for the housing sector, such distinctions are impractical for the present diagnosis. A common set of criteria will thus be applied to define the middle class in Haiti's urban and rural economies.

MIDDLE CLASS DEFINED

Interviews with government, the private sector and the NGO and bilateral/multilateral agency community all lead to the conclusion that a reasonable working definition of the middle class in Haiti must be stated in terms of household income, especially since any strategy for improvement of middle-class housing must consider affordability. Therefore, with a range of converging opinions as a reference, we adopt the following definition of Haiti's middle class (2010):

- Upper bound—monthly household income of HTG 160,000 (US\$4,000)
- Lower bound—monthly household income of HTG 20,000 (US\$500)

Within this interval, a monthly household income of about HTG 80,000 (US\$2,000) to HTG 100,000 (US\$2,500) might be considered the heart of the middle class.

At its lower bound, this definition of the middle class encompasses households where a teacher or other lower-level civil servants might be a primary breadwinner for the household, with a spouse also earning some income. Hence, the specified middle-class floor figure accommodates a basic income criterion and an accompanying occupation and educational attainment criterion for middle-class status. Moreover, this specified lower-bound income level of HTG 20,000 per month for the middle class would be approximately double the income of a household featuring, say, two workers employed in an industrial park each earning minimum wage (i.e., together bringing monthly HTG 9,600 (US\$240) into the household—presumably a clear working-class situation in 2010).²¹

At its upper bound, this criterion may admittedly be a bit conservative. For example, some of our interlocutors hold that monthly household incomes in the range of HTG 200,000 (US\$5,000) to HTG 240,000 (US\$6,000) should still be viewed as middle class, especially where one spouse in the household works in one of Haiti's large private companies in the formal sector. However, in the context of the present housing diagnosis and strategy, households with such income levels would seem to have sufficient means to resolve their housing problems, regardless of action by USAID or other donors. The upper limit of our middle-class definition should thus be a bit more restrictive.

To convey the proposed definition in concrete terms, Exhibit 2-1 sketches stylized profiles of four “typical” middle-class households: three middle-class families living in Port-au-Prince—lower, middle and upper—and a rural-middle class family living in Artibonite. Finally, as a point of reference, we note that the proposed definition of Haiti's middle class captures about the top 15 percent of the GOH civil service (Table 2-1). It also encompasses virtually all of USAID/ Haiti's local FSN staff, from FSN-10 step 5 and below (48 hour workweek).

Table 2-1

Haiti's Civil Service: Salary and Personnel Numbers by Selected Salary Intervals (March 2010)

| Salary Interval - Monthly (HTG) | Salary Total - Monthly | | Average Monthly Salary | Number of Staff | |
|------------------------------------|---------------------------|-------|---------------------------|--------------------|-------|
| | HTG | % | HTG | Persons | % |
| 2,000 to 9,500 | 206,123,765 | 23.4 | 6,980 | 29,531 | 48.2 |
| 9,501 to 16,500 | 168,442,459 | 19.1 | 13,102 | 12,856 | 21.0 |
| 16,501 to 20,500 | 173,854,033 | 19.8 | 18,142 | 9,583 | 15.7 |
| 20,501 to 30,500 | 122,399,693 | 13.9 | 24,707 | 4,954 | 8.1 |
| 30,501 to 35,500 | 37,315,265 | 4.2 | 34,329 | 1,087 | 1.8 |
| 35,501 and up | 171,685,950 | 19.5 | 53,385 | 3,216 | 5.3 |
| Total | 879,821,165 | 100.0 | | 61,227 | 100.0 |

SOURCE: Ministry of Economics and Finance.

²¹ Minimum wage is by law HTG 200 per day, except in the garment industry, where it is HTG 125 per day and scheduled to rise to HTG 150 per day in October 2010. A two-worker household with both workers earning a (non-garment industry) minimum wage is understood to be the ceiling for the population group targeted by Dalberg Global Advisors in its low-cost housing program planning.

Exhibit 2-1*Middle-class Households: Some Stylized Facts*

| | |
|---------------------------|--|
| Lower Middle Class | <p>Wife: teacher in a public primary school—salary HTG 8,000 per month</p> <p>Income from a small home-based grocery shop—HTG 5,000 per month</p> <p>Husband: Customs officer (IV B J2)—salary HTG 14,000 per month</p> <p>Remittances: US\$ 50 per month from uncle in USA—HTG 2,000 per month</p> <p>Total income: HTG 29,000 per month or \$ US725 per month</p> <p>Education: both secondary school diplomas; wife, primary teacher qualification (ENI); husband, specialized customs service training</p> |
| Mid-Middle Class | <p>Wife: Junior teller in a bank—salary HTG 12,000 per month</p> <p>Husband: IT technician working independently—averages HTG 65,000 per month</p> <p>Remittances: US\$ 75 per month from cousin in New York—HTG 3,000 per month</p> <p>Total income: HTG 80,000 per month or US\$ 2,000 per month</p> <p>Education: wife, secondary diploma plus a post-secondary certificate in accounting; husband university degree and several specialized IT courses</p> |
| Upper Middle Class | <p>Wife: Senior program officer at international NGO—salary HTG 70,000 per month</p> <p>Husband: Director, Ministry of Health—salary HTG 59,000 per month</p> <p>Government allowances at 33 percent of salary—HTG 19,500 per month</p> <p>Remittances: C\$103 monthly from brother in Canada—HTG 4,000 per month</p> <p>Total income: HTG 152,500 per month or US\$ 3,813 per month</p> <p>Education: both have university degrees and husband has masters from a Canadian University.</p> |
| Rural Middle Class | <p>Wife: homemaker and supplies vegetables from home garden—averages HTG 2,000 per month</p> <p>Husband: rice farmer in Artibonite—average net sales of HTG 20,000 per month</p> <p>Owns small rice mill and clears HTG 8,000 per month</p> <p>Remittances: US\$ 50 per month from brother in Miami for children's schooling</p> <p>Total income: HTG 32,000 or US\$ 800 per month</p> <p>Education: husband, primary school certificate; wife, 4 years primary schooling</p> |

Note: For total income for upper middle class: some firsthand observers say that upper-middle class households do not typically receive transfers of this magnitude. If so, monthly household income for this stylized household would amount to HTG 148,500 or US\$ 3,713 per month.

INCOME DISTRIBUTION AND THE MIDDLE CLASS

On a country-wide basis Haiti's middle class is anything but "middle" in the national income distribution. This reflects extreme income inequality and widespread poverty in Haiti's economy.

Total Haiti Income Distribution

The most recent data on Haiti's distribution of household income are derived from the Enquête sur les Conditions de Vie en Haïti (ECVH), conducted in 2001 by IHSI and the Norwegian organization FAFO.²² Based on these data, adjusted to 2010 terms for inflation and for the significant increase in the value of remittances that has occurred since the earlier date, an indicative income distribution can be set forth for pre-earthquake Haiti as a whole (Table 2-2).

²² The ECVH is not without limitations: see Dorte Verner, Making Poor Haitians Count, World Bank Policy Research Working Paper 4571 (March 2008), p. 14. Nevertheless, ECVH provides insight into relative income levels and a range of other factors of interest to housing issues. We thus use it extensively in the present diagnosis. See also Annex A on our use of the ECVH data set.

In essence, this represents the 2001 ECVH sample survey results updated to current (2010) Haitian Gourdes. (Annex A provides a summary of our methodology in making use of the ECVH data set.) These numbers underscore the extreme inequality of income among Haiti's households (Figure 2-1). For Haiti as a whole, the top 10 percent of households accounts for 53 percent of all household income, and the bottom half of all households only about 10 percent.²³

Income distribution data also show the importance of Port au Prince to the economy, including the marked concentration of the nation's income in this zone (Table 2-3). The Metropolitan Area, with about 23 percent of households, accounts for 53 percent of total Haiti household income. Households located in the Metropolitan Area and at the same time included in the top income decile of all Haiti households together hold about 40 percent of all household income in Haiti. The Rural zone, by contrast, with 60 percent of all households, represents only 33 percent of all household income, while the Other-Urban zone makes up 17 percent of all households and only 14 percent of all household income.

Such ratios underline the relative poverty of the zones outside the Metropolitan Area. For example, the vast majority of the very poorest households in Haiti are likely found in the Other Urban and Rural zones. In the ECVH, Other Urban and Rural zone households account for all the income generated in the first decile of all Haiti's households—no Metropolitan Area households surveyed by IHSI in 2001 were apparently poor enough to fall into this category. Other Urban and Rural households also make up the great bulk of households in the second income decile of all Haiti households. Moreover, average monthly household income levels in Haiti's Other Urban and Rural zones are lower than those for the Metropolitan Area in all deciles but one (Other Urban zone top decile). Such patterns may illustrate the kind of general household income differential likely to exist between the USG-supported growth corridors for Saint Marc-Cabaret and Cap-Haïtien on the one hand and Port au Prince on the other.

²³ Following the convention of ECVH and the Institut Haïtien de Statistique et d'Informatique, throughout the present analysis, in addition to adopting "Metropolitan Area" to signify Greater Port au Prince ("Aire Métropolitaine" in ECVH terminology), we use "Other Urban" to designate a zone made up of all other Haiti urban areas outside Port au Prince, and "Rural" to designate Haiti's overall rural zone.

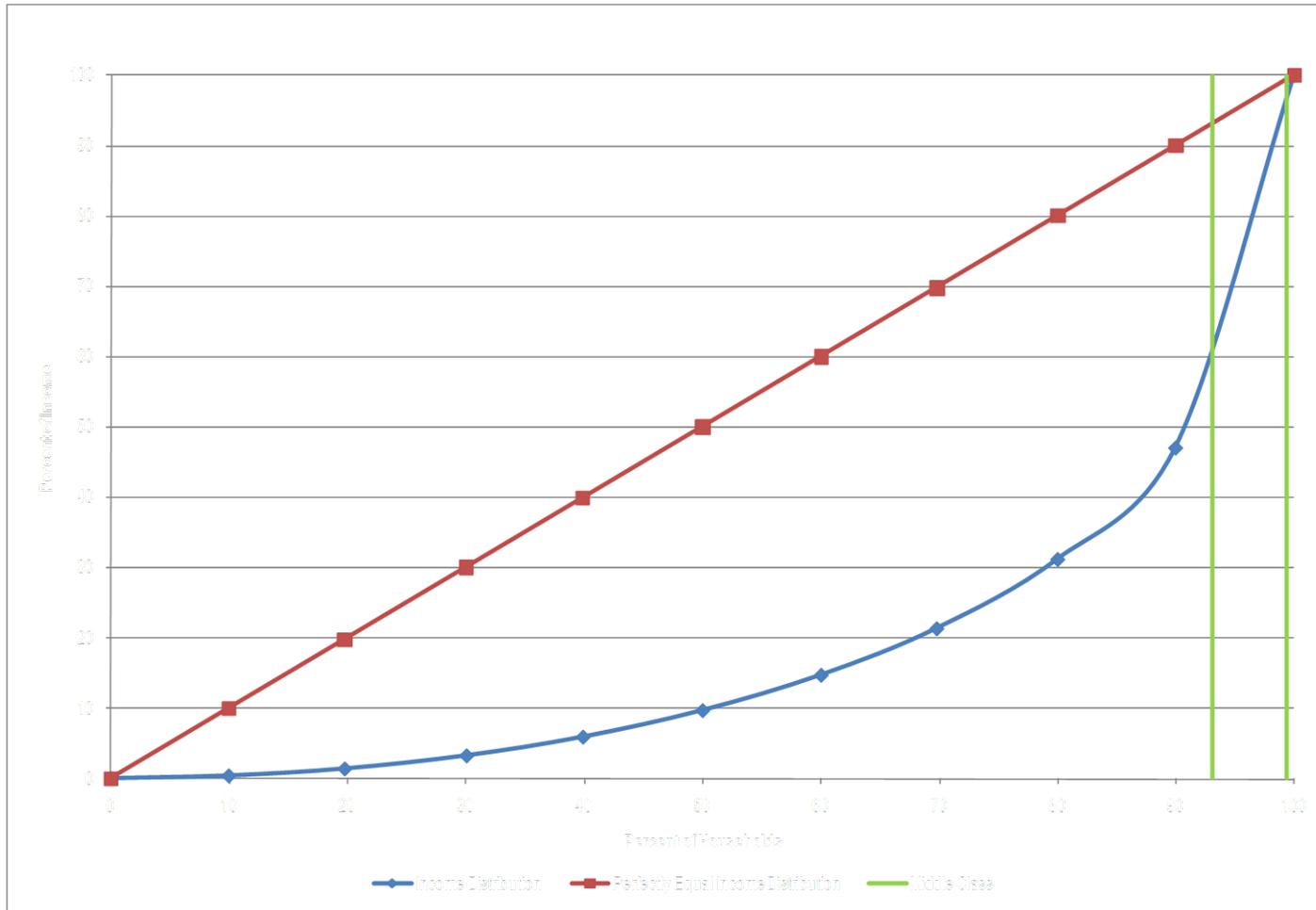
Table 2-2*Haiti's Estimated Income Distribution for All Households and for the Middle Class within All Households, 2001*

| Total Haiti Households | | | | | Middle Class in Total Haiti Households | | | | | Average Monthly Household Income (2010 Haitian Gourdes) | | |
|------------------------|-----------------------------|--|-------------------------|------------------------------------|--|---|--|--|---|--|------------------|-------------------------|
| Decile | Percent of Total Households | Cumulative Percent of Total Households | Percent of Total Income | Cumulative Percent of Total Income | Decile | Percent of Total Households that are Middle Class | Cumulative Percent of Total Households that are Middle Class | Percent of Total Income that is Middle Class | Cumulative Percent of Total Income that is Middle Class | Decile | Total Households | Middle Class Households |
| 1 | 10 | 10 | 0.4 | 0.4 | 1 | 0 | 0 | 0 | 0 | 1 | 265 | 0 |
| 2 | 10 | 20 | 1.0 | 1.4 | 2 | 0 | 0 | 0 | 0 | 2 | 697 | 0 |
| 3 | 10 | 30 | 1.9 | 3.3 | 3 | 0 | 0 | 0 | 0 | 3 | 1,252 | 0 |
| 4 | 10 | 40 | 2.7 | 5.9 | 4 | 0 | 0 | 0 | 0 | 4 | 1,865 | 0 |
| 5 | 10 | 50 | 3.8 | 9.7 | 5 | 0 | 0 | 0 | 0 | 5 | 2,581 | 0 |
| 6 | 10 | 60 | 5.0 | 14.7 | 6 | 0 | 0 | 0 | 0 | 6 | 3,469 | 0 |
| 7 | 10 | 70 | 6.6 | 21.3 | 7 | 0 | 0 | 0 | 0 | 7 | 4,681 | 0 |
| 8 | 10 | 80 | 9.9 | 31.2 | 8 | 0 | 0 | 0 | 0 | 8 | 6,664 | 0 |
| 9 | 10 | 90 | 15.9 | 47.0 | 9 | 0 | 0 | 0 | 0 | 9 | 10,991 | 0 |
| 10 | 10 | 100 | 53.0 | 100.0 | 10 | 6.9 | 6.9 | 40.9 | 40.9 | 10 | 36,499 | 41,002 |

SOURCE: Nathan Associates, calculations based on IHSI, Enquête sur les Conditions de Vie en Haïti (2001).

Figure 2-1

Income Distribution for Haiti and Location of the Middle Class in this Income Distribution, 2001 (Lorenz Curve)



SOURCE: Nathan Associates calculations based on IHSI, *Enquête sur les Conditions de Vie en Haïti (2001)*

Table 2-3

Haiti's Estimated Income Distribution, for all Households, by Zone of Residence and Decile, 2001 (2010 Haitian Gourdes)

| | Total Haiti | Distributed by Zone of Residence | | |
|---|----------------|----------------------------------|-------------|-----------|
| | | Metropolitan Area | Other Urban | Rural |
| All households (2001 est.) ^a | 1,737,164 | 401,056 | 301,076 | 1,035,032 |
| Percent of all households | 100.0 | 23.1 | 17.3 | 59.6 |
| Percent of all household income | 100.0 | 52.6 | 14.0 | 33.4 |
| AVERAGE MONTHLY HOUSEHOLD INCOME (HTG) BY TOTAL HAITI HOUSEHOLD DECILE^B | | | | |
| 1th | 265 | 299 | 243 | 270 |
| 2th | 697 | 762 | 681 | 694 |
| 3th | 1,252 | 1,279 | 1,249 | 1,250 |
| 4th | 1,865 | 1,904 | 1,868 | 1,857 |
| 5th | 2,581 | 2,642 | 2,567 | 2,573 |
| 6th | 3,469 | 3,496 | 3,418 | 3,476 |
| 7th | 4,681 | 4,713 | 4,637 | 4,678 |
| 8th | 6,664 | 6,851 | 6,684 | 6,564 |
| 9th | 10,991 | 11,333 | 10,847 | 10,724 |
| 10th | 36,499 | 37,691 | 41,235 | 28,515 |
| PERCENT OF TOTAL INCOME IN A ZONE BY TOTAL HAITI HOUSEHOLD DECILE^C | | | | |
| 1th | 0.4 | 0.0 | 0.1 | 0.3 |
| 2th | 1.0 | 0.1 | 0.2 | 0.7 |
| 3th | 1.9 | 0.2 | 0.3 | 1.4 |
| 4th | 2.7 | 0.3 | 0.5 | 1.8 |
| 5th | 3.8 | 0.5 | 0.7 | 2.5 |
| 6th | 5.0 | 0.9 | 0.9 | 3.2 |
| 7th | 6.6 | 1.6 | 0.9 | 4.1 |
| 8th | 9.9 | 2.9 | 1.5 | 5.5 |
| 9th | 15.9 | 6.6 | 2.5 | 6.8 |
| 10th | 53.0 | 39.5 | 6.4 | 7.1 |
| | 100.0 | 52.6 | 14.0 | 33.4 |

^a Total number of households estimated by Nathan Associates by deflating the number of households counted in the RGPH 2003 by 1.6 percent for two years to arrive at 2001 number of households. Deflation factor is net annual average population growth rate between 2000 and 2005 from IHSI, *Estimations et Projections de la Population Totale, Urbaine, Rurale et Economiquement Active (Mai 2008)*, p.39. Proportions of Metropolitan, Other Urban and Rural households base on ECVH survey results, 2001.

^b Read: "In the Metropolitan Area, households that fall in the fifth decile of all Haitian households have an average monthly income of HTG 2,642."

^c Read: "In the Metropolitan Area, households that fall in the tenth decile of all Haitian households account for 39.5 percent of all household income in Haiti."

SOURCE: Nathan Associates calculations based on IHSI, *Enquête sur les Conditions de Vie en Haïti (2001)*

Situating the Middle Class

Haiti's extremely unequal income distribution means that in the country as a whole the middle class is first, very small, and second, located on the highest rungs of the national ladder of household income. In fact, based on ECVH survey results, the HTG 20,000 to HTG 160,000 middle-class monthly household income interval defines a group that seems to represent not even 7 percent of Haitian households, but has nearly 41 percent of all household income (Table 2-2). Furthermore, in the national universe of all Haiti's households, this middle class interval is placed in the top decile of all household incomes—beginning somewhere in the 93rd percentile and ending somewhere in the 100th (very last) percentile of all families (Table 2-4).

Haiti's middle class is distributed across three zones of residence—Metropolitan Area, Other Urban and Rural. In each, the significance of the middle class can be established in three dimensions: the middle-class households in that zone relative to all households in Haiti, to all middle-class households in Haiti and to all households in that zone.

- **Port au Prince** is overwhelmingly the center of middle-class household income. Based on ECVH findings (2001), middle-class households in the Metropolitan Area amount to a little over 5 percent of all Haiti households (and represent three-quarters of middle-class households in Haiti). In total, middle-class households in the Port au Prince Metropolitan Area represent about one third of all household income in Haiti, and they account for nearly 80 percent of all middle-class household income. In the Metropolitan Area alone, middle-class households are 23 percent of all households and account for 61 percent of all income.
- In the **Other Urban** zone, middle-class households represent less than one percent of households in Haiti and about 12 percent of middle-class households. They receive just over 4 percent of all Haiti household income and about 11 percent of all middle-class household income. In the Other Urban zone alone, the households account for about 5 percent of all zone households and nearly a third of all other urban household income.
- In the **Rural** zone, middle-class households again make up less than one percent of all Haiti's households and 13 percent of all middle-class households. Just like the Other Urban middle class, in the Rural zone, such households account for more than 4 percent of all household income in Haiti and about 11 percent of all middle-class household income. In the Rural zone alone, middle-class households are only about 1.5 percent of all rural households and represent 13 percent of total rural household income.

It is apparent that Haiti's middle class is pretty much a Port au Prince phenomenon. But the middle class does exist in Haiti's Other Urban and Rural zones—where the USG-supported growth corridor initiatives for Saint Marc-Cabaret and Cap Haïtien are targeted—but representing far less prominent shares of all households or of all household income in these zones.

Table 2-4

Position of the Middle Class within the Estimated Income Distribution for Haiti, 2001(2010 Haitian Gourdes)

| | Total Haiti | Distributed by Zone of Residence | | |
|--|-------------|----------------------------------|-------------|-----------|
| | | Metropolitan Area | Other Urban | Rural |
| All households (2001 est.) ^a | 1,737,164 | 401,056 | 301,076 | 1,035,032 |
| Percent of all households | 100.0 | 23.1 | 17.3 | 59.6 |
| Percent of all household income | 100.0 | 52.6 | 14.0 | 33.4 |
| Middle-class households ^b | 148,052 | 111,470 | 17,678 | 18,905 |
| Percent of all households | 6.9 | 5.2 | 0.8 | 0.9 |
| Percent of all household income ^c | 40.9 | 32.2 | 4.3 | 4.4 |
| Average monthly total Haiti household income (HTG) | 6,911 | 15,753 | 5,601 | 3,865 |
| Average monthly middle-class household income (HTG) | 41,002 | 42,850 | 36,180 | 34,614 |
| AVERAGE MONTHLY MIDDLE-CLASS HOUSEHOLD INCOME (HTG) BY TOTAL HAITI HOUSEHOLD PERCENTILE^d | | | | |
| 93 rd | 20,222 | 20,174 | 20,430 | 20,396 |
| 94 th | 21,743 | 21,773 | 21,489 | 21,840 |
| 95 th | 24,534 | 24,485 | 24,695 | 24,644 |
| 96 th | 28,351 | 28,394 | 28,018 | 28,444 |
| 97 th | 33,281 | 33,151 | 34,001 | 33,389 |
| 98 th | 41,416 | 41,591 | 39,983 | 41,562 |
| 99 th | 55,126 | 55,359 | 52,511 | 55,210 |
| 100 th | 95,587 | 97,075 | 84,247 | 90,734 |
| AVERAGE MONTHLY HOUSEHOLD INCOME (HTG) BY TOTAL HAITI HOUSEHOLD QUINTILE | | | | |
| 1 st | 479 | 575 | 432 | 485 |
| 2 nd | 1,552 | 1,628 | 1,562 | 1,537 |
| 3 rd | 3,023 | 3,129 | 2,972 | 3,012 |
| 4 th | 5,694 | 5,899 | 5,712 | 5,599 |
| 5 th | 23,786 | 28,237 | 23,170 | 15,768 |

^a Total number of households estimated by Nathan Associates by deflating the number of households counted in the RGPH 2003 by 1.6 percent for two years to arrive at 2001 number of households. Deflation factor is net annual average population growth rate between 2000 and 2005 from IHSI, *Estimations et Projections de la Population Totale, Urbaine, Rurale et Economiquement Active* (Mai 2008), p.39. Proportions of Metropolitan, Other Urban and Rural households based on ECVH survey results, 2001.

^b Based on middle-class monthly household income interval defined as HTG 20,000 (lower bound) to HTG 160,000 (upper bound) in 2010 Gourdes.

^c Read: "Middle class households have 41 percent of all household income in Haiti and middle class households in the Metropolitan Area account for 32.2 percent of all household income in Haiti."

^d Read: "Middle class households who fall into the total Haiti 93rd percentile and reside in the Metropolitan Area have average monthly incomes of HTG 20,174."

SOURCE: Nathan Associates calculations based on IHSI, *Enquête sur les Conditions de Vie en Haïti* (2001)

Average monthly household income for the entire Haitian middle class may be about HTG 41,000. This is about six times the all-Haiti average monthly household income (HTG 6,911). In the Port au Prince Metropolitan Area the middle-class household average is slightly higher than the national middle-class household average, about HTG 42,900 per month, but is lower than this figure in Haiti's Other Urban (HTG 36,200) and Rural (34,600) zones.

IMPLICATIONS OF THESE FINDINGS

The above analysis raises three issues that are important to consider in thinking through middle-class housing problems and strategies. All are related to the conclusion that the overall number of Haiti's middle-class households appears to be quite limited, and that as a group, these households seem to be fairly wealthy, at least relative to nearly all other Haitian households.

Middle Class in Port au Prince

First of all, because Haiti's middle class is predominantly located in Port au Prince, additional analysis of this group on its own is merited. And, when the Metropolitan Area middle class is evaluated within a Metropolitan Area-specific household income distribution, a slightly different picture of its relative position appears. To this point, all previous analysis has placed Haiti's middle class in the structure of income deciles established for all Haiti households. The conclusion of the analysis is that relative to all Haiti households, the middle class is only 6.9 percent of all households, represents 40.9 percent of all household income, and is situated between the 93rd and 100th percentile of the national income distribution. But an alternative perspective is to create an income distribution for the Metropolitan Area alone, and locate the middle class within it—still adhering of course to the monthly household income norm of HTG 20,000 to HTG 160,000 to define the middle class. On this basis, the middle class represents 23 percent of Metropolitan Area households and generates 61 percent of all household income, but is now located in an interval that begins somewhere within the 76th percentile and ends somewhere within the 99th percentile of the Metropolitan Area-specific household income distribution (Table 2-5). Hence, within the context of the Metropolitan Area alone, housing development targeted to the middle class reaches relatively deeper down into the distribution of household incomes (Figure 2-2).

Existence of a “Gap Class”

Because the middle class seems to be smaller than might have been anticipated pre-analysis, USG housing aid program planning may be overlooking a whole segment of households in Haiti's nationwide income distribution. In the context of Haiti's overall income distribution, this “gap class” appears to be situated between the beginning of the middle class as defined above, and the upper end of the target population for low-income housing specified by the Dalberg Global Advisors research: households with US\$10 per day in earnings, equivalent to a monthly household income of about HTG 9,600 (US\$240 per month).²⁴ As such, the gap class represents the roughly 10 percent of all Haitian households that lie between about the 83rd percentile and the

²⁴ According to Andria Thomas, the Dalberg target group is US \$ 10 to US\$ 11 per day in household income (oral communication, 23 August 2010). To highlight the gap class, we adopt a household income of US\$ 10 per day as the upper bound, representing two workers earning the Haiti legal minimum wage.

93rd percentile in the overall household income distribution. The former is the approximate ceiling of the Dalberg target group and the latter the floor of the middle class as defined here (Table 2-6). (Note, however, that in the context of the Metropolitan Area-specific income distribution, the gap class becomes 21 percent of Metropolitan Area households, situated somewhere between the 56th percentile and the 77th percentile of household incomes. In the Other Urban and Rural zones, the gap class may be about 7 percent and 6 percent, respectively, of households in those zones.) The housing requirements of this gap class—who are likely, for example, to encompass many in the lower levels of Haiti's civil service—need to be taken into account in planning housing sector interventions.

Impact of Income Understatement

In all household income surveys, there is a possibility of a systematic under-reporting of household income, based on normal reluctance to reveal personal financial information including fear of causing problems with tax authorities. This may have been the case in the ECVH, though there is no way to be certain. However, when discussing the fact that applying our income criterion to ECVH data, Haiti's middle class turns out to be only about 7 percent of all households in Haiti, some observers expressed surprise that the middle class share wasn't larger—even as they ratified the income bounds developed in our analysis to define the middle class.

We recognize that understatement of household income by ECVH respondents could be a reason for this result. To test the consequences of possible household income understatement in the ECVH, we have performed two sensitivity analyses in which we assume every household understated income by first 25 percent and then 50 percent, i.e., survey respondents actually had one third more or twice the amount of household revenues reported in ECVH (Table 2-7). Such assumptions, while still maintaining our stated monthly household income boundaries for middle-class status, makes the middle class either 10 percent or 15 percent of all Haiti households and gives them 46 percent and 51 percent of all household income, respectively.

Hence, it is possible that for all of Haiti, the middle class is a bit larger than 7 percent of all households, and has an even greater share of total household income than our 41 percent base estimate. But our fundamental conclusions stand: for Haiti as a whole, the middle class is far from the middle of Haiti's income distribution (e.g., well above the 3rd and 4th quintile) and is still a fairly small segment of the total number of Haitian households.

Table 2-5

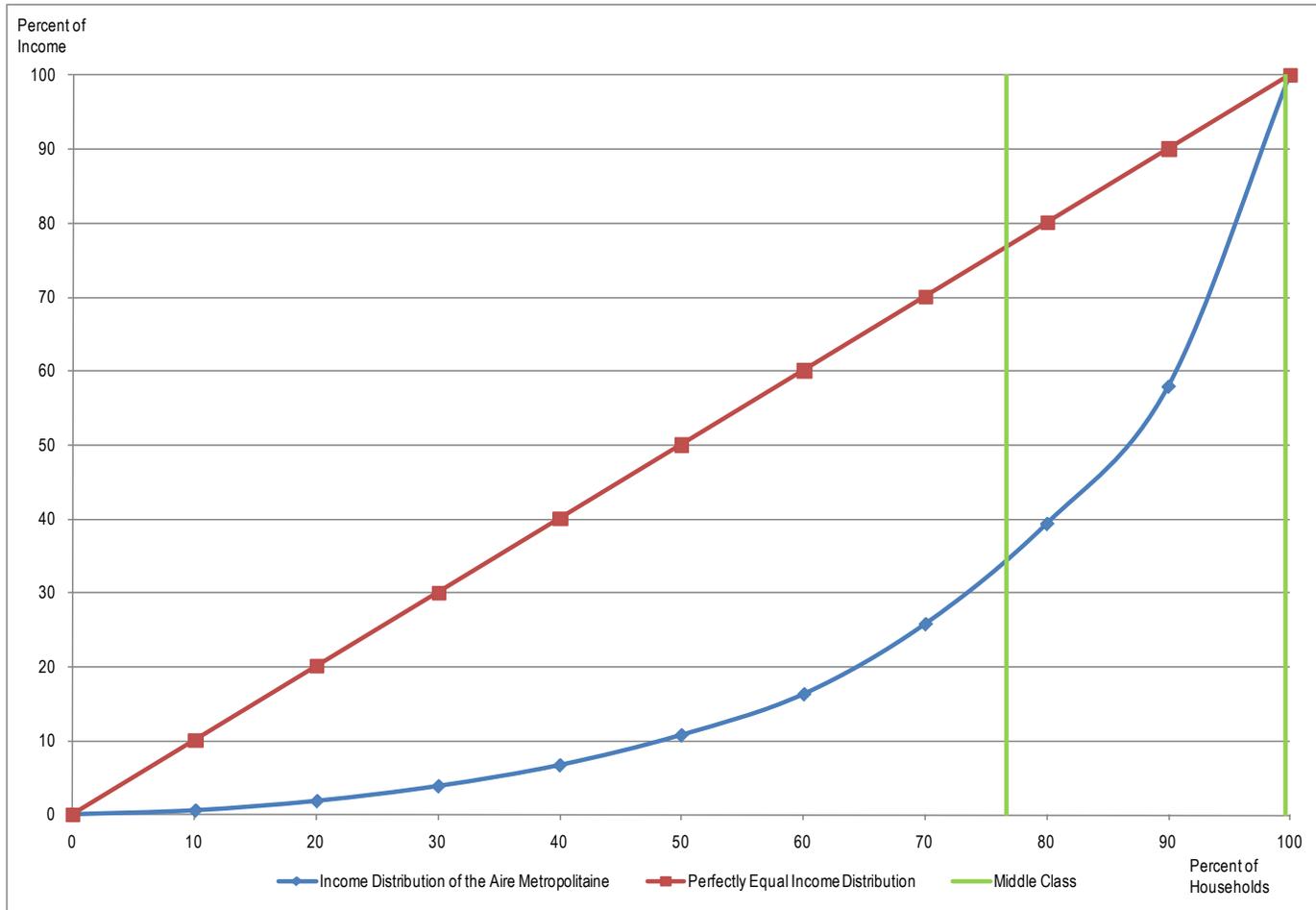
Port au Prince Metropolitan Area: Estimated Income Distribution for All Metro Households and for the Middle Class within All Metro Households, 2001(2010 Haitian Gourdes)

| Total Metro Households | | | | | Middle Class in Total Metro Households | | | | | Metropolitan Area - Average Monthly Household Income (Haitian Gourdes) | | |
|------------------------|-----------------------------|--|-------------------------|------------------------------------|--|---|--|--|---|--|------------------|-------------------------|
| Decile | Percent of Total Households | Cumulative Percent of Total Households | Percent of Total Income | Cumulative Percent of Total Income | Decile | Percent of Total Households that are Middle Class | Cumulative Percent of Total Households that are Middle Class | Percent of Total Income that is Middle Class | Cumulative Percent of Total Income that is Middle Class | Decile | Total Households | Middle Class Households |
| 1 | 10 | 10 | 0.5 | 0.5 | 1 | 0 | 0 | 0 | 0 | 1 | 896 | 0 |
| 2 | 10 | 20 | 1.3 | 1.8 | 2 | 0 | 0 | 0 | 0 | 2 | 2,165 | 0 |
| 3 | 10 | 30 | 2.0 | 3.8 | 3 | 0 | 0 | 0 | 0 | 3 | 3,367 | 0 |
| 4 | 10 | 40 | 2.8 | 6.7 | 4 | 0 | 0 | 0 | 0 | 4 | 4,635 | 0 |
| 5 | 10 | 50 | 4.1 | 10.7 | 5 | 0 | 0 | 0 | 0 | 5 | 6,424 | 0 |
| 6 | 10 | 60 | 5.5 | 16.3 | 6 | 0 | 0 | 0 | 0 | 6 | 8,742 | 0 |
| 7 | 10 | 70 | 9.5 | 25.8 | 7 | 0 | 0 | 0 | 0 | 7 | 12,829 | 0 |
| 8 | 10 | 80 | 13.6 | 39.3 | 8 | 3.4 | 3.4 | 5.0 | 5 | 8 | 18,873 | 21,582 |
| 9 | 10 | 90 | 18.6 | 57.9 | 9 | 10.0 | 13.4 | 18.6 | 23.6 | 9 | 29,661 | 29,661 |
| 10 | 10 | 100 | 42.1 | 100.0 | 10 | 9.6 | 23.0 | 37.6 | 61.2 | 10 | 70,972 | 65,937 |

SOURCE: Nathan Associates calculations based on IHSI, Enquête sur les Conditions de Vie en Haïti (2001)

Figure 2-2

Income Distribution for the Port au Prince Metropolitan Area (Aire Métropolitaine) (Lorenz Curve)



SOURCE: Nathan Associates calculations based on IHSI, Enquête sur les Conditions de Vie en Haïti (2001).

Table 2-6

Household Income Shares by Major Income Classes in Haiti's Estimated Income Distribution, by Zone of Residence, 2001 (2010 Gourdes)

| Income Class | Income Intervals | Zone of Residence (%) | | | | | | | |
|--------------|------------------|-----------------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|
| | | Haiti (%) | | Metro Area | | Other Urban | | Rural | |
| | | Share of HH | Share of Income | Share of HH | Share of Income | Share of HH | Share of Income | Share of HH | Share of Income |
| Low income | 0 to 240 | 83.2 | 35.3 | 56.1 | 15.2 | 87.8 | 41.6 | 92.4 | 64.4 |
| Gap | 241 -500 | 9.7 | 19.2 | 21.0 | 19.1 | 7.1 | 16.2 | 6.1 | 20.4 |
| Middle Class | 501 -4,000 | 6.9 | 41.0 | 22.5 | 61.1 | 4.7 | 30.7 | 1.5 | 13.2 |
| Wealthy | 4,000+ | 0.2 | 4.6 | 0.4 | 4.5 | 0.3 | 11.5 | 0.0 | 1.9 |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 100.0 |

Note: Household shares and income shares based on analysis of ECVH database. The upper bound for the low income class is based on Dalberg. Middle class defined by Nathan on the basis of interviews.

SOURCE: Nathan Associates.

Table 2-7

Household Income Shares by Major Income Classes in Haiti's Income Distribution and Sensitivity Analysis for Possible Income Understatement

| Income Class | Income Intervals | Base Income Distribution ^a | | Sensitivity Analysis | | | |
|--------------|--------------------------|---------------------------------------|---------------------|---|---------------------|---|---------------------|
| | | Share of HH (%) | Share of Income (%) | 25 Percent Income Understatement ^b | | 50 Percent Income Understatement ^c | |
| | | | | Share of HH (%) | Share of Income (%) | Share of HH (%) | Share of Income (%) |
| Low income | 0 to 240 ^d | 83.2 | 35.3 | 77.1 | 28.0 | 65.8 | 18.3 |
| Gap | 241 - 500 | 9.7 | 19.2 | 13.0 | 19.3 | 18.2 | 19.0 |
| Middle Class | 501 - 4,000 ^e | 6.9 | 41.0 | 9.7 | 46.0 | 15.3 | 50.7 |
| Wealthy | 4,000+ | 0.2 | 4.6 | 0.3 | 6.8 | 0.7 | 12.0 |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Notes:

^a Based on Tables 2-2 and 2-4 and underlying ECVH database.

^b Assume actual incomes are one third higher than the ECVH levels specified for all respondents.

^c Assume actual incomes are double the ECVH levels specified for all respondents.

^d Upper bound based on Dalberg.

^e Defined by Nathan Associates on the basis of interviews.

SOURCE: Nathan Associates

3. Middle-Class Household Characteristics

With our middle class definition in place, we draw upon the Enquête sur les Conditions de Vie en Haïti (ECVH) to profile middle-class household characteristics. We also contrast these middle-class characteristics with averages for all Haitian households. The picture that emerges suggests that middle-class households differ from the average household in several basic characteristics—size and age, education and employment of the household head, and ability to afford services and commodities beyond the reach of the average household. But middle-class households still often find it difficult to access credit and invest in housing.

MIDDLE CLASS HOUSEHOLD MAKEUP

The middle-class household profile can be summarized in several indicators, including type of family, head of the household age, gender, employment status, and level of education.

Type of Household

A fundamental difference between the middle class and Haiti’s other households is the type of family that constitutes the household. A middle-class household is likely to be an extended (46.5 percent) or complex family (25.8 percent). By contrast, while extended families (37.9 percent) are often the base of the typical household, the nuclear family (25.7 percent) and single-parent family (11.9 percent) are more common and the complex family less common (10.3 percent) than for middle-class households (Table 3-1).²⁵ Such distinctions in household type do may imply more members for middle-class households than for other households. ECVH data indicate that compared to the average Haitian household, middle-class households have 0.8 more persons per house. As the head of household becomes wealthier he/she may be more likely to include extended family members in the household (Table 4-4 below).

²⁵ An “extended family” is defined by IHSI as a family composed of a couple, their children, and people related in some way to the head of the household, either closely related or less so. A “complex family” is defined as a head of household plus possibly relatives and/or people unrelated to the head of household.

Table 3-1

Middle-Class and All Haiti Households: Household Type and Selected Head of Household Characteristics, 2001

| | Middle Class | | | | Haiti | | | |
|--|--------------|-------------------|-------------|-------|-------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| HOUSEHOLD TYPE (PERCENT OF TOTAL) | | | | | | | | |
| Single person | 4.5 | 3.4 | 0.5 | 0.6 | 9.3 | 2.1 | 1.6 | 5.7 |
| Nuclear family | 15.6 | 10.6 | 2.3 | 2.8 | 25.7 | 3.6 | 4.1 | 18.1 |
| Single parent family | 4.9 | 3.7 | 0.6 | 0.6 | 11.9 | 2.8 | 2.2 | 6.9 |
| Couple without children | 2.6 | 1.5 | 0.0 | 1.1 | 4.8 | 0.7 | 0.8 | 3.3 |
| Extended family | 46.5 | 37.1 | 5.3 | 4.2 | 37.9 | 9.8 | 6.7 | 21.3 |
| Complex family | 25.8 | 19.0 | 3.3 | 3.6 | 10.3 | 4.1 | 2.0 | 4.3 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| HEAD OF HOUSEHOLD GENDER (PERCENT OF TOTAL) | | | | | | | | |
| Male | 60.2 | 44.6 | 7.1 | 8.6 | 53.6 | 11.5 | 8.9 | 33.2 |
| Female | 39.8 | 30.7 | 4.9 | 4.2 | 46.4 | 11.6 | 8.5 | 26.4 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| HEAD OF HOUSEHOLD MARITAL STATUS (PERCENT OF TOTAL) | | | | | | | | |
| Single | 19.2 | 16.7 | 1.9 | 0.6 | 12.1 | 4.6 | 2.0 | 5.5 |
| Married | 36.8 | 24.8 | 5.0 | 7.0 | 28.4 | 5.5 | 5.5 | 17.4 |
| Common law | 21.5 | 16.3 | 2.3 | 2.9 | 31.9 | 5.8 | 5.1 | 21.1 |
| Widowed, divorced, separated | 22.5 | 17.5 | 2.6 | 2.3 | 27.6 | 7.2 | 4.8 | 15.6 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| HEAD OF HOUSEHOLD AVERAGE AGE | | | | | | | | |
| Average age in years | 41.5 | 40.1 | 44.3 | 47.6 | 45.2 | 39.6 | 46.4 | 47.0 |
| HEAD OF HOUSEHOLD EDUCATIONAL ATTAINMENT (PERCENT OF TOTAL) | | | | | | | | |
| University | 13.8 | 11.8 | 1.2 | 0.9 | 1.8 | 1.4 | 0.2 | 0.2 |
| Technical | 5.6 | 5.0 | 0.5 | 0.1 | 0.8 | 0.7 | 0.1 | 0.0 |
| Secondary | 23.5 | 19.1 | 2.3 | 2.0 | 8.5 | 4.8 | 1.4 | 2.2 |
| Primary | 35.5 | 26.0 | 4.4 | 5.1 | 32.5 | 10.1 | 6.6 | 15.8 |
| Not specified | 21.5 | 13.4 | 3.5 | 4.6 | 56.4 | 6.0 | 9.0 | 41.3 |
| Total | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 20.1 | 17.3 | 59.6 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Heads of Household Characteristics

Middle-class heads of house do not at first appear to differ much from the average Haitian head of household, but there are some distinctions (Table 3-1). For Haiti as a whole, the head of

household is likely to be a man (53.6 percent), between the ages of 31 and 40 (25.4 percent), either formally married (28.4 percent) or in a common law arrangement (31.9 percent). For middle-class heads of household the profile is similar but distinct. For example, compared to the overall average for Haiti, middle-class heads of households are even more likely to be men (60.2 percent) especially if they live in rural areas (67.1 percent). While middle-class and all heads of household are about equally likely to be living with a partner, middle-class heads of household are more likely to be married (36.8 percent) than in a common law relationship (21.5 percent).

Another characteristic defining middle-class heads of households is that they tend to be slightly younger than the average head of household in Haiti. In the first quintile 35 percent of the heads of house are between 21 and 40 years old but the proportion increases steadily to 50.4 percent in the fifth quintile. Thus the average age for a middle-class head of household (41.5 years) is lower than the Haiti-wide average (45.2 years). The relative youthfulness of middle-class heads of household is notably evident in the Metropolitan Area (39.6 years), suggesting that middle-class households there are largely made up of younger residents (Table 3-1).

While in Haiti as a whole only 1.8 percent heads of household have reached university, in the middle class 13.8 percent had a university education, and the rate for middle-class households in the Metropolitan Area is even higher (15.6 percent). This is significantly different even from Haiti's fifth quintile, where only 7.9 percent of heads of house reached university. This correlation is not surprising considering the middle class is ultimately defined by household income level, and education is a good indicator for both employment and income level.

Employment

In Haiti as a whole, the majority of household heads are actively employed (67.9 percent), with the rate of employment slightly higher for middle-class heads of households (71.3 percent). However, not all employed people are engaged in the formal sector. Most employed people in Haiti are actually self-employed and thus likely working in the informal sector. Only 12.2 percent of all heads of household are salaried, whereas 34.5 percent of middle-class heads of household are salaried (Table 3-2). This characteristic of a head of household with regular income is specific to the middle class, and it is an important distinction since reliability of income can make the difference in gaining access to credit.

In Haiti it is not uncommon for there to be more than one employed person per household. The overall Haiti average is 1.3 employed people per household, but for the middle class it is 1.5. At the same time the ratio of economic dependence (the size of the household divided by the number of employed household members) also increases as the household income increases, from 3.4 people in the first quintile to 2.8 in the fifth, and 2.9 for the middle class. These parallel increases in economic dependence and number of workers per family further illustrate that middle-class households are not simply a single wealthy head of household with a nuclear family, but a large extended family often supported by multiple workers.

Table 3-2

Middle-Class and All Haiti Households: Head of Household Employment Characteristics, Number of Employed Persons per Household, and Sources of Household Income 2001

| | Middle Class | | | | All Haiti | | | |
|--|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| HEAD OF HOUSEHOLD EMPLOYMENT (PERCENT OF TOTAL) | | | | | | | | |
| Actively Employed | 71.3 | 52.1 | 8.7 | 10.5 | 67.9 | 14.7 | 11.8 | 41.5 |
| Unemployed | 12.0 | 10.5 | 1.1 | 0.5 | 9.8 | 4.0 | 1.5 | 4.3 |
| Outside the Workforce | 16.7 | 12.7 | 2.2 | 1.8 | 22.2 | 4.4 | 4.1 | 13.8 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| HEAD OF HOUSEHOLD TYPE OF EMPLOYMENT (PERCENT OF TOTAL) | | | | | | | | |
| Salaried / Employees | 34.5 | 27.4 | 3.7 | 3.4 | 12.2 | 6.3 | 2.3 | 3.6 |
| Business owners / Self employed | 36.0 | 24.0 | 5.0 | 7.1 | 54.7 | 8.2 | 9.3 | 37.2 |
| Other non-salaried | 2.3 | 1.4 | 0.4 | 0.5 | 4.1 | 0.8 | 0.9 | 2.4 |
| Outside the workforce | 27.1 | 22.5 | 2.9 | 1.8 | 28.9 | 7.8 | 4.8 | 16.4 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| AVERAGE NUMBER OF EMPLOYED PERSONS AND DEPENDENTS PER HOUSEHOLD (NUMBER) | | | | | | | | |
| Employed Persons | 1.5 | 1.5 | 1.6 | 1.8 | 1.3 | 1.1 | 1.3 | 1.3 |
| Dependents | 2.9 | 2.9 | 3.0 | 2.6 | 2.5 | 2.6 | 2.6 | 2.5 |
| TYPES OF INCOME RECEIVED BY HOUSEHOLDS (PERCENT OF HOUSEHOLDS RECEIVING TYPE OF INCOME)^a | | | | | | | | |
| Self Employment | 63.6 | 44.0 | 8.8 | 10.8 | 80.3 | 13.8 | 14.0 | 52.5 |
| Salaried Employment | 50.6 | 40.6 | 3.9 | 6.2 | 24.9 | 8.2 | 4.5 | 12.3 |
| Remittances | 72.5 | 56.3 | 7.7 | 8.5 | 45.9 | 15.3 | 6.9 | 23.8 |
| Property | 12.2 | 9.5 | 0.9 | 1.8 | 9.5 | 2.0 | 1.6 | 6.0 |
| Other sources | 31.9 | 26.4 | 2.1 | 3.4 | 28.8 | 7.5 | 4.9 | 16.4 |
| PROPORTION OF TOTAL HOUSEHOLD INCOME BY TYPE (PERCENT OF TOTAL INCOME) | | | | | | | | |
| Self Employment | 32.0 | 29.7 | 41.1 | 40.7 | 40.7 | 32.7 | 40.4 | 57.5 |
| Salaried Employment | 29.3 | 31.9 | 18.6 | 19.1 | 23.0 | 29.7 | 17.0 | 12.0 |
| Remittances | 29.0 | 28.6 | 33.9 | 27.0 | 26.6 | 28.7 | 29.5 | 20.9 |
| Property | 2.8 | 3.1 | 0.4 | 2.6 | 2.7 | 2.9 | 1.7 | 2.8 |
| Other sources | 6.9 | 6.6 | 6.0 | 10.6 | 7.0 | 6.0 | 11.4 | 6.8 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

^a Columns do not sum to 100 percent; households can receive multiple types of income.

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Types of Household Income

Because a typical household will have multiple members working it often has multiple types and sources of income. More than 80 percent of Haitian households report receiving some income from self-employment, but for the middle class this proportion falls to just under two thirds of households (Table 3-2). Self-employment income also represents a smaller proportion of middle-class household income (32 percent) than it does for all households (40.4 percent). Within the middle class as a whole, about 30 percent of household income comes from salaries, and a bit more for Metropolitan Area middle-class households (31.9 percent). Self-employment income is most significant in Other Urban (41.1 percent) and Rural (40.7 percent) zone households. This pattern reflects the availability of salaried employment in the Metropolitan Area as well as the prevalence of self-employed farmers in the Rural zone and micro-enterprise and small business operators and owners in Haiti's Other Urban zone. It is likely to be typical of conditions in the USG-supported growth corridors.

HOUSEHOLD FINANCES

Middle-class households are also defined by the pattern of their household finances. Six such characteristics of household finance stand out: expenditure profiles, savings, health insurance coverage, key purchases, remittance receipts, and capacity to mobilize financial resources.

Expenditure Profiles

Data on household expenditure is not part of the ECVH. However, an earlier survey by Institut Haïtien de Statistique et d'Informatique (IHSI)—the Enquête Budget et Consommation des Ménages (EBCM) 1999-2000—provides information on household budgets. In the present diagnostic, it has not been possible to directly exploit the EBCM database in the way we have done for the ECVH, but secondary sources refer to the EBCM and provide some insight into the structure of household expenditure generally in Haiti. Of course, none of these references deals with middle-class household expenditure patterns per se.²⁶

Two different analyses based on the EBCM offer, respectively, household budgets for families by poverty/non-poverty levels in urban areas and by Haiti's three Zones of Residence (Table 3-3). Combining the results of the two analyses, and recalling that middle-class families are obviously “non-poor” and overwhelmingly urban (and resident particularly in the metropolitan area), middle-class household expenditures might be assumed to approximate a profile:

- Food—43 percent
- Housing—20 percent
- Transport—12 percent
- Education and health care—7 percent
- Clothing—7 percent

²⁶ We were able to purchase the EBCM database directly from IHSI, but no guide to the coding of variables was available, nor any explanations as to weights evidently applied to the database to correct or otherwise rebalance sample results to make up for missing or spoiled survey responses. Hence, contrary to what we have been able to do in the ECVH, arraying household expenditure data by income levels to create a profile of the middle-class budget has not been possible with the EBCM

- Other goods and services including leisure—11 percent.

As monthly incomes increase for middle-class households, it is likely that the shares devoted to expenditure on housing (as well as on such items as leisure) rise, while expenditure on food falls.

Table 3-3

Structure of Household Expenditure by Type, for all Households by Zone of Residence, and for Urban Poor/Non-Poor Households, 1999-2001

| A. Haiti Household Expenditure by Zone of Residence a/ | | | | |
|---|-------------------|--------------------|--------------|--------------|
| | Metro Area | Other Urban | Rural | Total |
| Food | 43.4 | 50.1 | 64.3 | 55 |
| Housing, transport, clothing | 39.3 | 29.8 | 24.1 | 30 |
| Health | 3.2 | 3.6 | 3.2 | 3 |
| Education | 3.7 | 3.7 | 2.7 | 3 |
| Other goods and services | 10.4 | 12.8 | 5.7 | 8 |
| | 100.0 | 100.0 | 100.0 | 100.0 |

| B. Haiti Urban Household Expenditure by Poor and Non-Poor Households | | | | |
|---|-----------------------|-------------|-----------------|--------------|
| | Extremely Poor | Poor | Non-Poor | Total |
| Other goods and services | 2.2 | 2.6 | 10.8 | 10.0 |
| Hotels, cafés, restaurants | 5.3 | 5.1 | 10.5 | 10.0 |
| Transport | 1.7 | 1.6 | 12.0 | 11.0 |
| Education | 6.8 | 6.3 | 3.4 | 3.7 |
| Leisure | 0.7 | 0.9 | 1.3 | 1.2 |
| Health care | 2.9 | 2.9 | 3.4 | 3.4 |
| Housing | 17.7 | 16.8 | 18.3 | 18.2 |
| Clothing | 5.3 | 6.4 | 6.9 | 6.8 |
| Food, drink, tobacco | 57.3 | 57.4 | 33.5 | 35.8 |
| | 100.0 | 100.0 | 100.0 | 100.0 |

Note: a/ May not add to totals due to rounding.

SOURCES:

A: Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural, *Coordination Nationale de la Sécurité Alimentaire, Haïti, Insécurité Alimentaire, 2001-2002 (Décembre 2002)*, p.25

B: Nathalie Lamaute-Brisson, *Emploi et Pauvreté en Milieu Urbain en Haïti*, Commission Économique pour l'Amérique Latine et les Caraïbes (CEPALC) LC/MEX/R.882, 12 August 2005, p.40.

Savings

The capacity to save money is crucial to the accumulation of wealth and subsequent investment in housing. Not surprisingly, savings accounts are uncommon in Haiti as a whole (Table 3-4). Only 11.5 percent of Haitian households have a savings account, although the proportion is significantly higher in the Metropolitan Area (29.7 percent). Even though this rate increases steadily as household income rises, less than 40 percent of households in the fifth quintile report

having a savings account. Therefore it is particularly significant that 58.9 percent of middle-class households have an account.

Table 3-4

Selected Indicators of Household Finances in Middle-Class and All Haiti Households: Savings and Health Insurance, 2001

| | Middle Class | | | | All Haiti | | | |
|---|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| PROPORTION OF HOUSEHOLDS WITH A SAVINGS ACCOUNT (PERCENT OF TOTAL) | | | | | | | | |
| Yes | 58.9 | 46.5 | 5.5 | 6.9 | 11.5 | 6.8 | 1.7 | 3.0 |
| No | 38.9 | 26.9 | 6.3 | 5.7 | 86.8 | 15.4 | 15.5 | 55.9 |
| NSP | 1.0 | 1.0 | 0.0 | 0.0 | 0.6 | 0.4 | 0.0 | 0.2 |
| NR | 1.3 | 0.9 | 0.3 | 0.1 | 1.1 | 0.4 | 0.1 | 0.6 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| PROPORTION OF HOUSEHOLDS WITH HEALTH INSURANCE (PERCENT OF TOTAL) | | | | | | | | |
| Yes | 21.5 | 17.5 | 1.9 | 2.1 | 5.3 | 2.8 | 0.5 | 1.9 |
| No | 78.5 | 57.8 | 10.1 | 10.7 | 94.7 | 20.3 | 16.8 | 57.6 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |

SOURCE: Nathan Associates based on IHESI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Health Insurance Coverage

Insurance of any kind is a rare in Haiti. Given that sudden medical problems can wipe out a family's savings, even limited health insurance can be a valuable investment. Analysis of ECVH data shows that almost no families in the first four income quintiles have insurance and only 12.7 percent in the fifth income quintile report having it, so that nearly 95 percent of Haiti's households have no insurance at all (Table 3-4). But for the middle class, the rate of coverage is 21.5 percent and for middle-class households in the Metropolitan Area an even higher 23.3 percent, probably because of the higher incidence of salaried employment in this zone, including jobs that are more likely to carry benefits. In Haiti's Other Urban and Rural zones, where people are more likely to be self-employed without access to employer-sponsored health insurance, rates of coverage drop to 15 percent and 16 percent, of all households in these zones. Such lower rates of coverage are likely found in the USG-supported development corridors of Saint Marc-Cabaret and Cap Haïtien.

Services and Commodity Purchase

In addition to health insurance are several other services and commodities that middle-class Haitian households can afford (Table 3-5). School fees, furniture purchases, new clothes purchase and meat consumption are among these services and commodities. All schools in Haiti charge fees. In 2001, in Haiti as a whole, about 56 percent of families were able to pay the fees. In the middle class this proportion increases to 80.6 percent. The majority (55.8 percent) of middle-class

households are also able to invest in furniture, while only 14.9 percent of all households are able to make this basic acquisition. Similarly, middle-class households are far more likely to be able to afford new clothes (65.4 percent) and three servings of meat per week (61.1 percent) than the average Haitian household (24 percent and 18.3 percent, respectively).

Table 3-5

Selected Indicators of Household Finances in Middle-Class and All Haiti Households: Affordability of Certain Services and Purchases, 2001

| | Middle Class | | | | All Haiti | | | |
|---|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| PERCENT OF HOUSEHOLDS ABLE TO AFFORD SCHOOL FEES | | | | | | | | |
| Yes, Personal Savings | 80.6 | 59.6 | 11.0 | 10.0 | 55.6 | 14.5 | 11.4 | 29.7 |
| No | 5.6 | 4.0 | 0.5 | 1.1 | 29.9 | 4.7 | 4.0 | 21.2 |
| Not relevant | 10.1 | 8.4 | 0.4 | 1.3 | 12.2 | 3.3 | 1.6 | 7.4 |
| Doesn't know | 3.3 | 3.0 | 0.0 | 0.3 | 2.2 | 0.5 | 0.3 | 1.3 |
| No response | 0.4 | 0.3 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| PERCENT OF HOUSEHOLDS ABLE TO AFFORD FURNITURE | | | | | | | | |
| Yes, Personal Savings | 55.8 | 39.8 | 8.4 | 7.6 | 14.9 | 5.3 | 3.2 | 6.4 |
| No | 37.2 | 29.4 | 3.2 | 4.6 | 79.6 | 15.5 | 13.5 | 50.5 |
| Not relevant | 5.4 | 5.2 | 0.2 | 0.0 | 4.6 | 2.1 | 0.4 | 2.1 |
| Doesn't know | 0.9 | 0.3 | 0.1 | 0.5 | 0.8 | 0.1 | 0.1 | 0.6 |
| No response | 0.8 | 0.7 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| PERCENT OF HOUSEHOLDS ABLE TO AFFORD NEW CLOTHES | | | | | | | | |
| Yes, Personal Savings | 65.4 | 47.0 | 9.4 | 9.0 | 24.0 | 8.0 | 4.9 | 11.1 |
| No | 31.6 | 26.0 | 2.3 | 3.3 | 72.4 | 14.2 | 12.0 | 46.2 |
| Not relevant | 1.9 | 1.7 | 0.2 | 0.0 | 2.6 | 0.7 | 0.2 | 1.6 |
| Doesn't know | 0.6 | 0.3 | 0.0 | 0.3 | 0.9 | 0.1 | 0.1 | 0.6 |
| No response | 0.4 | 0.3 | 0.1 | 0.0 | 0.2 | 0.1 | 0.0 | 0.1 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| PERCENT OF HOUSEHOLDS ABLE TO AFFORD MEAT 3 TIMES PER WEEK | | | | | | | | |
| Yes, Personal Savings | 61.1 | 45.1 | 7.3 | 8.7 | 18.3 | 6.9 | 3.3 | 8.1 |
| No | 35.1 | 27.2 | 4.3 | 3.7 | 77.9 | 15.3 | 13.5 | 49.1 |
| Not relevant | 1.0 | 0.9 | 0.0 | 0.1 | 2.2 | 0.4 | 0.2 | 1.5 |
| Doesn't know | 1.0 | 0.7 | 0.2 | 0.1 | 0.8 | 0.1 | 0.1 | 0.6 |
| No response | 1.9 | 1.5 | 0.3 | 0.0 | 0.8 | 0.3 | 0.1 | 0.4 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Interestingly, middle-class households in the Other Urban zone report relatively higher rates of ability to pay for furniture, school fees, and new clothes than do Metropolitan Area middle-class households. This suggests that these items are both easily accessible and perhaps relatively more affordable in the Other Urban zone than in the Metropolitan Area. Meat is the one item that the rural middle class is more likely to find affordable than its Other Urban or Metropolitan Area counterparts, presumably due to rural households raising their own animals for consumption.

Remittance Receipts

Although the majority of household income comes from self-employment or salaried employment, remittances, whether cash or other gifts, are very important to household income. While remittances never make up more than about a third of middle-class income, nearly three quarters of middle-class households (72.5 percent) report receiving them, as opposed to only 45.9 percent of all Haitian households (Table 3-6).

Table 3-6

Selected Indicators of Household Finances in Middle-Class and All Haiti Households: Remittances and Ability to Mobilize Resources, 2001

| | Middle Class | | | | All Haiti | | | |
|---|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| HOUSEHOLD REMITTANCE RECEIPTS (PERCENT OF TOTAL) | | | | | | | | |
| Proportion of households with remittances | 72.5 | 56.3 | 7.7 | 8.5 | 45.9 | 15.3 | 6.9 | 23.8 |
| Proportion of total household income | 29.0 | 28.6 | 33.9 | 27.0 | 26.6 | 28.7 | 29.5 | 20.9 |
| IMMEDIATE FAMILY LIVING ABROAD (PERCENT OF TOTAL) | | | | | | | | |
| Yes | 71.0 | 53.5 | 8.9 | 8.6 | 30.5 | 10.2 | 5.4 | 15.0 |
| No | 29.0 | 21.7 | 3.0 | 4.2 | 69.4 | 12.9 | 12.0 | 44.5 |
| Does not know | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| No response | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| PROPORTION OF HOUSEHOLDS ABLE TO MOBILIZE 6,560 GOURDES (\$164) BY SOURCE (PERCENT OF TOTAL) | | | | | | | | |
| Yes, Personal Savings | 28.3 | 19.4 | 4.3 | 4.5 | 5.1 | 2.0 | 1.0 | 2.1 |
| Yes, Help From Other People | 12.4 | 11.2 | 0.5 | 0.8 | 4.2 | 2.6 | 0.6 | 1.0 |
| Yes, But Not Sure How | 4.9 | 4.2 | 0.3 | 0.4 | 2.4 | 1.1 | 0.5 | 0.8 |
| No | 54.4 | 40.5 | 7.0 | 6.9 | 88.2 | 17.4 | 15.1 | 55.7 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

While such a high concentration of remittances in the middle class may be contrary to expectation, it is not surprising when compared to the distribution of households with family

members abroad. In Haiti as a whole only 30.5 percent of households report having an immediate family member living abroad, but for the middle class this proportion rises to 71 percent (Table 3-6). Ultimately, then, it is the middle class that has the greatest connection to the Haitian Diaspora, and consequently benefits disproportionately from the flow of remittances into Haiti.

Mobilize Resources

When a household faces an unexpected expense it can obtain money needed from a variety of sources. In 2001, the ECVH 2001 asked Haitian households how they would mobilize HTG 2,000 Haitian Gourdes at that time—approximately HTG 6,560 or US\$164 today.²⁷ For Haiti as a whole only 11.7 percent of households said they would be able to gather the necessary funds. However, in the middle class, nearly half of households (45.6 percent) said they would be able to mobilize the resources, and 28.3 percent said they could do it from their own savings (Table 3-6). This ability to mobilize funds, especially from savings, is an important middle-class characteristic, and related to the higher proportion of these households with savings accounts.

HOUSING IMPROVEMENT

One of the most important investments a household can make is to build a new house or expand its current dwelling. While only 11.1 percent of middle-class households have constructed a house in the past 12 months, this is still more than double the proportion of all Haitian households that did so (4.5 percent). This suggests that it is often both complicated and expensive to construct a home, and even the middle class, a relatively wealthy group in Haiti, only infrequently attempts to do so. The one middle-class sub-group most likely to engage in construction are Rural zone middle-class households (18.8 percent), perhaps because land tenure is less complicated outside urban neighborhoods and construction is relatively more modest (Table 3-7).

Since most households will not typically build an entire house all at once, but only one room or section at a time, it is also important to consider the record of household investments to increase the size of a house. In the ECVH database we were unable to identify data recording such investments, but IHSI's published ECVH report contains several tables summarizing home expansions by households. In them, it is apparent that households in the fifth income quintile (i.e., including the middle class) are much more likely to make an investment to increase the size of their home than the average Haitian household (13.2 percent versus 8.8 percent).

Any significant construction projects, whether totally new construction or building onto an existing house, would require financing, and quite likely at least a small loan. Of households having obtained a loan in the last 12 months, the middle class is more likely to secure that loan from a formal institution such as a credit union (13.3 percent) or a bank (6.4 percent) than will the average Haitian household (4.0 percent and 0.6 percent respectively). However, even though the middle class may be more likely than other segments of Haitian society to take a loan from a formal institution, the vast majority of middle-class households still use informal arrangements (family, friends, money lenders, merchants) to borrow money (Table 3-7). This pattern highlights

²⁷ Between 2001 and 2010 the Haitian CPI increased from 52.03 to 170.8, an inflation rate of approximately 228% and the current exchange rate is estimated to be 40 Haitian Gourdes to the US Dollar.

the high cost and difficulty in obtaining credit through formal institutions, a major impediment to improvement and construction of housing, even for Haiti's relatively wealthy middle class.

Table 3-7

Selected Indicators of Household Finances in Middle-Class and All Haiti Households: House Construction and Sources of Loans 2001

| | Middle Class | | | | All Haiti | | | |
|---|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| CONSTRUCTION OF A HOUSE IN THE PAST 12 MONTHS (PERCENT OF TOTAL) | | | | | | | | |
| Yes | 11.1 | 7.9 | 0.9 | 2.4 | 4.5 | 1.3 | 0.8 | 2.4 |
| No | 85.5 | 64.9 | 10.8 | 9.8 | 91.4 | 20.7 | 15.8 | 54.9 |
| Does not know | 0.6 | 0.6 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| No response | 2.8 | 2.0 | 0.4 | 0.5 | 4.0 | 1.1 | 0.6 | 2.4 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| SOURCE OF LOAN (PERCENT OF TOTAL) | | | | | | | | |
| Parents living in Haiti, outside the house | 5.8 | 0.0 | 4.3 | 1.4 | 16.2 | 1.8 | 3.2 | 11.1 |
| Parents or friends living abroad | 4.4 | 4.4 | 0.0 | 0.0 | 2.8 | 1.0 | 0.3 | 1.4 |
| Traders or merchants in the public market | 24.5 | 8.8 | 10.2 | 5.4 | 30.7 | 2.1 | 10.4 | 18.2 |
| Other non-relatives | 34.8 | 18.7 | 8.2 | 7.9 | 37.9 | 6.3 | 7.3 | 24.3 |
| Credit union or cooperative | 13.3 | 4.7 | 5.4 | 3.2 | 4.0 | 0.8 | 1.2 | 2.1 |
| Microcredit Institution | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.8 | 1.2 |
| Bank | 6.4 | 4.6 | 1.8 | 0.0 | 0.6 | 0.3 | 0.2 | 0.1 |
| Usurer | 10.7 | 8.4 | 2.3 | 0.0 | 4.2 | 2.2 | 0.7 | 1.3 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 0.6 | 0.1 | 1.0 |
| | 100.0 | 49.7 | 32.3 | 17.9 | 100.0 | 15.0 | 24.1 | 60.9 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

4. Housing Stock for the Middle Class

The housing stock of the middle class can be defined by type of house, size of house, housing amenities, and tenure and nature of occupancy. On this basis, the middle-class housing stock has several characteristics that distinguish it from Haiti's housing stock overall. Further, there is some differentiation in housing stock characteristics even within the middle class among Metropolitan Area, Other Urban, and Rural middle-class households.

HOUSING STOCK PROFILE

The most up-to-date profile of Haiti's overall housing stock is available in the Recensement Général de la Population et de l'Habitat conducted by IHSI in 2003 (RGPH 2003). This census does not, however, relate housing stock to income. IHSI's Enquête sur les Conditions de Vie en Haïti (ECVH) of 2001 is therefore essential to provide a view of middle-class housing stock.

Type of House

By convention, for both the RGPH 2003 and ECVH, IHSI employs a set terminology to define kinds of houses found in Haiti. These include fairly rudimentary structures (kay atè and taudis) plus the typical rural house (ajoupas), along with more evolved structures including single-story (maison basse), multistory (maison à étage), and apartment houses.²⁸ Included in these categories are a limited number of colonial style houses (maison type colonial) and villas. Annex B provides standard definitions for each of these house types.

By RGPH 2003 data, there were about 1.8 million occupied housing units in Haiti in 2003. Of these, nearly three-quarters were one-story houses (72.5 percent) followed by ajoupas (16.4 percent) and multistory houses (6.1 percent). Together, the more rudimentary structures—kay atè, taudis and ajoupas combined—account for 20 percent of national housing stock (Table 4-1).

²⁸ The first three categories are housing for the poor and extremely poor. Kay atè resemble tents, with (straw, thatch, or palm leaves) roof and walls combined. Taudis are slum housing made of waste or recycled materials: walls may be made of *clissage* (sticks, twines, branches interwoven) alone, mixed with *bousillage* (clay and fibrous substances combined), recovered sheet metal, waste blocks, or wood, and floors are earthen. Ajoupas are rural huts, similar to and more rudimentary than Taudis. See M. O. Eberhard et al., "The M_w 7.0 Haiti Earthquake of January 12, 2010: USGS/EERI Advance Reconnaissance Team: Team Report V 1.1" (U.S. Geological Survey and Earthquake Engineering Research Institute, February 23, 2010).

Table 4-1*Haiti's Total Occupied Housing Stock, by Type of House and Housing Unit Size, 2003*

| House Type | Total Units | % | Number of Rooms per Housing Unit | | | | | | | | |
|----------------------|-------------|-------|----------------------------------|---------|---------|---------|--------|--------|--------|--------|--------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 + |
| Kay atè | 22,650 | 1.3 | 5,656 | 16,994 | - | - | - | - | - | - | - |
| Taudis | 46,064 | 2.6 | 16,108 | 23,450 | 6,506 | - | - | - | - | - | - |
| Ajoupas | 294,088 | 16.4 | 37,482 | 195,299 | 38,846 | 18,934 | 3,527 | - | - | - | - |
| Maison basse | 1,301,445 | 72.6 | 197,787 | 494,275 | 235,747 | 247,160 | 65,643 | 41,366 | 9,741 | 6,085 | 3,641 |
| Maison à étage | 109,990 | 6.1 | 23,759 | 23,266 | 14,435 | 14,779 | 8,918 | 8,443 | 4,151 | 4,954 | 7,285 |
| Maison en apparmt | 14,103 | 0.8 | 2,826 | 3,248 | 2,282 | 2,375 | 1,169 | 931 | 352 | 343 | 577 |
| Maison type colonial | 1,252 | 0.1 | 213 | 315 | 151 | 195 | 108 | 70 | 58 | 49 | 93 |
| Villa | 512 | 0.0 | 23 | 61 | 44 | 66 | 71 | 64 | 31 | 52 | 100 |
| Other | 3,094 | 0.2 | 554 | 1,133 | 698 | 450 | 126 | 87 | 14 | 24 | 8 |
| Total | 1,793,198 | 100.0 | 284,408 | 758,041 | 298,709 | 283,959 | 79,562 | 50,961 | 14,347 | 11,507 | 11,704 |
| | | 100.0 | 15.9% | 42.3% | 16.7% | 15.8% | 4.4% | 2.8% | 0.8% | 0.6% | 0.7% |

SOURCE : IHSI, Recensement Général de la Population et de l'Habitat (RGPH 2003).

Like the population as a whole, most middle-class families live in a one-story home (54.8 percent) but nearly another 40 percent live in multistory houses or apartments (Table 4-2). A much lower proportion of all Haiti's households live in such structures (6.9 percent). As might be expected, no middle-class households report living in kay atè, taudis or ajoupas dwellings.

The share of middle-class families in multistory houses is highest in the Port au Prince Metropolitan Area—over 45 percent—but just over half of all middle-class households in this zone still live in single-story dwellings (51 percent). In Haiti's Other Urban zone and Rural zone the ratio of single story to multistory houses for the middle class is much higher: two single-story houses for every multistory one (Other Urban); or four single-story houses for every multistory one (Rural). This dominance of single-story homes surely describes the middle-class housing stock in the proposed USG-supported corridors of Saint Marc-Cabaret and Cap Haïtien.

Size and Crowding

There is no census or survey identifying the range and average size of houses by constructed area (m²). However, using RGPH 2003 data, it is possible to determine the distribution of house sizes by the proxy of number of rooms per house, in total and by type of house (Table 4-3). On this basis, the greatest numbers of houses in Haiti are two-room dwellings—over 42 percent of all houses. Three-room (16.7 percent), one-room (15.9 percent), and four-room houses (15.8 percent) are the next most common house sizes in the overall housing stock. By type and size, a one-story, two-room house is the single most common unit, representing over a quarter of total (27.6 percent).

For the middle class, the profile diverges from the national pattern (Table 4-2). More than half of all middle-class households in Haiti live in a four-room (23.5 percent) or five-room (30.7 percent) house. Only an estimated 18.2 percent of middle-class families live in a two-room dwelling.

Table 4-2

Middle-class Housing Stock, by Type of House, Number of Rooms and Materials Used for Construction

| | Total | Zone of Residence | | |
|---|--------------|-------------------|-------------|-------|
| | Middle Class | Metro Area | Other Urban | Rural |
| HOUSE TYPE (PERCENT OF TOTAL) | | | | |
| Kay Ate | 0.0 | 0.0 | 0.0 | 0.0 |
| Taudis | 0.0 | 0.0 | 0.0 | 0.0 |
| One-story | 54.8 | 38.4 | 7.6 | 8.8 |
| Multi-story/apartments | 39.9 | 34.1 | 3.6 | 2.2 |
| Other | 5.3 | 2.8 | 0.7 | 1.8 |
| | 100.0 | 75.3 | 11.9 | 12.8 |
| NUMBER OF ROOMS PER HOUSE (PERCENT OF TOTAL) | | | | |
| 1 Room | 11.2 | 10.1 | 0.4 | 0.7 |
| 2 Rooms | 18.2 | 14.1 | 2.1 | 2.0 |
| 3 Rooms | 16.4 | 12.4 | 1.4 | 2.7 |
| 4 Rooms | 23.5 | 15.4 | 3.7 | 4.4 |
| 5 Rooms | 30.7 | 23.3 | 4.4 | 3.0 |
| | 100.0 | 75.3 | 11.9 | 12.8 |
| MATERIALS FOR WALLS (PERCENT OF TOTAL) | | | | |
| Concrete/block/stone | 94.6 | 73.5 | 10.2 | 10.9 |
| Earth | 0.9 | 0.0 | 0.5 | 0.4 |
| Wood/planks | 1.2 | 0.0 | 0.6 | 0.6 |
| Other | 3.3 | 1.8 | 0.7 | 0.9 |
| | 100.0 | 75.3 | 11.9 | 12.8 |
| MATERIALS FOR ROOF (PERCENT OF TOTAL) | | | | |
| Concrete | 55.8 | 48.3 | 3.8 | 3.7 |
| Corrugated metal | 38.9 | 24.3 | 6.9 | 7.8 |
| Straw | 0.5 | 0.0 | 0.2 | 0.3 |
| Thatch/palm fronds/other | 4.8 | 2.7 | 1.1 | 1.0 |
| | 100.0 | 75.3 | 11.9 | 12.8 |
| MATERIALS FOR FLOOR (PERCENT OF TOTAL) | | | | |
| Concrete | 63.4 | 46.0 | 8.4 | 9.0 |
| Packed Earth | 3.3 | 0.6 | 1.1 | 1.6 |
| Mosaic Tiles/Planks | 26.4 | 23.5 | 1.9 | 0.9 |
| Other | 6.9 | 5.2 | 0.4 | 1.3 |
| | 100.0 | 75.3 | 11.9 | 12.8 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Table 4-3*Haiti's Total Occupied Housing Stock, by Number of Rooms and Number of Inhabitants, 2003*

| No. of Rooms | Total | Percent | Size of Household (persons) | | | | | | | | |
|--------------|-----------|---------|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 + |
| 1 | 284,408 | 15.9 | 44,408 | 48,587 | 51,544 | 48,434 | 35,978 | 24,449 | 14,446 | 9,843 | 6,719 |
| 2 | 758,041 | 42.3 | 72,107 | 111,025 | 118,569 | 124,353 | 104,222 | 84,533 | 58,204 | 49,299 | 35,729 |
| 3 | 298,709 | 16.7 | 18,746 | 32,437 | 43,824 | 47,269 | 43,030 | 37,005 | 27,564 | 25,082 | 23,752 |
| 4 | 283,959 | 15.8 | 14,748 | 26,723 | 35,798 | 42,721 | 39,601 | 36,651 | 29,503 | 28,240 | 29,974 |
| 5 | 79,562 | 4.4 | 3,268 | 6,373 | 8,808 | 10,927 | 11,589 | 10,524 | 8,613 | 8,501 | 10,959 |
| 6 | 50,961 | 2.8 | 2,378 | 4,562 | 5,663 | 6,833 | 6,683 | 6,650 | 5,038 | 5,602 | 7,552 |
| 7 | 14,347 | 0.8 | 748 | 1,142 | 1,583 | 1,941 | 1,860 | 1,716 | 1,579 | 1,475 | 2,303 |
| 8 | 11,507 | 0.6 | 634 | 983 | 1,293 | 1,508 | 1,465 | 1,338 | 1,134 | 1,337 | 1,815 |
| 9 | 11,704 | 0.7 | 736 | 961 | 1,362 | 1,565 | 1,430 | 1,318 | 1,010 | 1,172 | 2,150 |
| Total | 1,793,198 | 100.0 | 157,773 | 232,793 | 268,444 | 285,551 | 245,858 | 204,184 | 147,091 | 130,551 | 120,953 |
| | | 100.0 | 8.8% | 13.0% | 15.0% | 15.9% | 13.7% | 11.4% | 8.2% | 7.3% | 6.7% |

SOURCE : IHSI/Recensement Général de la Population et de L'Habitat (RGPH 2003)

Moreover, by zone of residence there are also pronounced differences. In the Other Urban zone, well over two-thirds of middle-class households live in four- or five-room houses, with a plurality (37 percent) living in the latter category. And in the Rural zone fully 57.8 percent of middle-class households occupy dwellings of this four- to five-room size.

For pre-earthquake Haiti as a whole, based on ECVH, the average number of persons per house may have been about 4.7 persons, the average number of persons per room about 2.2, and the average number of rooms per house about 2.1 (Table 4-4). For the middle class, the equivalent average numbers are 5.5 persons per house, 2 persons per room and 2.8 rooms per house—all of which reflect the larger number of persons per household in the middle class, as well as the larger house size of middle-class dwellings.²⁹ It is interesting to note that the ECVH shows that the largest middle-class house size (6.1 persons per house) and the largest number of rooms per house (3.1 rooms) both occur in Haiti's Other Urban zone—an insight that should be incorporated in planning for housing development for managers and senior technicians in future industrial parks in, for example, the USG-supported Cap Haïtien growth corridor.

²⁹ Note that according to RGPH 2003, for the population as a whole, the average number of persons per house was 4.57; the average number of rooms per house was 2.69; and the average number of persons per room was 1.69, all slightly different than the all-Haiti averages from the ECVH survey. However the orders of magnitude are roughly the same and the key finding is that the middle class seems less crowded than the overall population, and is most crowded in the Metropolitan Area and least crowded in Haiti's Rural zone.

Table 4-4

Haiti's Middle-class and Total Housing Stock, Average Household Size, Average Rooms per House and Average Persons per Room, 2001

| | Middle Class | | | | All Haiti | | | |
|--|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| Household size (average persons per house) | 5.5 | 5.1 | 6.1 | 5.4 | 4.7 | 4.4 | 4.7 | 4.5 |
| House size (average rooms per house) | 2.8 | 2.4 | 3.1 | 3 | 2.1 | 1.8 | 2.2 | 2 |
| Crowding (average persons per room) | 2 | 2.1 | 2 | 1.8 | 2.2 | 2.5 | 2.1 | 2.2 |

SOURCE: Nathan Associates calculations based on ECVH database.

AMENITIES

In Haiti access to electricity, water, bathing facilities and WC facilities are considered major housing unit amenities (Table 4-5). Other important amenities are kind of kitchen fuel and availability of a fan of some sort as a house cooling mechanism. According to ECVH findings, as of 2001, middle-class housing stock has the following general characteristics:

- High access to electricity at home (84.3 percent).
- Access to water by purchasing buckets of water (36.3 percent) or using a courtyard tap (21.6 percent).
- Bathing facilities at home (individual or communal showers or tubs) in about half of all households (49.4 percent).
- Individual WCs in only a little more than one quarter of houses (28.9 percent)
- Use of charcoal as the primary kitchen fuel (57 percent)
- Access to a standing fan (60.1 percent) or a ceiling fan (10.2 percent) to cool rooms.

These characteristics are heavily influenced by the Metropolitan Area middle class, and differences are observed with middle-class housing stock in the Other Urban and Rural zones. For middle-class houses in the Other Urban zone, for example, access to electricity is somewhat lower (61.4 percent), people more often use water from a public tap or neighborhood well (43.7 percent), have no bathtub or shower (62 percent), and so on. The proportions for access to amenities are even lower for the middle class in the Rural zone.

Of course, middle-class access to amenities contrasts considerably with the experience of population as a whole. In general, households in Haiti have no access to electricity (68.6 percent), often depend on springs or rivers for water (35.9 percent), have no access to individual or communal bathing facilities at home (88.5 percent), have virtually no access to WCs (96.3 percent), use wood for kitchen fuel (51.8 percent), and have no access to fans (81.2 percent) to cool homes.

Table 4-5*Haiti's Middle-Class and Total Housing Stock, Availability of Selected Amenities, 2001*

| | Middle Class | | | | All Haiti | | | |
|---|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| ACCESS TO ELECTRICITY AT HOME (PERCENT OF TOTAL) | | | | | | | | |
| No | 15.7 | 2.9 | 4.5 | 8.2 | 68.6 | 1.9 | 13.4 | 53.4 |
| Yes | 84.3 | 72.3 | 7.4 | 4.5 | 31.4 | 21.2 | 4.0 | 6.2 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| ACCESS TO WATER AT HOME (PERCENT OF TOTAL) | | | | | | | | |
| Tap in home | 12.9 | 12.0 | 0.4 | 0.5 | 2.5 | 1.8 | 0.4 | 0.3 |
| Tap in courtyard | 21.6 | 17.7 | 2.3 | 1.6 | 5.8 | 3.0 | 1.4 | 1.5 |
| Well in courtyard | 5.4 | 1.0 | 2.3 | 2.1 | 3.5 | 0.5 | 1.2 | 1.9 |
| Well in neighborhood | 7.6 | 2.9 | 2.7 | 2.0 | 12.0 | 1.1 | 3.1 | 7.8 |
| Public tap | 6.9 | 2.3 | 2.6 | 2.1 | 17.4 | 1.8 | 4.2 | 11.4 |
| Purchase water by truck | 2.1 | 1.9 | 0.2 | 0.0 | 0.4 | 0.3 | 0.1 | 0.0 |
| Purchase water by bucket | 36.3 | 35.5 | 0.5 | 0.3 | 18.3 | 14.1 | 1.3 | 2.9 |
| Purchase treated water | 1.0 | 1.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| Store rain water | 0.2 | 0.2 | 0.0 | 0.0 | 2.4 | 0.1 | 0.0 | 2.2 |
| Spring or river | 4.9 | 0.0 | 0.8 | 4.1 | 35.9 | 0.1 | 5.3 | 30.6 |
| Other | 1.1 | 0.9 | 0.2 | 0.0 | 1.5 | 0.1 | 0.4 | 1.0 |
| Not specified | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| BATHING FACILITIES AT HOME (PERCENT OF TOTAL) | | | | | | | | |
| Individual shower or bathtub | 39.9 | 32.6 | 4.3 | 3.0 | 7.6 | 4.7 | 1.4 | 1.5 |
| Common shower or bathtub | 9.5 | 9.0 | 0.3 | 0.2 | 3.3 | 2.3 | 0.3 | 0.7 |
| No shower or bathtub | 50.6 | 33.7 | 7.5 | 9.4 | 88.5 | 16.1 | 15.5 | 57.0 |
| Not specified | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 | 0.5 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |
| ACCESS TO WC AT HOME (PERCENT OF TOTAL) | | | | | | | | |
| WC | 28.9 | 25.2 | 2.5 | 1.2 | 3.7 | 2.9 | 0.5 | 0.3 |
| Latrine for residents only | 29.0 | 21.1 | 2.7 | 5.1 | 17.8 | 4.8 | 3.7 | 9.2 |
| Latrine for neighborhood | 18.3 | 16.7 | 0.6 | 1.1 | 15.3 | 8.8 | 2.1 | 4.4 |
| Hole in courtyard | 16.0 | 9.4 | 3.5 | 3.1 | 17.9 | 4.1 | 4.0 | 9.8 |
| Other | 1.0 | 0.6 | 0.4 | 0.0 | 0.9 | 0.2 | 0.2 | 0.5 |
| Non-response | 6.8 | 2.3 | 2.4 | 2.1 | 44.5 | 2.2 | 6.8 | 35.5 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |

| | Middle Class | | | | All Haiti | | | |
|--|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| PRIMARY SOURCE OF KITCHEN FUEL (PERCENT OF TOTAL) | | | | | | | | |
| Propane gas | 19.6 | 16.8 | 1.6 | 1.3 | 4.3 | 2.9 | 0.5 | 0.9 |
| Kerosene | 18.2 | 17.8 | 0.4 | 0.0 | 7.0 | 6.5 | 0.2 | 0.4 |
| Electricity | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| Wood | 5.2 | 0.0 | 1.0 | 4.2 | 51.8 | 0.1 | 10.3 | 41.4 |
| Charcoal | 57.0 | 44.9 | 7.1 | 5.0 | 36.5 | 16.2 | 6.4 | 14.0 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| Not specified | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| Non-response | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 100.0 | 79.5 | 10.0 | 10.5 | 100.0 | 25.8 | 17.5 | 56.7 |
| ACCESS TO FAN/AIR CONDITIONING (PERCENT OF TOTAL) | | | | | | | | |
| None | 29.4 | 14.5 | 6.0 | 8.9 | 81.2 | 9.0 | 15.4 | 56.9 |
| Ceiling fan | 10.2 | 8.9 | 1.0 | 0.4 | 1.7 | 1.1 | 0.3 | 0.3 |
| Standing fan | 60.1 | 51.9 | 4.9 | 3.2 | 17.0 | 12.8 | 1.7 | 2.4 |
| Air conditioner | 0.3 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| Not specified | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-response | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 100.0 | 75.6 | 11.9 | 12.4 | 100.0 | 23.0 | 17.3 | 59.7 |

SOURCE: Nathan Associates based on IHSI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

TENURE

The middle class tends to own its housing stock (Table 4-6). Well over half either own the land and structure of its housing stock (49.4 percent) or the house building alone (9.9 percent). These ownership proportions are, however, lower than for Haiti's households as a whole, where over three-quarters of families own land and structure (66.6 percent) or housing structure alone (9.6 percent). The high degree of house ownership in the Rural zone (89.8 percent) and in the Other Urban zone (76.4 percent) explains this profile. (The findings of the ECVH survey for all Haiti households conform fairly closely to the RGPH 2003; Table 4-7).

In the Port au Prince Metropolitan Area, for middle-class and all households, ownership proportions of housing units appears to be a bit lower than in the Other Urban and Rural zones. This is because nearly 43 percent of middle-class households and nearly 53 percent of all households in the Metropolitan Area rent their houses. Such rental relationships can be either short-term (month-to-month) or longer-term leaseholds ("affermage") of six months to a year or so. The relative importance of Metropolitan Area rentals within total middle-class housing stock means that more than one third of middle-class households in Haiti are renters (36.4 percent), far higher than for the population as a whole (19.2 percent).

Table 4-6*Haiti's Middle-Class and Total Housing Stock, Mode of Tenure and Proof of Ownership, 2001*

| | Middle Class | | | | All Haiti | | | |
|--|--------------|-------------------|-------------|-------|-----------|-------------------|-------------|-------|
| | Total | Zone of Residence | | | Total | Zone of Residence | | |
| | | Metro Area | Other Urban | Rural | | Metro Area | Other Urban | Rural |
| MIDDLE CLASS HOUSE OWNERSHIP (PERCENT OF TOTAL) | | | | | | | | |
| Owner (land and building) | 49.4 | 29.7 | 9.1 | 10.7 | 66.6 | 6.4 | 11.8 | 48.4 |
| Owner (building) | 9.9 | 9.4 | 0.2 | 0.3 | 9.6 | 3.1 | 1.4 | 5.0 |
| Renter / Leaseholder | 36.4 | 32.2 | 2.7 | 1.5 | 19.2 | 12.1 | 3.3 | 3.8 |
| Other | 3.3 | 3.3 | 0.0 | 0.0 | 4.2 | 1.3 | 0.7 | 2.2 |
| Not Specified / No response | 0.9 | 0.7 | 0.0 | 0.2 | 0.4 | 0.1 | 0.1 | 0.2 |
| | 100.0 | 75.3 | 11.9 | 12.8 | 100.0 | 23.1 | 17.3 | 59.6 |
| PROOF OF HOUSE OWNERSHIP (PERCENT OF TOTAL) | | | | | | | | |
| Notarized deed | 45.4 | 31.1 | 7.6 | 6.7 | 37.5 | 6.3 | 7.3 | 23.8 |
| Sales receipt | 4.6 | 3.5 | 0.4 | 0.7 | 3.9 | 0.7 | 0.6 | 2.5 |
| Occupant for several generations | 0.8 | 0.0 | 0.6 | 0.3 | 4.0 | 0.1 | 0.5 | 3.4 |
| Other | 5.0 | 2.9 | 0.3 | 1.8 | 10.0 | 1.3 | 1.3 | 7.4 |
| None | 3.3 | 1.2 | 0.5 | 1.6 | 20.2 | 1.0 | 3.4 | 15.8 |
| Not Specified | 0.7 | 0.7 | 0.0 | 0.0 | 0.7 | 0.1 | 0.1 | 0.5 |
| No response | 40.1 | 35.8 | 2.7 | 1.5 | 23.7 | 13.5 | 4.0 | 6.2 |
| | 100.0 | 75.3 | 12.1 | 12.6 | 100.0 | 23.0 | 17.3 | 59.7 |

SOURCE: Nathan Associates based on IHESI, *Enquête sur les Conditions de Vie en Haïti, 2001*.

Slightly over half the middle class who are property owners may have proof of ownership, either through a notarized deed (“acte notarié”; 45.4 percent) or through a sales receipt (4.6 percent). This is a higher proportion than for property owners among all households (41.4 percent). Surprisingly, proportions of middle class households in the Other Urban zone (58.6 percent) and the Rural zone of Haiti (66.4 percent) owning their houses appear more likely to have proof of ownership than their counterparts in the Port au Prince Metropolitan Area (46 percent).

Table 4-7*Haiti's Total Occupied Housing Stock, by Type of Unit and Category of Tenure, 2003*

| Housing Type | Total | Percent | Owner of Land and House | Owner of House | Renter | Lessor (Fermier) | Occupying House for Free | Squatter | Other |
|----------------------|-----------|---------|-------------------------|----------------|---------|------------------|--------------------------|----------|-------|
| Kay atè | 22,650 | 1.3% | 16,755 | 3,055 | 838 | 905 | 1,005 | 42 | 50 |
| Taudis | 46,064 | 2.6% | 27,678 | 8,077 | 4,648 | 3,966 | 1,543 | 42 | 110 |
| Ajoupas | 294,088 | 16.4% | 230,830 | 34,467 | 6,828 | 9,892 | 10,924 | 470 | 677 |
| Maison basse | 1,301,445 | 72.6% | 819,799 | 141,567 | 159,532 | 125,921 | 50,942 | 1,024 | 2,660 |
| Maison à étage | 109,990 | 6.1% | 35,823 | 8,290 | 36,913 | 22,859 | 5,487 | 65 | 553 |
| Maison en apparmt | 14,103 | 0.8% | 4,344 | 976 | 5,183 | 2,931 | 575 | 38 | 56 |
| Maison type colonial | 1,252 | 0.1% | 644 | 80 | 224 | 151 | 120 | 0 | 33 |
| Villa | 512 | 0.0% | 314 | 28 | 67 | 47 | 35 | 0 | 21 |
| Other | 3,094 | 0.2% | 1,951 | 352 | 462 | 150 | 147 | 3 | 29 |
| Total | 1,793,198 | 100.0% | 1,138,138 | 196,892 | 214,695 | 166,822 | 70,778 | 1,684 | 4,189 |
| | | 100.0% | 63.5% | 11.0% | 12.0% | 9.3% | 3.9% | 0.1% | 0.2% |

SOURCE : IHSI/Recensement Général de la Population et de L'Habitat (RGPH 2003.)

SIZE OF MIDDLE-CLASS HOUSING STOCK

IHSI has estimated that in 2009 there were 2,147,693 households in all of Haiti. Assuming that each household represents a housing unit, the total stock of housing pre-earthquake may have thus been about 2.1 million units, with an estimated 491,811 households in the Metropolitan Area of Port au Prince.³⁰ Based on ECVH findings, middle-class households are approximately 6.9 percent of all households nation-wide, and about 23 percent of all households in the Metropolitan Area (Table 2-5). Accordingly, just prior to the 12 January disaster, the number of middle-class housing units may have been about 148,200 Haiti-wide, and 113,100 in the Metropolitan Area.

³⁰ Institut Haïtien de Statistique et d'Informatique, Population Totale, Population de 18 Ans et Plus, Ménages et Densités Estimées en 2009 (March 2009), p. 57.

5. Housing Market Operations and Behavior

In this chapter we describe how Haiti's housing sector functioned before the 12 January earthquake, with particular reference to the middle-class market segment. This description begins with an estimate of the pre-earthquake demand for middle-class housing, and then highlights the operation of four distinct but interacting components of the housing sector: consumption, production, institutional-regulatory, and financing.

HOUSING DEMAND IN THE MIDDLE CLASS

Recalling the housing stock discussion presented in Chapter 4 above, based on IHSI estimates, there were about 2.1 million households in all of Haiti at the pre-earthquake end of 2009. Six years earlier, IHSI's Recensement Général de la Population et de l'Habitat (RGPH 2003) inventoried a total of about 1.8 million occupied housing units. Hence, between 2003 and 2009 the actual rate of growth in the number of occupied housing units appears to have been just over 3 percent per annum. Assume that this number represents the annual growth in effective demand for new housing among all Haitian households.³¹

Based on analysis of ECVH data, we estimate that about 7 percent of the total number of households in Haiti might be considered middle class (Table 2-4). This ratio suggests that in 2009, there were about 148,000 middle-class housing units for all of Haiti. With this base, and assuming that the rate of effective demand for housing in the middle class is roughly the same as for all households, we estimate that annual effective demand for new middle-class housing in Haiti amounts to about 4,500 units per year pre-earthquake (Table 5-1). Of course, it is possible that the rate of effective demand in the middle class was something less than the 3 percent per annum calculated for the general population of Haiti's households. Overall income stagnation, opportunities for emigration and possibly lower fertility among the relatively more educated middle-class women, might all depress demand to some extent. But emigrant remittances aimed at new housing construction in Haiti might offset such demand reductions. On balance, the 3 percent rate of annual effective demand for middle-class housing seems a reasonable assumption.

³¹ Effective demand in this context means housing units actually paid for by consuming households (i.e., demand for housing supported by a capacity to pay). Latent demand is much higher.

Table 5-1*Estimated Haiti Effective Annual Demand for Middle-class Housing, Pre-Earthquake 2009*

| Factor | Unit |
|--|--------------------|
| Middle-class households in place | 148,000 households |
| Annual rate of growth of middle-class households | 3 percent |
| Annual effective demand for new housing units | 4,440 units |
| round to | 4,500 units |
| Of which: | |
| Ownership share | 60 percent |
| Demand for new owned units | 2,700 units |
| Rental share | 40 percent |
| Demand for new rental units | 1,800 units |

SOURCE: Nathan Associates' calculations

Previously cited findings have set forth housing unit tenure patterns in the middle class. Based on these, assume further that pre-earthquake effective demand for new middle-class housing breaks down to about 60 percent aimed at ownership of units and 40 percent aimed at rental of units, or about 2,700 units and 1,800 units, respectively.

MIDDLE CLASS HOUSING CONSUMPTION

In pre-earthquake Haiti middle-class households pursued housing solutions largely through very long-term house construction projects organized and implemented by owners, or through rentals.

Owned Housing

Two principles seem to characterize and explain the ownership segment of Haiti's pre-earthquake middle-class housing market. First, no houses—or very few—are a “final product.” This simply means that contrary to the situation of the middle class in many other countries, Haiti's middle class has had few opportunities to shop for a new, ready-made house and is unused to doing so. Only rarely do developers conceive, finance, and construct housing units that they then market and sell to the middle class as a final finished product. And when such projects have been executed—such as Belvil in Port au Prince, the largest and best known of its kind—they are still relatively small in volume, stretched over many years and involve a significant portion of bare house lots to be sold for direct construction by the purchaser.³² A marketplace in which newly built housing units are presented to consumers is largely absent in Haiti. Commercial risk and weak consumer financial capacity, high cost of finance, infrastructure issues and political risk seem to discourage developers from taking this approach.

Similarly, there does not seem to be much of a resale market for housing. Sales of previously lived-in housing units do, of course, occur in the middle class, and some brokers are present and

³² Belvil, which began in 1987, is reported to include 487 properties in all. Oral communication with Gérald-Emile Brun.

facilitate the transactions, but this segment of the housing market is fairly small. For example, based on ECVH data concerning type of proof of home ownership, less than 5 percent of respondents to the survey cited sales receipt versus over 45 percent who cited notarized deed, suggesting a relatively low volume of home sales (Table 4-6). Consumer preference for new homes and own-design seem to dampen housing unit resale. Prior to the earthquake, Haiti was therefore largely a build-to-suit market for prospective middle-class home owners.

This recalls the second principle explaining the ownership segment of the middle-class housing sector, namely that customarily in Haiti, housing “is not a product, but a process.” The vast majority of housing in the middle class has been built by the owner, to his unique tastes, often over several years, and maybe even over more than one generation. Housing construction typically begins with the purchase of a plot of land, and then becomes modular, featuring an initial housing unit with sections, additions, and even stories added if and as funds become available. The size and timing of the owner’s variable flow of out-of-pocket funds plus transfers from emigrant relatives working in the United States, Canada and elsewhere are the dominant factor in the process. Such transfers seem to be particularly important to the middle class. The results are twofold. First, over time, the middle-class creates relatively large houses for extended families, with more rooms per unit and more people per household than the average Haitian household (Table 4-4). Second, resource constraints and constant concern for construction expense makes cost-cutting a priority. This pushes house construction into the informal sector with modest (if any) inputs from architects and engineers, cheap and variable construction materials, and work entrusted to building foremen with on-the-job experience rather than to fully qualified technicians and professionals. Using this approach, budget savings may have been achieved in middle-class home construction prior to 12 January, but too often by shortchanging quality and safety, with disastrous consequences.

Rental Housing

The rental option may concern about 40 percent of households, but it is a second-best solution to home ownership for the middle-class Haitian family. For the middle class, renting a housing unit is typically not a choice but rather dictated by lack of household capital to build. Ideally the rental period serves as a time when enough resources can be accumulated to at least buy land and perhaps begin house construction.

Two kinds of rental arrangements prevail in Haiti’s housing sector:

- *Loyer*, or a month-to-month rental arrangement for a house or apartment.
- *Affermage*, or a long-term lease for a house or apartment, normally a year or more in duration, but possibly anywhere from 6 months to over a year.

Rents vary considerably, and there are no hard statistics, but before the earthquake, anecdotal evidence suggests that in the Metropolitan Area a two-bedroom affermage apartment for a lower middle-class household (Exhibit 2-1) might have rented for HTG 30,000 to HTG 35,000 per year; similarly, a mid-middle-class household might have rented a three-bedroom house for about HTG 10,000 per month, depending on location.

Rents were rising prior to the earthquake, but not at an explosive pace. Between December 2006 and December 2009 rents rose at about 7.7 percent per annum, about the rate of inflation (7.3 percent) for this period. In 2009 alone, rents increased by just 3.7 percent for the year (Table 5-2).

Table 5-2

Estimated Average Annual Rate of Increase in Housing Rent for Haiti, Selected Pre- and Post-Earthquake Periods (August 2004 = 100)

| | Housing Rent | Housing Equipment and Upkeep | Overall CPI |
|---------------------------------|--------------|------------------------------|-------------|
| Month of December | | | |
| 2006 | 140.6 | 134.2 | 133.5 |
| 2008 | 169.5 | 172.9 | 161.7 |
| 2009 | 175.8 | 183 | 165 |
| Month of June 2010 | 193.4 | 186.7 | 170.8 |
| Average annual increase | | | |
| 12/06 to 12/09 | 7.7% | 10.9% | 7.3% |
| 12/08 to 12/09 | 3.7% | 5.8% | 2.0% |
| Average monthly increase | | | |
| 12/09 to 6/10 | 1.6% | 0.3% | 0.6% |

SOURCE: Nathan Associates calculations' based on IHSI Indices des Prix à la Consommation, various months.

MIDDLE CLASS HOUSING PRODUCTION

On the supply side of the middle-class housing market, production capacity was weak and fragmented. Costs were high and by 2009 had been climbing for many years, suggesting that production output may have been lagging the potential demand for housing in the middle class and elsewhere in the market.

Housing Production Capacity

Home-building in Haiti—for the middle class and others—combines the output of a vast number of very small informal construction teams for hire, a large number of small informal firms and, in the formal sector, a limited set of registered SMEs and a very few larger, more organized construction enterprises (e.g., Tecina). Data reported to be on file with DGI suggests that in 2006 there were about 400 licensed construction firms:³³

- 300 firms of 5 or fewer employees, and revenues less than HTG 1 million per year
- 50 medium-size firms of 5 to 15 employees, and revenues of HTG 2 million to HTG 5 million per year
- 30 national-level firms of 15 to 30 employees, and revenues between HTG 20 million and HTG 50 million per year

³³ Erol Saint Louis, *Étude sur les Logements à Faibles Revenus*, Inter-American Development Bank (January 2009), pp. 14-15.

- 20 large-scale firms of 30 or more employees, and revenues of over HTG 50 million per year.

The combined annual output of these firms is not recorded, but according to observers in the construction sector, it probably did not exceed 1,500 to 2,000 units at most. Of course, this production was supplemented by many more informal unregistered firms and construction teams, each building some small number of houses annually. But the basic conclusion is that in pre-earthquake 2009, Haiti's production capacity for house-building was limited, and probably unable to keep up with the potential effective demand for housing in the middle class. It is therefore likely that a housing deficit occurred annually, and as it continued to accumulate year-to-year, this deficit ratcheted up demand pressure from one year to the next.

Construction Inputs and Costs

Imported inputs have become progressively more important to housing construction in Haiti over the past two decades. By 2009, for most houses, water, sand, and labor were the only locally supplied inputs. Observers report that this high-import component accounted for a significant rise in construction costs, on the order of over 500 percent between 1991 and 2009 for low cost or middle-class housing and nearly 700 percent for high-income houses (Table 5-3). But even sand and labor costs increased substantially during the period, with legal minimum wage for house construction site day-workers rising from HTG 35 per day to HTG 200 per day.

Access to essential but high-cost construction equipment—mixers, compactors, generators—represented a major constraint on house building firms pre-earthquake. To try to solve this problem, some companies arranged to share equipment on a reciprocal rental basis, and in 2007, the Government of Haiti created the Centre National des Équipements (CNE) to help make equipment available to the construction sector.

Private Housing Projects

Over the years, various private promoters have tried to break with past practice and organize multiple-unit scaled-up housing projects for Haiti, using standard designs and modern building techniques in an effort to achieve volume-based economies in construction. Some of these projects have been built for government or quasi-government entities—such as two blocks of 50 houses each constructed for Banque Nationale de Crédit in 2000 by Tecina and targeting the bank's middle managers. Others have been more market-oriented. Belvil (also by Tecina) is the best known and most successful of these projects. But Florida Homes is another example, and is often cited as symbolic of the difficulties of private sector housing projects in Haiti.

Table 5-3

Haiti's House Construction Sector: Estimated Building Costs per M2, 1991 and 2009, by House Type, December 2009

| House Type | | Construction cost per M2 (HTG) | | | | | |
|--------------|--|--------------------------------|---------|---------|---------|--------|----------------------|
| | | 1991 | 2009 | | | | Avg. Annual Increase |
| | | | Minimum | Maximum | Average | Change | |
| Low cost | Cement block walls, corrugated metal roof, polished cement floors, wooden door and window frames, exterior sanitary facilities | 1,090 | 6,040 | 7,470 | 6,755 | 519.7% | 10.7% |
| Middle class | Partition walls in clock, reinforced concrete roofs, pane glass windows, ceramic or mosaic tile floors, inside bathrooms | 2,460 | 14,525 | 16,600 | 15,563 | 532.6% | 10.8% |
| High income | High-end finishings and imported accessories, high-end windows and doors | 3,180 | -- | -- | 24,900 | 683.0% | 12.1% |

SOURCE: *Gérald-Emile Brun, Etat des Lieux du Secteur Logement, presented 13 October 2009 at Conférence-Débat on Politique de l'Habit en Haïti : Défis et Perspectives, p. 13.*

Constructed in 1998 by a private investment group, Florida Homes is located in Bon Repos and was meant to attract buyers from the Haitian Diaspora interested in retirement housing, or resident middle-class Haitian families seeking modern housing in a community environment. The house construction featured semi-prefabrication with a metal framing and use of light reinforced concrete for walls and roof. With this technology, finished houses could be produced in about 20 workdays or even less. The houses—maisons basses—have two bedrooms, a dining room, a sitting room, and an interior bathroom. Parking space in front and a small courtyard in back complement the structures. The original 2002 price was US\$28,000 to US\$30,000 per unit.

Florida Homes was launched with support from the government of the day, including a grant of various tax advantages on imported materials. A change of government led to withdrawal of these tax advantages and a series of disputes with the new administration. Additionally, and perhaps even more seriously, the houses encountered consumer resistance: they were judged to too small, too close together, and as offering too little value for the price. Some 20 to 30 units were produced and sold, but the project failed financially and was eventually taken over by the funding bank (UNIBANK). More than 20 units are now occupied, and all survived the earthquake apparently intact. But a major lesson of Florida Homes—and generally for private projects directed to the middle class—is to take great care in designing houses that suit the Haitian environment and lifestyle. Another may be to set financial parameters to balance project financial viability and house unit affordability, without becoming captive to tax incentives.

HOUSING SECTOR INSTITUTIONAL FRAMEWORK

In pre-earthquake Haiti, housing was a problem left to individual households to solve, unaffected by any policy. In fact, the fundamental institutional reality for the housing sector was the total absence of any clear and coordinated policy and institutional framework for housing.

Institutional and Policy Constraints

A range of laws, regulations, and institutional assignments targeting housing had in fact been made on paper, beginning with Article 22 of the constitution of 1987, calling for a right to decent housing. These have never been systematically related to each other in concept or application, so no orderly system of housing and urban development has evolved in Haiti. As a result, several institutional issues evident before 12 January have long distorted the housing market and, unless corrected, will continue to do. Principal among them are the following.

- ***Weak land and property rights registration.*** The Office National du Cadastre (ONACA) is responsible for conducting and maintaining an up-to-date cadastre for Haiti. The Direction Générale des Impôts (DGI) is responsible for maintaining land registration records. The cadastre is judged to be inadequate, and there are substantial suspicions regarding the accuracy and trustworthiness of DGI land records.³⁴ (Further, many of these files may now be lost or damaged in the earthquake.) Land titling involves a significant role for notaries to trace and certify land ownership, a procedure providing opportunities for abuse. This results in an enormous number of land disputes and overlapping claims, nationwide. Absence of an efficient and trusted land registry discourages construction and commercial financing of housing due to lack of clear title.
- ***No building code.*** Prior to the earthquake Haiti had no building code and no national norms and standards regarding earthquakes and other natural disasters. On 12 January itself, a Canadian technical assistance team financed by the World Bank was finishing a draft code with the Ministère des Travaux Publics, Transports et Communications (MTPTC). However, even though a code did not exist, units in the MTPTC were tasked to promote and approve modern building standards and to oversee quality norms in building materials. In fact, MTPTC had few resources to play any sort of serious technical role, much less enforce standards. Ample anecdotal evidence suggests that many house-building projects ignored any technical authorizations MTPTC was to issue, and/or MTPTC issued construction permits without analysis or site visits.
- ***Outmoded legal structure.*** Many of the laws and decrees pertaining to housing and to urban development date to the 1970s and even before. These include, for example, Decree on the Property Tax (decree of 4 November 1974), Law on Land Registration and Conservation (law of 28 September 1977), and Law on Savings and Housing Banks (law of 6 September 1984). Laws concerning house rents and renter and proprietor rights were set out in 1940s, 1950s, 1960s, and 1970s. The fact that such a legal framework was created in a very different economic and political context than the pre-earthquake Haiti of the late 2000s no doubt contributes to their irrelevance to the housing sector now, and to the fact that they are largely ignored. Laws on rents and renting are particularly notable in this respect: such laws specify limitations on rent levels and increases, and mandate payment of rent in Gourdes. Pre-earthquake (and after), rents increased regularly, and in

³⁴ U.S. Agency for International Development, USAID Issues Brief, Land Tenure and Property Rights in Haiti (January 2010), p.2.

the middle class, are often paid in US dollars.³⁵ In sum, the legal framework of Haiti's housing sector seems to have little to do with market behavior, contributing to the anarchy of the sector.

- ***Absence of key legal flexibilities.*** One dimension of Haiti's antiquated legal framework for the housing sector was the pre-earthquake absence of certain legal provisions needed to facilitate large-scale housing production. Two examples are frequently cited. First a Law on Co-Ownership has yet to take effect. This law, passed in November 1984 but apparently never implemented, would permit sale and purchase of ownership interest in condominiums and apartments. While there may now be progress—e.g., a Presidential decree (arrêté) to lead to implementing regulations—the law is essential to expand housing supply through vertical construction and large-scale project development. Second, as noted, land with clear title is at a premium in Haiti. The State owns large tracts of such land that could be developed for major housing projects. But Haiti's legal structure reportedly prohibits mortgaging private properties built on State land, without an act of Parliament.³⁶ This created another constraint on large-scale housing development.
- ***Fragmented and ineffective institutions.*** Before 12 January, several Haitian government institutions were assigned planning, operational, and regulatory tasks related to housing. They covered a wide range, including the Enterprise Publique de Promotion de Logements Sociaux (EPPLS), the MPTC and other ministries, and the municipalities. Invariably, their missions were over-sized for their weak technical and financial structures and resources, and, even when coordination was essential, these institutions operated in isolation. The process of authorizing housing construction in the Metropolitan Area highlights the issues involved. In principle, to build a house, the owner needs two permits: a technical authorization to build from MTPTC, as noted above; and a “droit d'alignment” from the municipality allowing construction to take place in the proposed location. In practice, the two entities (one central, one local) never communicate or cooperate, and in any event neither have the capacity to perform their regulatory role. At best the process is pro-forma, at worst an opportunity for rent-seeking. The municipalities, in particular, see the droit d'alignment as a tax, not a technical procedure to ensure proper building and urbanization standards. The result is a huge volume of uncontrolled and unsafe construction and a chaotic urban landscape.³⁷

³⁵ Note that a draft “Law on the Cost of Rent and Registration of Leases” proposed in October 2009 by Senators Hériveaux and Bastien would limit rents to 0.5 percent of a unit's original book value, require payment to be set in Gourdes without regard to exchange rates, and would prohibit rent increases.

³⁶ Gérald-Emile Brun, *Etat des Lieux du Secteur Logement*, presented 13 October 2009 at Conférence-Débat on Politique de l'Habit en Haïti : Défis et Perspectives, p. 9.

³⁷ Though not involved in the middle-class segment of the housing sector, EPPLS—Haiti's sole public sector entity devoted entirely to housing—is also emblematic of the ineffectiveness of Haiti's housing institutions. Charged with producing and renting out very low income housing, by 2009, after nearly 30 years of operation EPPLS had produced no houses in several years, lost control of many units legally under its supervision through illegal occupation and rent non-payment, and faced significant budget deficits. See Erol Saint Louis, *Etude sur les Logements à Faibles Revenus*, Inter-American Development Bank (January 2009), p. 23; pp. 43-45.

The sum of these constraints is that before 12 January, middle-class and other households were subject to virtually no serious and competent policy guidelines or regulatory authority as builders, owners, or renters of houses, so that the housing market operated in a highly anarchic way.

Provision of Infrastructure

One dimension of institutional nonperformance with particularly adverse consequences for housing development in Haiti deserves special emphasis: failure to provide reliable and cost-effective infrastructure systems and services. At the household level, the problems are most severe with respect to water and electric power supply. (At a regional or metropolitan level, the problem of inadequate and rapidly deteriorating roads and streets could also be cited.) Data on housing stock characteristics previously displayed underscore the fact that most Haitian households—even middle class ones—have relatively limited access to modern water supply at home (Table 4-6). While access to electricity is in theory somewhat better, at least for the middle class, experience suggests that access and reliability of power supply are two different matters. For the bulk of all Haitian households, access to electricity at home is very limited, and in urban areas, often solved through dangerous informal hookups.

Neither of the institutions responsible for operating and maintaining these infrastructure systems and services—Direction National d’Eau Potable et d’Assainissement (DINEPA)³⁸ within the MTPTC for water and the autonomous public sector enterprise Électricité d’Haïti (EDH) for power—was remotely equal to the task before the 12 January disaster, and water and power services continued to deteriorate. Availability and reliability of suitable water and power infrastructure will therefore be a continuing constraint on housing development in any large-scale reconstruction, upgrading, and expansion programs for Haiti’s post-earthquake housing sector.

HOUSING SECTOR FINANCE

Resources are available in Haiti’s financial sector to help finance housing. But these resources are high-cost and come with terms and conditions that are out of reach for most middle-class families—not to mention households further down the income scale—whose means are limited and cash flows often variable. As a result, by bankers’ own estimates, at a maximum, only about 10 percent of households who build houses finance them through the banking sector.

Nature of the Banking Sector

Haiti’s banking sector is made up of nine banks in all, including seven private banks and two state-owned banks (Banque Nationale de Crédit, BNC; and Banque Populaire Haïtienne, BPH). Two banks (Citibank NA, and ScotiaBank) are local branches of foreign banks. One institution—Société Générale Haïtienne de Banque d’Épargne et de Logement (SOGEBEL)—is a savings and loan targeting housing. The sector is highly concentrated. The same three banks—SOGEBANK, UNIBANK, and BNC—together account for 82 percent of assets, 72 percent of loans, and 83 percent of deposits in the system (Table 5-4).

³⁸ DINEPA, set up in MTPTC in 2009, is programmed to absorb Centrale autonome métropolitaine d’eau potable (CAMEP), water supplier for Port au Prince, and Service national d’eau potable (SNEP) water supplier in secondary cities and, conceptually, in rural areas.

Table 5-4

Haiti's Banking Sector: Total Value and Bank Shares of All Assets, Loans and Deposits, March 2010

| | Assets | | Loans | | Total deposits | |
|--------------|-----------------------|----------|----------------------|----------|-----------------------|----------|
| | (HTG 120,512 million) | | (HTG 31,264 million) | | (HTG 104,073 million) | |
| | Percent | Position | Percent | Position | Percent | Position |
| Sogebank | 29.7 | 1 | 29.2 | 1 | 30.1 | 2 |
| Unibank | 29.3 | 2 | 26.1 | 2 | 30.2 | 1 |
| BNC | 22.7 | 3 | 17.2 | 3 | 22.3 | 3 |
| Capital Bank | 5.3 | 4 | 7.0 | 4 | 5.1 | 4 |
| Sogebel | 3.3 | 5 | 4.5 | 7 | 3.1 | 5 |
| Scotiabank | 3.2 | 6 | 5.8 | 5 | 3.0 | 6 |
| Citibank | 3.0 | 7 | 4.8 | 6 | 2.7 | 7 |
| BUH | 2.4 | 8 | 3.2 | 8 | 2.6 | 8 |
| BPH | 1.1 | 9 | 2.3 | 9 | 1.1 | 9 |
| Total | 100.0 | | 100.0 | | 100.0 | |

SOURCE: Banque de la République d'Haïti.

At the end of 2009, the banks were flush with funds, with short-term liquid assets equivalent to nearly 43 percent of assets. This ratio had been rising steadily since 2006.³⁹ Deposits with the Banque de la République d'Haïti (BRH) plus holdings of BRH bonds made up nearly a third of banks' combined assets. About 55 percent of current assets and more than half of all assets in the banking system were denominated in foreign currency. The banking system is essentially funded by deposits, which were equivalent to over 86 percent of assets at the end of December 2009. This ratio had stood at 83 percent or above since at least 2006. The spreads between Gourde lending and deposit rates were very substantial: about 20 percentage points. But bank lending operations were still fairly limited: the ratio of the combined net lending portfolio of all banks to total system assets was just below 30 percent in December 2009, and had never risen above 31 percent since late 2006.

Bank Lending for Housing

Loans for housing make up a modest fraction of total lending. Credit to wholesalers, consumers, and retailers and for financial services accounted for almost half the net loan portfolio of Haiti's banking system in December 2009. Loans for housing amounted to about 8.4 percent of the total net portfolio, or about HTG 3.2 billion (US\$79.6 million) at that same point (Table 5-5). Not surprisingly given its vocation, the top lender in the system with about 29 percent of all housing lending was SOGEBEL. But at the end of 2009, its housing loan portfolio stood at only HTG 912 million (US\$22.8 million), roughly equivalent to half (53 percent) of its own total lending to all sectors. UNIBANK (HTG 639 million or US\$16 million) and Scotiabank (HTG 639 million or

³⁹ Data in this paragraph are drawn from Banque de la République d'Haïti, Rapport «Statistiques et Indicateurs Financiers », Trimestre 2 2010.

US\$15.9 million) were the next largest housing lenders: but in December 2009, within their own loan portfolios, housing lending represented only about 6 percent for the former and 27 percent for the latter. SOGEBEL may grant no more than 70 to 100 housing loans in a year, and each of Haiti's other banks far fewer. No firm figures are available, but system-wide the average housing loan made in Haiti's banking sector is estimated to be about US\$100,000—but with a large dispersion around this mean. Many housing loans are reported to be quite small, in the range of US\$10,000 and a very few quite large, even up to US\$800,000.

Table 5-5

Haiti's Banking Sector: Value of Loans for Housing, December 2009, March 2010 and June 2010

| | December 2009 | | March 2010 | | June 2010 | | Change from December 2009 (%) | |
|--------------|---------------|----------|------------|-----------|-----------|-----------|-------------------------------|-----------|
| | HTG 000 | US\$ 000 | HTG 000 | US \$ 000 | HTG 000 | US \$ 000 | March 2010 | June 2010 |
| Sogebank | 23,067 | 577 | 22,343 | 559 | 22,343 | 559 | -3.1 | -3.1 |
| Unibank | 639,406 | 15,985 | 594,775 | 14,869 | 564,042 | 14,101 | -7.0 | -11.8 |
| BNC | 495,480 | 12,387 | 459,728 | 11,493 | 454,274 | 11,357 | -7.2 | -8.3 |
| Capital Bank | 336,250 | 8,406 | 307,275 | 7,682 | 292,674 | 7,317 | -8.6 | -13.0 |
| Sogebel | 912,036 | 22,801 | 874,510 | 21,863 | 847,572 | 21,189 | -4.1 | -7.1 |
| Scotiabank | 636,063 | 15,902 | 497,973 | 12,449 | 596,744 | 14,919 | -21.7 | -6.2 |
| Citibank | 11,883 | 297 | 4,676 | 117 | 11,205 | 280 | -60.6 | -5.7 |
| BUH | 57,935 | 1,448 | 55,632 | 1,391 | 52,826 | 1,321 | -4.0 | -8.8 |
| BPH | 70,244 | 1,756 | 66,713 | 1,668 | 66,003 | 1,650 | -5.0 | -6.0 |
| Total | 3,182,365 | 79,559 | 2,883,625 | 72,091 | 2,907,684 | 72,692 | -9.4 | -8.6 |

SOURCE: Banque de la République d'Haïti.

Consumers are demanding housing, and banks are liquid with loanable funds, but mortgage lending is still modest. Haiti's banks offer a threefold explanation. First, the culture and business of banks is to lend and make mortgages against solid collateral, but in Haiti, prospective borrowers with good collateral are rare. Moreover, collateral risks in housing can be high: even if a borrower starts out with a decent house as collateral, the surrounding area can easily be invaded by unplanned informal structures that erode the value of that house. Second, according to the banks, credit risk is also very high given Haiti's volatile political and economic conditions: many would-be borrowers are employed in the informal sector and even with adequate income overall their income flows can be highly unstable. And the cost to banks of properly assessing individual credit risk in these circumstances is extreme. Third, bankers maintain that would-be borrowers—often middle-class ones—have unrealistic expectations, with housing tastes beyond their means. It becomes time-consuming, costly, and sometimes impossible for banks to negotiate with such borrowers to reach solutions that are financially feasible and acceptable to the borrower.

Costs of Borrowing for Housing

Both banks and borrowers recognize that the costs of mortgage financing for borrowing households are extremely high in Haiti. Basic terms and conditions on mortgage loans are stiff (Table 5-6). Rates of interest on Gourde loans in December 2009 stood at nearly 21 percent and

interest rates on US dollar loans were at 12 percent.⁴⁰ In December 2009 required down payments amounted to 25 percent to 30 percent of final house value, and loan terms were 20 to 25 years, but with a clause providing for loan renewal every three years. Banks also required borrowers to carry insurance on the value of the house to be financed and life insurance on the household's primary breadwinner and spouse. Basic transaction costs could be steep, including a land transfer tax, a mortgage registration tax, and bank fees. Property taxes added still more to the annual cost of house ownership and financing.⁴¹

Table 5-6

Haiti's Banking Sector: Typical Mortgage Loan Parameters and Transaction Costs, December 2009

| Cost Element | Amount or Rate | Base | Payable or comment |
|---------------------------|--------------------------|---------------------------------|--|
| Down Payment | 25 percent to 30 percent | Total value of housing project | At project initiation |
| Loan Terms | | | |
| Interest | | | |
| HTG loans | 21 percent | Loan value | Annual rate payable monthly (Gourde interest rates have come down significantly in mid 2010: 16 percent and even 9 percent at SOGEBEL) |
| US\$ loans | 12 percent | Loan value | Annual rate payable monthly |
| Period | 20 to 25 years | | Renewable every 3 years |
| Property Tax | 1 percent (estimated) | Annual rental value of property | Annually, payable to municipality or section communale (Contribution Foncière sur Propriétés Bâties) |
| Insurances | | | |
| Owners' life insurance | 0.1 percent (notional) | Loan value | Premium payable monthly |
| Insurance on the property | 0.2 percent (notional) | House value | Premium payable monthly |
| Transaction Costs | | | |
| Land transfer tax | 3.5 percent to 7 percent | Cost of land | At loan closing (droit de transmission des terrains) |
| Mortgage registration tax | 3.5 percent to 7 percent | Value of loan | At loan closing (droit d'enregistrement) |
| Bank transaction fees | 2.5 percent | Value of loan | At loan closing |

SOURCE: Nathan Associates based on bank and middle class household interviews.

In such an environment, pre-earthquake bank-supplied mortgage financing was prohibitive for Haiti's middle-class families. For example, in December 2009, a lower middle-class family

⁴⁰ Figures for December 2009 from Direction du Contrôle de Crédit, Banque de la République d'Haïti. By mid-2010, rates on long-term loans declined to 16 percent (commercial banks) and SOGEBEL now offers Gourde loans at 9 percent.

⁴¹ On top of borrowing costs, the owner also faced property taxes—the “Contribution Foncière des Propriétés Bâties (CFPB)—paid annually as a lump sum to the municipality (or in Haiti's rural zone, to a section communale). The amount of CFPB varies, but in theory is a proportion of a house's rental value, and is often called “impôt locatif.” It is calculated relative to the structure's façade dimensions and number of rooms. CFPB is levied only on built property, which, beside the vagaries of construction self-financing, gives households added incentive to maintain a house as an unfinished work-in-process.

aiming to construct or buy a house whose final value was \$25,000 and planning to finance the project with bank loan at prevailing terms and conditions, would have faced transaction closing costs of US\$1,855 and monthly mortgage payments (amortization and other carrying costs) of over US\$432 per month. This amounts to 59 percent of an assumed US\$750 monthly household income for a typical lower middle-class family. Mid- and upper-middle income households wishing to finance US\$50,000 or US\$100,000 houses would have faced transaction closing costs of roughly US\$3,700 and US\$7,400 respectively, and then monthly payments of nearly US\$870 and US\$1,700, each equivalent to well over 40 percent of household income (Table 5-7). Even at lower rates of interest, such households would still be severely stretched. Acquiring housing therefore becomes a process, to be extended over a very long time and self-financed in phases.

Table 5-7

Illustrative Financing Costs, Middle-Class House Purchase, December 2009

| Cost Item | Units | Lower Middle Class | Mid Middle Class | Upper Middle Class |
|--|---------|--------------------|------------------|--------------------|
| Value of house to be financed | US\$ | 25,000 | 50,000 | 100,000 |
| Percent down payment required | percent | 25% | 25% | 25% |
| Other closing costs | | | | |
| Land transfer fee | percent | 7% | 7% | 7% |
| Mortgage registration fee | percent | 7% | 7% | 7% |
| Bank transaction fees | percent | 2.5% | 2.5% | 2.5% |
| Total closing costs | US \$ | 1,855 | 3,668 | 7,377 |
| Amount required at closing | US \$ | 8,105 | 16,168 | 32,377 |
| Loan amount required | US \$ | 18,750 | 37,500 | 75,000 |
| Loan term | years | 20 | 20 | 20 |
| Loan interest rate, % per year | percent | 21% | 21% | 21% |
| Monthly loan amortization amount US\$ | US \$ | 333 | 667 | 1,333 |
| Life insurance - % of loan value | percent | 0.10% | 0.10% | 0.10% |
| Property insurance - % of unit sales price/initial value | percent | 0.20% | 0.20% | 0.20% |
| CFPB taxes - % of unit price | percent | 0.09% | 0.09% | 0.09% |
| Maintenance costs and fees - % cost | percent | 0.21% | 0.21% | 0.21% |
| Total, other monthly housing expenses | percent | 95 | 199 | 368 |
| Total monthly carrying cost | US \$ | 428 | 866 | 1701 |
| Assumed monthly household income | US \$ | 725 | 2,000 | 3,813 |
| Carrying costs as a % of household income | percent | 59.7% | 43.3% | 44.6% |

SOURCE: Nathan Associates' calculations.

Alternatives to Bank Financing for Housing

Some alternatives to bank financing for housing did (and do) exist, depending on affiliations of individual households. Two options are micro-finance and employer-supported home financing.

- **Micro-finance for housing.** Haiti's microfinance savings and credit cooperatives have a product ("prêt logement") aimed at members who wish to acquire, construct, repair, or improve a house. These loans, which can be up to HTG 3 million (US\$75,000), carry rates of interest from 18 percent to 24 percent depending on guarantees offered and extend over terms from 2 to 5 years. Borrowers for these "caisses populaires" loans must be cooperative members and able to furnish both proof of capacity to repay and assorted guarantees, such as a third-party guarantor and deposit of funds in a blocked account amounting to between 20 percent and 33 percent of the loan. Transaction fees run to 1 percent to 3 percent of loan value. Despite these terms, which seem as onerous as those Haiti's banks require, borrowers do come forward, especially for smaller sums, and use these loans as financial inputs to specific phases in the long-term house-building process: for land acquisition, for construction of a single room or an outside wall and the like.⁴²
- **Employer-sponsored schemes.** A few employers in the private sector and in government autonomous public enterprises are reported to have organized house-financing programs for their personnel. These programs vary by employer, but typically involve a subsidized rate of interest (e.g., as low as 6 percent in some cases, and terms up to 25 years). In some enterprises, all employees qualify after a certain length of service (e.g., five years), and in others only management staff do. The loans normally support around two thirds of the funding required for house construction or financing. Standard insurances (life and property) are required for the borrowers, often with an employer cost-sharing. One of the best known and established of these programs is in the Banque de la République d'Haïti.

Fundamentally, however, these options are suitable for only a small share of middle-class households striving to own their homes. The overwhelming majority of families, especially those in the informal sector, have few real alternatives to long-term self-financed housing.

CONCLUSION: PRE-EARTHQUAKE HOUSING DYNAMIC

In sum then, prior to 12 January, from the consuming household's point of view, the basic dynamic of Haiti's middle-class housing sector was very simple:

- Demand for new housing was strong and growing, as new households formed.
- The supply of new housing was limited, as production capacity was small-scale.
- Costs of housing construction were steadily rising for all types of housing.
- Housing sector policies and regulations were nonexistent, at least in practice.
- Financial resources of consuming households were very tight, and savings minimal.
- Opportunities to finance housing through the banking sector were relatively unattractive to households and a low priority for banks.

⁴² Note that in the banking sector, SOGEBANK has also developed a special product—Kredit Kay—for micro or small entrepreneurs interested in upgrading a home through a phased plan of financing. Kredit Kay loans range in size from HTG 10,000 (US\$250) to HTG 250,000 (US\$6,250) with the average around HTG 97,000 (US\$2,425), and terms between 3 months and 18 months. Such loans require guarantees and a third-party guarantor. They may suit middle-class borrowers who already own land or a house to be improved.

Operating in this environment, with constraints on all sides, most households were forced to scramble for housing in a very fragmented and uncoordinated way, adopting approaches that in the end probably produced less than satisfactory housing solutions at higher than necessary costs (Table 5-8). And the dynamic describes both the middle-class market and that for lower-income families, certainly in urban Haiti.

Table 5-8

Summary of Middle-Class Housing Sector Operating Characteristics and Behavior, Pre-Earthquake (2009)

| Market Dimension | | Reality | Implications |
|---|---|--|--|
| Effective Demand | | | |
| Total | 64,000 units annually (est.) | Significant latent demand | Continuously increasing demand pressure |
| Middle Class | 4,500 unit annually (est.) Owned units: 2,700 units Rental units: 1,800 units | Significant latent demand | |
| Housing Consumption | | | |
| Owned housing | | "No final housing products..." "Housing is a process not a product ..." | Meager household resources make housing solutions a very long-term, very individualized initiative |
| Rentals Affermage Loyer | | Second-best solution for households | Rents are rising in the 2000's (but only by 3.7 percent per annum during 2009) |
| Housing Production | | | |
| Suppliers: | 400 registered firms (2006) Vast number of unregistered construction crews | Mostly very small SMEs and a very few "Tecinas" Large share/bulk of production (?) | Limited total production capacity |
| Materials: | Mostly imported Long-term increasing construction costs | "Only sand, water and labor are Haitian ..." Average rise over 10 percent per year (1991 to 2009) | High cost |
| Projects at scale: | Belvil, Florida Homes | few and mixed record of success | No efficiencies of scale |
| Institutional-Policy Framework for Housing | | | |
| Weak land and property registration | | Extensive land disputes and overlapping title claims | Absence of any recognized housing-urban development policy resulting in uncontrolled and chaotic housing sector operations |
| Nonexistent building code | | Unsound and unsafe structures | |
| Outmoded and antiquated legal structures | | Laws from 1940s through 80s unsuited to current needs | |
| Fragmented and ineffective institutions | | Under-resourced and uncoordinated agencies unable to fulfill assigned missions | |
| Non-performing infrastructure systems | | Inadequate water and power services for urban centers | |
| Finance for Housing | | | |
| Banking sector | | Highly concentrated, highly liquid, but limited loan portfolios | Banks have little incentive to lend for housing |
| Lending for housing | | Minimal share of banking sector combined portfolio (8.4 percent of total loans) | |
| Terms and conditions and transactions costs | | High cost and unaffordable for most borrowers (21 percent rate of interest, etc.) | Households acquire housing as a long-term, phased, self-financed process |
| Alternatives to commercial finance for housing | | Limited microfinance products (small-scale, high-cost, exacting guarantees) | |

SOURCE: Nathan Associates

6. Earthquake Impact on Middle-Class Housing

The earthquake of 12 January severely impacted Haiti's housing sector, including and perhaps especially middle-class housing. In this chapter we summarize the principal impacts, both in terms of loss of housing units and in effects on the behavior of the middle-class housing market.

IMPACTS ON HOUSING STOCK

The disaster of 12 January has affected Haiti's housing sector on several levels. The most visible and measurable effect is the enormous physical destruction and damage to housing stock.

Reduction of Overall Housing Stock

A range of estimates exist for the number of houses destroyed and damaged in the earthquake. The government's immediate post-disaster needs assessment suggested that 105,369 houses were destroyed and another 208,164 damaged.⁴³ Since then Haiti's Ministère des Travaux Publics, Transports et Communications (MTPTC) and UNOPS have been conducting a structure-by-structure inventory of permanent constructed houses and other buildings in the zone affected by the earthquake. As of mid-September 2010, they had assessed nearly 250,000 houses. Of this number almost half are judged to be immediately inhabitable (green), slightly more than a quarter (27 percent) to be habitable with repair and caution (yellow), and slightly less than one quarter to be uninhabitable at present (red). Despite the severe damage inflicted on them by the earthquake, about 20 percent of the so-called red houses may be technically reparable to a habitable state (Table 6-1).

The MTPTC and UNOPS inventory is scheduled to cover about 400,000 houses in all. The survey team expects that the observed proportions of green, yellow and red and reparable-red houses to remain fairly constant to the end of the survey. If so, the inventory is likely to show that the earthquake has completely destroyed about 72,000 houses. Recalling that the Institut Haïtien de Statistique et d'Informatique (IHSI) estimated in 2009 that there were 2.15 million housing units in Haiti as a whole and 492,000 units in the Metropolitan Area, the earthquake may have reduced this stock to about 2.08 million housing units Haiti-wide and to about 420,000 units in the Metropolitan Area, a reduction of nearly 15 percent in the latter.

⁴³ Government of Haiti, Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs (March 2010), p. 74.

Table 6-1

Current and Projected Number of Houses to be Replaced and Repaired as a Result of Haiti's Earthquake, September 2010

| | Total | Percent | Repair | Percent Category | Replace | Percent Category |
|--|---------|---------|---------|------------------|---------|------------------|
| ACTUAL HOUSES ASSESSED, BY CATEGORY (SEPTEMBER 2010) | | | | | | |
| Red | 54,601 | 22.4 | 11,358 | 20.8 | 43,243 | 79.2 |
| Yellow | 65,925 | 27.0 | 65,265 | 99.0 | 660 | 1.0 |
| Green | 123,551 | 50.6 | 0 | | 0 | |
| Total | 244,077 | 100.0 | 76,623 | 31.4 | 43,903 | 18.0 |
| PROJECTED TOTAL HOUSES ASSESSED, BY CATEGORY (AFTER FULL INVENTORY) | | | | | | |
| Red | 89,600 | 22.4 | 18,636 | 20.8 | 70,964 | 79.2% |
| Yellow | 108,000 | 27.0 | 106,920 | 99 | 1,080 | 1.6% |
| Green | 202,400 | 50.6 | 0 | | | |
| Total | 400,000 | 100.0 | 125,556 | 31.4 | 72,044 | 18.0 |

Note: Projections assume that proportions of houses by category observed in September 2010 remain constant in completed full inventory.

SOURCE: Nathan Associates based on UNOPS data and analysis.

Some of these houses contained multiple households (i.e., were multi-family dwellings) though the proportion seems to have been small. According to the RGPH (2003), about 1 percent of houses were apartments in 2003 (Table 4-1). Also, about 7 percent of households in Port au Prince Metropolitan Area leased out one of more rooms in their own houses to others.⁴⁴ Assume then that roughly 10 percent of dwellings affected by the earthquake were multi-household houses, with an average of two families each. The destruction of 72,000 houses would thus be the permanent loss of dwelling for about 79,000 Metropolitan Area households.

Loss of Middle Class Housing Stock

The middle class, like Haiti's poor and slum dwellers, was hit hard by the earthquake's destruction but there are no statistics on the number of middle-class households or housing units affected. It is reasonable to assume, though, that a significant portion of the houses being surveyed by MTPTC and UNOPS belong to the middle class: these are permanent, constructed housing units, typically the concrete *maison basse* or *maison à étage* structures favored by Haiti's middle class. About 23 percent of families in the Metropolitan Area are estimated to be middle class (Table 2-5), but the general impression of most observers is that the middle class suffered loss of property much in disproportion to their numbers in the total population of households. Hence, as a working hypothesis, it might be assumed that 50 percent of the 79,000 households that lost dwellings in the earthquake were middle class, or 39,500 households (rounded to

⁴⁴ Institut Haïtien de Statistique et d'Informatique, *Enquête sur les Conditions de Vie en Haïti* (2001), Table 1.5.1, p. 59.

40,000).⁴⁵ At this level we assume that about 35 percent of the 113,000 middle-class households in the Metropolitan Area have lost housing units and require replacements.

IMPACTS ON HOUSING SECTOR BEHAVIOR

While reduction in housing stock is the most immediately visible result of 12 January, the earthquake has also had a profound impact on housing market behavior and operations. In short, the effects of the earthquake have intensified the basic dynamic and shortcomings of the housing sector set forth in Chapter 5 above. This is apparent in each of the four housing sector components outlined earlier.

Post-Earthquake Housing Consumption

In the aftermath of the earthquake are three realities about consumption in Haiti's housing sector, both for the middle class and for households in general:

- ***Explosive demand for housing.*** The demand for housing is stronger than ever. For the middle class, the destruction of an estimated 40,000 housing units must be added to the estimated regular yearly increase in demand for housing of 4,500 units per year. Hence, over the next five years, middle-class demand for housing might amount to as many as 62,500 units, new and replacement. Of course, certain factors could reduce demand, such as a rise in emigration if middle-class households lose confidence in the future because of diminished economic prospects and the potential for political instability. At present, many observers detect a wait-and-see attitude among middle-class households, so it is difficult to say how significant emigration could be. Either way, the earthquake has intensified housing demand overall.
- ***Massive increase in rentals and rents.*** An immediate effect of the earthquake has been a surge in housing rentals, as families who have lost homes are forced to find new arrangements. If about 40 percent of middle-class housing units in the Metropolitan Area were rented pre-earthquake (Table 4-6), the proportion has now probably climbed to well over half. One sign of the rapidly growing rental market are sharply increasing rents, driven up by demand from displaced new-renter families and from a huge influx of NGOs with lodging requirements. In IHSI's consumer price index rents rose only 3.7 percent for all of 2009 but by 10 percent between December 2009 and June 2010 (Table 5-2). This trend is likely to continue unabated despite attempts to legislate otherwise.⁴⁶
- ***Inefficiency of "housing as a process not a product" approach.*** The need to quickly replace, expand, and improve housing stock calls into question the long-term, piecemeal process that the middle class has long applied to solve housing problems. A prolonged

⁴⁵ This number of 40,000 middle class housing units to be reconstructed after the Haiti earthquake is the same order of magnitude as an estimate offered by Gérard-Emile Brun in « Perspective de Reconstruction de l'Habitat Housing Reconstruction Perspective, » a presentation at Club Indigo, June 2010. Brun suggests that 250,000 houses are to be reconstructed in the wake of the earthquake, of which 80 percent are low-income units, with the balance largely middle-class (i.e., 50,000 units).

⁴⁶ Recall the legislation of Senators Hériveraux and Bastien: "Law on the Cost of Rent and Registration of Leases" proposed in October 2009.

and phased program of house-building may be more in keeping than ever with the decapitalized and resource-strapped condition of middle-class families in 2010. But it is not consistent with need to replace middle class and other housing stock rapidly, nor with the immediate, large-scale investment required for short-term recovery and reconstruction of Haiti's economy. Middle-class families cannot simply be left on their own to sort out housing, and if they are many will likely emigrate, adding to Haiti's great loss.

Conclusion. Fundamental problems for housing consumers are unchanged and even more acute than before the earthquake. Housing need is higher than ever, but the middle class, with its fairly modest and often unstable income streams—and now newly decapitalized—will find it more difficult than ever to satisfy these needs.

Post-Earthquake Housing Production

In the production component of Haiti's housing sector the cost and capacity weaknesses that were obvious before the earthquake are now even more obvious. They could severely constrain recovery and reconstruction.

- ***Skyrocketing costs of construction.*** An immediate impact of the earthquake has been an increase in construction costs as home owners, businesses, and government all undertake urgent repairs. Prior to the earthquake, construction costs for individual houses varied widely, with differentials determined by the degree of construction finishing (Table 5-3). Very roughly, the range might have run from around US\$200 to over US\$600 per m² constructed, for low- to high-end housing. Observers in the construction industry report that, under the pressure of construction demand, these costs have increased by 25 percent or more, again depending on the degree of finishing.⁴⁷ Some of the biggest increases may be at the bottom of the housing scale, where demand may be strongest and US\$300 per m² constructed is now cited as the standard. Land prices have also risen substantially. Price movements depend on location, but rises of 15 percent to 20 percent may be typical.
- ***Need for new construction technologies.*** The disaster of 12 January makes the application of new construction technologies in Haiti's housing sector imperative. Such technologies need to perform at two levels. First, they need to be earthquake- as well as hurricane-proof. Second, they must be far more cost-effective than traditional construction methods given consumers' weak purchasing power and the sheer magnitude of the reconstruction task. Unsurprisingly, a broad range of foreign companies experienced in these technologies has appeared, with housing designs and prefabrication techniques that could be appropriate to Haiti's needs. Many proposed solutions are more appropriate for rapid production of low-cost housing units than middle-class ones, but suppliers are confident that adaptation to middle-class standards is possible. An

⁴⁷ The fact that nearly all construction materials are imported should in theory be mitigating inflation in the domestic Haiti market for these items, since the Gourde exchange rate has been fairly constant. But high demand and possibly less than fully competitive conditions in the market for construction materials may be raising prices.

international housing fair at Zorangers in October 2010 could begin a systematic vetting of housing designs and technologies.

- ***Renewed emphasis on scaled-up projects.*** A corollary to the need for new construction techniques is renewed emphasis on high-volume projects that can capture the cost-reducing benefits of those techniques. Since the earthquake, a variety of Haitian promoters have come forth promising to be able to offer large tracts of land with clean title, land that can then be used to site planned communities, with proper zoning and modern urban infrastructure. In concept, such communities feature thousands of housing units for a mix of income levels, and are built in connection with nearby economic centers offering jobs, social infrastructure (schools and health facilities), and commercial outlets for households. Such communities fit well into the growth corridor concept that Haiti, the U.S. Government, and other international partners stress as the nation's new decentralized path of development.

Conclusion. In housing production, as in housing consumption, fundamental pre-quake issues have become even more pressing. Local construction capacity, already unable to keep up with housing demand, is now overwhelmed by the reconstruction task ahead. Equipment constraints alone will quickly become binding. Foreign firms, with cost-reducing construction technologies, equipment fleets, and working capital, will need to be prominent in reconstruction. But they must also partnering with local firms in ways that build the latter's capacity, technological capability, and financial strength.

Post-Earthquake Institutional-Policy Framework for Housing

The earthquake has led to a necessary re-emphasis on new spatial priorities for Haiti's future development policy, but has left institutions even less prepared to act on reform.

- ***Decentralization priorities.*** The earthquake has led policymakers to urgently reconsider the spatial implications of Haiti's future development. Uncontrolled and anarchic urban growth in Port au Prince prior to the earthquake contributed to the devastating human and material cost of the quake, and underscored the need to "decongest" the Metropolitan Area. Some reasonable and justifiable concepts, plans, and programs for rebuilding the quake-affected zone of the Metropolitan Area in a rational and economically sound way have been sketched out and discussed. They include constructing new towns around the Metropolitan Area that will promote economic growth and development in the Port au Prince corridor. These towns will need to fit into a comprehensive urban plan, not yet fully formulated, and supported by new, modern and costly urban infrastructure. Such a decentralization policy also calls for creation of regional growth poles in Cap Haïtien, Saint Marc-Cabaret, Les Cayes, and elsewhere to divert rural-to-urban migration away from Port au Prince and better distribute Haiti's economic activity and population. Massive investment in urban infrastructure and economic capacity will be required to animate these proposed decentralized regional economic growth centers.
- ***Continuing institutional fragility.*** The new decentralization policy orientation and indeed the overall task of reconstruction will require new laws, guidelines, organizational approaches, and implementation capabilities. With the need to resettle households, promote urban satellite towns, and reconstruct neighborhoods comes the need to

unscramble competing land claims and create a reliable land and property registration system. Similarly, it is now urgent that Haiti modernize its legal framework for housing development (e.g., getting the Law on Co-Ownership in place, functioning and understood by housing builders, promoters, investors and owners or buyers). It is commendable that Repair Guidelines and Good Practice Construction Guidelines are soon to be issued through MTPTC to help raise technical standards in housing reconstruction and replacement. But complementary regulatory responsibility for quality control of construction materials and enforcement of building standards or zoning requirements will still fall to MTPTC and municipalities, entities even less equipped than before the earthquake to fulfill these functions.

Conclusion. Before the earthquake, Haiti had no institutional or policy framework governing housing and urban development. Reportedly, one-sixth of Haiti's public sector staff perished in the quake and nearly every ministry building was damaged.⁴⁸ Institutions weak before the quake are now more stretched in human and operational terms even as their implementation burden has vastly expanded.

Post-Earthquake Finance for Housing

There is no indication that Haiti's banks will change their pre-quake stance on lending for housing, at least not without new incentives. And for consumers, the disadvantages of formal mortgage finance are stronger than ever.

- **Reductions in bank housing loan portfolios.** Evidence as of June 2010 is that Haiti's banks have reduced their portfolios of loans for housing by about 8.6 percent compared to December 2009 (Table 5-5). This is a slight increase from March 2010 (decline of 9.4 percent), but the pattern is still significant: at a time when the need at the household level for capital to rebuild is stronger than ever, lending has declined. (Note that during this period, banks were apparently decreasing loan portfolios across the board: net loan portfolios as a percent of assets declined from 29.6 percent in December 2009 to 24 percent in March 2010.⁴⁹)
- **Increased risks of lending for banks.** Although banks are as liquid as ever, the risks that deterred them from lending for housing before 12 January are more daunting now. The value of housing as collateral is much more difficult to assess than before, given the uncertainties of post-earthquake Haiti, in which the soundness of existing structures is questionable and the character of neighborhoods may be changing. Credit risks are dramatically heightened, as weakness and volatility in Haiti's post-earthquake economy raise new questions about the size and dependability of borrower income streams, especially for the vast number of middle-class households engaged in the informal sector. The complexities of assessing these credit risks one by one have become more costly than ever for banks. Under these circumstances it is economically rational for banks to increase their government bond portfolios rather than their housing loan portfolios. And removing banks' obligation to hold reserves against funds devoted to lending for housing,

⁴⁸ "Frustration Sets In," The Economist July 29, 2010, online at www.economist.com/node/167003395.

⁴⁹ Banque de la République d'Haïti, Rapport «Statistiques et Indicateurs Financiers», Trimestre 2 2010.

as the Banque de la République d'Haïti recently did, is unlikely to change the situation much, if at all.⁵⁰

- **Continuing borrower discouragement.** The annual interest rates that banks are now charging on housing loans are much more attractive than they were in December 2009 (e.g., 16 percent per year now versus 21 percent then at commercial banks, and only 9 percent now at SOGEBEL). SOGEBEL is also cutting transaction costs: land transfer fees and mortgage registration fees are both at 3.5 percent rather than 7 percent. But prospective borrowers are still scarce, and even SOGEBEL's improved loan package has attracted very few borrowers. From a borrower's perspective, reductions in interest rates and transaction costs are offset by rises in construction and land costs. Moreover, potential middle-class borrowers may now be even more disinclined to seek credit from formal financial institutions as they are keenly aware of their decapitalized condition, meager resources, and basic economic insecurity.
- **Possible insurance sector issues.** Before granting a housing loan banks require borrowers to have life insurance and property insurance coverage equivalent to initial value. While many households that lost properties in the earthquake were not insured, others were and have claims to be paid off. There are no data on the extent to which claims have been met, but the fact that Haiti's insurance companies operate under very limited regulation and no effective supervision means the sector is self-regulated.⁵¹ In the aftermath of 12 January banks are questioning the viability and health of Haiti's insurance companies. Their questions signal awareness of a new institutional risk in connection with lending for housing that can become yet another constraint on the flow of commercial credit to middle-class borrowers.

Conclusion. The financing requirement for housing reconstruction in the middle class alone will ultimately run well into the US\$ billions, and along with other needs for credit in Haiti's economy, will far surpass the roughly US\$3.1 billion in assets now held in Haiti's banking system. But, just as before the earthquake, banks are not inclined to lend and households have little desire to borrow for housing reconstruction and improvement. A major reorientation of banks and households toward credit for housing will need to be part of a successful housing sector recovery program for Haiti.

CONCLUSION: POST-EARTHQUAKE HOUSING IMPACTS

As the analysis above makes clear, the challenges facing the middle class in Haiti's post-earthquake housing sector are formidable (Table 6-2). Middle-class households alone may need to acquire as many as 60,000 or more new housing units in the next five years, but have fewer resources than ever to do so. Even if resources were available, the magnitude of the middle class house-building task far outstrips Haiti's domestic housing construction capacity. The ability of existing institutions to formulate and implement policies and regulations to foster, guide, and manage major housing reconstruction and decentralized urban development on this scale are not

⁵⁰ Banque de la République d'Haïti, Circulaire No. 6, 30 July 2010.

⁵¹ International Monetary Fund, Haiti: Financial System Stability Assessment, IMF Country report No 08/112 (March 2008)

evident. And Haiti's banking sector, which logically should be at the heart of housing reconstruction, is disengaged—and largely discounted as well by middle-class households needing housing finance.

Table 6-2

Summary of Earthquake Impacts on Middle-Class Housing Sector Operating Characteristics and Behavior (mid-2010)

| Earthquake Impact | Challenges |
|---|--|
| Reduction of Housing Stock | |
| Total housing stock: 72,000 structures lost (est.) (assume equivalent to 79,000 household dwelling units) | About 15 percent of households lost permanent dwelling units |
| Middle class stock: 39,500 units lost, rounded to 40,000 (assume 50 percent of household dwellings lost are middle class) | About 35 percent of middleclass households lost permanent dwelling units |
| Housing Consumption | |
| Explosive increase in middle class demand for housing Massive increase in rentals and rents Weakness of "housing as a process" approach revealed | Middle class will find it more difficult to house/rehouse itself and traditional approaches are inadequate Up to 62,500 units required in next 5 years Over 50 percent of middleclass now rents; rents have risen by 10 percent to June 2010 Housing as process is too slow and piecemeal for rapid recovery |
| Housing Production | |
| Skyrocketing costs of construction Need for new construction technologies New emphasis on scaled up projects | Domestic construction capacity is overwhelmed and substantial foreign partner involvement will be needed 25 percent rise in cost of constructed m2 and 15 percent to 20 percent increase in land costs Anti-earthquake and anti-hurricane; cost-effective to lower unit construction costs Higher construction project volumes needed to achieve economies of scale |
| Institutional-Policy Framework | |
| Newly established priority decentralization policies Continuing institutional fragility | Conceptually sound new decentralization policies but institutional ability to implement thinner than ever Need to decongest Metropolitan Area and promote balanced regional growth Already weak institutions -- municipalities, etc. -- in more demanding implementation roles |
| Finance for Housing | |
| Reduced bank housing loan portfolios Increased credit risk (bank's perspective) Little evidence of borrower demand Possible new insurance sector risks | Banks little inclined to lend and households little able or disposed to borrow Loan portfolios down 8.9 percent between December 2009 and June 2010 Uncertain collateral and diminished and more unpredictable household income streams More attractive loan conditions but decapitalized households discouraged and disinclined to borrow Effect of post-earthquake claims on "self-regulated" insurance sector unknown |

SOURCE: Nathan Associates

7. Proposed Middle Class Housing Strategy

The response of the Government of Haiti and the international community to the 12 January disaster has been rapid and effective, and understandably targeted to Haiti's most vulnerable households. But in the breadth of this response the special needs of the nation's middle class—who have suffered tremendously and whose socioeconomic functions and leadership are critical to Haiti's recovery—may be overlooked. To deal with the middle-class housing problem, a deliberate and focused assistance initiative will be required. In this chapter we present a proposed strategy for USAID assistance to help reconstruct and develop housing for Haiti's middle class.

NATURE OF A STRATEGIC RESPONSE

Addressing middle-class housing needs will require USAID/Haiti to take immediate action and carry through on a long-term strategic vision for middle-class development. The former will help USAID re-establish institutional ties to Haiti's housing sector, build its knowledge of the housing sector, and lay a foundation for successful long-term investment in housing recovery and construction. The latter, however, is the heart of a genuine and durable solution to middle-class housing requirements.

Near-term Housing Sector Actions

On the basis of our analysis of pre-earthquake housing sector dynamics and post-earthquake housing sector impacts, we see opportunities for many actions that can yield near-term recovery benefits while building momentum for permanent solutions to housing problems. Some actions pertain to middle-class housing issues in particular; others will enhance operations, institutions and policies generally relevant to Haiti's housing sector, both the middle-class segment and beyond.

Among actions that USAID/Haiti might undertake and complete fairly rapidly but with implications for the long-term are the following:

- ***Establish middle-class housing Repair Fund.*** By the time the MTPTC/UNOPS inventory of housing unit loss and damage is complete, it is expected that no less than 126,000 houses will be deemed damaged but still reparable to a habitable state (Table 6-1). As in the case of houses destroyed by the 12 January earthquake, it is unknown what share of these reparable units belongs to middle-class families, but this knowledge is not necessarily important in planning action. To accompany the USAID-financed Repair Guidelines recently completed by UNOPS and MTPTC (see Chapter 8), USAID/Haiti

could work with Haiti's banks and microfinance institutions to create a special Repair Fund to provide loans for major house repairs related to the earthquake. DCA guarantees could back up such credits.

- ***Survey middle-class housing demand.*** On the basis of the best quantitative information available and a wide range of interviews, including focus group interviews with middle-class representatives, the present analysis concludes that the impact of 12 January on the stock of middle-class housing stock has been very substantial. No data exist on the actual numbers of houses lost or damaged that belong to middle-class families. As a next step in planning for housing reconstruction and redevelopment, a sample survey of middle-class households could be useful. A survey would aid formulation of detailed estimates of middle-class housing demand and shed light on middle-class plans in the wake of 12 January.
- ***Survey middle-class housing preferences and design requirements.*** One best practice emerging from post-disaster housing reconstruction is to understand the goals and preferences of households that will receive housing assistance (see Chapter 8 below). As part of or in parallel to the demand survey, we recommend another survey of household preferences for housing replacement and improvement solutions, including households' financial capabilities to pursue various options. This survey could also have a component dedicated to Haitian architects and engineers to ensure that the views of local professionals on appropriate housing design standards are taken into account. The latter could build on the results of the October 2010 "housing fair" at Zorangers meant to showcase design options for Haiti.

USAID/Haiti could launch another set of technical assistance actions in the near-term, for continuation over 18 or more months:

- ***Reinforce LNBTP.*** The Laboratoire National du Bâtiment et des Travaux Publics d'Haïti (LNBTP), supervised by MTPTC, is responsible for technical control of and applied research on construction materials and construction practices. It now faces an enormous work load as recovery and reconstruction get underway. Technical assistance and training to broaden and deepen LNBTP capabilities is in order. Assistance could be linked to another USAID/ Haiti-funded post-earthquake program: the Good Practices Guide recently drafted by MTPTC and UNOPS and related training to improve housing construction techniques.⁵²
- ***Rebuild and reform land and property rights registration systems.*** The importance (and weakness) of Haiti's land and property rights registration systems have been identified in the present analysis and elsewhere as a major institutional issue for the housing sector and for an efficient housing market. The need to clarify land titles is a perennial and a priority in post-disaster situations (see Chapter 8). Possible destruction of registry records and further weakening of system capabilities in the 12 January disaster make attention to

⁵² We understand that USAID/Haiti intends to sponsor and fund technical training courses associated with the appearance, distribution, and application of the Repair Guidelines and Good Practices Guide prepared by UNOPS and MTPTC with USAID financing. If this is not the case, such training should be a priority on the list of USAID/Haiti strategic actions for the near-term.

this issue urgent. A number of discrete actions could build capabilities and improve procedures in land and property rights administration, including organizing management of land and property claims processes.⁵³ These could be relevant to earthquake-affected areas and zones in which new growth corridor-oriented projects will be launched. Technical assistance could be provided to entities responsible for such tasks, including Office National du Cadastre (ONACA) and the Direction Générale des Impôts (DGI) to modernize the systems and give them greater credibility.

- ***Build housing sector institutions.*** As emphasized, the losses and reconstruction challenges arising from the earthquake make the absence of a policy-institutional framework all the more acute for Haiti. Although a blueprint for the kind of framework required demands a broad and systematic review of the housing sector, USAID/Haiti-sponsored technical assistance on two issues could be strategic for the Government of Haiti in the immediate disaster-recovery period. First, very senior GOH officials have indicated that a new institution for housing sector issues may well be created. This entity would not simply inherit the portfolio of the moribund Enterprise Publique de Promotion de Logements Sociaux (EPPLS), but would have broader responsibilities. USAID/Haiti might provide technical assistance to policymakers to analyze the goals and role of such an organization. Second, the new emphasis on economic decentralization has far-reaching implications for public sector investment. USAID/Haiti might provide technical assistance to the Ministère de la Planification et de la Coopération Externe (MPCE) focused on regional planning, notably in benefit-cost programming of transport and other infrastructure investment in Haiti's regions.
- ***Analyze housing sector policy.*** Mapping the components of a proper policy-legal framework requires full review of the housing sector, but again there are obvious priorities that might be addressed. Tax policy is one of these, particularly the effects of the Contribution Foncière des Propriétés Bâties (CFPB)—the property tax—to try to balance financial needs of municipalities and affordability constraints on middle class (and other) households as they rebuild. An economic and financial review of the droit de transmission des terrains and the droit d'enregistrement—respectively the land transfer tax and the mortgage registration tax—is also warranted to lower transaction costs. The utility of tax incentives related to housing construction might also be addressed, as property developers will surely begin to press for tax holidays as part of their project proposals for housing reconstruction.

Of course, the net benefits of alternative subsidy policies for housing development also require in-depth analysis: not only subsidies for infrastructure development, but also subsidies for household mortgage and lease purchase arrangements. Finally, the needs and bottlenecks involved in economic recovery and housing reconstruction also suggest privatization policy options. Port operations may be one of these but there could be others. For example, the Centre National des Équipements (CNE) is a key public sector

⁵³ U.S. Agency for International Development, USAID Issues Brief, Land Tenure and Property Rights in Haiti (January 2010), pp. 4-5.

operator of construction equipment. Its inventory will be in high demand in Haiti's reconstruction. Privatizing CNE might make recover more efficient and send a potent message about Haiti's future private-sector-led economy. For all of these policy choices—taxation, subsidies, privatization—USAID/Haiti could supply expert technical assistance to help policymakers understand options, gauge costs and benefits, and devise reform strategies.

Durable Middle-Class Housing Solution

While all of the actions described above are valid for housing sector development generally, and are merited on their own terms, together they will not add up to a comprehensive solution to the middle-class housing problem. The size, scope, and implications of the challenges facing Haiti's middle class require a focused long-term commitment.

As USAID/Haiti begins to formulate a strategy to assist Haiti's middle class in solving solve its post-earthquake housing challenges, its first task is to define the boundaries of a real solution. We suggest that a genuine solution needs to be

- ***Rapid with tangible results.*** It would have to provide housing for Haiti's middle class rapidly and in sufficient quantity as to make a notable difference—say, at least one half the housing gap filled in less than three years.
- ***Adapted to Haiti's priorities.*** It would need to fit closely the future economic and social environment that Haiti's government and private sector leaders have set out to build. To wit, housing would
 - Have to be highly earthquake- and hurricane resistant
 - Not located in areas of high seismic, hurricane or flood risk
 - Need to reflect the new decentralization and growth corridor priorities
 - Need to be accessible to transportation and major trunk infrastructure
 - Need to be accessible to places of current and future employment
 - Need to be culturally acceptable and financially affordable to occupants
- ***Transparent.*** Implementation of the solution would need to be highly transparent, impartial and free of corruption
- ***Responsive to all stakeholders.*** The solution would need to be genuinely responsive to the interests and needs of all stakeholders, including, first, new housing occupants; second, builders and developers; third, lenders; and fourth, government as representative of the long-term social and economic development interests of Haiti's people.

Finally, following a gradual return to social, economic and political normalcy after the 2010 catastrophe—probably a five-year process at minimum—the solution and its underlying implementation structures would need to be flexible enough to gradually devolve to a permanent, efficient, transparent, and free enterprise-based housing construction and finance system.

HAITI HOUSING PARTNERSHIP & TRUST

To implement the proposed middle-class housing solution for Haiti profiled above, it will be necessary to organize the processes of financing, urban planning and development, infrastructure

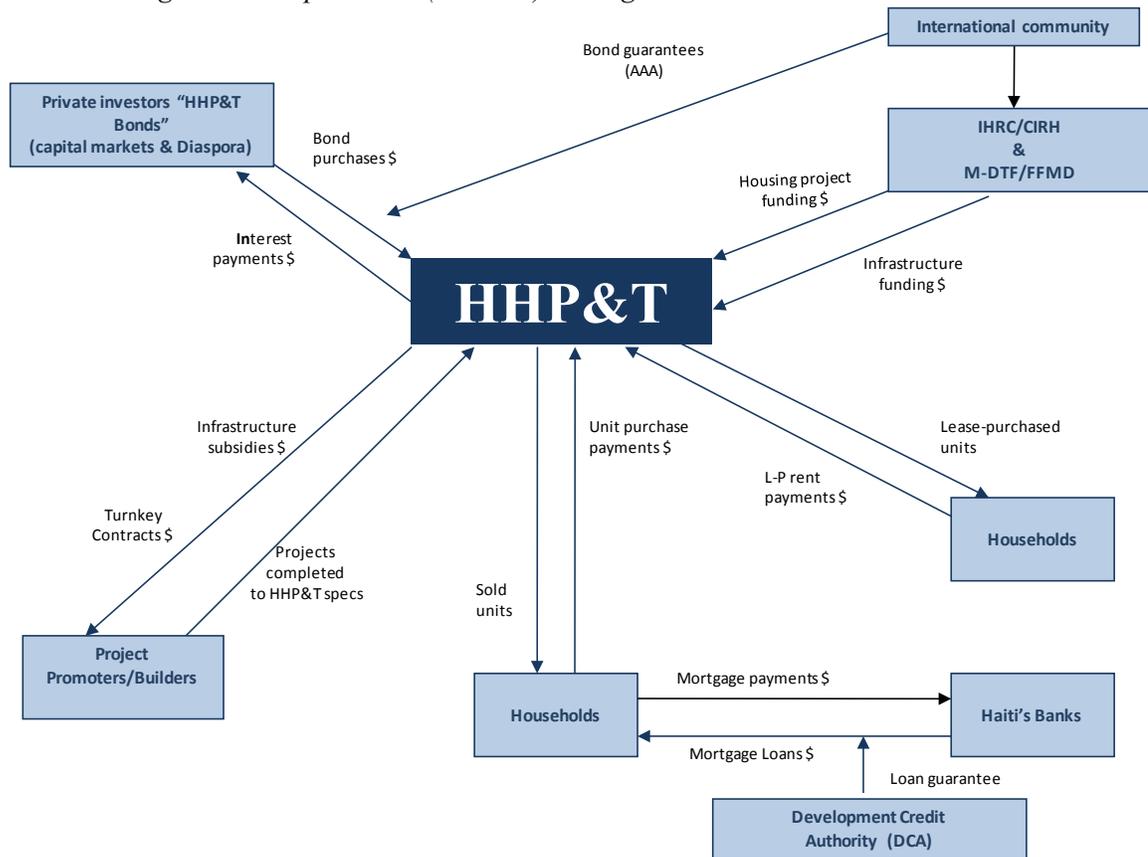
provision, and housing construction to a degree that has never existed before in this environment. To this end, a durable strategy for the middle class will feature a new organization that can be developed functionally to meet the immediate and specific challenges of middle-class housing and serve as a model of public-private and national-international partnership relevant to Haiti's broader housing and urban development needs. This new organization would be called the Haiti Housing Partnership & Trust (HHP&T). Its mission would be to help middle-class households—especially lower and mid-middle class—solve housing problems by addressing challenges related to the consumption, production, policy-institutional, and finance matters highlighted above.

HHP&T would mark a clean break with the past and a fresh start free of political and bureaucratic encumbrances. It would be granted enough autonomy to take initiative and execute projects within the field of housing and community development. HHP&T would be governed by an independent public-private sector board, chaired by the Minister of Economy and Finance. Initially, it would be operated on a management contract basis, with a joint international-domestic management contractor consortium responsible for executing the HHP&T program. HHP&T would, for the first time in Haiti's history, provide a world-class, policy-driven institutional capability to ensure the provision of safe and healthy urban environments for Haitian families for generations to come.

HHP&T Concept

An overview of the HHP&T concept and strategy is presented graphically in Figure 7-1, and can be described as follows:

- ***Housing project development.*** HHP&T would develop specifications for proposed large-volume housing and planned community projects, based on consumer surveys of Haitian middle-class households (including Diaspora households) and design inputs from Haitian architects/engineers. Projects would be sited by HHP&T to support decentralized growth corridor development. Specifications would be issued in project bidding documents to pre-qualified consortia of Haitian and foreign construction firms in partnership, with standards for minimum Haitian contractor/subcontractor participation.
- ***Housing project construction and delivery.*** HHP&T would award contracts for complete turnkey construction and delivery of large-scale housing-planned community projects to a winning bidder. Construction technologies and methods would be world-class and cost-effective. Full infrastructure development (water/sewer, power hookups, roads) would be included. This Haitian/foreign consortium would construct and deliver the finished project to HHP&T, which would pay for the projects with funds entrusted to it for this purpose by the Interim Haiti Reconstruction Commission/Multi-Donor Trust Fund (IHRC/MDTF) or its successor, or individual donors, or (eventually) its own funds.
- ***Housing unit sales.*** HHP&T would sell finished units to target households: low-, mid- and upper-middle class. Infrastructure subsidies and other subsidies could reduce the price of low- and mid-middle class units. Housing unit sales would be financed with long-term mortgages. HHP&T would be able to apply the Law on Co-ownership to allow and encourage sale of condominium units and apartments, part of the HHP&T housing mix along with detached housing units.

Figure 7-1*Haiti Housing Partnership & Trust (HHP&T) Strategic Overview*

- Housing finance for unit sales.** Haiti's banks—and as needed, foreign banks—could provide mortgage financing, with attractive long-term rates and favorable conditions. Large-scale planned community conditions would facilitate collateral requirements and credit risk analysis for banks. Additionally, a partial guarantee would be provided for mortgage lenders through the USAID Development Credit Authority (DCA) to give lenders reinforced incentives to finance HHP&T buyers.
- Rental units through lease-purchase arrangements.** Even with attractive conditions and subsidized provision of basic infrastructure for HHP&T projects, many low- and mid-middle-class households may find an immediate purchase of housing too demanding financially. For these households, HHP&T would create a lease-purchase program featuring initial rental of units with a possibility for conversion of rentals to a mortgage-financed purchase. For the low-middle class households, these lease-purchase arrangements would also include some subsidy elements (e.g., on mortgage rates eventually applied to unit purchases and real estate tax abatements or exemptions).
- Funding for HHP&T housing development.** As noted, HHP&T would rely on several financing sources for its housing-planned community projects. Initially, project funding might be channeled to HHP&T by the Interim Haiti Reconstruction Commission/ Multi-Donor Trust Fund (IHRC/MDTF), or directly from donors or multilateral development banks. The latter in particular would be enlisted to provide interest subsidies for lower-

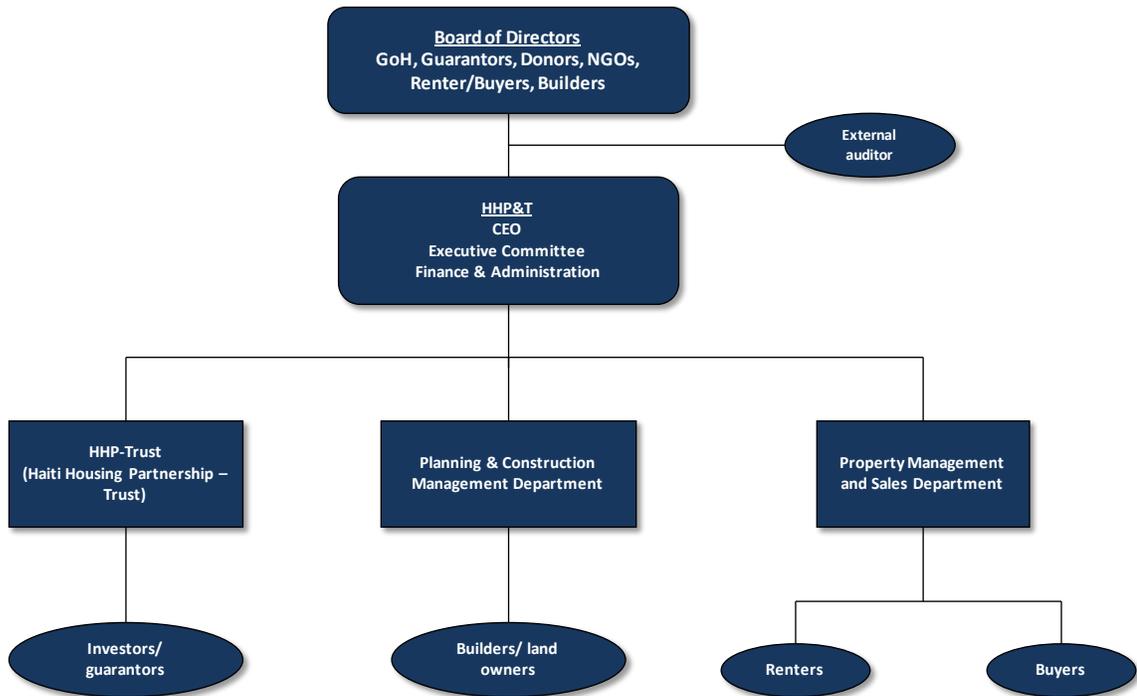
middle class mortgages, as well as infrastructure subsidies. However, over time, once HHP&T has established a record of efficiency and reliability in project development and management, it may be possible for it to float bonds in international capital markets, with of course a triple-A guarantee from an international institution (e.g., World Bank/IDA or Inter-American Development Bank). These bonds would be marketed to international private investors, with some small denominations issues to the Haitian Diaspora as well.

HHP&T Organization

The proposed organization of the Haiti Housing Partnership & Trust is designed to meet several challenges (Figure 7-2).

First, HHP&T will be set up to provide **strong, effective leadership and governance** to control a hugely complex middle-class housing development process with the utmost impartiality, technical professionalism, and transparency. Overall direction of the HHP&T would be provided by a mixed and highly representative, public-private sector board. It is important that all principal stakeholders in reconstruction have a voice and vote on this board, beginning of course with the Government of Haiti, but also to include representatives of home owners/renters, business organizations, NGOs, builders and developers, international donor organizations, and other international organizations that may become involved as guarantors of the HHP-Trust bonds. Voting rules would need to be designed carefully to allow all board members an effective voice and vote, but also to ensure that management decisions can be made quickly and that partisanship or self-interest not create gridlock. Some form of weighted voting, and/or veto power, would probably have to be devised to provide effective control over decision-making to representatives of the GOH, bond guarantors, and international donors. External auditors, who must be held to the highest standards, would report directly to the board on at least an annual basis.

Second, HHP&T would need to **plan and manage a large-scale, technically demanding housing-planned community construction program**—over 30,000 new middle-class units in three years or less. For this purpose, HHP&T would include a specialized internal unit—its Planning and Construction Management Department—to ensure that construction funded by HHP&T is orderly. This Department must fulfill two related responsibilities: (1) determine where new housing and related infrastructure is to be built, and to what standards; and (2) to manage the transparent, impartial, and competitive award of construction contracts to private builders and developers who present responsive and cost-effective proposals. It would be desirable for the Government of Haiti to grant HHP&T's Planning and Construction Management Department the legal authority to establish and enforce land use plans, zoning, infrastructure planning, and building codes in HHP&T-sponsored project zones. This would permit HHP&T to have effective control over these issues under the terms of construction contracts it pays for.

Figure 7-2*Proposed Organization of the Haiti Housing Partnership & Trust (HHP&T)*

Third, once housing units have been built and accepted under the supervision and control of the HHP&T's Planning and Construction Management Department, responsibility for **their rental or sale and for their maintenance** under full insurance against all property and casualty risks, would pass to the organization's Property Management and Sales Department. As noted, a lease-purchase program for making attractive new housing available to middle-class families should be an important part of the HHP&T approach. If properly managed, such lease-purchase strategies should be feasible for the mid-middle class and upper-middle class from affordability and takeout-mortgage financing perspectives. The lower-middle class will, however, still require subsidies. The efficient high-volume HHP&T program would be able to bring down unit costs for lower (and all other) middle-class housing, but additional actions would be required to enhance affordability: subsidies on infrastructure, mortgage interest rates, and real estate tax abatements and exemptions, for example (Table 7-1). But overall, HHP&T should be able to make large numbers of new units available to low- and mid-middle class households relatively quickly under the conditions of extreme uncertainty that currently prevail in Haiti.

Finally, responsibility for **mobilizing and controlling HHP&T's outside resources** would be assigned to the management of the HHP-Trust which, for legal and contractual reasons will probably need to be established as a special purpose vehicle under the laws and jurisdiction of an appropriate offshore location. (This matter will need to be researched carefully before any specific recommendation can be made.) Besides receiving and managing funds that may be provided by international donor agencies for the construction of housing and, especially,

Table 7-1
Haiti Middle-Class Housing Affordability Analysis

| | Unit | Lower Middle Class Unit | Mid-Middle Class Unit | Upper Middle Class Unit |
|--|---------|-------------------------|-----------------------|-------------------------|
| Land area per unit - m2 | m2 | 120 | 180 | 270 |
| Land price per m2, US\$ | US\$ | 7 | 7 | 7 |
| Cost of unserviced land, per unit | US\$ | 840 | 1,260 | 1,890 |
| Infrastructure costs per m2 - US\$ | US\$ | 0 | 22 | 22 |
| Onsite infrastructure costs per unit | US\$ | 0 | 3,960 | 5,940 |
| Unit size - m2 | m2 | 40 | 60 | 90 |
| Construction costs per m2 | m2 | 300 | 375 | 475 |
| Construction cost per unit | US\$ | 12,000 | 22,500 | 42,750 |
| Total cost per unit | US\$ | 12,840 | 27,720 | 50,580 |
| Builder's markup - % | percent | 40.0% | 40.0% | 40.0% |
| Sales price per unit | US\$ | 17,976 | 38,808 | 70,812 |
| Percent down payment required | percent | 10.0% | 10.0% | 10.0% |
| Other closing costs | | | | |
| Land transfer fee | percent | 3.5% | 3.5% | 3.5% |
| Mortgage registration fee | percent | 3.5% | 3.5% | 3.5% |
| Bank transaction fees | percent | 2.0% | 2.0% | 2.0% |
| Total closing costs | US\$ | 919 | 1,965 | 3,571 |
| Amount required at closing | US\$ | 2,717 | 5,846 | 10,653 |
| Loan amount required | US\$ | 16,178 | 34,927 | 63,731 |
| Loan term, years | years | 25 | 25 | 25 |
| Loan interest rate, % per year | percent | 6.0% | 9.0% | 9.0% |
| Monthly loan amortization amount | US\$ | 104 | 293 | 535 |
| Life insurance - % of loan value | percent | 0.10% | 0.10% | 0.10% |
| Property and casualty insurance - % construction value | percent | 0.20% | 0.20% | 0.20% |
| CFPB taxes - % unit price | percent | 0.00% | 0.09% | 0.09% |
| Maintenance costs/condo fees - % construction value | percent | 0.21% | 0.21% | 0.21% |
| Total, other monthly housing expenses | US\$ | 65 | 160 | 298 |
| Total monthly carrying cost/min. rental value | US\$ | 169 | 453 | 833 |
| "Lease-Purchase" rental value (times min rental value) | 115% | 195 | 521 | 958 |
| Household monthly income, year 1 | US\$ | 750 | 2,000 | 3,813 |
| Carrying costs as % of household income | percent | 22.6% | 22.6% | 21.9% |
| "Lease-Purchase" rent as % household income | percent | 26.0% | 26.0% | 25.1% |
| Monthly escrow deposit | US\$ | 25.41 | 67.93 | 125.00 |
| Number of years accumulation | years | 6 | 5 | 5 |
| Annual interest rate on escrow | percent | 4.0% | 4.0% | 4.0% |

| | Unit | Lower Middle Class Unit | Mid-Middle Class Unit | Upper Middle Class Unit |
|--|---------|-------------------------|-----------------------|-------------------------|
| Accumulated escrow value | US\$ | 2,064 | 4,504 | 8,287 |
| Down payment required | US\$ | 1,798 | 3,881 | 7,081 |
| Total closing costs | US\$ | 2,717 | 5,846 | 10,653 |
| Loan term, years | years | 25 | 20 | 20 |
| Loan interest rate, % per year | percent | 6.0% | 9.0% | 9.0% |
| Monthly loan amortization amount | US\$ | 104 | 314 | 573 |
| Other monthly housing expenses | US\$ | 65 | 160 | 298 |
| Total monthly carrying cost/min. rental value | US\$ | 169 | 474 | 872 |
| Household monthly income, year 6 (year 7 for L-MC) | US\$ | 845 | 2208 | 4210 |
| Annual growth household income, % | percent | 2.0% | 2.0% | 2.0% |
| Carrying costs as % of household income | percent | 20.1% | 21.5% | 20.7% |

Note: Shaded boxes signify a subsidy element.

infrastructure, the major function of the HHP-Trust will be to structure and market long-term bonds in the name of the HHP&T in North American, European, and Asian capital markets. In order for such bonds to be marketable internationally, they will have to be fully guaranteed by one or more triple-A credits, such as government agencies of leading global economies, or highly rated international institutions like the World Bank/IDA, Inter-American Development Bank, European Bank for Reconstruction and Development, Bank of China, and others. Even with such strong credit enhancement, HHP-T bonds will likely have to be issued to yield a premium over other triple-A rated obligations, at least until the HHP-Trust is able to establish a financial record and the management effectiveness of the HHP becomes apparent to international observers.

USAID Role in the HHP&T Strategy

The proposed middle class strategy that HHP&T represents is well-suited to USAID support. HHP&T could be a vehicle for promoting and developing housing and urban infrastructure associated with growth corridors of interest to USAID. For example, working with USAID technical specialists, the first Requests for Project Proposals that HHP&T would issue could focus on middle-class housing in connection with Port au Prince Metropolitan Area growth corridor priorities, as well as similar initiatives in the other two USG-supported growth corridors of Cap Haïtien and Saint Marc-Cabaret. Moreover, USAID could fund or participate in funding a foundation management contract for the launch and (for example) an initial three years of HHP&T operations, including planning to research middle-class household housing preferences and development of basic project specifications.

Defining HHP&T objectives, structures, and activities in operational detail and organizing startup are admittedly time-consuming tasks. But in anticipation of the launch of HHP&T, USAID/Haiti could support certain actions now to test and perfect the principles HHP&T would apply in project design, development, and implementation. For example, in the Port au Prince Metropolitan Area, there are several options for immediate developer-based projects to produce scaled-up volumes of modern housing in a planned community appropriate to Haiti's cultural and

physical environment. These include, for example, projects of fairly advanced design to be sited in Bon Repos and in Vaudereil. There are other opportunities in the Metropolitan Area and in the other USG-supported priority growth corridors. Such projects envisage accommodating a mixture of occupants by income level—middle class but also households at the “gap class” level and below. USAID/Haiti could treat one or more as pilot initiatives of the HHP&T approach to project design and development, to project construction and turnkey delivery, and to programs of housing unit sale and lease-purchase rental and sale. A pilot DCA credit enhancement scheme could be part of these efforts, in order to design formulas to better engage Haiti’s banking community in Haiti’s housing construction recovery.

8. Post-Disaster Reconstruction Best Practices

While disasters and responses to them are deeply affected by geography, culture, and political economy, examining responses to disasters elsewhere can help us understand what Haiti can expect in the coming months and years and reveal what factors should be considered in reconstruction. In this chapter we highlight what Haiti has already done to advance reconstruction and the implications for the middle class and present reconstruction best practices that have emerged from other post-disaster experiences.

ASSISTANCE TO HOUSEHOLDS

The effort to assist households in the wake of the 12 January disaster has been truly impressive. Agencies of the Government of Haiti and the international community (governments and NGOs both) organized a vast program of immediate relief for households, and then rapidly developed and executed plans to help households move from relief to recovery. These initiatives have been broad in scope and conceived to address the needs of Haiti's most vulnerable populations. As such, no assistance programs explicitly targeted the difficult situation of the middle class.

Nevertheless, two initiatives by UNOPS and the Ministère des Travaux Publics, Transports et Communications (MTPTC), with substantial USAID funding, promise to have direct utility for middle class recovery. One concerns repair of damaged dwellings and the other new house construction. MTPTC, UNOPS, and USAID recently completed Repair Guidelines for households to follow as they try to improve "yellow" houses, units damaged by the quake but judged to be habitable once minor to moderate repairs are made. The guidelines address the 12 most common earthquake damage problems (e.g., cracked lintels, corner columns that appear to be separating from associated walls, etc.). They will form the basis for training programs for construction companies, NGOs, and engineers from MTPTC likely to be involved in housing repair and reconstruction. To support construction of one- and two-story houses, MTPTC, UNOPS, and USAID are preparing a Good Practices Guide on sound building techniques and methods. The guide is directed at Haiti's construction companies but will be available to individuals as well. Both initiatives should especially support middle-class reconstruction and construction objectives and requirements.

GLOBAL RECONSTRUCTION EXPERIENCES

To provide perspective on Haiti's experience, we have ranked 11 other earthquakes for severity of impact in terms of a loose aggregation of numbers of mortalities, injuries, and persons

rendered homeless. Haiti's earthquake has been more destructive than all of them (Table 8-1). Details on the destructive impact and post-disaster actions for each earthquake in this sample are summarized in Annex C.

Table 8-1

Summary Comparison of Selected Earthquake Disaster Events

| Location | Event | When | Impacts |
|--------------------------------------|---|------|---|
| Northridge, California | 6.7 Earthquake | 1994 | < 100 killed; over 9,000 injured 330,000 housing units damaged (especially multi-family apartments); 20,000 homeless |
| Chile | 8.8 Earthquake | 2010 | < 500 killed More than 81,000 houses destroyed, 109,000 severely damaged |
| Managua, Nicaragua | 6.2 Earthquake | 1972 | 5,000 killed; 20,000 injured Over 250,000 left homeless (out of population of 410,000) 6,000 houses partially and 42,000 completely destroyed |
| Chile | 9.5 Earthquake | 1960 | Over 5,000 killed; 3,000 injured |
| Yogyakarta, Indonesia | 5.9-6.3 Central Java Earthquake | 2006 | Over 5,700 killed; 36,000 injured Over 350,000 houses damaged beyond repair; in addition, 200-300,000 suffered less damage; 1 million homeless |
| Kobe, Japan | 6.9-7.2 Great Hanshin Earthquake | 1995 | More than 6,000 killed; 25,000 injured 400,000 housing units in 190,000 buildings damaged or destroyed; 400,000 people displaced |
| Mexico City, Mexico | 8.1 Earthquake | 1985 | 10,000 killed 412 buildings collapsed, over 3,000 seriously damaged 30,000 housing units destroyed, another 68,000 damaged; 80,000 homeless |
| Gujarat, India | 6.9 Earthquake | 2001 | 20,000 killed; 167,000 injured 400,000 homes destroyed |
| Sichuan, China | 7.9 Wenchuan Earthquake | 2008 | Over 87,000 killed; 375,000 injured Over 14 million homeless |
| Kashmir, Pakistan | 7.6 Kashmir Earthquake | 2005 | 80,000 killed (Pakistan, Indian-administered Kashmir, Afghanistan); Over 106,000 injured 630,000 houses damaged or destroyed; Over 3 million homeless |
| Sumatra, Indonesia; Sri Lanka; India | 9.1-9.3 Indian Ocean Earthquake & Tsunami | 2004 | More than 230,000 killed or missing; 125,000 injured 1.7 million displaced |
| Port-au-Prince, Haiti | 7.0 Earthquake | 2010 | 230,000 killed; 300,000 injured 300,000 residences & 30,000 commercial buildings collapsed or severely damaged; 2.3 million homeless |

SOURCES: Various, World Bank (2008b).

Examination of this sample of earthquake experiences and a review of the literature on disaster events helps us distill a number of post-disaster lessons learned. These are summarized below. Most of the reconstruction examples we consider are from Asia and Latin America, and none of the information available about them deals specifically with impacts on the middle class or assistance directed to middle-class households. Nevertheless, we believe that these experiences and lessons derived from them can help us think through Haiti-specific approaches to

reconstruction generally and for the middle class in particular. Twelve principles emerge from our review of disaster experiences. These can be grouped into four themes: understanding beneficiaries, rebuilding priorities, government's role, and financing concerns.

Understanding Beneficiaries

Assess early on what the ultimate beneficiaries of housing assistance actually want. It is imperative that the desires of prospective occupants for alternative solutions—defined by location, cost, amenities, social services, and financial arrangements—be considered. Organized residents should be asked to share their opinions about where units should be built and what designs make sense, so that how families will use houses is duly considered. Housing designs should be flexible enough to allow families to first build a core unit then add rooms, spaces, floors, or rentable units later. The risk of not getting such information is that units stand empty, unbought by intended beneficiaries, as happened in Aceh. This, in turn, burdens financiers and builders with unsold inventory. All of the literature underscores the importance of community involvement in—though not necessarily control over—reconstruction planning.⁵⁴ *We therefore strongly recommend that prospective middle income users of new housing to be built in Haiti be surveyed to ensure that they are both able and willing to undertake the financial and other commitments that will be expected of them to make these projects successful.*

Collect information on who will benefit from middle class (and other) reconstruction financing and on what they do with the funds. In addition to project monitoring (use of funds, beneficiaries), information should be collected on other dimensions of families' livelihoods and financial coping strategies, in the same way that applicants for bank mortgages would have to present earnings histories to indicate qualification.

Rebuilding Priorities

Identify housing reconstruction actors. Who will build houses? Various schemes have been undertaken in different post-disaster contexts by governments, the affected communities themselves, private contractors, nongovernmental agencies acting as intermediaries or facilitators of government- or owner-led activities, or owners themselves. Owner-driven approaches are said to be more economical, allowing for incremental construction-cum-occupation, and they have the additional psychological advantage of involving people in the building of their futures. Training is needed to ensure that people have the skills required to “build back better” (i.e., to build earthquake- and hurricane-resistant permanent homes).

Decide on building codes and land use planning to reconstruct housing that is “built back better” on lands less vulnerable to natural disasters. Building codes and construction standards need to be established and enforced to guide the construction of buildings and houses that can withstand earthquakes and other natural disasters. Governments need to invest in mitigation measures, like seismic mapping, to limit building on obvious earthquake faults and on unsuitable

⁵⁴ See the Chapter 12 of the World Bank's *Safer Homes, Stronger Communities* handbook for key principles, decisions to be made, public policies, technical issues, participation strategies and tools, stakeholder mapping, and examples. Jha et al., *op.cit.*, pp. 183-196

land (steeply sloped, flood-prone, etc.).⁵⁵ Approval for funding and breaking ground for any reconstruction must be contingent on complete adherence to building codes and construction standards. As witnessed in Pakistan, subsequent tranches of funding for home reconstruction should be made conditional upon demonstration through inspection that building progress conforms to these regulations. Otherwise, good money is poured into a bottomless pit before the next natural disaster.

Resist pressure to “build back fast” and end up with rebuilt or new housing stock that does not meet housing or environmental standards to resist future risks. In most instances, earthquake victims will be in transitional shelters for an extended period. Even in Sichuan, where the government moved assertively from the beginning, the reconstruction of housing took at least two years. “Expect reconstruction to take a long time, and encourage communities to think in those terms without undermining their determination to recover. Design interim shelter solutions based on realistic assumptions about time,” advises Jho et al.⁵⁶

Plan housing redevelopment in conjunction with livelihood recovery and delivery of other social services, such as schools, recreation, commercial districts, and recovery of cultural and historic assets that may serve as tourism poles in the future. To facilitate resettlement, the government must conduct surveys, identify needy populations, and match livelihoods with resource availability in new neighborhoods. Resettlement or relocation requires careful consideration of community, urban, and transport infrastructure to make new housing tracts desirable places to live, raise children, work, and from which to commute to jobs.

Decide minimum equity considerations. In most reconstruction scenarios, the primary concern is to rebuild permanent housing for those with minimal means to take care of themselves. Minimal standards for “adequate housing,” or what Jho et al. call a “core house,” must be decided for all, considering minimum space, roofing and other materials, and access to utilities and public services. Middle-class families in Haiti may or may not choose to reside in permanent shelters constructed in recovery programs, but the starting point for access to recovery benefits is the same. Note that “awarding fully built houses as a way to rehouse an affected community has had mixed results,”⁵⁷ with various factors complicating relief agencies’ abilities to match demand appropriately with supply, resulting in houses unoccupied or resold or in fraud.⁵⁸

Clarify land ownership. Settling of land title issues is fundamental to beginning site infrastructure development work for housing tracts and individual home (re)construction. In Aceh, implementation of major USG-funded road construction projects was delayed by the slow

⁵⁵ Prior to the earthquake (and undoubtedly since) the hills surrounding Port-au-Prince were covered by unsafe dwellings on the steepest of hillsides. Enforcement of building codes and zoning regulations will need to be addressed, if future vulnerabilities are to be reduced, all the while recognizing that effective enforcement is unlikely without strong political commitment.

⁵⁶ Jho et al., *op.cit.*, p. 18.

⁵⁷ Jho et al., *op.cit.*, p. 229,

⁵⁸ USAID, Office of Inspector General, “Audit of USAID/Indonesia’s Tsunami-Related Housing Construction Activities Implemented by Cooperative Housing Foundation International,” Audit Report No. 5-497-08-002-P. (Washington, DC, January 31, 2008); Jho et al., *op.cit.*

progress of Indonesian government land acquisition.⁵⁹ Land acquisition for resettlement should be “beneficiary-driven” to produce optimal results. Community-driven attestations of land rights seemed to work post-tsunami in Aceh and elsewhere, although the formal granting of land titles by the government on the basis of those attestations did not progress in a satisfactory manner. Giving land title to new homeowners will motivate them to invest, expand, and improve houses that they own as their incomes increase. Also, with land titles in hand, those who lose a house to natural disasters will be able to rebuild on their own lots or the land title can be used as collateral for the family’s future financial transaction.⁶⁰ Before any reconstruction activity is started, identified land parcels must be surveyed, seismic activity mapped, and titles for land parcels established, so they can be registered at a government land registry. This way titles can be passed on to generations of property owners, used as collateral for securing loans, and used to consummate business transactions related to the sale and transfer of a property.⁶¹

Role of Government

Build government leadership capacity. Speedy decision-making and resolute enforcement are essential to determine future land use, plan and implement the development of major infrastructure works, delimit areas for private sector participation in reconstruction, establish and enforce requisite building standards, provide schools, restore transportation and other social services, etc. The private sector cannot respond effectively and efficiently in the absence of clear rules that only government can institute.

Recognize the potential political dimensions of the post-disaster housing crisis. Haitians generally have had little trust in their government, but if government remains unresponsive for long in the wake of a disaster citizens may lose all trust, completely undermining any power the government still has.

Financing Concerns

Consider providing a range of financial resources for rebuilding and consider the long-term effects of early choices on the housing market. A range of financial tools may be used to build and reconstruct permanent housing. These include grants and vouchers, conditional cash transfers, government (or public agency)-sponsored or commercial loans, interest rate subsidies, and mobilization of private capital. Where relief donations have been generous, the temptation to simply give money away will be great. That may feel like progress, especially in the short run, but many survivors—especially those considered “middle class” before the earthquake in Haiti—are likely to turn to their own financial resources early on. Funds may be available from a variety of sources, such as savings, remittances from family members abroad, temporary work, renewed

⁵⁹ U.S. Government Accountability Office, “Foreign Assistance: USAID Signature Tsunami Reconstruction Efforts in Indonesia and Sri Lanka Exceed Initial Cost and Schedule Estimates, and Face Further Risks,” GAO-07-357 (Washington, DC, February 2007).

⁶⁰ Hernando De Soto, “Preface,” in G. Lizarralde, C. Johnson, and C. Davidson, eds., *Rebuilding After Disasters: From Emergency to Sustainability* (London and New York: Spon Press, 2010).

⁶¹ Hernando De Soto, “Preface,” G. Lizarralde, C. Johnson, and C. Davidson, eds., *Rebuilding After Disasters: From Emergency to Sustainability* (London and New York: Spon Press, 2010).

livelihoods, rental of remaining assets, supplemented by relief donations. If too much is given away early in recovery, the long-term market for housing market finance from micro- or commercial credit sources may be undercut.

Consider having insurance and micro-insurance instruments accompany public and private sector mortgages in order to provide increased disaster protection in the future. Though this is a bit like closing the barn door after the horse has left the stable, it is useful in the deliberations of how to “build back better” to consider also what complementary financial instruments should accompany housing finance to help homeowners protect themselves from future risk.

Annex A. Methodological Note on the ECVH

The Enquête sur les Conditions de vie en Haïti (ECVH) formed the basis for the majority of our tables and statistics describing Haiti's middle class. The ECVH was implemented by the Institut Haïtien de Statistique et d'Informatique (IHSI) with assistance from the Norwegian Institute for Labour and Social Research (FAFO). ECVH survey data were collected between March and May 2001 using a sample of 7,740 households and a survey master sample designed by IHSI in 1997. The ECVH survey has a number of problems, most of which relate to the sample and its ability to accurately represent the distribution of households in Haiti. Despite these problems we believe that the data are the best available representation of household conditions in Haiti and provide us with valuable insights on Haiti's middle class.

The data were provided to us on a CD along with documents containing additional information on the questionnaires and the methodology used to create the final reports published by IHSI in 2003. The data consisted of 9 SPSS files split into different categories: Women, Post Natal Care, Children Under 5 Years Old, Youth, Households, Agriculture, Mortality, Family Network and Population. Prior to our receiving them, the data in these datasets had been depersonalized, and any incomplete or unusual responses removed. In total, 554 responses among the original 7,740 respondent households were excluded by IHSI from the dataset, leaving 7,186 households in the final working sample that was used for IHSI's analysis in 2003 of the ECVH survey, and in our analysis for the present report.

To better understand the remaining dataset we contacted the IHSI to see if we could interview any of the people who worked on the original ECVH reports produced in 2003. Unfortunately, none of the IHSI staff involved in that report are still employees of IHSI. We also contacted a World Bank specialist (Dorte Verner) who had worked with the data, but he was unable to provide us with any additional information on the dataset at this time. Ultimately, however, we were able to consult extensively with a current IHSI employee and ask some general questions about the ECVH dataset. His responses were useful, although he was unable to answer some of our more specific questions.

INCONSISTENCIES IN THE DATA

Even before we began working with the datasets we noticed some inconsistencies in the published tables of the ECVH report of 2003. After some discussion with our contact at IHSI it became apparent that there are indeed inconsistencies among the nine datasets that make up the

ECVH. It appears for example, that the “urban” and “rural” designations have not always been applied in a consistent way in the datasets.

Our first concern was to better understand the IHSI and FAFO methodology behind the exclusion of the 554 respondent questionnaires, and the fact that not all tables presented in the published 2003 report list the same sample size. After discussion with our IHSI contact, our understanding is that the 554 respondents were completely excluded from the final dataset because their survey responses were either grossly incomplete or highly irregular. However, if a respondent had answered the majority of questions satisfactorily that respondent would only be excluded from an individual question or table, thus leading to some ECVH report tables being based on a total sample of less than 7,186 responses. While it would be preferable to understand exactly what criteria were used to determine if a respondent should be excluded from the dataset, we were able to find no such record. However, after discussion with our IHSI contact, we assume that the IHSI was consistent in judgments to exclude, and that this procedure did not significantly disrupt the sample distribution of answers.

When we began to work with the dataset we soon discovered inconsistencies in them. For example, in the Households dataset we discovered duplicate fields assigning the residential label of Metropolitan, Urban, or Rural to a respondent, and that these fields did not necessarily agree with each other. We also found two “weighting” (ponderation) fields that did not match. On the suggestion of our IHSI contact, we ran some test tables to determine which field produced the same counts of Urban, Rural, and Metropolitan residents shown in the published tables of the 2003 IHSI report. When we were able to replicate the 2003 tables using one of the weighting patterns, we adopted that set of weights in our analysis. We found similar problems in some of the other datasets and again resolved them in the same manner using trial and error to test the weightings and replicate tables in the ECVH 2003 report.

In working with the datasets we also discovered an inconsistency between the residential labels of the Household and Population datasets. This is a major problem given that many statistics concerning people per household or head of household requires matching the data between these two datasets. However, given information from our contact at IHSI and the notes of the World Bank’s Dorte Verner, who mentioned similar problems in his paper “Making Poor Haitians Count,”¹ we simply matched the population data to the household data using the household identification number in the datasets, and adopting the residential labels from the Household dataset for both.

In addition to these systematic problems we also came across several instances where the list of responses shown in the questionnaire did not match the list of responses in the dataset, and the supplementary information provided did not clarify the problem. Usually this could be fixed by recreating the table published in the 2003 report and thus matching the results to the appropriate response or data field. However, there were some cases where educated guesses had to be made to resolve such inconsistencies. For example, a query concerning a household’s access to health

¹ Dorte Verner, Making Poor Haitians Count, World Bank Policy Research Working Paper 4571 (March 2008). See, for example, p. 14 of this paper.

insurance is a single question in the questionnaire, but has two response fields in the dataset. We took this to mean that a household could claim health insurance access from two sources but that an affirmative answer in either data field meant that the household had health insurance coverage.

There was a single case where we were unable to find the question that corresponded to a table listed in the published ECVH 2003 report. Section 1.5.2 of the ECVH report lists a series of tables concerning “Investment for House Expansion.” We found no data in the datasets IHSI gave us that corresponded to these tables. We thus quoted the published tables directly in our work.

SAMPLE DISTRIBUTION AND WEIGHTING

While trying to recreate the tables in the ECVH 2003 published report we discovered that the listed sample size (7,740 respondent questionnaires) was not the basis for the sample (7,186 respondent questionnaires) used in calculating that report’s totals and averages. Only after discussions with our IHSI contact did we come to understand that IHSI had constructed a weighting system to correct for the smaller sample’s possible biases after exclusion of 554 spoiled or grossly incomplete respondent questionnaires.

From what we understand the original planned sample of 7,740 respondents would be an accurate representation of the Haitian population, and would not have over- or under-represented any particular département or zone of residence (Metropolitan Area, Other Urban zone, Rural zone). However, since 554 survey responses had to be excluded for one reason or another this ideal sample distribution was disrupted and IHSI and FAFO designed a weighting system to give more weight to respondents in areas that were under-represented in the final 7,186 household data set. While no one on our team is an expert in survey design or implementation, we have done our best to understand the significance of the IHSI weighting field and to apply it correctly and consistently in our own calculations.

As mentioned, there was more than one weighting field listed in the dataset and thus trial and error was again used to try to recreate several data summaries presented in the ECVH 2003 report’s published tables in order to determine the correct weighting field and method of its application. Once the correct field was established we used that weighting in all calculations. While there is no way for us to know if these weights are the equivalent of a perfectly planned sample, after discussion with our IHSI contact, we trust that they are a sufficiently accurate representation of the household population of Haiti.

ADJUSTMENTS REQUIRED

In working with the data from the ECVH we made several adjustments to account for the fact that the data were several years old. Our primary concern was updating the income data to reflect changes in inflation and increases in remittance flows. We first increased the nonremittance household income by a factor of 3.28 to reflect inflation between 2001 and 2010, and then adjusted remittances up by a factor of 3.71 percent to account for increased flows of foreign currency denominated remittance transfers plus the simultaneous nominal depreciation of the

Gourde.² Adding these together gave us an estimate of total revenue per household based on the ECVH pattern but in current 2010 Haitian Gourdes. We then converted our \$500-\$4,000 middle-class monthly household income range to Haitian Gourdes (HTG 20,000 and HTG 160,000) and multiplied these figures by 12 months to determine the upper and lower bounds of our annual middle-class income range.

No other adjustments were made to the data. Although we realize that the distribution of the population has probably changed since 2001, mostly likely due to urbanization, we did not feel that we had sufficient information to correct for this change as it would require an entirely new weighting system. Similarly we realize that, along with a slightly flawed sample in terms of number of respondents, the data may also be affected by a propensity to under-report household income. However, we ran several sensitivity tests and feel confident that even given major over- or under-reporting of income we have still captured an accurate order-of-magnitude picture of the Haitian middle class.

Even though the ECVH had some obvious flaws, and questions about the accuracy of the IHSI weighting scheme as well as the exact formulas and responses for some ECVH tables remain unanswered, we believe the ECVH dataset is still a valuable tool. In our analysis we considered two other more current datasets (i.e., the Vanderbilt Latin American Public Opinion Project, and the Global Relief Technology/MIT Lincoln Lab survey) but neither offered the volume of information or level of detail as the ECVH, including data needed to make estimates regarding middle-class attributes. ECVH has weaknesses and is admittedly a bit dated, but no other dataset captures as much information about the population of Haiti, including the kind of detail necessary to understand the characteristics of Haiti's middle class.

² The CPI increased from 52.03 in January of 2001 to 170.8 in January of 2010. Remittances increased from \$581.5 million dollars in 2001 to \$1,373.2 million in 2010 while the Gourde simultaneously depreciated in nominal terms from HTG25/US\$1 to HTG40/US\$1.

Annex B. IHSI Housing Categories

Kay atè: Construction se présente comme une tente dont le toit et les murs sont confondus. La toiture est généralement en chaume, en taches ou en branches de palmier. Le parquet est généralement en terre battue. Un panneau mobile (natte, tache, ou branche de palmier) sert d'ouverture. La cuisine se fait le plus souvent à ciel ouvert.

Taudis: Construction faite principalement de déchets de matériaux de construction. La toiture est en tache de palmier, en tôle ondulée ou en carton ; les murs peuvent être en clissage à nu, en bousillage, en tôle de récupération, en déchets de blocs ou en bois de récupération. A l'intérieur du taudis, les séparations sont faites en morceaux de tissu ou rideau ou en carton ; le parquet est presque toujours en terre battue. La cuisine se fait également à ciel ouvert. Ces constructions précaires regroupées forment les bidonvilles situés à la périphérie ou à l'entrée des villes

Ajoupas: Construction type retrouvée en milieu rural. La toiture de l'ajoupas est en chaume, taches ou en branches de palmier. Les murs peuvent être en clissage et bousillage, en roches, en planches de palmiste, en planches ordinaires. L'ajoupas a comme pour ouvertures des portes en planches à gonds et à crochets. Ce type de bâtiments est beaucoup plus spacieux que les deux types précités. Il a souvent comme annexes une cuisine couverte, un colombier ou une soute. Le parquet est généralement en terre battue

Maison basse: Construction couverte en tôle ou en béton armé, avec des murs extérieurs en planches ou en maçonnerie, brique ou roches mixtes et blocs. Ces maisons sont à un seul niveau, c'est-à-dire dépourvues d'étages. Elles peuvent avoir une cour spacieuse aménagée et un jardin.

Maison à étage: Construction dont le toit est en tôle ou en béton armé. Les murs sont en planche, maçonnerie, bloc, brique. Cette construction, à la différence des maisons basses comporte deux ou plusieurs niveaux. Elles peuvent avoir une cour spacieuse aménagée et un jardin.

Maison à appartements: Dans ce type de construction les unités d'habitation sont déployées dans un espace collectif (unique) et tout à fait indépendantes les unes des autres. On les appelle généralement des appartements. Elles sont séparées par des murs mitoyens, ou sont liées par un escalier quand elles sont construites en hauteur.

Maison type colonial (Gingerbread): Ce type de construction a la toiture en ardoise, en tuiles ou en tôle ondulée ; les murs peuvent être épais et d'une certaine hauteur avec briques ou en roches

ou en planches ou mixtes. Il présente généralement des éléments décoratifs en bois ou en fer forgé. Les planchers sont des fois supportés par des poutres métalliques.

Villa: C'est généralement une construction imposante d'architecture moderne. L'utilisation de l'espace est faite de façon rationnelle. Elle peut être pourvue d'un jardin et des fois d'une piscine. Elles sont souvent situées en villégiature. La toiture peut être en béton armé, en tuile, fibrociment ou en tôle ondulée. Le parquet est en céramique ou carreaux d'argile. Les ouvertures peuvent être en verre, en bois sculpté, protégés par du fer forgé the phasing of development funding will feed into longer term development goals.¹

¹ *Ibid.*, p. 29.

Annex C. Post-Disaster Reconstruction Cases

NORTHRIDGE, CALIFORNIA: IMPORTANCE OF PRIVATE INSURANCE COVERAGE OF DAMAGES

Recovery experiences from the Northridge earthquake are included as a point of comparison with Asian disasters. In Northridge in 1994, the cost of residential repairs far outweighed the cost of infrastructure repair. For tenants whose apartments were damaged, the Federal Emergency Management Agency (FEMA) short-term housing rental assistance and U.S. Department of Housing and Urban Development (HUD) Section 8 rent vouchers, valid for 2-3 months and renewable for 18 months, effectively and quickly rehoused 130,000 middle-class and low-income families, including those whose units were not uninhabitable but were co-located where other, more serious damage occurred. Because of an economic recession at the time, housing vacancy rates in the Los Angeles area were high, which facilitated rapid resettlement of affected households.

However, “owners of multi-family apartments did not fare as well as their tenants, after the quake.”¹ Government financing schemes were not widely available to apartment building owners. Small Business Administration (SBA) and HUD loans reached fewer than half of owners of damaged multi-family units, forcing them to rely on personal capital to rebuild. Owners of more affordable housing, fully occupied, tended to qualify more readily for SBA and federal low-interest loans. Because owners/investors of larger apartment buildings did not qualify for either SBA or other federal government loans, the City of Los Angeles received HUD Community Development Block Grants (CBDGs) and HOME Investment Partnership funds to assist them. HUD CBDGs also funded a \$24 million commercial recovery loan program to help businesses with economic recovery.² Three years later, three-fourths of vacated apartment units had been repaired.

Sixty percent of single-family homeowners had earthquake insurance. To help with rebuilding, 265,000 homeowners received insurance payments averaging \$30,000, 74,000 received low-

¹ M. C. Comerio, “Housing Issues After Disasters,” *Journal of Contingencies and Crisis Management*, 5, 3 (September 1997), p. 168.

² U.S. Government Accountability Office, “Disaster Recovery: Experiences from Past Disasters Offer Insights for Effective Collaboration after Catastrophic Events,” GAO-09-811 (Washington, DC, July 2009).

interest SBA loans averaging \$31,000, and 288,000 received small (average \$3,000) FEMA Minimal Home Repair Program grants.

Overall, half of all funds disbursed in support of Northridge housing reconstruction were provided by private insurance companies, 40 percent from FEMA and SBA, and the remaining 10 percent came from HUD.

Governments can play a crucial role by providing improved loss estimation and rate setting models in order to support the private insurance industry, the primary source of rebuilding finance. “Best building practices, must be combined with strategies for hazard mitigation, improved lending practices, and an improved climate for private insurance.”³ However,

Since the Northridge earthquake, residential earthquake insurance has become less available, more expensive, generally includes higher deductibles, and has less coverage (e.g. contents, additional living expenses). Residential earthquake insurance coverage will not be an equivalent source of housing reconstruction financing for future California earthquakes.⁴

Of note in the Northridge experience are the following:

1. Available “surplus” housing: Low occupancy rates for housing in the Los Angeles area, ostensibly due to an economic recession, coupled with geographic concentration of the earthquake’s effects, made it relatively easy for Northridge residents to identify new housing options and move.
2. Private financing from insurance companies: Although private insurance companies became more restrictive *after* the Northridge earthquake, private insurance companies provided half of the financing needed to rebuild.
3. Government financing for rent subsidies and reconstruction: U.S. government programs, ranging from rent subsidies to loans to restart businesses to federal housing and urban development community grants, facilitated reconstruction.

MANAGUA, NICARAGUA: RECONSTRUCTION LED BY STRONG CENTRAL GOVERNMENT & PRIVATE INSURANCE FUNDS

In late evening on December 23, 1972, Managua, the capital of Nicaragua was struck by a severe earthquake and several strong aftershocks. A January 1973 USAID program loan document, prepared pursuant to the approval of an emergency \$15 million loan to the Government of Nicaragua,⁵ describes the effects of the earthquake as follows:

³ Comerio, *op.cit.*, p. 177.

⁴ Laurie A. Johnson, “Kobe and Northridge Reconstruction: A Look at Outcomes of Varying Public and Private Housing Reconstruction Financing Models,” presented at the EuroConference on Global Change and Catastrophic Risk Management: Earthquake Risks in Europe, International Institute for Applied Systems Analysis, Laxenburg, Austria (2000), p. 7.

⁵ U.S. Department of State, Agency for International Development, “Memorandum for the Development Loan Committee,” AID-DLC-P-1062 (January 31, 1973).

The earthquake which struck Managua ... is unique in many respects. ... it is the first national capital seriously damaged by a natural catastrophe since Tokyo in 1923. Of a total urban area of some 33 square kilometers, official estimates indicate 13 were completely destroyed, and 14 were damaged 25 percent or more. Only 6 square kilometers escaped significant damage. The area of near-total loss included the city center, the heart of the country's government, commerce, and finance. Significantly, there was relatively little damage (less than 15 percent total loss) to industry concentrated on the city's main access routes. Agriculture and agricultural products, which accounted for more than 70 percent of the nation's exports in 1972, were virtually unaffected by the quake...

An estimated 95 percent (of small factories, workshops and service activities in the city center) were destroyed... Four hospitals with a total of 1,650 beds were destroyed... an estimated 400,000 square meters (4 million square feet) of commercial buildings and warehouses were lost... Seven hundred and forty classrooms -- about 65 percent of the total in Managua -- were destroyed, and employment for some 50,000 persons disappeared at least temporarily.

One month after the earthquake there are widespread signs of reconstruction and a struggle to return to normalcy: essential services such as water and power have been restored to all inhabited areas of Managua... telephones are working in roughly 80 percent of the present city; supermarkets, stores and businesses in outlying areas are reopening; home delivery of dairy products, bottled gas, and coca-cola has been re-established; restaurants, snack bars and drive-ins are open and crowded for mid-day meals; and garbage is picked-up daily. It is only when one enters the 589-block fenced-off area that was the center of Managua that a sense of disaster returns.

Based on this and other documents collected during a recent visit to Managua, and interviews conducted with knowledgeable informants who participated in the reconstruction of Managua, we highlight the following similarities and differences between the calamities that struck Managua in 1972 and Port-au-Prince in early 2010.

In terms of similarities, both earthquakes largely destroyed the countries' capital cities and centers of government. The dislocation of both populations, relative to total size, was massive, although, sadly, the death toll in Port-au-Prince was vastly larger, even in proportional terms. In both countries a huge proportion of inhabitants was suddenly rendered homeless.

Of note in the Nicaragua experience are the following:

1. Preservation of economic base, jobs, and incomes: With the exception of about 50,000 people whose livelihoods were directly affected by the earthquake, most of the Nicaraguan economy remained functional post-quake, able to provide the jobs and incomes necessary to allow families to make long-term plans. The construction boom that took place in the wake of the earthquake created many new jobs, which in turn bolstered the economy and made possible long-term planning and financing.⁶
2. Strong (if not necessarily honest) central government: Shortly after the 1972 earthquake, the Nicaraguan Central Government was reconstituted as a three-man emergency Junta for

⁶ Note that this post-disaster employment boom is common, and typically lasts one to three years following the event.

- National Reconstruction, headed by former (and future) president, General Anastasio Somoza Debayle, who was also head of the armed forces. This Junta wielded unquestioned authority over most aspects of civil life in Nicaragua at the time, including the reconstruction process.
3. Favorable terrain & topography: Managua is on flat or gently rolling land adjacent to Lake Managua (aka Xolotlán). Outside of the damaged former city center, it was relatively easy for the government and private builders to put together sizable areas for infrastructure, housing, and commercial construction. Drinking water supplies in the area are abundant and close by.
 4. Early and forceful decisions on land use and redevelopment: Shortly after the quake, Mexican builder/developer Deplan, S.A., headed by renowned architect Mario Pani, was retained to advise the government on reconstruction in general and to prepare a Master Plan for the reconstruction of the city center.

Allegedly motivated at least in part by a desire of the company and government officials to clear the way for land speculation and profiteering on previously undeveloped lands outside the city center, an early recommendation to fence in and prohibit spontaneous rebuilding anywhere in the former city center was adopted and strictly enforced. This decision caused tremendous outcry from property owners of all kinds who had hoped to recover and rebuild their properties in the 589-block former city center. Most, except for relatively small areas immediately adjacent to major faults, could have been rebuilt easily using appropriate earthquake-resistant building standards, such as the California building code. The California code was, in fact, adopted in Nicaragua after 1972. The Managua Master Plan, which might have allowed for orderly reconstruction of the former city center, was delayed by several years. Ultimately a plan was put forward that called only for the construction of public buildings in the former city center, with large areas permanently designated as parks and other “green areas.” Former owners who lost property in the center were never compensated.

Whatever the unfortunate consequences for former owners, the early decision to cordon off the old city center and limit new construction to formerly suburban areas greatly simplified and speeded up the reconstruction process. Innumerable problems and delays that have been experienced in post-disaster reconstruction efforts elsewhere—for example, regarding establishing rights-of-way for new infrastructure, enforcing rights of eminent domain, determining fair property values, compensating former owners, authenticating property titles, registering titles, etc.—were virtually resolved with one bold move.

The Junta also exercised leadership in the reconstruction process through the so-called *Programa de Reconstrucción de Acción Inmediata*, which laid out new development zones for private sector reconstruction and provided these zones with schools, medical facilities, designated shopping areas, and other social and physical infrastructure investments.

5. Availability of experienced private sector construction companies: By 1972, Nicaragua had developed a reasonably mature construction industry with considerable experience in the construction and sale of low- and middle-income housing projects. In large measure, this maturity and experience can be attributed, at least in part, to assistance from USAID in the form of housing guaranty loans, such as were used to finance construction of major lower-middle income housing developments in Managua during the 1960s (e.g., the *Colonia*

Centroamérica and *La Salvadorita*, which together ultimately grew to about 15,000 units). Following the earthquake, USAID continued to provide similar levels of assistance to private sector developers in the *Las Américas* and *Las Mercedes* projects.

6. Availability of substantial building materials industry: In 1972 Nicaragua already had substantial companies producing metal structural elements, cement, cement block, wooden and aluminum window and door frames, ceramic bathroom fixtures, lighting fixtures, etc. With the large amounts of financing that were made available from both private and public sector sources for reconstruction after the earthquake, these were able to gear up rapidly to meet the demands of the reconstruction effort.
7. Well-established housing finance companies: Again to a substantial degree with USAID support, Nicaragua had developed a growing savings & loan and housing finance industry, which included 5 or 6 major private sector players, in addition to the government housing bank, BAVINIC. With the restoration of employment and the materialization of long-term funding from both private and public sector sources, the housing finance industry was able to quickly respond to the needs of private developers and the buyers of both residential and commercial properties.
8. Heavily-insured middle-class housing and commercial property: One of the most interesting findings of our research into the Managua post-earthquake reconstruction process was the extent of involvement of private casualty insurers in financing the reconstruction effort. Linked to the development of large-scale low- and middle-income housing projects built and financed through the private sector during the 1960s, as described above, was the development of the whole range of life and casualty insurance products necessary to support long-term residential mortgage lending. Much to our surprise, informants reported that virtually all housing built in the new developments of the 1960s, and *approximately 60 percent* of pre-existing older housing and commercial properties in the old city center were fully insured against earthquake damage. Local insurers had almost fully reinsured overseas in the United States and Europe, and were able to disburse quickly against damage claims, in many instances up to the full replacement value of units that had been lost.

In this manner, according to both a former Minister of Construction and Transportation and a leading Nicaraguan architect who was heavily involved in the reconstruction effort, approximately US\$900 million in liability insurance payments flowed into Nicaragua during 1973 and 1974 and created a construction boom during these years. Lower-middle and higher income housing in Managua was mostly rebuilt by the private sector with private sector funding.

CHILE: BENEFITING FROM 50 YEARS OF EARTHQUAKE IMPACT MITIGATION EXPERIENCE

Chile is on the Pacific Rim's so-called "Ring of Fire," where many of the world's greatest earthquakes have occurred. The strongest earthquake ever recorded—in the 20th century and to date—was the magnitude 9.5 trembler that hit Concepción, Chile's second largest city, on May 22, 1960. Two hundred miles south of the country's capital of Santiago, the fault line involved was ruptured and extensive destruction followed to both human life and property. Besides over a

dozen magnitude 6 or higher aftershocks, a tsunami ensued that caused extensive damage to Valdivia, a port city located several hundred miles south of Concepción. Over 5,000 people lost their lives, 3,000 were injured, and damage costs amounted to more than \$400 million.⁷

The 1960 earthquake led Chileans to consider “mitigation” processes to minimize future loss of human life and physical destruction caused by such disasters.⁸ In particular, municipal and national Chilean government authorities developed and implemented improved building codes and construction standards. Use of the improved standards in newer construction throughout the country over the last half century helps to explain why fewer than 500 deaths⁹ resulted from the February 2010 earthquake in Chile, despite its 8.8 magnitude and its location in virtually the same part of Chile as the one that hit a half century earlier.

While an estimated two million Chileans were affected by the 2010 quake, Chilean President Bachelet first declared that the country did not need international aid. A “state of catastrophe” was called in order for the Chilean military to take control of devastated areas to stop looting and public disorder. In a matter of days and weeks, the government reached agreement with major supermarkets to allow them to give stocked basic foodstuffs to people affected by the earthquake. The Santiago Metro was partially operational the day after the quake and fully operational the following day. Only days after the quake, activity at the central port city of San Antonio returned to eighty percent of capacity. Santiago’s International Airport closed off all flight operations for only 24 hours, and full commercial airline service was restored in a number of days.

Within weeks after the February 2010 earthquake, the Government of Chile (GOC) announced a four-year government plan to spend nearly \$8.43 billion on total reconstruction efforts. In addition, contributions from the private sector and insurance companies will help meet reconstruction needs. The GOC identified local and foreign debt issue, tax increases, an offshore wealth fund, and a copper-proceeds fund to help finance reconstruction. Specifically for housing, the GOC announced within a month after the February quake its *Chile Unido Reconstruye Mejor* (United Chile Builds Better), a government-led housing reconstruction plan designed to provide assistance for earthquake- and tsunami-affected households. The program will provide housing subsidies for the reconstruction of new houses and repairs to damaged houses during 2010 and 2011. This reconstruction plan is expected to cost the GOC \$2.5 billion and help 196,000 affected households.¹⁰

⁷ Angus M. Gunn, “Chile Earthquake,” *Encyclopedia of Disasters, Environmental Catastrophes and Human Tragedies*, Volume 2 (Westport, CT: Greenwood Press, 2008).

⁸ Ronald S. Parker, “Single-Family Housing: The Window of Opportunity for Mitigation Following Natural Disaster” and Howard Kunreuther, “Incentives for Mitigation Investment and More Effective Risk Management: The Need for Public-Private Partnerships,” *Managing Disaster Risk in Emerging Economies*, Disaster Risk Management Series, No. 2 (Washington, DC: World Bank, 2000).

⁹ USAID, Bureau for Democracy, Conflict, and Humanitarian Assistance, Office of U. S. Foreign Disaster Assistance, “Chile Earthquake,” *Fact Sheet #18, Fiscal Year (FY) 2010* (Washington, DC, April 8, 2010).

¹⁰ USAID, “Chile Earthquake,” *op.cit.*

From a resilience perspective, countries would want to aspire to emulate Chile for a speedy recovery after a devastating earthquake.¹¹ However, this has been a half-century learning process for the Chilean people. Many of the steps required to reach where the Chileans have gotten to are recognized and being put in place by those who prepared the *Action Plan for the Reconstruction and National Development of Haiti*.

Of note in the Chile experience are the following:

- Preservation of economic base, jobs, and incomes: Even if Concepción was Chile's second largest city in 1960 and has grown to be a greater metropolitan area of over 900,000 in 2010, Chile's economy is geographically diversified. Economic, industrial, and financial activities are dispersed among a number of urban centers, agricultural activities are located in its vast Central Valley, tourism operates in a range of coastal towns and cities and Andean mountain resorts and facilities, and copper mining is based in the north. Many new jobs were created after the 1960 and 2010 earthquakes, and its multi-faceted economic base has made Chile less vulnerable and allowed it to recover quickly after devastating disasters like the 1960 and 2010 earthquakes.
- Democratic governance: With a few periodic exceptions Chile has mostly enjoyed a tradition of democratic leadership. Chilean governments at both local and national levels were regularly elected by popular vote, except for periods of dictatorship such as during the Pinochet regime. Local municipalities and the national Ministry of Housing and Urban Development (MINVU) developed mitigation measures like improved building codes and construction standards for implementation throughout the country. Between the 1960 and 2010 earthquakes, there were ample opportunities for Chileans to perfect codes and standards to accommodate new technologies, new construction materials, and circumstances related to the reconstruction process.
- Terrain and topography: Subjected to constant tremors on the Ring of Fire, Chileans of every generation, like Californians, live with the idea of "the big one" always in the back of their minds. That was probably why after 5,000 Chileans died in the 1960 earthquake the consciousness of local and national leaders was raised to devise codes and standards to govern the reconstruction of safer homes and buildings. Chileans pioneered mitigation measures before they became more popularized and globalized as a best practice.¹²
- Availability of trained and educated builders and architects: Chilean universities graduated competent architects and engineers during the 1960s, many of whom were assigned to MINVU's Technical Assistance Program to Municipalities. However, Chilean universities lacked urban planning programs. Hence, the Chilean government requested that the U.S. Peace Corps supply contingents of U.S.-educated urban planners to be paired with Chilean

¹¹ Isabelle Maret and James Amdal, "Stakeholder participation in post-disaster reconstruction programmes—New Orleans' Lakeview: a case study," and Lee Boshier, "The Importance of Institutional and Community Resilience in Post-Disaster Reconstruction," in G. Lizarralde, C. Johnson, and C. Davidson, eds., *Rebuilding After Disasters: From Emergency to Sustainability* (London and New York: Spon Press, 2010).

¹² Parker and Kunreuther, *op.cit.*

- architects with MINVU's Technical Assistance Program to Municipalities to share such knowledge and training with them.
- Addressing affordable housing needs through core unit construction: To meet the gap in supply of affordable housing, Chileans were interested in the 1960s and 1970s in learning and perfecting national implementation of “self-help” housing systems. Under such systems expandable core housing units were built on serviced lots and land titles were given to poor families. As incomes and families grew, homeowners bought more building materials to add new rooms on to their original core housing units. Concrete blocks with reinforcing rods replaced flimsy wood siding and even second stories were built on top of original core housing units. Trees, flowers, lawns, and sidewalks transformed whole neighborhoods in a few short years into vibrant communities, complete with paved streets, lighting, schools, athletic fields, community centers, and shopping centers.
 - Ample government housing finance available: Already before the 1960 earthquake, Chile had created the Housing Corporation and the Chilean State Bank and passed in 1953 the Law of Urban Planning and Construction. In 1965 institutions such as MINVU, the Housing Corporation (CORVI), the Housing Services Corporation (CORHABIT), and the Urban Improvement Corporation (CORMU) were created to finance and implement housing and urbanization activities and programs. A Savings and Loan Fund was created in 1973 and the Housing and Urban Regional Service (SERVIU) was created in 1976. In 2006, i.e., before the 2010 earthquake, the government had passed a new housing policy that: (a) established a Solidarity Housing Fund II to finance housing needs of the poor; (b) provided rent subsidies; (c) defined construction quality improvements; and (d) defined minimum standards for housing projects.¹³
 - Middle-class housing: Concurrent with the government's actions described above, other working and middle-class Chilean families joined efforts to meet their own housing needs. The Housing Cooperatives movement was started, wherein groups of families united to found co-housing cooperatives, identified open land to buy, and secured financing. Through such means, projects consisting of hundreds and thousands of houses were built at diverse locations throughout the Santiago Metropolitan Area and in other cities and towns throughout Chile.

YOGYAKARTA, INDONESIA: A “SHELTER-LED EMERGENCY”

Despite the high rate of urbanization in Yogyakarta Province, heavily populated, rural villages—where housing consisted largely of densely packed, brick-walled structures—were most severely affected by the May 2006 earthquake.¹⁴ Despite far fewer mortalities, three times more people were left homeless in Yogyakarta than in post-tsunami Aceh.

Nearly four-fifths of reconstruction finance was provided by the Government of Indonesia, followed by multilateral institutions (12 percent), provincial and local governments, and NGOs

¹³ Government of Chile (GOC), Ministry of Housing and Urban Development (MINVU), History.

¹⁴ J. Leitmann, “Cities and Calamities,” *Journal of Urban Health*, 84, 1 (2007): i144-i153.

and bilateral donor agencies.¹⁵ The Java Reconstruction Fund (JRF) manages funds pledged by Canada, Denmark, the European Commission, Finland, the Netherlands, and the United Kingdom, governed by a Steering Committee that is co-chaired by the Government of Indonesia, the European Commission, and the World Bank as Trustee. The housing sector received three quarters of all funds. Whereas the province of Central Java distributed funds via shelter grants equitably distributed among affected households, Yogyakarta opted for grants to community groups to prioritize funding needs.

One year later, 230,000 households had received some form of housing assistance and nearly 150,000 homes (half of the number needed) had been rebuilt.^{16, 17} The JRF contrasts the rapidity of this response with the Aceh and Nias experience where only 45 percent of houses had been rebuilt *two* years after the disaster. However, with the increased rate of reconstruction, monitoring must ensure that new home construction meets building standards and are earthquake resistant.

Of note in the Yogyakarta experience are the following:

- Many building materials were not washed away, and salvageable.
- Transitional housing provided material inputs for permanent housing reconstruction.
- Government was less seriously incapacitated.
- No drastic inflation, such as took root post-tsunami in Aceh/Nias.

An independent evaluation conducted jointly for 4 NGOs one year later found that recovery was well underway, but observed that temporary shelter still housed some 40,000 families at below-SPHERE minimum standards.¹⁸ The Government of Indonesia provided a cash subsidy to families whose homes had been destroyed, and asked NGOs not to provide permanent housing, based on the Aceh experiences regarding cost and time requirements. One group, CARE, provided vouchers for purchase of building materials from local vendors. Most NGOs did not provide cash-for-work, as most families were supported by neighbors and local volunteers. The evaluation notes

The World Bank estimates that up to 50 percent of the total financing for Yogyakarta reconstruction may come from private sources, including personal savings and insurance. More research into this area of private financial contributions would enable a better understanding of how to accommodate these funds in future disasters most effectively.¹⁹

¹⁵ Java Reconstruction Fund, *Progress Report 2007, One Year After the Java Earthquake and Tsunami: Reconstruction Achievements and the Results of the Java Reconstruction Fund*. (Jakarta, 2007).

¹⁶ JRF, *Ibid*.

¹⁷ One study noted that in some instances, surviving households split into multiple sub-units in order to qualify for more than one shelter grant, reassembling again after grants were secured. T. Hayashi et al., “A Study on Residents’ Strategy for Housing Reconstruction After the 2006 Central Java Earthquake” (No date).

¹⁸ P. Wilson and D. Reilly, *CARE, Catholic Relief Services, Save the Children, and World Vision Indonesia: Joint Evaluation of Their Responses to the Yogyakarta Earthquake*, Independent evaluation (2007).

¹⁹ JRF, *op.cit.*, p. 44.

KOBE, JAPAN: MASSIVE PROPERTY DAMAGES AND RECONSTRUCTION DELAYS

Though loss of life was less significant, property damages induced by the 1995 Great Hanshin earthquake centered in Kobe, Japan, dwarfed those of almost all the other examples considered. Its effect was felt most acutely by low-income, elderly residents of the inner city.²⁰ Welfare recipients were five times more likely to die during and after the quake than citizens not receiving such assistance.²¹

Recovery was slow. More than a year after the disaster, residence in temporary housing was still common. Prospects for recovery in the short-to-medium term were diminished because of limited insurance coverage, carried by only about 7 percent of homeowners, with payouts capped at 50 percent of the value of the structure.²² Two years after the event, though some land had been acquired, no reconstruction had been undertaken and no bonds to finance the reconstruction had been sold.

It took two years for all debris to be cleared.²³ With 45,000 people still living in temporary structures three and a half years later, in mid-1998 public housing for 38,600 of them was almost complete. The government of Japan offered only minimal disaster compensation in order to avoid encouragement of moral hazards, i.e. to encourage residences in less disaster-prone areas. Several years after the earthquake Horwich found that zoning laws and land taxation policies still did not encourage the construction of housing on stable soils rather than on least-safe, reclaimed lands.

Pre-existing, large-scale housing and urban redevelopment projects were advanced rapidly after the earthquake. The city launched a 3-year Housing Restoration Plan to construct 31,000 units of private housing (4,600 by public subsidy), 16,000 units of public housing, 13,500 of semi-public housing, 6,900 of rental housing, and 4,000 of redevelopment-related housing.²⁴

The central government provided nearly \$60 billion in funding in the three years after the quake to cover the costs of reconstruction of infrastructure, housing, and other physical facilities. The central government also funded a special loan program for local city and provincial governments to provide 10-year loans for other reconstruction projects not otherwise covered.²⁵ By March

²⁰ R. Shaw and K. Goda, "From Disaster to Sustainable Civil Society: The Kobe Experience," *Disasters*, 28, 1 (2004): 16-40.

²¹ D. P. Aldrich, "The power of people: social capital's role in recovery from the 1995 Kobe earthquake." *Natural Hazards*, published online 18 August 2010.

²² Comerio, *op.cit.*

²³ G. Horwich, "Economic Lessons of the Kobe Earthquake," *Economic Development and Cultural Change*, 48 (April 2000): 521-542.

²⁴ Johnson, *op.cit.*, p. 7.

²⁵ U.S. Government Accountability Office, "Disaster Recovery: Experiences from Past Disasters Offer Insights for Effective Collaboration after Catastrophic Events," GAO-09-811 (Washington, DC, July 2009).

1998 more than 120,000 new housing units had been built; by 2005, over 220,000 units—more than originally lost—had been built.²⁶

Johnson found,

There are several potential reasons for the residential density increase, post-disaster... Complex ownership patterns, compounded by land readjustment processes and lack of private resources, fueled an on-going, reactive, housing policy (particularly for cooperative housing and condominium projects). Density bonuses were used to compensate for land condemnation but there was no accounting for overall increases in neighborhood densities. The government's policies and programs for private housing reconstruction tended to favor full reconstruction and there was a more limited amount of funds for repairs, which encouraged demolitions and full-scale reconstructions. Government-funded planners and the neighborhood-level planning processes have been critical in maintaining neighborhood continuity throughout the reconstruction period.²⁷

In addition, social capital—i.e., “the resources available to individuals through their social networks”—was a key determinant of recovery in Kobe.²⁸ The better connected households drew on informal insurance and resource streams, and were also better able to advocate for assistance from the state. Examples of collective action are reported, from condominium neighbors who designed and built new cooperative housing structures to previous neighbors residing in individual homes who also opted for cooperative housing construction following the quake. The Kobe experience, according to Aldrich, suggests that post-disaster decision-making should focus not only on physical infrastructure reconstruction, but also on the social network dimensions that will help to insure such reconstruction's success.

MEXICO: RECONSTRUCTION SUPPORTED BY WELL-DEVELOPED COMMERCIAL AND PUBLIC HOUSING FINANCE SCHEMES

Mexico City, one of the world's mega-cities whose population size grew from 3 to 11.9 million and ranking advanced from fourteenth to third-largest among world cities between 1950 and 1975,²⁹ was a prime candidate to suffer major losses in human lives and property from a devastating catastrophe like the 8.1 quake that struck in 1985. Rather than just a single quake, this seismic event actually consisted of four quakes: a 5.2-magnitude quake had occurred in May 1985, the main and most powerful quake happened on September 19, 1985, and two aftershocks took place on September 20, 1985 (magnitude of 7.5) and April 30, 1986 (magnitude of 7.0). Yet the loss of 10,000 lives in Mexico City pales in comparison to the 300,000 killed in Haiti.

²⁶ USGAO, *Ibid.*

²⁷ Johnson, *op.cit.*, p. 7.

²⁸ Daniel P. Aldrich, “The power of people: social capital's role in recovery from the 1995 Kobe earthquake,” *Natural Hazards* (online 18 August 2010).

²⁹ S. Puente, “Social Vulnerability to Disasters in Mexico City: An Assessment Method,” *Crucibles of Hazard: Mega-Cities and Disasters in Transition* (Tokyo: United Nations University Press, 1999).

With Mexico City's downtown built on the bed of an historic lake of silt and volcanic clay sediments, seismic movements were amplified. Yet eighty percent of the earthquake damage was confined to four neighborhoods in the western part of the lake zone that extended from Tlatelolco in the north to the Viaducto Miguel Aleman in the south, from Chapultepec Park in the west to a short distance east of the Zocalo, the main plaza. While data on the magnitude of building losses varies,³⁰ damage was concentrated in the commercial center of the city, leaving much of the residential outer rim unscathed.

Limiting this analysis only to how earthquake damage to buildings and housing caused by the 1985 earthquake were minimized to identify those best practices that those engaged in the reconstruction of Port-au-Prince might consider, we highlight the following differences and similarities.

Of note in the Mexico City experience are the following:

1. Preservation of economic base, jobs, and incomes: Figures point to a complex transformation of the Mexico's industrial structure. By the mid-1970s well before the 1985 earthquake, the amount of capital invested and number of residents began to decline in the Mexico City Metropolitan Zone (MCMZ). Between 1940 and 1970, Mexico City's economic base transformed to a proliferation of small-scale establishments using low-paid labor. More industrial establishments were created in the MCMZ, but actual assets in the MCMZ declined as investments were relocated to other parts of Mexico. As a result, economic activities were definitely affected in the four downtown neighborhoods where 80 percent of the earthquake's damage and destruction was concentrated, but the damage did not dramatically alter the national economic landscape.
2. Central government response: The Mexico City earthquake created many challenges for the ruling *Partido Revolucionario Institucional* (PRI). The government's response to the earthquake, seen to be both authoritarian and incompetent, was widely criticized. The military was deployed to patrol streets to prevent looting after curfew was imposed and rescue some victims trapped in buildings. Who was helped seemed to be determined by one's standing with the PRI. While most of the collapsed buildings were of recent construction and public works projects, the government was blamed for mismanagement and corruption in these constructions. As soon as the central government realized that it could not handle the crisis alone through already established institutions such as its Ministry of Urban Development and Ecology (SEDUE), it grudgingly opened the process to organized groups of the homeless in poor and lower income neighborhoods, even if they belonged to opposition political groups that the PRI was not going to help.
3. Stringent building codes: Before a 1957 earthquake, Mexico City did not have building codes to govern new construction that would enable buildings to withstand earthquakes. Some regulations were passed that year and more in 1976 after another, stronger earthquake shook

³⁰ One source cited that 80,000 were left homeless while another noted that 30,000 housing units had been completely destroyed and another 68,000 units were damaged. Damaged and completely destroyed buildings for the entire city ranged from 1,970 to 2,831 to 5,700, depending upon the data source.

the city. However, none of the regulations took into consideration events like the 1985 earthquake. Hence the majority of the buildings seriously damaged by the 1985 quake had been built between 1957 and 1976, when six-to-fifteen story buildings were being built. Those built between 1976 and 1985 when more stringent building codes were in place, even if they were not designed to withstand seismic activity of the intensity of the 1985 quake, suffered the least damage.

4. Community response: The most seriously affected by natural disasters tend to be those who live in poor neighborhoods under the worst conditions. The outer neighborhoods ringing Mexico City were sprawling places with low-rise, poorly built housing, deficient in infrastructure, and services oriented to production. Much of this outer city was occupied illegally by squatters; settlements had spread indiscriminately over land of high agricultural productivity and low seismic resistance. Informally settled areas were generally poorly serviced and vulnerable to disaster. Housing was poor quality and it was extended or upgraded by those living in such units using available technologies that were unsophisticated. There was little compliance with building codes or other standards. Improved access to information through better education might have offset some disadvantage of living in such neighborhoods.³¹

Because the government was slow to respond to help organize those left homeless by the 1985 earthquake, grassroots organizations emerged. For example, three large and effective organizations of working and lower class families from housing projects with completely collapsed houses joined together to form CUD, the Coordinator of the Homeless. Such popular movement groups united their efforts to secure concessions from SEDUE and eventually from the Mexican President to meet their core demands to: (a) expropriate 5,500 condemned buildings in four neighborhoods heavily affected by the earthquake and (b) enable the community movement to actively participate in the development of a truly “popular” and “democratic” reconstruction project.³²

Similarly, a youth group whose members spontaneously volunteered to risk their lives crawling into collapsed buildings to look for survivors with no equipment, training, or knowledge of rescue tactics saved babies rescued from the collapsed Juarez Hospital. They became affiliated with the Civil Protection Committee and have developed into highly trained specialists in times of disaster with new branches formed throughout Mexico. Now expertly trained and with scent dogs to help, they have won international fame to help in disasters outside Mexico, including the January 2010 Haiti earthquake.³³

5. Other best practices taught: The 1985 Mexico City earthquake spurred the installation of an alert system for future seismic events. It would send early-warning messages electronically from sensors located along the coastal subduction zone to detect movements of sliding plates

³¹ Puente, *op.cit.*

³² Wikipedia, *op.cit.*

³³ *Ibid.*

related to seismic activities. When working properly, this alarm system would set off a device similar to an air raid siren when an earthquake of 6.0 or higher was detected.

Enforcement of strict building codes after the 1985 quake has resulted in the reinforcement of centuries-old buildings and new construction to incorporate earthquake-resistant engineering that complied with stricter codes to be used in several tall buildings built in recent years in Mexico City such as the *Torre Mayor* built in 2003.³⁴

6. Availability of construction services and building materials: Mexico certainly had numerous private sector construction companies poised to be mobilized to remove debris and start rebuilding once reconstruction funds were allocated. In the mid-'80s, an estimated 10,000 small firms and contractors built houses and about 1,000 large and medium-size developers built the majority of new housing projects in the country.³⁵ A substantial building materials industry, located in parts of the country unaffected by the earthquake, could supply a full range of raw and/or processed materials, ranging from gravel to lumber, concrete, rebar, PVC pipes, and roofing materials, that a construction company might need.
7. Availability of housing-related financial services: Similarly, banks and other financial entities, with branches outside of the national capital and thus unaffected by the earthquake, were available at a moment's notice to fund soundly designed reconstruction projects with complete sets of approved building plans.

By 1985 the Mexican housing finance system had been well developed. Commercial banks were the largest source of housing finance, lending mainly for new residential housing to families that earned more than five times the minimum wage (about U. S. \$600 per month in 1992). FOVI, a special fund of the Central Bank, was the main source of the housing fund for commercial banks willing to lend to households that earned less than five times minimum wage. FOVI financing was assigned to developers for the sale of low- and moderate- cost housing through public auctions. INFONAVIT for private sector workers and FOVISSSTE for public employees lent mainly for new homes and home improvement credit. Lastly, several public housing agencies served the needs of the poor, mainly non-salaried households that earned less than three times the minimum wage. The largest of these agencies was FONHAPO, the government's low-income housing fund that provided a mix of credits and subsidies to poor families for the purchase of urbanized lots, starter homes, and home improvements.³⁶ Also, FOSOVI provides loans for low-income housing.

Coincidentally, in 1985 the World Bank had lent more than \$1.2 billion to Mexico for its low-income housing projects. The government had been quite responsive to incorporating many of the Bank's enabling instruments to: (a) reform the country's housing policies; (b) put in place institutional reforms; and (c) update regulations to enable housing markets to work

³⁴ Wikipedia, *op.cit.*

³⁵ T. L. Zearley, "Creating an Enabling Environment for Housing: Recent Reforms in Mexico," *Housing Policy Debate*, 4, 2 (Fannie Mae, 1993).

³⁶ *Ibid.*

more efficiently and to improve the performance of the housing sector as a whole by paying particular attention to the needs of the poor. Reforms implemented by the Mexican government in the mid-'80s improved the functioning of the housing market so that private lenders and builders could play an expanded role in addressing the country's housing needs.³⁷

GUJARAT, INDIA: CONSUMER SATISFACTION WITH RECONSTRUCTION APPROACHES

After the January 2001 earthquake, the government of Gujarat established the Gujarat State Disaster Management Authority. Its original goals included relocation of most severely affected villages; *in situ* reconstruction of severely affected villages; and help with repairs and reconstruction in less damaged areas. However, the relocation option met with stiff resistance from both the public and the World Bank, and the option was subsequently dropped.

Almost three-quarters of affected villages took advantage of the Gujarat Emergency Earthquake Reconstruction Project (GEERP) to reconstruct over 197,000 homes. GEERP financial assistance scales were established based on findings from damage assessment surveys, with compensation disbursed in three tranches.

Of note in the Gujarat experience are the following:

- Customer satisfaction surveys revealed that over 90 percent of households were fully satisfied with their new GEERP-supported homes, having been compensated at a level that allowed households to improve their living standards from before. NGO-supported and participatory-planned housing experiences were also very successful. A comparative analysis found that “the growing trend towards financial support to owner-driven post-disaster housing reconstruction is socially, financially, and technically viable.”³⁸
- Contractor-built housing schemes were less successful: While 74 percent of households considered their contractor-built housing to be better than before, nonetheless 36 percent were not satisfied with the quality of the materials used and 31 percent complained about the construction quality. Contractors were less likely to have worked in more remote villages. The greatest level of dissatisfaction was registered in a contractor-led program on behalf of a large NGO which involved construction of new homes on a new site, away from peoples' original residences. Dissatisfaction with the quality of materials and construction was very high, and the standard home designs were believed to be inappropriate to lifestyle, culture, and livelihoods.

³⁷ *Ibid.*

³⁸ J. D. Barenstein, “Housing reconstruction in post-earthquake Gujarat: A comparative analysis.” Network Paper 54. prepared for the Humanitarian Practice Network. (London, UK: Overseas Development Institute, 2006).

SICHUAN, CHINA: GOVERNMENT-LED RECONSTRUCTION

The May 2008 Wenchuan earthquake affected 52 percent of the Sichuan province's territory and approximately one third of its population of 29 million.³⁹ Within two years of the quake, local authorities reported that 2.2 million rural houses had been repaired and over 1.3 million reconstructed, while in urban areas 1.3 million houses had been repaired, with an expectation that by the 2nd-year anniversary in May 2010 95 percent of 260,000 new urban units would be completed.⁴⁰

Reconstruction is being accomplished thanks to massive efforts from central, provincial, municipal, county, and township governments. International NGOs (INGOs) were minimally involved in the aftermath of the earthquake, in part because the government took early and competent control and in part because Cyclone Nargis had hit Burma/ Myanmar ten days before and INGOs' attentions were focused there.

A combination of government subsidies, loans, and tax exemptions has helped to finance the reconstruction. Grants cover 20-30 percent of reconstruction costs, as housing prices have risen substantially since the earthquake.⁴¹ Private savings or borrowings usually complement the government-provided subsidies.

A World Bank Emergency Recovery Loan of \$510 million helped to reconstruct basic utilities in 16 of the most severely affected counties and districts. The International Federation of Red Cross and Red Crescent Societies have also contributed substantially. In addition, the central government "twinning" affected localities with partners from other parts of the country, who assisted with manpower, funds, and technical assistance. While effective in some areas, uneven distribution of benefits across the affected zone resulted.

KASHMIR, PAKISTAN: MASSIVE HOUSING RECONSTRUCTION CHALLENGES MARKED BY DIRECT FUNDING OF OWNER-LED EFFORTS

In the wake of the Kashmiri earthquake, 630,000 houses were damaged or destroyed. The UN Human Settlements Program's (UN-Habitat) \$16 million housing reconstruction program focused on a uniform application of low-cost standards to insure equity, a process that was driven by homeowners themselves. A key objective was to help government, civil society organizations, and citizens understand and apply earthquake-resistant rural housing reconstruction techniques.

Main activities included:

- Strengthening of government strategic planning for housing reconstruction.

³⁹ Hoyer (2009), Tian (2009), Matuszak (2010).

⁴⁰ L. Tian, "An Introduction to the Reconstruction Efforts in Sichuan Province after the Wenchuan Earthquake," presentation, Istanbul International Conference on Seismic Risk Mitigation, Istanbul, December 8-10, 2009.

⁴¹ S. Matuszak, "Sichuan Quake Reconstruction: Mission Accomplished?" *Chengdu Living*, May 13, 2010.

- Damage assessments conducted.
- Strengthening of government capacity to oversee housing reconstruction process via creation of 12 Housing Reconstruction Centers to provide technical assistance and training to 26,078 engineers, architects, union councils, artisans, and individual builders.
- Government linkage of reconstruction grants to application of uniform minimum standards of earthquake-resistant techniques and materials.
- Information campaign to inform public of earthquake-resistant construction principles and techniques.

One year after the quake, 2 million people were still in temporary shelters, including 40,000 in tents. Two years after the quake, UN-Habitat announced that more than 150,000 houses had been rebuilt, and all of the planned 600,000 new homes would be completed by mid-2008.

The UN-Habitat credited its disbursement of reconstruction funds directly to victims, rather than working through NGOs and aid agencies, with the rapid recovery.⁴² Victims received 150,000 rupees (£ 1,200), paid in three installments, accompanied by regular monitoring to ensure that houses were indeed being built back strong enough to resist another earthquake. The *Times* article also notes that “six months were wasted because the World Bank, one of the main donors, [originally] set construction standards too high, insisting that all houses were built of concrete and steel. Since [] standards have been lowered to permit traditional building methods, using stone and wood.”⁴³

ACEH, INDONESIA: BUILDING BACK BETTER ≠ BUILDING BACK FAST

Housing constituted the single largest category of damages in Aceh, Indonesia, i.e., approximately one third of the total estimate of \$4.5 billion. One quarter of all reconstruction funding, or about \$1.6 billion, has been spent on housing.⁴⁴

More than a year after the disaster a large proportion of the affected population was still housed in relief shelters.⁴⁵ Reasons for housing reconstruction delays are many and included shortages of skilled labor, building materials, and large construction firms. Speedy reconstruction is not necessarily a desirable recovery attribute, and authorities should guard against setting unrealistic expectations. Kennedy et al. noted, “the speed of construction and collaboration methods was slower than had been expected by the beneficiaries as well as the organizations doing the construction”⁴⁶ The massive inflows of funding for reconstruction led to a strong increase in the

⁴² J. Page, “Kashmir rises from ruins of earthquake,” *The Times*, October 5, 2007.

⁴³ *Ibid.*

⁴⁴ H. Masyrafah and J. McKeon, “Post-Tsunami Aid Effectiveness in Aceh: Proliferation and Coordination in Reconstruction,” Wolfensohn Center for Development, Working Paper 6 (Washington, DC: Brookings Institute, November 2008).

⁴⁵ I. Christoplos, *Links between relief, rehabilitation and development in the tsunami response: A synthesis of initial findings* (Tsunami Evaluation Coalition, 2006).

⁴⁶ Christoplos, *Ibid.*, p. 27.

demand for construction contractors, which in turn a) contributed to delays, as the market was slow to respond, b) resulted in reduced private interest in self-construction, and c) led to the use of methods, such as masonry-based homes, known for poor seismic and thermal performances. In both Aceh and Sri Lanka, recycling of construction materials did not take place to a large degree, due to the discovery that much of the rubble contained asbestos.⁴⁷ Cultural traditions in the local labor market also meant that tsunami survivors were reluctant to learn home construction skills, as such work was normally fulfilled by migrant labor from elsewhere.

As of July 2008, nearly 4 years after the disaster, 114,000 housing units had been built in Aceh, representing nearly 90 percent of estimated needs.

Housing reconstruction investment can be stalled by land tenure insecurity. Yet resolving such insecurity is a delicate process, since such decisions “are by nature part of political processes at national and local levels”⁴⁸ To address this insecurity one of the first projects of the Multi Donor Fund (MDF) for Aceh and Nias was the Reconstruction of Aceh Land Administration System (RALAS) project, a land title certification program based on community-driven adjudication of land rights.

Under RALAS land ownership was to be restored through a multi-stage process, with input from NGOs and the National Land Agency (BPN): 1) land inventories were to be conducted by communities, 2) BPN would measure parcels and validated community agreements, 3) results were to be published for four weeks, and 4) registration and land titles were to be issued. The project also was to establish a modern land administration data base to prevent the loss of documentation caused by future disasters.

Community-driven adjudication of land rights was a relative success, with most housing providers proceeding with localized evidence of land records in consultation with local authorities.⁴⁹ Lack of BPN Aceh capacity, insufficient support from Jakarta, inadequate use of community facilitators, and legal uncertainties regarding the validity of community-based land rights determinations (a Presidential Regulation on land in tsunami-affected areas was issued in late 2007) nevertheless contributed to RALAS’ lack of progress. Among Fitzpatrick’s lessons learned about community-driven land adjudication:

- Community-driven land ownership determinations and identification of heirs can speed the process and avoid conflicts.
- Trained surveyors with legal authority should support community-driven adjudication.
- Full support of the law is needed to avoid institutional delays and long-term disputes.

⁴⁷ J. Kennedy et al., “The Meaning of ‘Build Back Better’: Evidence From Post-Tsunami Aceh and Sri Lanka,” *Journal of Contingencies and Crisis Management*, 16, 1 (March 2008), p. 27.

⁴⁸ Christoplos, *op.cit.*, p. 49.

⁴⁹ D. Fitzpatrick, “Addressing Land Issues after Natural Disasters: Case-Study (Aceh, Indonesia)” (2008).

A World Bank May 2009 review found that land title certification by RALAS suffered from unsatisfactory overall implementation. The program was closed in June 2009.⁵⁰ Another MDF-supported activity, the REKOMPAK project, applied the community-based approach to settlement rehabilitation and reconstruction. In 126 target villages, Community Settlement Plans were drawn up, with which the communities applied for and received grants. This \$85 million project reconstructed 8,000 houses and rehabilitated 7,000, in the process creating 7.8 million work days of short-term employment. REKOMPAK concluded in February 2010.

In the immediate aftermath of the tsunami, microfinance activities in Aceh were suspended due to loss of staff, clients, infrastructure, and loan documentation. “Microfinance activities” resumed in the movement toward recovery (Stage 2), though long-run MFI sustainability was sorely undercut by the heavy inflow of donor assistance, the availability of interest rate subsidies, and the treatment of the vast majority of loans as *de facto* grants. By 2007, formal microfinance-based housing reconstruction had not resumed in Aceh. Instead “grant housing continued to be constructed for individual clients,” and even when beneficiaries express a desire to modify their housing, grant funding solutions were their expectation. Moreover Aceh MFIs think of housing as the domain of commercial banks and mortgage products. Conditions were thus deemed “premature” for the introduction of housing microfinance tools.⁵¹ Various local factors led to this conclusion, e.g., introduction of relief funding by donors, the region’s grant culture history, and weak post-tsunami capacity of local microfinance institutions (MFI) in Aceh.

It is critical that policy makers responding to an emergency situation have a long-term vision to establish an environment in which housing microfinance can be phased in as a tool not only to reduce the local population’s dependency on aid funding, but in many cases to offset the overall cost of post-emergency reconstruction... When millions of dollars flood into a post-emergency environment... it is critical for policy makers to consider how the immediate response (such as temporary shelters, community planning, starter homes, etc.) and the phasing of development funding will feed into longer term development goals.⁵²

⁵⁰ See www.multidonorfund.org.

⁵¹ T. P. Bringle and L. Pacholek, “Case Study: Post-Emergency Housing Finance for the Poor, Aceh, Indonesia” (Bethesda, MD: The Development Innovations Group, 2007).

⁵² *Ibid.*, p. 29.