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. . . HOUSEHOLDS, HOME-BASED ENTERPRISES AND HOUSING CONSOLIDATION IN SITES AND SERVICES PROJECTS: A Case Study of the Kingston Metropolitan Region

> A Thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Architecture

> > KIRKLAND S.T. DOUGLAS

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School of Architecture McGill University Montreal August, 1994



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HOME-BASED ENTERPRISES, HOUSING CONSOLIDATION AND SITES AND SERVICES



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### ABSTRACT

The process of shelter consolidation which has been observed in spontaneous settlements gave rise to the idea that it could be transferred to formal housing projects. The development and improvement of shelter for the urban poor through formal channels has also often followed a model of progressive development based on the provision of tenure and basic services. This was done through "sites and services" and "area upgrading" projects.

An assessment of this process was carried out by observing two sites and services projects, Nannyville Gardens and De La Vega City, located in the Kingston Metropolitan Region, Jamaica. The manner and extent of consolidation is analyzed from data gathered during a survey which consisted of interviews with key informants and residents through a questionnaire, observation notes, physical measurements, slides and aerial photographs. The analysis dealt with variables such as; changes in the habitable area, the level of finishes undertaken at each stage of addition and the incorporation of space for Home-Based Enterprises. The participants' physical priorities for housing are identified through the changes that have occurred in the variables over the life of both housing schemes.

The results indicate that sufficient habitable area takes precedent over the level of finish in the early stages of dwelling development. The findings also suggest that the economic use of dwellings (renting, vending, trading and the provision of personal services) in formal low-income housing projects is an inevitable part of the consolidation process which should be given serious consideration when formulating such projects.

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## RESUME

Le processus de consolidation des unités d'habitation qui a pu être observé à l'intérieure des développements dit spontanés, a donné naissance à l'idée voulant que ce processus pourrait être appliqué à des projets d'habitations plus formelles. Le développement et l'amélioration de l'habitation pour les milieux urbains pauvres, à travers des voies plus formelles, a souvent suivi un modèle de développement progressif basé d'une part sur les dispositions féodales et d'une autre part sur les services de base. Les projets dit de type " sites et services" et de type "aire d'amélioration" sont des exemples qui suivirent ce processus.

Une évaluation de ce processus a été faite en observant deux projets dit de "sites et services", Nannyville Gardens et De La Vega City, tous deux situés à l'intérieur de la région métropolitaine de Kingston en Jamaïque. L'évolution et l'étendu de cette consolidation est analysée à partir de donnés rassemblées durant une enquête consistant en des entrevues avec des personnes clef ainsi que et des résidants de ces projets. Toutes les informations recueillies pendant cette enquête ont prises la forme de questionnaires, de notes, de relevés physiques, de diapositives et de photographies aériennes. L'analyse de la problématique porte sur des variables telles que les changements a l'intérieur des zones de l'habitation proprement dite, le niveau de finition pour chacune des phases ainsi que l'ajout d'espaces destinés à l'entreprise familiale établie a l'intérieur de la maison même. Les priorités des participants envers leur habitation sont identifiées par l'analyse des changements rencontrés à l'intérieur des variables pendant la duré de vie de chacun de projets.

Les résultats indiquent qu'un espace habitable suffisant prend priorité sur le niveau de finition dans les premières phases de développement de l'unité d'habitation. Il a aussi été démontré que l'utilisation économique de l'habitation (location, vente, commerce et l'offre de services) à l'intérieur de projet formel à bas revenus est inévitable pendant le processus de consolidation et devrait être considéré lorsque de tels projets sont formulés.

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## **CHAPTER 1**

# HOUSING CONSOLIDATION IN SITES AND SERVICES PROJECTS: A Case Study of The Kingston Metropolitan Region (KMR).

## INTRODUCTION

Housing and its associated problems impact differently on varying groups of people. From the perspective of policy makers at the national level, housing deficits and the appropriate solutions to ameliorate such conditions are the primary concerns. On the other hand, the main considerations of users are availability, price, quality, location, transportation and autonomy over one's living space (Harms 1972). Users are able to exercise control over their living space through housing consolidation, the process by which they develop their houses over time.

In the 1970s, housing managers were primarily interested in building methods, pace of consolidation, costs of improvements and the extent to which cost affected basic family needs. Housing researchers however, displayed considerable interest in the factors that influence the manner and extent of consolidation (Laquian 1983).

Experts believed that the progressive development of shelter observed in spontaneous settlements could be transferred to formal housing projects. The development and improvement of shelter for the urban poor, could, through formal channels follow the model of progressive development based on the provision of tenure and basic services. This was done through "Sites and Services" and "Area Upgrading" Projects (Keare and Parris 1981).

The Sites and Services approach to housing was first theorized in the mid 1960s, and initial projects were realized about 5 years after. This approach to housing however, was not a new idea since it was being practised in many developing countries before the expression was coined, and before international agencies such as the World Bank decided to support it (Laquian, 1977: 291).

Many early urban housing developments in Jamaica are similar to sites and services projects. It was not until the early 1950s that government provided finished houses for low-income households and 1959 that private sector initiatives produced the first mass housing situation at Mona Heights. These dwellings however, were sold mainly to upper level civil servants and other middle-income earners.

The majority of Jamaicans live in self-built houses. Those who had the means, built their own houses in subdivisions provided with water supply, roadways and occasionally with electricity. What the introduction of sites and services projects as envisaged and supported by the World Bank tried to do in Jamaica, was to transfer an upper- and middle-class mode of housing development to the low-income sector, in order to deal with the housing deficit. Three project sites with a total of 3,340 housing units were implemented in 1974 in the Kingston Metropolitan Region (from here on referred to as the KMR), to abate the housing problem that faced low-income earners.

Although the projects were never replicated, continuing evaluation of the process of housing consolidation in such projects is a way to gain a greater understanding of the factors that influence housing consolidation. This should capture the experiences of the consolidators, and highlight the negative effects that planners and implementors of future housing solutions for the low-income sector should avoid.

#### THE PROBLEM

The process of housing consolidation in sites and services projects exemplifies the problems of transforming a naturally occuring process into an ordered administrative program (Laquian 1983). The literature on slums and squatter communities is extensive, however, the effects on dwellers of transformed sites and services projects, has not received adequate attention.

Housing has traditionally been considered a basic need. This notion has relegated a majority of housing-related research to consider housing as a welfare good. Recent research however, considers housing as an economic good which satisfies both consumptive demand and asset demand, with households deriving both use values as well as potential capital gains from housing. Another recent perspective, related to the asset demand of housing, is the notion of housing as a means of production. Unlike the classical economic theory in which land was considered a factor of production. This perspective is recognised by researchers in developing countries, but has received very little emphasis in terms of actual research and the present understanding of the factors which affect these processes and in turn their effect on the household economy and housing behaviour is very poor (Mehta and Mehta 1990).

Several recent studies on low-income housing in informal settlements have indicated the existence of a trend toward putting the house to economic use, through some kind of commercial activity: subdivision and/or subletting, sale or rent of extensions (Mesa 1990). Researchers have found a positive correlation between slum upgrading programmes and the increase in housing-based income generation activities. This relationship appears in spite of the strong physical bias of such projects which often lack direct inputs to enhance the use of the house for economic purposes (such as loans for additional capitalization, technical inputs on production and marketing) (Leynes 1990). It has also been put forward that: 1) The greater the degree of consolidation, the greater the possibility of economic use of dwelling; and 2) The process of consolidation itself creates favourable market conditions in low-income areas, especially for rental accommodation (Mesa 1990).

It would be pertinent therefore, to test the hypotheses that; 1) The lowest income groups depend not only on the informal sector of the community to realize their livelihood, but also on housing as a means of improving their assets; and 2) The impact of housing consolidation on the economic use of dwellings seen in informal settlements, holds true for formal low-income housing projects such as sites and services projects.

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The objectives of this study are threefold:

- To investigate the relationships between the manner and extent of housing consolidation, home based economic activities and other household processes as they take place in sites and services projects.
- To investigate the extent to which the projects promote, regularize or stifle the operation of income generating activities.
- 3) To examine the locational/spatial characterization of the identified economic ventures and further establish their impact on the incremental expansion of dwellings.

The following research question is posed:

To what extent have houses been consolidated in "Sites and Services Projects" in the Kingston Metropolitan Region (KMR) and how has the economic use of such houses and other household processes influenced the manner and extent of consolidation?

#### THE SCOPE

Housing consolidation in sites and services projects is analyzed in this study as a physical phenomenon occurring within a set of locally specific, socio-economic constraints. The focus of the study will be an analysis of two aspects which shape the consolidation process: the use of the house for economic activity and the use of the house for accomodating changes in the household lifecycle such as family growth, income increase and economic stability, and changes in the household composition). The circumstances initiating these two factors during the process, as well as their relationship will be investigated. An appraisal of the way the projects were implemented, and their effects on consolidation will also be examined.

The "Nannyville Gardens" and "De La Vega" sites and services projects are used as cases for analysis. These projects, in which consolidation began in 1974, are located in The KMR on the island of Jamaica. The study is limited to the analysis of the physical development of the houses over the nineteen year period, between 1974 and 1993.

## THE ORGANIZATION

This study is organized into six chapters. Chapter 2 reviews the relevant literature which involves: the housing consolidation process both in informal settlements and sites and services projects noted in previous studies, as well as general notions on the use of dwellings for economic gain. Chapter 3 gives a brief overview and history of low-income housing in the KMR, to provide readers with a background of the study area. Chapter 4 describes the research strategy and method of data collection. Chapter 5 presents the methods of analysis, and the analysis of the data. Chapter 6 synthesizes and interprets the research. Some general reflections on the subject matter are also presented.

## **CHAPTER 2**

# HOUSING CONSOLIDATION AND LOW-INCOME HOUSING: A LITERATURE REVIEW

## 2.0 INTRODUCTION

This chapter presents a summary of the relevant literature. The chapter is divided into three sections: the first describes housing consolidation in the low-income housing process; the second describes the phases of consolidation observed in informal settlements and formal low-income housing projects; and the third deals with employment-income generation-housing linkages. A summary of the ideas from the literature review ends the chapter.

### 2.1. HOUSING CONSOLIDATION AND LOW-INCOME HOUSING

#### 2.1.1 Housing Consolidation - A Definition

Improving man's habitat always has to do with consolidation. As a matter of fact, the process that leads to decent living conditions, may explicitly be called housing consolidation, in that unstable and insecure structures are gradually changed into stable and solid structures, in terms of the built environment as well as in social and economic terms (Ziss and Kotowski-Ziss 1985:14).

In different third world cities, varying degrees of housing conditions result from differing levels of per capita income, distribution of wealth, the rate of urban growth, and the form of societal organization. The varying conditions also reflect differences in the poor's response in each city. Responses vary dramatically according to the poor's own expectations of their life chances and their own perception of the kind of housing they want, and the degree to which they are able to improve their housing situation. It has been noted that although it is difficult for the poor to escape their poverty given the economic and social situation in most developing countries, their response to poverty is rational, innovative and more perceptive than for which they have been given credit. (Gilbert and Gugler 1982).

Many names such as: Housing Consolidation, Dwelling Evolution, Progressive Development, Incremental Development, House Improvement, etc. have been used to describe the process by which low-income families progressively develop their houses over time. Whatever the name, its central theme embraces the following: houses are built in stages, the process is managed by users, and it makes use of the resources of the family.<sup>1</sup> The concept of housing consolidation refers to the dynamic process of continuous change to the dwelling and related environs as a result of the household's efforts to meet their own needs. It has been recognized that "when dwellers control the major decisions and are free to make their own contributions in the design, construction or management of their housing, both the process and the environment produced stimulate individual and social well-being" (Ficher, Turner and Grenell 1972). Both the legally sanctioned owner-builders of the United States and the squatter-builders of Peru described by Grindley and Turner achieve considerable economies and generate extraordinary equities in relation to their incomes through self-help. Through self-help, they also generate efficiencies with respect to training in project management, financing and house construction and they experience a sense of accomplishment that might not occur with another means of home ownership.

#### 2.1.2 Housing Consolidation in Informal Settlements

Most of the pioneering work on housing consolidation emerged from observation of informal settlements. Scholars such as Abrams (1966), Mangin (1967) and Turner (1967; 1969) drew attention to the rationality of the poor with respect to their housing situation. Through their work in Peru, Turner and Mangin (1967) showed that the initial shacks seen in informal settlements were the foundations upon which the more fortunate, or more innovative members of the poor sought their way out of poverty. Many settlements which began as unserviced collections of huts gradually achieved the status of ordinary suburbs of the city. This is realized through incremental transformation of initial shacks to solid dwelling units along with the provision of public services such as water, electricity, schools, health services and transportation (Gilbert and Gugler 1982). The work of those housing researchers demonstrated that the poor were capable of producing substantial, spacious, and reasonably serviced homes.

Gilbert and Gugler (1982) also raised questions relating to the conditions necessary for successful consolidation of spontaneous settlements. These were highlighted as: security of tenure; and stable prices.

The presence of higher-income consolidators in spontaneous settlements is considered essential to the overall prosperity of the community as such families contribute to the welfare of the rest of the settlement by creating a market for local stores, by providing casual employment, and by adding a more powerful voice in the petitioning for services (Doebele and Peattie 1976).<sup>2</sup> The critical issue of the poor as an important source of income for the rich was also been raised (see Gilbert and Gugler 1982).<sup>3</sup>

An important factor in the rate of settlement consolidation is the extent to which public agencies are able to provide infrastructure and services to the spontaneous settlements (Gilbert 1981b and Ward 1982). While in some cities, electricity, water and telephone companies are often highly effective, other cities experience severe water supply problems. It has been so bad in Calcutta on occasions, that in 1966 the homes of over 1.7 million people lacked potable water (Dwyer, 1975:215). Water supplies are critically affected by the environmental and topographical characteristics of a city. Similarly, electricity services are dependent on available fuel supplies, cities located in countries lacking both coal and oil, and distant from rain-soaked mountains, face more serious difficulties than others. The level of servicing for the poor also depends upon the efficiency of public utilities. Variations in access to services has been universally linked to income levels. The ability to pay installation charges influences service provision immensely (Gilbert and Gugler 1982).

Based on the consolidation activities observed in spontaneous settlements, the development of formal basic housing programmes including "sites and services" became the focus in the early 1970's. The realization that the governments of many developing countries were incapable of building finished houses to meet the respective demands of citizens, and the fact that the people themselves were found to be an important resource with respect to solving their housing problems gave credence to the use of a self-help policy (Turner 1967; Peattie 1968; Mangin 1970; Van Huyck 1971 and Rosser 1971). This new focus saw governments changing their role to that of "enabler" rather than "provider" of housing to the low-income sector of their populations. Spearheading the new thrust was the World Bank and other international agencies in the form of financing, management and technical skills (Laquian 1977:291, Grimes 1976:20 and Doebele and Peattie 1976:9).<sup>4</sup>

Two general policies espousing self-help were formulated to provide formal lowincome housing for the poor: 1) the upgrading of existing settlements; and 2) aid to ease the development of new settlements (sites and services). The two policies which were to go hand in hand, promised the channelling of more resources directly to the poor and were to give them greater security on the tenure of their land (Gilbert and Gugler 1982).

### 2.1.3 Sites and Services Projects

"The sites-and-services approach involves the opening up of new land and its subdivision into serviced residential plots" (Laquian 1983:18). A definitive description of "sites and services" can be precarious as service standards, size of plots and the shelter component in such projects are diverse (See Van der Linden 1986). The main objective however, was the expectation that families would use mutual-aid and self-help to realize their shelter component and other community facilities.

The application of self-help principles to public housing projects in developing countries turned out to be different from the spontaneous housing efforts of squatter communities. Hardiman and Midgley wrote: Although the principles of self-help housing has been shown to work in spontaneous settlements, they are difficult to translate into public housing policies. Government supported self-help, or aided self-help as it is also known, had the attraction of reducing costs and this accounted for its increased popularity in official circles. But when public resources, professional expertise and administrative procedures are applied, dweller control usually diminishes (Hardiman and Midgley 1982:229).

Most researchers believe that the sites and services approach was able to raise housing efficiency, maximize land use, quicken the pace of construction and improve the standards of user-produced housing by providing aid for self-construction, rather than to duplicate informal settlements (Reimers 1992:4). The initial emphasis was in "restoring planning control" (Van der Linden 1986:16 and Goethert 1985:28) or "designed to maintain the status quo" (Drakakis-Smith 1976a:2 and Burgess 1979).

Others have stated that the self-help aspect of housing is a cover for non-action by governments on critical issues such as urban reform, progressive taxation, and land speculation (Wilsher and Righter 1975 and Harms 1972).<sup>5</sup> Another criticism was that sites and services schemes were likely to cream off the more affluent and innovative poor. This situation, it was thought, would leave poor settlements without leaders who might have pressed government for more services and help, and would also lower internal demand for services and commercial activities in poor settlements (Doebele and Peattie 1976).

Despite its apparent limitations, the principles on which the "sites and services" approach was founded seem to have merit, especially in light of the fact that not many (if any) other workable ideas have been put forward to date. Squatter or community upgrading projects were combined with sites and services to form a single programme. As Laquian, writing in *Habitat International* in (1983) claims;

Sites and services projects and community upgrading have been found to be much better at providing shelter and basic services at prices that the urban poor can really afford, compared to other housing approaches". More than any other housing approach, they have made shelter and services more accessible to the urban poor. For this, they are potent elements in a housing strategy (Laquian 1983). The incorporation of the poor into the formal low-income housing production process can be positive, due to the potential to gain greater control in the type and quality of housing produced, hence, greater dweller satisfaction (Turner 1972).

Some researchers have suggested that the focus on sites and services schemes should not be whether or not such schemes mirror spontaneous settlements totally, but rather, it should be whether or not those aspects borrowed from spontaneous settlements are workable or have worked in sites and services projects. Reimers (1992) for example, in his thesis on "The Evolution of Dwellings in Progressive Development Projects", states;

The simple fact that dwelling evolution (housing consolidation) in progressive development projects occurred within the legal urban framework, affected the kind of housing produced. In informal settlements, dwellings evolved without official or social acceptance. Other usual differences between contexts were the process of settling, the scale of development, settlement layout, plot layout, plot allocation, plot servicing and so on (Reimers 1992:4).

### 2.1.4 Housing Consolidation in Sites and Services Projects

Studies of housing consolidation in sites and services projects have largely existed as part of broader evaluations of such projects. These evaluations are usually based in the reports or audits done by the World Bank and national governments. Consequently, many studies have been biased towards the expectations and objectives of such institutions and other organizations involved in the housing sector and not to the perspective or experiences of the individual dwellers (Harms 1972).<sup>6</sup>

Many projects experienced difficulties due to the differing visions of both project sponsors and project dwellers.<sup>7</sup> The aspirations of the beneficiaries themselves, have in many instances impacted negatively on project success as they desired and attempted to construct "middle class" dwelling units right from the start.

Sites and services schemes cater to persons within certain income percentiles, usually between the lower 45th and 10th percentile of the income distribution (Robben 1986).<sup>8</sup> Thus to keep project costs low, plot sizes are reduced to the bare minimum in some countries and various options are put in place to afford the beneficiaries differing starting points. In some instances, building codes were relaxed in comparison to those ruling general house construction (Caleca De Mussa and Pinango, 1986).

The practice of house construction in most schemes has not employed self-help and mutual aid principles in any great length. Most projects followed the conventional pattern of using small informal contractors or other hired labour. The fact that most projects opted for durable materials, also influenced the process of consolidation immensely (Laquian, 1983).

#### 2.2. HOUSING CONSOLIDATION PHASES

A few studies have attempted to understand the dynamics of the actual physical development of the dwelling unit.

The studies reviewed can be divided into two general scenarios: the first defines the phases of development of the dwelling according to its physical characteristics, the second establishes a scale of priorities in the development of the dwelling unit based on the family's needs.

#### 2.2.1 Development Phases in Informal Settlements

Progressive development strategies are based on the observation of dwelling evolution in informal settlements. Therefore, a review of studies formulating housing consolidation phases in such settlements is a necessary starting point in order uderstand the process in formal housing settlements such as sites and services.

The Bazant, Nolasco and Gomez study (1981) of spontaneous settlements in Mexico, identified three general phases of development with regard to the house's physical characteristics: The first or *formative phase is* characterized by the construction of a multi-use room (16-30 M2) of non-permanent character which is built of recycled or inexpensive materials along with the use of the family's labour. This phase was estimated to have a duration of one to five years. The second or *developmental phase* which is observed to occur immediately after the family received security of tenure and represents the initiation of the dwelling's physical consolidation. This phase is characterized by the horizontal expansion of the dwelling unit, introducing the separation of specific spaces (kitchen and bathroom), gradual introduction of basic services, replacement of non-permanent materials, and replacement of family labour with specialized hired labour. The estimated time span of this phase is usually five to fifteen years. In this phase the family usually fulfils its basic housing needs regarding the habitable area and the physical stability of the structure. The third and final phase is *the consolidation phase* which is characterized by the vertical expansion of the dwelling, the addition of a work place within it and the improvement of services.

The Colombian National Planning Office (DANE) / World Bank study (1978) on illegal subdivisions in Colombia, and reported on by Hamer (1985) identified clear distinctions between different construction phases termed: a) *Tugurios*, (or shacks); b) *Casalotes*, or rooms added to the walled-in lot; c) *One-story structures*; and d) *Two- or Three-story structures*. The first two phases were identified as transitional phases, while the rest were classified as more or less advanced conventional dwellings. The phases identified by this study resembles that of the Bazant Study (Navarrete 1989:17).<sup>9</sup>

Vernez's study (1970) on pirate settlements in Colombia defined three phases of development, based on the family's physical priorities for housing. The first phase is the erection of a *multi-use room* which coincides with Bazant's formative phase. The second phase is the *Addition of habitable area and the separation of specific spaces* (kitchen and bathroom); and the third phase is *The provision of internal services*. The latter phases coincide with Bazant's (1981) developmental stage, but Vernez also considered the time frame within phases which produced differing results. According to Navarrete (1989), the land ownership status of the settlements may account for the differences.

Ziss and Kotowski-Ziss' study (1984) which investigated the housing consolidation processes of squatter settlements in Mexico, derived housing consolidation phases based on the interrelation between construction resistance and building material durability. Three house types were distinguished as indicators for stages of consolidation.

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The first house type is *The non-permanent type which is* a shack made of non-durable building materials, either of local traditional materials, inexpensive and perishable materials of industrial origin or of waste materials. This usually constitute the incipient stage. The second type is *The semi-permanent type* which utilizes durable materials for walls and roofing and non-permanent materials for framework. These buildings are usually without foundations. The final type is *permanent* which utilizes a framework of reinforced concrete, walls of solid materials, and often reinforced concrete roof and foundations.

The findings of the study by the Ziss' (1984) supports the findings of the previously mentioned studies and provides further information on the phases of development through its analysis of the building material used. In terms of the materials used, the first stage (non-permanent type) coincides with the formative phase and the final stage (permanent type) coincides with the end of the developmental phase. The intermediate stage (semi-permanent type) however, does not coincide with any phase defined by previous studies. Navarrete (1989) suggests that the semi-permanent type may be considered a variation of the non-permanent type and also representative of the formative stage.

#### 2.2.2 Development Phases in Sites and Services Projects

Past research has drawn upon the techniques used to identify stages of dwelling consolidation in sites and services projects. Differences occur in the categories formulated for the process seen in informal settlements as against those formulated for the process observed in formal low-income housing projects.

Some of the more important studies were undertaken in Latin America and India. The Latin American studies observed the consolidation process within the first five years of project implementation. The Indian studies observed the process over a greater time period (four to sixteen years). Dwelling growth in each study was placed into sequences of improvements depicting degrees of consolidation. The O.A.S.-F.S.D.V.M. study (1977), done on "San Jose de Pino in El Salvador, observed the process of consolidation as:

Stage 1: Consolidation of the basic habitable area into a more permanent structure.
Stage 2: Addition to habitable area and replacement of construction materials.
Stage 3: Aesthetic improvements.
Stage 4: Security and family privacy by enclosing the plot walls.

These four stages relates the owner's priorities in the progressive development of the dwelling. The study also looked at the uses and positions of additions made within the plot during consolidation stages. New additions were mainly kitchen areas, which were located at the back of the plot. Some families also constructed additional bedrooms, while a small number constructed a second floor (O.A.S.-F.S.V.D.M. 1977:17-24).

The World Bank study by Bamberger et al (1982) on projects also located in El Salvador, observed a similar sequence as the O.A.S.-F.S.V.D.M. study, except for the consolidation of the basic habitable area before its enlargement and the attention paid to aesthetics prior to security and privacy considerations. At the end of two years the families had built a total roofed area of 35-40 square metres. After achievement of the 40 square metres of roofed construction, mainly aesthetic improvements were contemplated (Bamberger et al 1982).

Navarrete's study (1989) examined "Zihautanejo" in Mexico, and compared the consolidation of houses in informal settlements to the process seen in sites and services projects. This study found an incremental development process in the dwellings it surveyed in Zihautanejo, but the sequence of improvements were different from Bamberger et al (1982). The differentiation of spaces in the initial basic habitable area, (for living, cooking and sleeping) occurred before improvement of the structure with more permanent materials.

Acioly's study (1986) on "Itmaraca" and "Chandangolandia" in Brazil, revealed interesting sequences of improvements. These improvements were classified into main categories according to the importance given by residents, with respect to the implementation of:

- 1: Plot division walls.
- 2: Household connections to water and electricity networks.
- 3: Excreta disposal system.
- 4: Internal divisions.
- 5: Roof extensions for laundry cleaning activities.
- 6: Core house extension.

Acioly (1986) also put forward three more categories which he classified as exceptional cases. These were identified as: the demolition of the original core house; the replacement of the core house in another location in the plot; and construction of a new house. This sequence of improvements differs somewhat from the previously mentioned studies, perhaps a result of the way each project was implemented. Steps four through six coincide with some of the stages defined in previous studies.

Mellin's study (1986) of "The Bhradreshwar Housing Colony", in Amedabad, India, observed that most of the houses presented in his study were constructed without any evidence of the long term, incremental construction process which one may reasonably expect would occur in a site and services project for the economically weaker sector. The five stage incremental construction process he observed are as follows:

- Stage 1: One room house at the back of the plot, with asbestos cement roof.
- Stage 2: Extension of the sanitary core and enclosure of the area between the back room and the sanitary core.
- Stage 3: Relocation of the toilet and addition of a wash place for clothes and dishes. Plot boundary is enclosed and a concrete roof slab is provided over the entire house, sometimes allowing for a stair to the roof terrace.
- Stage 4: Stair to the roof terrace is completed and roof parapet is constructed.

Stage 5: Second floor construction commences.

This sequence depicts construction of the basic habitable area (one room house) as the owner's first priority. The addition to habitable area (room and bathroom extension) and replacement of roof material is considered the second priority. The third priority is internal changes (toilet relocation) and security and privacy (lot walled in). The fourth priority covers the fourth, and fifth stages, which involves the construction of a second floor. This sequence roughly coincides with those put forward by the Bamberger et al (1982) and the OAS-FSDVM (1977). The Indian Human Settlements Programme study (1988), done on projects in Delhi, observed four stages of development as follows:

Stage 1: Erection of primitive makeshift structures.

Stage 2: Semi-permanent or permanent wall structure with make shift roofing. Stage 3: Walls semi-plastered and roofs replaced with more permanent materials.

Stage 4: Improved roof and wall material introduced and aesthetics attended to.

The study also identified a three stage developmental process with regard to the interior of the houses. The sequence of improvement in this study, along with the study by Navarrete (1989) come closest to resembling those observed in informal settlements. Stage one through stage three, coincide with Bazant's formative phase and Ziss and kotowski-Ziss' non-permanent type and semi-permanent type, which as suggested by Navarrete (1989), could be considered a variation of Bazant's formative phase. The fourth stage also falls within Bazant's developmental phase since there is no vertical expansion of the house. This stage also coincides with the permanent type stage described by the Ziss' study.

Although all studies examined have shown some similarities in their respective consolidation processes, the variations suggest that the geographic, socio-economic and cultural setting play important roles in the consolidation of dwellings in sites and services schemes. The socio-economic dimension is of immediate interest, as more people are finding it difficult to assemble even the most basic ingredients necessary for urban survival.

Income level affects an individual's or household's access to the basic needs of life, including housing. Income is normally generated through employment, although type of employment varies widely. In terms of the poor, most employment opportunities and income are found in the informal sector. In the context of developing human settlements, the location of income-generating activities is extremely important, as the workplace for these activities is usually in or around the house. The combination of living and working space is characteristic of small-scale economic activities. This is particularly true where women, who represent a considerable portion of small-scale entrepreneurs, have to combine household work with informal economic activities.

It has been recognized that integrating employment-generating activities with shelter programmes is a promising approach to solving the dual problem of improving both the housing and the economic situation of the poorer sections of society (UNCHS 1989).

#### 2.3 EMPLOYMENT, INCOME GENERATION AND HOUSING LINKAGES

It has been widely recognized that employment, incomes and access to housing and associated services are highly interrelated. The biggest constraint to developing improved housing for the lowest income groups is their poverty. Their incomes are too meagre or too unstable to permit the commitment of scarce resources to shelter. Poor people first and foremost need to generate income or increase their earnings to improve their living conditions in general and their housing in particular (Arcot Ramachandran 1989).

Employment, income generation and housing have long been interrelated.

From the beginning of medieval times a place to live was synonymous with a place to work, certainly for the self-employed, but also frequently for employed helpers (Schoenauer 1992:225).

Schoenauer (1992) states that houses were highly multi-functional, so much so that at times, they are used also as nurseries, schools, hospitals and as places for conducting religious services.

Until recently, small shops and cottage industries were the dominant mode of production in the world. The literature on slums and squatter communities shows that housing is not only a place for home life, but also for production and entertainment (Laquian 1983).

In spite of the positive literature, governments and planners in many instances, have not recognized the existence of small-scale (home-based) enterprises nor have they acted to encourage their development in sponsored low-income projects (UNCHS 1989; Risbud 1990). After affordability systems are set up and the beneficiaries are chosen, their changed circumstances and increased living expenses (mortgages, loan repayment, further construction costs etc.) are not taken into account.<sup>10</sup>Yet it is commonly recognized that only a small proportion of the urban poor will ever obtain employment in the public sector, or in medium-size and large-scale enterprises, the "formal sector".<sup>11</sup> Most will gain or maintain employment in the "informal sector".<sup>12</sup> It is to this sector therefore, that energies should be directed to attain a holistic housing strategy, as more job seekers find opportunities to earn income from activities originating in the home (UNCHS 1989). Stren et al (1992) suggest that it is in the informal sector of the economy that the ideal conditions of liberalism and creative free enterprise are best realized in developing countries. They also, view the informal sector as an outlet both for unemployed citizens and for governments with respect to shortfalls in planning and public policies.

#### 2.3.1 Employment - Housing Linkages

It is a well established fact that the poor derive most of their incomes from labour, the only income-generating asset at their disposal. But since provision of shelter is itself an activity calling for substantial labour input, one wonders if it is not possible to promote both housing and employment goals simultaneously through a common strategy (Sethuraman 1991:300).

Housing construction offers more employment opportunities, both directly and indirectly, than any other sector of the construction industry (UNCHS 1989). A number of studies have shown that low-cost single-storey housing is more labour-intensive than multi-storey housing (Strassman 1980). Infrastructure and other initial works in sites and services projects are usually awarded to large contractors with equipment -intensive methods. The real use of the vast reservoir of labour has been at the house development stage. These transactions and agreements are made between dwellers and the small informal construction units or individuals who exhibit flexibility in adjusting to consumer's special requirements and local market conditions (UNCHS 1989).

An evaluation of the construction phase in three sites and services projects in El Salvador showed that the greatest contribution to employment and income came from labour hired by participating families during the self-help phase of the project.<sup>13</sup> The most common practice appears to be for plot holders to purchase the materials themselves and to hire labour, either individuals or small-scale neighbourhood contractors, to undertake the construction (UNCHS 1989; and Marcussen 1990).

The use of locally-made building components has been encouraged in many aided self-help housing projects. The manufacture of local materials for housing is seen not only as a means of reducing the cost, and increasing the supply of building material, but also as a means of increasing the incomes of local residents. In many cases, initial efforts aimed at supplying building materials to project participants only, have been extended in response to a wider demand (UNCHS 1989).

Employment opportunities from housing also come about through the establishment of petty commercial and industrial concerns, generally located within lowincome neighbourhoods and homes.

The link between housing and employment in the informal sector is symbiotic in that economic activities enable housing improvements to be made, which, in turn, improve employment prospects and productivity (Tipple 1993).

### 2.3.2 Income Generation - Housing Linkages

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While housing has been regarded in the past mainly as a consumption good, shelter is increasingly acknowledged as a productive investment. Investments in housing are capable of generating income, as well as influencing the productivity of the occupants (Afrane 1990; Rodell 1990). A study by Raj (1987) in India, has demonstrated that achievement of home ownership can sufficiently motivate a family to increase its income, thereby raising the family's ability to pay for housing (Lee 1990).

In spite of this finding, physical planning processes underestimate the economic necessity of the household - Home-Based Economic Activities (HBEAs) and hence deal with these as just another land use issue (Raj and Mitra 1990).<sup>14</sup> The result is development plans which segregate activities into separate zones. Policy mechanism with regard to HBEAs are either non-existent, neutral or overtly regulatory, as local authorities attempt to enforce the ideas of planners (UNCHS 1989). Nevertheless, the reality is that

dwellers in low-income settlements find it an economic necessity to set up shops, workshops and other income generating units in their homes (Farbman 1981; Fass 1977; Peattie 1987 and Strassman 1986).

Several reasons initiate HBEAs in the households. The most common reason is that some households had no other choice. Family tradition, the opportunity to engage in lower level economic activities, and the responsibilities of women to the home for child support and home security are others (Fass 1980).

The lower the household income, the higher the compulsion to carry out some form of HBEA. HBEAs exists, out of sheer necessity. The greater the responsibility on the household head to carry out HBEAs, the higher is the probability that HBEAs shall acquire a secure base in the family economy (Raj and Mitra 1990). A major contributing factor to the growth of earning power for the working poor is found in the opportunities for generating income in their settlements. A key point is that settlements are not static, they evolve and develop in response to the income-earning capacity of the residents. If this capacity is enhanced, residents will be able to undertake all types of improvements to their living conditions, particularly to their houses (UNCHS, Commission on Human Settlements 1993).

#### 2.3.3 Types of Home-Based Income-Generating Activities

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Studies by Strassman (1986) in Lima, Peru and Nientied et al. (NDS 1990) in India reveal a variety of "active" home-based economic activities such as baking, cooking, sewing, and services such as repairs, printing, photography, hair cutting, giving injections and retailing (Tipple 1993).<sup>15</sup> The manufacture of items in the home on contract to middlemen or industrialists is a common phenomenon in South-East Asia (Bhatt 1989; Mehta and Mehta 1990).

Raj and Mitra (1990) classify Home-based enterprises (HBEs) into three broad groups based on the skill level and resources involved. 1) The first group includes those that require little or no skill or resources (stitching and knitting, petty retailing. The second group encompasses those that require modest skills or resources (cycle repair,
tailoring and dressmaking, simple metal, leather or woodworking). The third group includes those that are either entrepreneurial or require moderate to high levels of skills and resources (full-fledged retailing with bookkeeping, medical and dental clinics etc.).

#### 2.3.4 Size and Use of Space in Home-Based Enterprises

One research project undertaken in Medellin, Colombia (PEVAL-CEHAP 1984;

quoted by Mesa 1990) classified the use of family housing for business as follows:

- 1) Window Sales: minor retail sales through an existing window of the house, without any change in the internal or external spatial organization of the dwelling.
- 2) Small Shop: a front room is used for retail sales but the shop and dwelling area share the same access.
- 3) Independent Shop or Workshop: independent of the dwelling, it may either be used by the family or let out, for retailing, services or small-scale production.

A second category, classified as rent extracting activities were:

- 1) The letting of rooms.
- 2) An independent residential dwelling.

According to Tipple (1993), Seshachalam and Rao (1990) divide the urban

informal activities studied in Hyderabad, India, into the following eight categories,

according to use of space:

- 1) A shop-front on the street with a dwelling unit in the backyard.
- 2) A dwelling unit in the front with a workplace in the backyard.
- 3) The ground floor as a business place with the first floor as a residential unit.
- 4) The ground floor as a residential unit with the first floor as a business place.
- 5) A rented residence with own shop.
- 6) Own residence with a rented business space.
- 7) Own residence with an encroaching space.
- 8) Own business space with encroaching kutcha (poorly built or semi-permanent residential structure).

In a sample of households from Delhi, a large number had not allocated separate space in the house for the HBEs. Half of the HBE operators acknowledged that flexible use of space was the main advantage they enjoyed and one-eight had appropriated the public space in front of the lot for petty retailing and livestock rearing (Raj and Mitra 1990).

The relationship between the amount of floor space used by the business, and the income derived was found to be significant (Strassman 1986). In a sample from Lima, the average household with an HBE used 30.6% of its floor space which averaged 115.6 M2. Providers of lodging gave the most space to business 74.8 M2 or 53% of the space, followed by makers of metal and food products with over 40% of the space. The women who wove, knitted, and laundered used the least amount of space for business, (13%), yet were the most dependent on the dwelling, in the sense that they could not have carried on their activities elsewhere.

## 2.3.5 Dwelling Expansion and Improvement

According to Strassman (1986), dwellings with HBEs were generally of better quality than those without them in 'popular urbanizations'<sup>16</sup> and poor neighbourhoods, and worse than dwellings without HBEs in 'conventional' neighbourhoods.

In poor neighbourhoods, dwellings with HBEs had a resale value one-third higher, were located on sites 11.1% larger, had 30.2% more floor space, and were 23.7% more likely to have a sewage system connection than those without HBEs. Occupants with HBEs had expanded their dwelling from an average of 2.3 rooms to 3.5 rooms, while others had expanded them from 1.9 to 3.2 rooms, (about the same amount). In conventional neighbourhoods, dwellings with HBEs were declared to be worth 26.4% less than those without, were located on sites 16.2% smaller, but in dwellings with the same amount of floor space and with about the same number of rooms, (3.8). The HBE occupants had on average, added twice as many rooms as occupants without HBEs. Dwelling expansion and improvement however, depended not so much on the type of HBE as on total household income; of which, more were derived from HBEs in some cases (the manufacture of "sturdy" products) than in others. In low-income neighbourhoods, HBE operators represented the elite, while in conventional neighbourhoods they belonged to the relatively poor, struggling households.

Strassman's (1986) sample also showed that the average HBE was started 7.3

years after the initial occupation of the plot by the household. Making textile and dispensing medical services were started after the shortest delays, (5.3 and 4.4 years respectively), because extra space and improvements were least needed for those activities. The longest delays were in starting a repair business (8.5 years) or renting out rooms (9.6 years), because of their relationship to the life cycle of the household, the extra investment, and experience that had to be accumulated for those activities.

Strassman posits that without HBEs, both the incentive and the income for making improvements would be lacking, and housing and neighbourhood conditions throughout Lima would be worse. In India, the housing conditions of households with HBEs were shown to be better than average, leading Mehta and Mehta (1990) to suggest that HBEs could contribute to the upgrading of settlements. Raj and Mitra (1990) found that 91 per cent of houses with HBEs had permanent structures, and that 72% had more than one storey. These findings also reinforce Strassman's point about housing and neighbourhood conditions without HBEs (Tipple 1993).

## 2.3.6 Disadvantages

Although the housing conditions of households with HBEs are generally better than average, HBEs also present some disadvantages which reflect poor housing and employment conditions in general (Tipple 1993).

The first group of disadvantages arise primarily from the conditions of isolation and lack of visibility in which workers carry out their tasks (Commission on Human Settlements, 1992).<sup>17</sup> The second group of disadvantages concerns the effect of economic activities on the residential environment. These are often referred to as externalities (Commission on Human Settlements, 1992).<sup>18</sup>

The advantages of HBEs (especially their employment-creating potential and the services they provide to neighbourhoods) need to be weighed against possible disadvantages. Using the sort of technical methods assembled by Tipple and Willis (1991), cost-benefit analysis of various activities could be carried out in order to identify policies which would reduce negative effects while maintaining the viability of HBEs

(Commision on Human Settlements 1992).

#### 2.4 SUMMARY

This chapter focused on the concept of housing consolidation in low-income settlements. The application of progressive development (consolidation) to sponsored housing projects was based on observation of the process in informal settlements. The study highlighted the varying conditions between projects, approaches and settlements (vis-a-vis their categorization, of "formal" or "informal") with respect to housing consolidation (dwelling evolution).

The review of previous studies brought to light diverse findings regarding the important aspects of housing consolidation in projects and settlements which were progressively developed. These studies concluded that dwellings increased their area through additions and changes made over a period of time which reflected the household's needs and priorities. The process can involve up to three phases: the formative phase, the developmental phase, and the consolidation phase depending upon the context of the particular settlement. Housing consolidation processes in sites and services schemes, (except for one study), were only observed for periods of five years or less, and therefore are unable to fully reveal their dynamics.

Review of recent studies concerning the linkages between employment, income generation and housing outlines the tardiness of planners and implementors in recognizing the interrelationship of these aspects of housing and their effects on consolidation. The combination of employment-generating activities and shelter programmes was highlighted along with the positive impacts created, such as dwelling improvement and expansion on account of the inclusion of home-based economic enterprises in low-income settlements. The need to identify policies which would reduce the negative effects, while maintaining the viability of HBEs was also highlighted.

#### Notes for Chapter 2

- 1. Caleca De Mussa and Pinango (1986), write that the aims of sites and services schemes focus on three aspects, one of which is that participant families have access to affordable housing which can be improved according to their needs and income levels.
- 2. Originally published in 1976 by Doebele and Peartie. Published under Peartie's name in 1982 in Habitat International.
- 3. Gilbert and Gugler (1982) argue that while the richer families obviously contribute to the economy of the barrio, the poor may be an important source of income for the rich. They say it is an undeniable fact that as settlements become older or consolidate, the proportions of renters increase; owners deliberately extend their houses to accommodate renters, thereby increasing their incomes.
- 4. Laquian (1977:291) notes that in 1974 there were "eighty proposed or completed schemes in 27 countries". Grimes (1976:20) reports that "as of 1973 sites and services projects were part of the national development plans for 13 countries". Doebele and Peattie (1976:9) noted that the sites and services approach represents "one of the most important reforms in the housing policies of developing countries in the last decade".
- 5. The doctrine of self-help is deeply attractive. It appeals to most everyone's belief in human ability, neighbourliness, ambition and good sense. It also however, less nobly, encourages some people to believe that there is nothing to worry about, that the less interference that there is with natural forces the better, and that everything will work itself out in the long run.
- 6. Harms (1972) states that "The problem of housing appears quite different when seen from the national and aggregate level by a public policy maker or a large commercial developer than it does from the perspective of a low-income dweller. At the National level, massive housing deficits are most apparent, and solutions which combine speed, economies of scale and industrialization seem perfectly appropriate. From the user's point of view, on the other hand, primary considerations are availability (low rent or price level), quality, location in relation to jobs, good schools, transportation, and sufficient control over one's living space to make a personalized home".
- 7. Design standards imposed by housing agencies are adapted to the housing and services of higher income groups. They do not respond to the socio-economic characteristics of the target population of the site and services schemes; consequently, they result in economic burdens to the participant families (Caleca De Mussa and Pinango, 1986;49).
- 8. Other authors such as Laquian (1983:34) state that it is usually recommended that the target population be located within income percentiles ranging between the 20th and the 60th. This, it is said, corresponds to the middle stratum of the low-income groups. Although the selection of participant on these bases is often difficult, owing to the unreliability of information about income (Caleca De Mussa and Pinango, 1986).
- 9. The tugurios illustrate the formative phase, the casalotes and the one storey structures represent both extremes of the developmental phase, while the two- and three-storey structures fit into the consolidation phase (Navarrete, 1989).
- 10. See Lee (1990:70) in Housing and Income in Third World Urban Development. (eds) M. Raj and P. Nientied, New Delhi: Oxford and IBH.
- 11. For information on the "formal" and "informal" sectors and interrelation, see Stren et al (1992) pp. 27-31.

- 12. There is no agreement on a definition of the informal or small-scale business sector. The word "small-scale" indicates the number of employees and the level of economic activity and is generally preferred to "informal" which refers to the fact that some but by no means all of these enterprises operate without licences and in defiance of official regulations, the diversity of activities in the sector also contributes to the problem of definition.
- See World Bank, Evaluation of the First El Salvador Sites and Services Project. Urban and Regional Report No. 80-12. Washington D.C. 1980.
- 14. The term HBEAs means home-based economic activities'. It is sometimes used in the forms: 1) HBEAs; 2) HBEA home-based economic activity; 3) HBEs 'home-based enterprises; 4) HBE 'home-based economic enterprise'; and 4) HW home work'. The terms essentially share the same meaning but are used by different agencies and individuals.
- 15. NDS refers to the "New Delhi Seminar" on Income and Housing in Third World Urban Development.
- 16. "Popular Urbanization" is a category of neighbourhood in Lima. Peru described by Strassman as characterized by small sites with development consisting only of the provision of roads, water, sewerage, and perhaps a core dwelling. "Conventional" neighbourhoods are those consisting of individually built, usually attached, houses which are often subdivided into apartments, rented and having an average floorspace of 100 square metres on lots just over 100 M2. For other categories, see Strassman (1987) in Economic Development and Change. Vol. 36, No.1, pp. 121-144.
- 17. While factory workers can benefit from group solidarity in order to campaign for better working conditions, home-based workers are less able to improve their lot. It has been said that "it allows the manufacturer to pay wage rates which imply an intolerable level of exploitation to the worker, frequently lengthening the working day, and forcing the worker to work in conditions which present not only safety but health hazards to herself and other members of the family" (Young, 1981).
- 18. An externality is an effect which a particular form of land use or activity has on neighbouring uses and occupants. A new golf course is likely to have positive externalities on house prices as people would like to live near a large, well tended open space frequented by the elite. In contrast, a chemical works will have both positive (employment) and negative (pollution) externalities (UNCHS, 1992:8).

## **CHAPTER 3**

# LOW-INCOME HOUSING IN THE KINGSTON METROPOLITAN REGION OF JAMAICA: Overview and History

## 3.0 INTRODUCTION

This chapter presents an overview and history of low-income housing in the Kingston Metropolitan Region (KMR) to provide an understanding of the implementation of specific "sites and services" schemes. The chapter is divided into two sections: the first, contains a brief overview and history and the second, deals with background information on two sites and services projects, Nannyville Gardens and De La Vega city, from which data for the study was collected.

## 3.1 OVERVIEW AND REGIONAL SETTING

The island of Jamaica is located in the Caribbean Sea, its population is 2.5 million people and its area is 11,424 square kilometres (4,411 square miles). Jamaica is the third largest of the Caribbean islands and the largest of the English-speaking Caribbean islands. (Fig. 1) The capital city, Kingston, is the hub of the Kingston Metropolitan Region (KMR). The KMR is actually a conglomeration of the parish of Kingston and portions of the parishes of St. Thomas, St. Andrew and St. Catherine covering an area of approximately 662 square kilometres (255 sq. mls) (*fig.2*). It is the seat of the Central Government and is administered by three local government bodies, the St Thomas Parish Council, the Kingston and St. Andrew Corporation (K.S.A.C.) and the St. Catherine Parish Council.



Fig. 1 Location Map - Jamaica Source: IBRD Report, 1974

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Many of the island's manufacturing and commercial entities are located or directed within the KMR, hence its attraction as a destination for employment opportunities and social services. The severe socio-economic problems which confront the nation are also present in the region, where unemployment in 1994 is near 16% and 40-50% of low-income households are without steady work. This is compounded by a maldistribution of income, squatting and extensive slum areas, marked physical deterioration in Spanish Town, Central, East and West Kingston, a shortage of housing for low-income families and an inadequate provision of public services (Economic and Social Survey 1992).



Fig. 2 The Kingston Metropolitan Region Source: KMR Regional Plan, Town Planning Department

# 3.1.1 Population

The KMR accounts for nearly one-third of the island's population. It is the fastest growing region of the island and is expected to continue for the foreseeable future (KMR Regional Plan 1978). The population of the KMR in 1991 was 770,319 persons (*Table*. 1), with the Kingston Metropolitan Area (KMA) accounting for 587,798 persons (76%).

KMR POPULATION											
	1991	1982	(%) INCREASE (annual)								
KMA	587,798	524,634	1.33								
SPANISH TOWN	92,383	89,097	.40								
PORTMORE	90,138	73,426	2.52								
KMR	770,319	687,157	1.41								

Source: Population Census 1991, Preliminary Report. - STATIN

Table 1. Population - The Kingston Metropolitan Regiom

#### 3.1.2 Housing

There are approximately 231,000 dwellings in the KMR, with an average of 3.7 persons per dwelling. The mean household size in 1991 was highest in the poorest quintile at 5.7, a figure which decreased progressively to 2.6 in the wealthiest quintile (*Table 2*). In 1991, 44.0% of the households within the KMR were headed by females (Jamaica Survey of Living Conditions (SLC) 1991).

#### Ouintile Mean Adult Adult Children males females total size Poorest 5.67 1.60 1.72 2.35 2 4.96 1.39 1.65 1.92 3 4.34 1.34 1.44 1.56 4 3.71 1.19 1.21 1.31 5 2.58 0.99 1.01 0.58

#### MEAN HOUSEHOLD COMPOSITION

Source: Jamaica Survey of Living Conditions Report 1991 Table 2. Mean household composition by quintiles - KMR.

The largest proportion of dwellings were built with block and steel construction (62.8%). Within quintiles, the distribution of households by outer wall material (*Table 3*) shows considerable variations. In the poorest quintile, the proportion of households living in block and steel houses is 40.1%, and wooden houses 44.6%. In the wealthiest quintile, block and steel accounts for 68.4% with wooden houses accounting for a mere19.0% (SLC. 1991).

In terms of sanitary facilities, over 80% of households use water closets (WCs), however, almost 50% of the WCs are not linked to sewers, and 60% of the households with WCs linked to a sewer did not have exclusive use of their facility. Only 10.7 per cent of households in the poorest quintile had WCs, while almost 85 per cent use pit latrines (SLC.1991).

Numerick of	Quintile												
outer walls	Poorest	2	3	4	5								
Concrete including blocks	40.1	41.0	50.9	54.5	68.4								
Stone	0.4	0.4	0.9	1.1	0.2								
Bricks	0.4	1.1	1.2	2.4	0.7								
Nog	10.3	. 8.8	7.5	4.8	4.6								
Wattle & daub	3.3	2.8	3.1	2.9	0.9								
Vood	38.8	36.0	23.6	21.4	11.7								
Wood & concrete	5.8	7.8	8.1	6.1	7.3								
Vood & bricks	0.0	0.0	0-6	0.8	0.2								
Others	0.8	2.1	4.0	6.1	6.0								
All types	100.0	100.0	100.0	100.0	100.0								

Source: SLC. Report, 1991 Table 3. Distribution of households by outer wall material

Over 80% of households in the KMR are serviced with electricity, the primary power source of lighting. Almost 70% have indoor taps for potable water. Approximately 38% of houses are owned by a household member, while renting is on the increase. In 1991, close to 33 percent of households live in rented premises (SLC. 1991).

During the late 1970s and early 1980s, nearly 80% of the labour force was unable to demonstrate effective demand for a conventional housing unit, as less than 20% of the employed labour force earned more than J\$100 (US\$30) per week, and less than 50% earned more than J\$50 per week. This situation has been further eroded by inflation and continued devaluation of the Jamaican dollar (Davies 1984).

#### 3.1.3 Historical Perspective

Like most of the cities in the developing world, Kingston has grown rapidly since the end of the Second World War. In the period 1943 to 1960 the population increased by 86 percent, from 204,086 persons to 379,600, and although the growth rate has subsequently decelerated, the population of the KMR by 1991 was 770,319 persons. The KMR's rapid population growth prior to 1975 resulted both from a high rate of natural increase and from massive transfers of people from the rural areas (Clarke 1975). Rapid urbanization placed a severe strain on the region in terms of employment and housing. Migration to the KMR started after emancipation from slavery in 1834 which eventually gave rise to the growth of the urban shanty-town. Squatting which had become prevalent after emancipation, persisted and even intensified, after 1944 as Jamaica gained Adult Suffrage and a number of persons moved from the rural areas to the metropolis in order to gain employment. Approximately 4,000 persons were enumerated in four squatter camps in West Kingston in 1951 (Clarke 1975).

Land tenure and the land-use system in Jamaica has always been a major factor in class differentiation and exploitation. This has not been only a matter of high rents and land speculation, but land suitable for housing poor people has usually been preempted for a more profitable use, such as middle income housing, industry and commerce (Hodges, 1978). Consequently, the whole physical structure of Kingston and other towns has been distorted, and each consecutive government, newly in office, has hunted around for pockets of land to implement new low-income housing schemes (Hodges 1978).

#### 3.1.4 Government Involvement in Housing

In 1936, a Housing Advisory Committee was established and within a year, it recommended the setting up of a Central Housing Authority (CHA), and a slum clearance and Housing Law in 1939. The Town Planning Department was formed in 1950 to advise government on physical planning issues, design and carried out works for the Central Housing Authority (The precursor to the Ministry of Housing) and to give advice to private developers and surveyors (paper presented by Jamaica, 8th session, U.N. Commission on Human Settlements - Kingston, 1985).

The CHA's projects included: resettlement schemes; several rehabilitation schemes after flood damage; housing for ex-servicemen; and owner-occupier schemes, where loans were made to people who owned land to erect their house, and in some cases, on lots subdivided by the Authority (Hodges 1978).

#### 3.1.5 Housing Law - 1955

The housing Law of 1955 which provided for a Director of Housing, replaced the Slum Clearance and Housing Law of 1939. This resulted in the amalgamation of the CHA and the Hurricane Housing Organization (HHO) which had been set up after a devastating hurricane hit the island in 1951. The amalgamation of the CHA and HHO was later consolidated into the Ministry of Housing through the Housing Act of 1968 (Spaulding 1973, Hodges 1978 and Hann 1986). The Act of 1955 also broadened the Government's involvement in housing to include middle-income groups as well as lowincome groups and slum clearance. The Law paved the way for Building Societies to make loans to prospective house owners in Government Schemes (Hann 1986). As a result of Government's inability to cater to middle- and low-income groups at the same time, the Law was further amended in 1958 with permission given to private corporations to construct housing schemes (Hann 1986).

#### 3.1.7 Housing Schemes

Various low-income housing schemes have been built under the aegis of government and private developers. According to Hodges, "it is difficult to think of a kind of scheme which has not been tried in Jamaica and often forgotten and tried again" (1978:8).

One thing which is clear is that Jamaica has put remarkable thought and effort into low income housing for over forty years. The variety of approaches and architectural designs is something we can be proud of (Hodges 1978:1).

Housing projects in the KMR, such as those located at Balmagie and Tower Hill were conceived in the early 1950s using self-help methods along the lines of sites and services. Other projects tried were the redevelopment of squatter areas into high density housing estates, large tenement dwellings providing multiple accommodations, apartment blocks resembling barracks with shared sanitary and cooking facilities and single-room dwellings that could be sub-divided into two rooms (Clarke 1975 and Hodges 1978). Community upgrading and sites and services schemes funded by the World Bank came on stream in the early 1970's.

## 3.2.0 SITES AND SERVICES PROGRAMME IN JAMAICA

During the 1960s, programs based on heavily subsidized Government housing and slum eradication, as well as fragmented, ineffective planning and capital-intensive investments in industry did not deal effectively with the basic needs for shelter, community services and jobs (IBRD Report, 1974). In the early 1970's therefore, the Government's updated policy was aimed at providing decent shelter for low-income families by assisted self-help programs, supportive community facilities, such as daycare centres, health clinics, schools and training facilities (IBRD Report, 1974). The Government entered into an agreement in 1974 with the World Bank for support and financing of a sites and services project through loan No. 1003 JM. This was amongst the first site and services loan by the World Bank.

#### 3.2.1 Objectives of the Sites and Services Project

The project was designed to:

- bring housing, essential community services and job opportunities to Jamaica's lower income groups to the maximum extent possible.
- . demonstrate a practical and more desirable alternative to the existing low-cost housing programs in Jamaica.
- . bring about institutional reforms that would provide the executing capability for a long term program.

## 3.2.2 Selection of the Sites

Selection of the sites were dependent on the following:

- . The land had to be owned by Government.
- . It had to be in close proximity to existing infrastructure.
- . It had to be located close to employment centres.

The sites selected in the KMR were Hunt's Bay (Seaview Gardens) (1874 units), Marcus Garvey (785 units), Spanish Town (De La Vega City) (558 units), Camplands (Nannyville Gardens) (456 units) and Sandy Gully (826 units) (*Fig. 3*). The Marcus Garvey site was abandoned after considerable infrastructure works were performed due to its close proximity to the city's main power plant, and a large oil refinery and storage plant. The Sandy Gully site was never developed and some of the units were added to the Seaview site. The project ended up with Seaview Gardens 2326 units, Nannyville 456 units, and De la Vega City 558 units, a total of 3340 units (Laidley 1993).



Source: IBRD Fig. 3 Location of Sites and Services Projects - KMR

## 3.2.3 Shelter Related Component

The shelter components in each site were the same, although of different proportions. They consisted of: i) basic service plots (usually 94 sq. mtrs.); ii) service plots with sanitary cores; and iii) Service plots, with sanitary cores and basic shelter frames as shown in *Fig. 4* (IBRD Report, 1985).



Source: IBRD Fig. 4 Type of benefits - sites and services projects

A materials loan of J\$400.00 (US\$440.00) for the bathroom, kitchen and basic living areas was granted and administered by the credit union governing each particular scheme. A further loan arrangement could also be made with the credit unions for materials to construct the bedrooms and for fencing (IBRD Report, 1985).

## 3.2.4 Selection of Beneficiaries

The national median income level of J\$55.00 per week, which prevailed at the time was used to devise the system of selection, as the project wanted to reach people in

the bottom 40th percentile. Therefore households with annual incomes not exceeding J\$1500.00 could qualify. Approximately 25% of the households to receive benefits were to have annual incomes not exceeding J\$900.00. An initial income band of J\$11 -J\$25 per week was used between 1974 and 1978. This was later adjusted to J\$25 - J\$40 per week due to inflation and the subsequent devaluation of the Jamaican Dollar (Laidley 1993).

Females who headed households with children and artisans were priority beneficiaries. Persons meeting the selection criteria and residing within a six mile radius of the site also stood a better chance of receiving a benefit. Administration of the selection process was managed by the special unit set up by the Ministry of Construction (Housing) with advertisements and information regarding the schemes placed in the daily newspapers and in booklets which could be obtained at the ministry (Laidley 1993).

#### 3.2.5 Payments and Mortgages

The three types of benefits had the respective costs of J\$1,410.00, J\$1,665.00 and J\$1,910.00. Down payment for all home-owners was set at J\$150.00 which reduced the mortgage amount. Monthly payments of mortgages ranged between J\$25 - J\$50 and included an interest payment at the rate of 8% per annum. The range in monthly payments was dependent on the type of benefit received, as *Premium Plots* located along the main roadways or on a large corner area cost J\$200 more than regular plots. Premium plots were offered to those families who could afford to pay more and were used as a cross-subsidy for families of limited means (Occupants' Handbook, Ministry of Housing 1975).

A mortgage moratorium of four years was instituted to make it easier on the families during construction of their dwellings. Premium plot purchasers were given a two year moratorium (Occupant's Handbook 1975).

A small monthly payment of J\$3 - J\$4 for lease of the plots and community operating charges was due once the participants took possession of their plots (Occupant's Handbook, undated) (See *Table 4*). 38

## LAND RENTAL PAYMENTS

DISCOUNTED PLOTS (LESS \$200) First year through fourth year.....\$1.00 per month Fifth year......\$2.00 per month No further increases

#### PREMIUM PLOTS

First year through fifth year	\$2.00 per month
Sixth year through 10th year	
Eleventh year through fifteenth year	\$6.00 per month
Sixteen year on	S8.00 per month
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#### **REGULAR PLOTS**

First year through 10th year	
Eleventh year through fifteenth year	
Sixteenth year on	

Source: Occupants' handbook, Ministry of Housing.

Table 4. Lease payments for plots

#### 3.2.6 Home Ownership and Restrictions

Plots were originally leased for 49 years, as government sought to reduce initial payments and to deter resale to higher income groups. This arrangement was rescinded in the 1980s and plots were made available for sale to the participants. The Government also reserved the right of 'first option to buy' in the event that owners wanted to sell within the first five years. After this period, the benefit could be sold upon approval of the buyer by the Ministry of Housing (Handbook, Ministry of Housing).

No large animals or fowl were permitted on the plots except dogs, cats and small birds because of health reasons. Only business activities which did not cause disturbances to neighbours, such as sewing, weaving, hair-dressing, toy-making, carpentry and pottery were permitted. The handbook also stated that "to preserve the residential character of the community, businesses like motor-car, motor-cycle and bicycle repairs, welding and iron works, manufacturing, large-scale carpentry and blockmaking which may require heavy equipment are not allowed" (Handbook 1975:8).

#### 3.2.7 Building Standards

The building restrictions and guidelines set by the project implementers were

excessive, exacting and often contradictory in terms of housing for low-income earners.

Below are some of the building standards that were stipulated.

**Building Lines:** Set backs between the house and the street boundary should be 1.219 metres (4 feet). Set backs between the house and side fence should be 1.066 metres (3 feet 6 inches). Set backs between the house and rear fence should be 1.066 metres (3 feet 6 inches), except where bathrooms are joined back-to-back.

Houses: The house must be built of permanent materials, so that it will be structurally stable to provide protection against weather conditions, fire hazards and other acts of God. The house must be protected from corrosion, decay and insects. Workmanship must be of good quality.

**Basic Shelter:** The basic shelter must be at least 11 square metres (120 square feet) with a ceiling height of 2.28 metres (7 feet 6 inches).

**Bedrooms:** The completed bedrooms must be at least 38 square metres (410 square feet) for a family of six persons. Two or three bedrooms must be built.

Windows: Window areas must be 10% of the floor area in each room. Each room must have a window that can be opened to allow air flow.

Openings: No openings should be made in walls on the boundary lines.

**Roof design:** The apex of the roof must be on the party wall. The roof drainage must start away from the party wall.

Foundation wall: Foundation must be filled with solid concrete to floor level. Fences: Fences must not be higher than 1.219 metres (4 feet) on the front boundary.

As will be seen from the analysis of the data, the result differed from the original

vision of the implementors. Participants deviated from the project designs and rules and

put their personal touch on their units, by relocating service areas, laying out and

finishing spaces according to their particular needs and aspirations as shown in fig. 5.

Nevertheless, the size and configuration of plots and houses and the way the project was

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implemented, influenced consolidation immensely.



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## **CHAPTER 4**

## THE FIELD STUDY

#### 4.0 INTRODUCTION

This study draws on the experience of previous studies which have investigated the consolidation of houses in sites and services projects, and utilizes a field study as the primary data source. The survey was conducted in Jamaica during the months of September and October 1993. The main objective of the study was to collect relevant information for analysis of the consolidation of houses in two sites and services projects.

This chapter describes the surveys carried out with regard to the respective sites. The chapter is divided into three sections: the first highlights the factors that governed the decision making process; the second relates to a description of the research strategy; and the third provides a detailed description of the way the survey was carried out in both housing development.

## 4.1 FACTORS GOVERNING THE DECISIONS

#### 4.1.1 The Location Of The Study

The KMR was chosen for several reasons. First of all, a personal interest in understanding the factors responsible for the urbanization process of Kingston and its effects on the housing sector, suggested a study in the region would be useful. The KMR continues to be the primary region for the island's economic activities, population growth and housing needs, despite past efforts to rationalize the country's settlement pattern. Government is now studying proposals aimed at reforming local government operations and procedures. This no doubt, will have a profound effect on urban upgrading in the KMR and its housing sector. The second reason for choosing to study the KMR was that sites and services projects, although earmarked for other urban areas of Jamaica, were implemented as per agreement with The World Bank only in the KMR. This agreement was also among the first entered into by the World Bank for the implementation of sites and services projects. A change of government in 1980 resulted in various amendments to those portions of the project which were not already implemented, hence, only three schemes, all located in the KMR, were implemented within the spirit of the original agreement. Also, while several evaluations have been done, its effects on the beneficiaries have never been evaluated.

The final reason is personal preference. The author is a resident of the KMR which simplified the logistics of carrying out the field study. Having worked with the Town Planning Department and Sugar Industry Housing Limited provided intimate knowledge of the region's housing conditions and the actors involved in the housing sector. This allowed easier access to data, provided knowledgable contacts, and significantly shortened the length of time needed to undertake the study.

## 4.1.2 The Sites And Services Projects

The projects selected as case studies were Nannyville Gardens (Camplands) and De La Vega City (Spanish Town) sites and services projects. The first phase of Seaview Gardens (Hunt's Bay) was also developed within the principles set out by the GOJ/World Bank agreement, however, it was decided to omit Seaview from the survey because of the rivalry between members of the two major political parties in the area, and the propensity for associated incidences of violence. Although the author accessed the area on three occasions to set up the survey, assurances for his safety were not guaranteed. and an escalation of disturbances during the research period led to the abandonment of that portion of the survey. The other two sites nevertheless, provide a good representative sample of the area of study.

## Nannyville (Camplands)

This 455-plot project, implemented in 1974, stands on 9.72 hectares (24 acres) of land along Mountain View Road adjacent to the national stadium, in east-central Kingston. It initially provided regular plots of approximately 94 M2 (1008 sq. ft.) with paved roads, on-plot water supply, electricity, a central sewage disposal system, community centre, play field, pocket parks, basic school, day-care, health and market facilities. (see *Fig.6*)



Fig. 6 Site plan - Nannyville Gardens Source: Estate Development Company Ltd. (EDCO)

## De La Vega City (Spanish Town)

This project, also implemented in 1974 sits on 10.13 hectares (25 acres) of land along the Kingston to Spanish Town Highway. It initially provided regular plots of approximately 94 M2 (1008 sq. ft.) with paved roads, on-plot water supply, electricity, a central sewage disposal system, community centre, skills training centre, industrial estate, pocket parks, basic school, day-care and market facilities. (See *Fig. 7*)



Source: IBRD Report, 1974 Fig. 7 Site plan - De La vega City

## 4.2. RESEARCH STRATEGY

The primary data collected for this study includes: a) interviews; b) physical measurements; c) aerial photographs; d) Slides; and e) observation notes. The secondary data includes: a) information supplied by key informants; and b) documentation on the projects.

#### 4.2.1 Primary Data

#### a) Interviews

Information was gathered by interviewing the allottees through a questionnaire adapted from one used in an earlier survey by The Shankland Cox Partnership prior to the implementation of sites and services schemes. (See *Annex 1*). The objective of the interviews was to glean information such as: the type of benefit received; the number of people occupying the plot; initial and present household composition; initial and present economic situation; consolidation sequence; previous housing situation; residents community perspective; and their evaluation of sites and services projects.

## b) Physical measurements

All information were recorded through sketches of floor plans for the units where interviews were conducted. The objective was to record the extent of consolidation and the physical condition of the units. The data collected included: the configuration of the unit; dimensions of rooms; floor and ceiling materials; and the uses of rooms.

## c) Aerial photographs

Aerial photographs (found in *Annex 3*) depicting the extent of consolidation in each scheme on a quarterly basis for up to years were obtained from Jack Tyndale-Biscoe Ltd. The photographs for Nannyville, the photographs cover October, 1974 through August, 1980. For De La Vega City, they cover November, 1974 through July, 1978. d) Slides

Slides were taken to highlight the physical aspects of the dwellings surveyed, both internally and externally. Others were taken of the entire housing development, although these were mainly external, depicting economic activities and the appearances of various dwellings.

## e) Observation notes

A number of situations that were observed, or questions which were asked in a roundabout way were noted only during the measurement portion of the survey, in order to keep the interviewee at ease. These would be discussed later with the respective informant, either on the way to the next interview or at the end of the day back at the

informant's house. Names or lot numbers for instance, were never requested from the interviewees, but would be obtained from the informant and cross-checked on the site plans and allotment application cards supplied by the ministry. This served as a dual check, both for the informant's knowledge and for the reliability of the information gathered from the respective surveyed plots. Notes of certain features of both housing development were also made while walking through the developments.

#### 4.2.2 Secondary Data

#### a) Information supplied by key informants

Interviews were held with professionals who were involved in the implementation of the sites and services projects. These interviews provided valuable insights into the agreements made between the Government of Jamaica and the World Bank, the perspectives and initial expectations of the policy makers, and the administrative procedures and implementation experiences of the responsible agencies. Numerous personal insights and information were also provided by the two resident informants of each site.

## b) Documentation on the projects

Documents pertaining to the sites and services projects in Jamaica were accessed through The Ministry of Construction (Housing) and from the existing literature. These included a preparatory study and proposal by The Shankland Cox Partnership which was commissioned by The Government of Jamaica, The World Bank's appraisal, GOJ/Bank agreements and project implementation handbooks.

## 4.2.3 Selection Of The Plots

The survey and gathering of other information related to sites and services projects in Jamaica was originally scheduled for 10 weeks, from the middle of June to the end of August, 1993. Due to unforseen circumstances however, the period for the fieldwork had to be rescheduled for the months of September and October, and the number of weeks reduced to 8. A note was made of the time taken by others who had done similar surveys, where approximately 45 minutes to an hour was spent with each person interviewed.

After the first week, it became clear that the residents would be more accessible in the afternoons after 4:00 pm, when they returned from work or when household chores were completed and on weekends. Furthermore, the plot surveys and interviews would not have been possible without the informants from the respective sites accompanying the author, therefore, visits to the sites had to be scheduled with regard to their availability which placed further limitations on the work schedule.

Contact with Avril Smith, the informant for De La Vega City, was made through The Ministry of Construction (Housing) where she is employed. This informant was extremely knowledgeable and helpful, as she is both a resident of the housing scheme and works as a community officer in sites and services schemes and upgraded settlements. Her intimate knowledge of and relationship with the residents of her housing scheme provided a relaxed atmosphere and backup for the information they supplied.

Contact with Bobby Thomas, the informant for Nannyville Gardens, came through the Kingston Cooperative Credit Union, the agency which administers the mortgage collections on behalf of the Ministry. Mr. Thomas is a community leader and one of the first residents of this housing scheme. He displayed an intimate knowledge of the residents and history of development of the site. Through him, residents gave freely of their time and spoke openly of their experiences and expectations. He was also used as a check to collaborate the residents' answers.

Approximately 50 interviews per site were undertaken, which represent around 10% of the total units in each site, and was considered an acceptable sample size. Both informants were instructed to omit any units that were totally rented, since the objective was to gather information which would portray the historical development of the respective sites, including the beneficiaries' consolidation experiences.

During the daily routine, the author would pre-select the units using the site plan obtained from the Ministry of Housing. If they were owner occupied, an introduction would be made by the informant explaining the business at hand, and permission sought to do the interview and to survey the plot.

## 4.3.0 THE SURVEY

#### 4.3.1 Plot Survey Description

All interviews were conducted with the allottee or allottee and spouse with the aid of a questionnaire. Interviewees were allowed to speak on other issues not specific to the questionnaire in order to put them at ease and to make the interview more informal.

On conclusion of the interview, permission was sought to take measurements of the dwelling and to make notes on the physical condition. Photographs were also taken of any unusual features encountered. After the survey, the plot number was recorded with confirmation by the informant and any information given that seemed contradictory, was discussed with the informant to ensure its validity.

## 4.3.2 Daily Organization Of The Survey

The informants were met at their homes where the master plan of the housing scheme was used to choose the particular section where the interviewer wanted to obtain interviews from that day.

The work was undertaken in the afternoons, starting at around 4:30 pm and usually lasted for approximately three hours. An average of three plots were surveyed during this period. At nights after each survey, notes were again reviewed and transcribed, sketches of floor plans drawn to scale and appropriately filed.

## 4.3.3 Additional Remarks

A considerable amount of data was collected during the field study and the study's objectives were met. The survey was constrained by the author's dependence on others to access the residents, consequently, observation of a household's activities during the course of an entire day was impossible.

During the course of the survey, requests for interviews were turned down by two residents only, both from De La Vega City. One member of a household in Nannyville Gardens initially objected to the photographing of the interior of the dwelling although the allottee had consented, however, when the purpose of the survey was explained, the objection subsided and the shots were allowed to be taken.

Questions regarding names, place of employment and present income were not asked although they were a part of the questionnaire as the interviewer felt those type of questions would have created an alarm thus jeopardizing the interview. Instead, information such as the relationship of household members to the allottee and type of employment were solicited. Overall, the cooperation level was extremely high, as it seemed that the residents were very proud of what they had been able to achieve "on their own" and so were eager to talk about it.

## **CHAPTER 5**

## ANALYSIS OF THE DATA

## 5.0 INTRODUCTION

This chapter presents a detailed analysis of the consolidation of houses surveyed in the Nannyville and De La Vega sites and services schemes. A description of the methods of analysis, is followed by an analysis of the data.

## 5.1 METHODS OF ANALYSIS

## 5.1.1 Organization of the Data

The physical development of the dwelling was illustrated graphically for each of the surveyed plots regarding each successive stage of addition to the habitable area. Observed modifications were of the following nature: addition of habitable area; the level of finish; and the addition or incorporation of space for HBEs (*Fig. 8*).



#### Fig. 8 Typical stages of dwelling development

The data was organized in correspondence with some of the stages of completion noted by other authors as outlined in Chapter 2. These stages were used to distinguish phases within the development process. The number of stages and the level of finish attained at each stage are based on information provided by the interviewed households and from aerial photographs depicting the progressive development of the schemes.

## 5.1.2 Establishment of Descriptive Categories

## a) Areas of habitable space

To examine the habitable area at the initial stage of the dwelling's development and throughout its subsequent growth, four categories of areas were established with ranges of thirty square metres. The range of the categories is based on the grouping of areas which were to be built by the beneficiaries at each stage of addition, such as the core (living/dining area, kitchen and bathroom), the bedrooms and the verandah and rear yard additions made by the participants, all of which were approximately 30 M2. The four categories are shown in *Table 5*.

CATEGORY	1:	under 30 M2
CATEGORY	2:	31 - 60 M2
CATEGORY	3:	61 - 90 M2
CATEGORY	4:	over 90 M2

Table 5. Size of Habitable Area

#### b) The level of finish

All houses in the schemes had to be constructed of permanent materials. These were mainly block and steel or concrete panels for walls, with corrugated galvanized zinc sheeting as roof cladding. The panel wall system was proposed by the project administrators but the participants preferred the conventional block and steel method of construction (Dixon, 1978: 67).

Five categories were formulated to document the level of finishes undertaken at each stage of addition. These categories were: 1) No finish undertaken; 2) Interior finishes only; 3) Exterior finishes only; 4) Partial finishes to interior and exterior; and 5) All finishes undertaken (*Table 6*).

Florente	Level of finish													
Elements	1	2	3	4	5									
Wall Ceiling Floor Window Door														

#### Table 6. Level of Finish

Following the above classification, the various stages of completion of all units were assigned the corresponding designation based on the level of finish.

#### c) The incorporation of HBE spaces

Special variables were noted to analyze HBEs within the consolidation process, these were: a) types of HBEs; b) nature of spaces used for HBEs; c) location of HBE on the plot; d) size of space used for HBE; e) plot position and disposition of dwelling with HBE; and f) the relationship between HBE and household.

#### 5.1.3 Analytical Procedure

The analysis was done in two parts: the first, dealt with the first stage of addition in the dwelling's development and the second dealt with subsequent stages. The initial stage began when the participants took possession of their plots. A quantitative and qualitative analysis of the following aspects was performed: a) areas of the built spaces; b) the level of finishes done at each stage of addition; c) the relationship between areas built and the level of finishes done; and d) the relationship between areas built and household size.

The analysis of subsequent stages examined the physical priorities of the participants during these stages of housing consolidation. The priorities were: space requirements (size of dwelling); layout of service areas (bathroom, kitchen and laundry); aesthetics; and incorporation of HBE spaces. Four stages of addition to the dwelling were analyzed. Units sampled in De La Vega City went through a maximum of three stages of addition. In Nannyville, only four households carried out stage 4 (*Tables 7 & 8*).

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Table 7. Areas of addition by stages - De La Vega City

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Table 8. Areas of addition by stages - Nannyville Gardens

# 5.2 THE ANALYSIS

## 5.2.1 The Initial Stage

# a) Areas of habitable spaces

An average of 61% of the units sampled in both housing schemes initiated development with areas ranging between 61-82 M2 as shown in Fig. 9. (69% and 52% for De La Vega City and Nannyville respectively).



Fig. 9. Number of plots and range of built areas - Stage 1

The amount of area built varied from 20 M2 to 82 M2 (median area; 64.5 M2; mean area: 56.5 M2, see Fig. 10). The variety of areas built indicates the beneficiaries' needs and economic circumstances.



Fig. 10 Frequency distribution of built areas - Stage 1

A total of 32 units or 39% of the sample, 17 from De La Vega and 15 from Nannyville went through only one stage of addition during consolidation. The analysis of the sample shows that a significant number of units (61%) at the first stage of dwelling development, were built with areas ranging between 61-82 M2. These areas included the basic habitable area (living/dining and service areas) and three bedrooms. Thirty of the 51 units in this range carried out only one stage of addition. It is therefore, presumed that the majority of beneficiaries in both schemes sought to attain habitable areas which could comfortably hold the entire family from the inception of dwelling development. This was facilitated by the materials loan to construct the basic living area, a cash loan facility provided to construct the bedrooms and the need of many beneficiaries to rid themselves of the one room situation in which they previously lived.

#### b) The Level of Finish

In De La Vega City, 64% of households had all finishes completed prior to further addition of space. whereas in Nannyville, only 42.% had all finishes completed before further addition of area. The results of the combined sample of both schemes is shown in *Fig.11*. As noted earlier, 32 dwellings went through a single stage only and achieved a category 5 finish level over a number of years which may distort the results.



Fig. 11. Level of finish, Combined sample - Stage 1

#### c) The relationship between Area and the Level of Finish

The correspondence between unit size and the level of finishes completed at the initial stage is shown in *Table 9*. Sixty-two percent of the sample is concentrated within the 61-90 M2 range, 84.3% of which had a category 5 finish level. As can be seen from the table, this relationship diminishes for dwellings in the smaller area ranges.



Table 9. Correspondence between area and level of finish
It is important to note, that the category 5 finish level achieved in the 30 one stage dwellings in this range, was achieved over several years. It can therefore, be construed that most of the beneficiaries opted for larger unfinished habitable areas as opposed to smaller completed ones. The fact that only 2 of the 31 dwellings in categories 1 and 2 completed finishes prior to the commencement of stage 2 addition reinforces the inference drawn regarding the beneficiaries' priorities.

## d) The relationship between Built Area and Household Size

The mean household size in the overall sample was 5.57 persons(*Table 10*). Households with 4 or more persons accounted for 78% of the houses sampled. At De La Vega City, the mean of 5.12 persons per household and over 71.4% of the houses sampled, had 4 or more persons in the household. In Nannyville, the mean was 6.05 persons per household, and over 85% of the houses sampled, had 4 or more persons in the household.

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Table 10. Household size, frequency and average persons per household - Stage 1

The majority of households from the sample were initially large (above the national average of 4.3 persons per household (SLC 1991). This finding reinforces the inference made with regard to the beneficiaries' preference for large unfinished habitable areas at the inception of dwelling development.

#### Summary of Findings

The analysis of the first stage of dwelling development showed that the beneficiaries of both schemes opted for sufficient habitable areas to comfortably house their families, although a fair number appeared to have had enough resources to achieve both sufficient area and a high level of finish. The general area required by the families turned out to be approximately 60 M2 which included bedrooms, verandah, living/dining areas, and service areas such as kitchen and bathroom.

This analysis also suggests that the level of finish at this stage was secondary to space but important. Attention was paid to the security and privacy of the dwellings in terms of doors and windows. Security and privacy of the plot at this juncture was not an immediate concern. Provisions for loans (materials and cash) to carry out construction and other project briefs given to the beneficiaries played a definite role in speeding up the first stage of consolidation.

## 5.2.2 Subsequent Growth:

#### a) The second stage

Approximately 74% of the dwellings sampled in both housing schemes carried out a second stage of addition, with added areas ranging between 6-29 M2 as shown in *Figures 12 and 13*. In De La Vega City, 60% of the dwellings sampled carried out a second stage of addition with 88% adding areas ranging between 6-29 M2. In Nannyville, 63% of the sample carried out a second stage of addition with 60% adding areas ranging between 8-29 M2, and 40.0% adding areas which ranged between 34-51 M2.



Fig. 12. No. of plots and range of built areas - Stage 2

The mean increase in area for the dwellings sampled in both schemes was 22.78 M2 and the median area added was20 M2. In De La Vega, the mean increase in area was 18.04 M2 and the median area added 14 M2. In Nannyville, the mean increase in area was 27.5 M2 and the median area added 27 M2. Twenty of the 50 dwellings made no further additions after the second stage (11 in De La Vega and 9 in Nannyville).



Fig. 13. Frequency distribution of built areas - Stage 2

The analysis revealed that the majority of additions were for bedrooms, verandas and service areas (laundry, kitchen and bathroom). A carport and rental flat were also added in two separate cases. Approximately 70% of the dwellings added multiple areas as shown in *Table 11*.

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Table II. Area added and level of finish - Nannyville and De Lo Vega - stage 2

Of the 50 dwellings, 10% initiated the second stage of development in the same year of occupancy, 54% in year 2 and 16% in year 3. In one case, the second stage was initiated in the 15th year.

Analysis of income data suggest that there were no drastic changes in income (in real terms) from normal sources. Most of the households financed development of their dwellings from personal savings, normal earnings, windfall earnings, loans (formal and informal) and transfer payments from relatives and friends both locally and from overseas (*Table 12*).

		c	CumulativeCumulative			
Financing	Frequency	Percent	Frequency	Percent		
Earnings	5	6.1	5	6.1		
Savings	6	7.3	11	13.4		
Formal loan	15	18.3	26	31.7		
Gift from relatives	1	1.2	27	32.9		
Earnings + savings	42	51.2	69	84.1		
Earnings + loan	3	3.7	72	87.8		
Earnings + gift		4.9	76	92.7		
Savings + loan	3	3.7	79	96.3		
Loan + gift	2	2.4	81	98.8		
Savings + loan + gift	: <u>1</u>	1.2	82	100.0		

Ξ.

Table 12. Method of financing

The analysis shows that the 20 dwellings which did not undertake a third stage of addition, attained minimum areas 61M2. This is consistent with the earlier finding regarding the first stage, where approximately 60 M2 was the general area required by the bene ficiaries.

At the second stage, 60% of the dwellings had all finishes completed (*Fig. 14*). This translates as an overall improvement to the level of finish seen in the dwellings. The reason for the improvements seems to be that the beneficiaries attained sufficient habitable areas at this stage and concentrated their energies towards finishing their units.



Fig. 14. Level of finish at stage 2 - combined sample

The analysis of the second stage suggests that the beneficiaries sought to attain the size of the unit they required before expending their energies on a high level of finish. The addition of space exclusively for commercial activity begins at this stage.

#### b) The third stage

In De La Vega City, 33% of the dwellings sampled carried out a third stage of addition with 93% adding areas ranging between 7-29 M2. One dwelling added 96 M2 on the second floor for rental purposes. In Nannyville, 40% of the dwellings sampled carried out a third stage of addition with 81% adding areas ranging between 5-30 M2. The result when both housing schemes are combined shows 37% of the dwellings sampled carrying out a third stage with 87% adding areas between 5-30 M2 (Fig. 15).



Fig. 15. No. of plots and range of areas built - Stage 3

The mean increase in area for De La Vega was 20.07 M2 and the median area added was 16 M2. None of the 14 dwellings carried out a fourth stage. For Nannyville, the mean increase in area was 20.56 M2 and the median area added was 14 M2. Four of the 16 dwellings carried out a fourth stage of addition. When the schemes are combined, the mean increase in area is 21.27 M2 and the median area added is 15 M2 as shown in Fig. 16.



Fig. 16. Frequency distribution of built areas - Stage 3

For the combined sample of 30 dwellings, the analysis revealed that the majority of additions made were for bedrooms, commercial activity, verandas and service areas (laundry and kitchen). One dwelling also added a bathroom.

Bathroom and kitchen areas were relocated in many instances at great expense, as the beneficiaries did not approve of the original design which located the service areas outside to the rear of the house (See Fig 17).



LAYOUT OF 3 BEDROOM UNIT ON TYPICAL LOT

Fig. 17. Floor Plan - Project design

In many cases, areas to the rear of the plots were covered, secured and used as laundry, kitchen or storage area. This was done to incorporate the bathroom into the dwelling as shown in *Fig. 18*. This area was originally supposed to be the rear yard, consequently, only 27% of the 82 units sampled have rear yards. Seventy percent of the dwellings added area for only one purpose in contrast to stage 2 (30%) (*Table 13*).



Fig. 18 Floor Plan - Typical beneficiary

Nammyville (Area of addition [N2], year of addition, level of finish and use of area added at stage 3\_)

No. [P]	lot Xo.   Are	a added]Tear [P	inish Type/use
3328 ZI	1222522525	2312222333	******
11	391	11 (1982 (	5 (Bedroom
21	109	6  1993	1  Bedroom
3	117 j	24   1983	5 [Bedrooms/]amdr
41	300	27  1991	4 <u> Shop</u>
51	212	39 [1989 ]	5 Nockshop
<b>6</b>	168 1	30 1987 1	5 [Bental flat
71	164 1	27 [1992 ]	4  Dining/verandah .
8	350	13 [1968	5 Bedroce
9	186	13  1979	5  Laundry
10	355	6  1979	5 [Litchen/bathroos
11 1	8	52  1988	S (Grocery shop
12	305	15  1981	5  Bedroom/kitchen .
13	275	45  1986	5 (Grocery shop
14 ]	292	7  1987	5 (Verandah
15	301 (	7 11989 1	5 (Landry
15	293	5 [1980 ]	5 (Verandah
		*******	

De La Vega City (Area of addition [M2], year of addition, level of finish and use of area added at stage 3.)

	***::::::			-
10. [P]	lot No.  1r	na adda (Tear	Finish	iType/use
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21	509	10  1989	9   5	jCarport/veranda
31	349	8 1197	9   5	Kitchen/laundry
4 [	45 ]	11  1991	L] 5	Verandah
5 I	134	23 11983	215	Grocery/bar
6 1	50 j	22 1982	2 j - 4	Carport/worksho -
71	131	11   1990	) j 4	Laundry
8 [	335 1	15 (1980	FÍ 5	Laundry
9 j	391 j	29 1997	ti 5	Rental flat
10 j	439 1	96 11988	ij S	Rental flat
шì	385	22 11981	LÍ 4	Bedrooss
12	359 1	12 11978	li S	Bedroca
13	330 1	7 11980	1 5	Bar
14 i -	194 I	17 11963	i 5	Workshop
		******	tguiii:	



Seventy percent of households initiated the third stage of development within four years of completing the second. Only six of the 82 dwellings surveyed experienced a change in ownership, five of which appear to have been taken over by more affluent participants. Twenty-four of the 30 dwellings (80%) had all finishes completed (*Fig. 19*).



Fig. 19. Level of finish at stage 3 - combined sample

These findings translate further improvement to the level of finish seen in the previous stage and also strengthens the argument regarding the importance of sufficient habitable area over the level of finishes to the beneficiaries. For those dwellings which did not undertake a fourth stage of addition, only one has not attained a minimum area of 62 M2. The beneficiary who owns this dwelling is a late entrant to Nannyville, and is currently in the process of consolidating his unit. This further reinforces the earlier findings, regarding the minimum habitable area required by the beneficiaries.

## c) The fourth stage

Four dwellings, all from Nannyville, carried out a fourth stage of addition representing 5% of the combined sample. The areas added were 6, 32, 74 and 92 M2 and covered the four categories of addition. The mean increase in area was 51 M2 and the median area added 53 M2.

The reasons for additions made in this stage were for a Bar (drinking saloon), two rental flats, and a verandah. The bar was added one year after the third stage addition, the rental flats were added 5 and 13 years respectively after the third stage, and the verandah was constructed in the same year the third stage addition was completed. The final areas of the dwellings were 68, 135, 148 and 175 M2. This again reinforces previous findings regarding the minimum space required by the beneficiaries.

Three of the 4 dwellings had partial finishes done to the interior and exterior and the fourth dwelling had all finishes completed (*Fig.20*). The three dwellings with partial finishes commenced the fourth stage in 1992. The dwelling which erected the verandah and completed all finishes, was fully consolidated in 1980. (see annex 2).

The analysis of the fourth stage revealed that by 1992, 17 years after consolidation began in the schemes, most of the households had attained enough habitable area to comfortably house themselves. Households which have undergone changes in size and composition, affecting comfort and privacy, are contemplating second floor additions.

At the fourth stage of addition, 75% of the consolidation activities were exclusively for economic gain, as some households ceased opportunities which resulted from the consolidation levels in the schemes and from their savings.





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### Summary of Findings

The analysis of the latter stages showed that many households sought comfort in terms of space for socializing, sleeping, and for service facilities such as kitchens, bathrooms and laundries. Bathroom and kitchen areas were in many instances relocated at great expense, as the beneficiaries did not approve of the original design which located the service areas outside to the rear of the house (*See Fig 18*). Additions were made in the rear of the plot to incorporate the bathroom into the dwelling, consequently, only 27% of the 82 units sampled have rear yards.

The majority of additions in the latter stages were made exclusively for economic gain. This was done by erecting rental flats and providing space for small commercial entities such as groceries, bars and workshops (appliance repairs, garment and furniture manufactures).

#### 5.2.3 Home-Based Enterprises:

Two sets of data are used to analyze HBEs. One data set was derived from personal observation and notes made by the author, from information supplied by the informants during visits to the housing schemes and from the Ministry of Housing's records. This will be used to present the total picture with regard to the distribution of HBEs in both schemes. The other data set was derived from those plots where interviews were conducted, this will be used to present the spatial aspects of dwellings with HBEs. a) Types of HBEs

Various types of HBEs were encountered in both housing schemes. They included grocery shops (30), vending from verandas (35), rented rooms and flats (25), clothing manufacturing (16), bars (8), hairdressing salons (8), furniture establishments (5), appliance repairs (2), bakery (1), and shoe repair (1) (see *fig. 21*). A total of 91 dwellings, 23 in Nannyville and 68 in De La Vega City were fully rented with the allottees living elsewhere, mainly overseas.

Of the 1014 plots comprising both housing schemes, 222 (22%) are engaged in some form of housing-based economic activity (Fig. 22).

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Fig. 21 Types of Home-Based Ente., rises

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Combined sample Percentages of connercial activities by type

Fig. 22 Percentages of commercial activity by type

# b) Nature of the spaces used for HBEs

Except for grocery shops, bars, and rented rooms, most of the enterprises were set up on a shared space basis with the space reverting to family use after business hours. The main areas used are verandas, living/dining areas, and rooms to the rear of the plot. Additions were made for grocery shops, work shops, bars, and rented rooms. Front and side yards are also annexed to the dwelling with roofs made of temporary materials for some enterprises.

## c) Location on the plot

Excluding those plots where renting occurs, 50% of the enterprises are located within the dwelling and share space with other family uses. Twenty-six per cent are attached to the front of the dwelling, 17% are located to the side, 6% are located on the second floor and 1% to the rear (*see Fig. 23*).



Fig. 23 Percentages of HBEs by location on the plot

#### d) Size of space used for HBEs

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In De la Vega City, the minimum amount of space used for a HBE is 4 M2, with the maximum being 132 M2 (the mean is 18.51 M2). Clothing manufacture uses the least amount of space and the most is used for renting (*Table 14*).

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Table 14. Space utilization of HBEs - De La Vega

In Nannyville, the minimum space used for a HBE is 3.34 M2, with the maximum being 74 M2 (the mean is 22.65 M2) (see *Table 17*). As in De La Vega, clothing manufacture uses the least amount of space, while renting uses the most *(Table 15)*.

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Table 15. Space utilization of HBEs - Nannyville

A combination of both housing schemes produces results as shown in Table 16.

3.3	Minimum area
132.0	Maximum area
20.9	Mean area
7.4	Median area

Table 16. Space utilization of HBEs - Both schemes

The average household with a HBE used 25% of its 83 M2 dwelling for the business or 1.25 out of its 5 five habitable rooms. Providers of lodging devoted the most space to business (40.3 M2 or 40% of the dwelling) followed by grocery shops (28.6 M2 or 24%), furniture makers (13 M2 or 16%), clothing manufacturers (11.5 M2 or 14%) and verandah enterprises (Vending, hairdressing etc.) (5.58 M2 or 9.4%).

In general, dwellings with HBEs are larger than those without (an average of 83 M2 compared to 74 M2) and are more likely to go through more building stages (*Fig. 24*) The largest dwelling surveyed was 193 M2 is engaged in economic activity through renting and a grocery shop.



Fig 24 Building stages by HBE category

The different classes of HBEs differ in their relationship to the number of stages, final unit area, and amount of increased building area. Households with vending activities follow much the same pattern with respect to each of the three measures as those without HBEs. HBEs affect housing consolidation primarily because of the presence of activities that require exclusive use of space such as grocery, bar, small manufacturing enterprises and rental units (*Figs. 25 and 26*).



Fig. 25 Final Unit Size: De La Vega City



Fig. 26 Final unit size - Nannyville Gardens

# e) HBE relationship to plot location/disposition

## **Plot location**

Although 68% of dwellings with HBEs are located on pathways, (63% in De La Vega and 77% in Nannyville), there is a strong tendency to establish HBEs in dwellings located on streets, given that 74.4% of the houses are located exclusively on pathways and only 14.6% are located exclusively on streets (*Table 17*).

Lot location								
LOTLOCAT	Frequency	Percent	Cumulative Frequency	Complative Percent				
Street	7	8.5	7	8.5				
Pathway	45	54.9	52	63.4				
Street + Pathway	8	9.8	60	73.2				
Two Streets	1	1.2	61	74.4				
Street + Parking	3	3.7	64	78.0				
Two Pathways	10	12.2	74	90.2				
Three Pathways	2	2.4	76	92.7				
Two Pathwavs + Bach-	a Ī	1.2	77	93.9				
Partmay + Parking	2 3	3.7	80	97.6				
Two Bathwaw + St	ĩ	1 2	81	98.8				
Street + Pocket	i	1.2	82	100.0				

Table 17. Frequency of Plots by Location

The remaining 11% have multiple frontages which provides access to both pathway and street. No apparent relationship exists between the type of HBE established and plots located on pathways or streets (*Table 18*).

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Table 18. Distribution of HBEs by plot location/disposition

A strong relationship exists between plots with HBEs and their distribution within the schemes. Many of the smaller HBEs that sell food and other household items seem to cater to a very localized clientele, in many instances covering only a portion of a pathway or street. Large enterprises engaged in the sale of daily household items are located mainly at strategic entry points to the housing schemes, in attempt to attract a wider cross-section of customers. HBEs engaged in clothing and furniture manufacture are located randomly and appear to cater to a clientele which is wider than the schemes. (see annex 4)

#### **Plot disposition**

HBEs are evenly distributed between plots located at intersections and those along pathways or streets (51.2% and 48.8% respectively). This suggests a strong

relationship between HBEs and corner plots, as only 30.5% of the plots in the housing schemes are located at intersections (*Table 19*). The pattern is especially apparent for grocery shops which are located on corner plots three times more often than they are on plots along pathways or streets (*Table 18*). The owners of many of these enterprises appear to recognized the potential for increased access to customers through corner plot locations. In many instances, they have also successfully appropriated the public spaces (pocket parks, parking lots and walkways) adjacent to their plots for business purposes as they have no nieghbours to contend with regarding those property lines and the regulatory agencies are passive observers.

Lot position							
LOTPOSIT	Frequency	Percent	Cumulative Frequency	Cumulative Percent			
Corner Middle	25 57	30.5 69.5	25 82	30.5 100.0			

Table 19. Frequency of plot position (both schemes)

## f) The relationship between HBEs and households.

#### **HBEs and beneficiary profile**

Four categories distinguish the marital profiles of the beneficiaries: 1) Single female allottees; 2) Female allottees with spouse; 3) Single male allottees; and 4) Male allottees with spouse. The data were obtained from the Ministry of Housing. The Ministry's allotment records shows that 38% of the plots were allotted to single females, 19% to females with spouse, 8% to single males and 35% to males with spouse.

Based on the survey sample for De La Vega City, 58% of the dwellings with HBEs were allotted to females. Single females accounted for 41.% of the enterprises established. No single male established an enterprise. In Nannyville, 25% of the dwellings with HBEs were allotted to females, with 21% on plots allotted to single females. No single male established an enterprise in Nannyville. For both housing projects combined. 39% of the dwellings with HBEs were allotted to females with approximately 29% of the enterprises alloted to single females (Fig. 27).



Fig. 27. Percentages of HBEs by allotment profile

Male headed households established more enterprises (61%), than female headed households (39%). Households with couples also established more enterprises (71%), than single person headed households (29%). While females were allotted the majority of the plots, it is the male headed households that established the most HBEs (*Table 20*). The results suggest that households made up of couples are more stable economically and therefore, are more able to establish enterprises.

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Table 20. HBEs by allottment profile

All HBEs devoted to furniture making and appliance repairs are located in dwellings with couples. The figures for groceries, bars and clothing manufacture are 62.5%, 50% and 50% respectively. Petty vending from verandas is carried out mainly by single females (62.5%); an activity which requires only a small capital outlay, and thus facilitates easier entry. No pattern is evident for the renting of rooms in terms of the allottee's profile or for establishing HBEs with regard to family size.

## Timing of HBE after plot occupation

In De La Vega City, HBEs were established from as early as the second year of occupation (mean time was 5.47 years and median time 4 years). In Nannyville, HBEs were also established in the second year of occupation (mean time was 6.4 years and median time 6 years). For the combined sample see *Table 21*.

1.0 Minimum time 15.0 Maximum time 6.0 Mean time 5.0 Median time

#### Table 21. Timing of HBEs - Both housing schemes

For both schemes, the mean time for establishing appliance repair and furniture workshops was 5.0 years, renting of rooms 5.7 years, clothing manufacture 5.8 years, grocery shops and bars 6.0 years, and hairdressing salons 12.0 years. The time delay in establishing hairdressing salons could have been a result of clients choosing to remain with their original coiffeurs initially, and from the fact that it took time for younger residents of the schemes to acquire the necessary skills and to develop a clientele. On the whole, enterprises requiring a large capital input in terms of equipment, goods for sale, and physical structure, took much longer to establish.

## Characteristics of five households with HBEs

This section presents details of five households which have enterprises established on their plots. The types of HBEs include vending, grocery shop, clothing manufacture, renting, retailing and furniture manufacture.

#### a) Dwelling #510, De La Vega City - Grocery Shop

The original household consisted of a single female and her three children. They took over the plot in 1978 when the mother was 27 years old. The initial home had a floor area of 69 M2, inclusive of bathroom, kitchen, living/dining, verandah and three bedrooms which satisfied the space requirements for the family's daily routine (see annex 2). Construction of the dwelling was effected by skilled artisans, along with relatives and friends. All walls and the roof were erected at the first stage, but the finishes remained incomplete. The bathroom and kitchen were eventually relocated, and most of the finishes to the walls, ceiling and floor were effected over the ensuing two year period.

The beneficiary was employed in a garment factory earning J\$100.00 per week when she was allotted the plot, and continued in that line of employment until 1980 when she lost her job. After a few months of searching for new employment, her meagre savings dwindling, she decided to retail basic grocery items from her home in order to bring in an income. She reasoned that since the scheme was approximately 1.6 km from the town centre, and that the average resident was incapable of buying their groceries in bulk, she could provide an outlet which was within easy reach. Fortunately for her, the plot is actually located at the intersection of two pathways in the housing scheme. After several months of working out of the makeshift enterprise in her rear bedroom, she approached her relatives and friends for help in constructing a small grocery shop in the right rear corner of the plot (*Fig. 28*). Donations of materials and labour from relatives and friends brought the 7 M2 shop to reality late in 1980, although it remained only partially finished.

The beneficiary has successfully operated the grocery shop since its erection, meanwhile increasing the volume of sales and expanding her product range. The size of the shop remains the same, however, some goods are now stored in other sections of the dwelling (such as the living and dining areas and her bedroom). The enterprise has enabled the beneficiary to complete all finishes to her dwelling and also to provide funds to ensure her family's daily survival.



Fig. 28 Grocery shop - Dwelling #510, De La Vega City

The enterprise provided the only source of income for the household while the children were growing up but has recently been supplemented with income from her daughter's (23 years) job as a secretary and financial contributions from the beneficiary's younger sister (31 years), in return for room and board.

Although two of the beneficiary's children no longer reside with her, the household size has increased fom 4 to 6 persons. In addition to her daughter and her sister, three of the beneficiary's nieces ages 22, 13 and 12 years, all of whom are students, presently reside with her. She assumes responsibility for their welfare as repayment for the assistance she received from her relatives when consolidating her dwelling and enterprise. Her nieces help in the shop outside of their school and studying hours.

"This benefit was cheap in the 70's, so I was able to access it. The first thing I did was relocate the kitchen and bathroom because this arrangement seemed more appropriate. I was working in a garment factory when I received the benefit but lost the job about a year and a half after moving in here. Things were very hard for a while, so I opened the shop, at first from the back bedroom but my relatives and friends help me to add the little shop you see here after a few months. It has enabled me to pay my bills and school my children. I could not have survived without it". (Beneficiary -#510, De La Vega City)

## b) Dwelling #343, De La Vega City - Verandah Vending

This beneficiary, a single female started occupying the plot at age 39 with her sister in 1977. The dwelling is 75 M2, inclusive of bathroom, kitchen, laundry, verandah and two bedrooms. It was constructed by a small contractor, but the finishes were completed over a 4 year period by workmen hired as funds became available(see annex 2). Financing for the home came from personal savings, earnings and donations from relatives and friends.

The beneficiary worked as a store clerk and earned a weekly salary of JS16.00 when she received the plot. Soon after, she quit her job in the store, she started retailing detergents and toiletries from her house in 1982. By 1981 the household composition had changed to include her son (3 years) and a new born daughter. The father of her children father has never resided with her, but contributes financially towards the children's welfare. Despite this financial contribution, her household expenses exceeded her earnings. This deficit was aggravated by her sister's relocation to other more spacious premises (space had become a problem with the addition of the children). Frequent illnesses during this period also compounded the problem as the beneficiary was on a number of occasions unable to report for work. In order to supplement her income, which was docked because of absence from work, the beneficiary started retailing a small amount of detergents and toiletries she was able to perchase from the suppliers who sold the merchandise to her employers.

The beneficary expanded the business over the years, although she retails the same types of items she sold originally. The enterprise is now her sole source of income, which she declares is much more lucrative than her former employment. No physical alteration has been made to the dwelling to accommodate the enterprise, which keeps overhead to a minimum, thus ensuring a decent profit margin. The enterprise is set up on a space sharing basis, mainly using the dwelling as a storage facility. Goods are stored in the living/dining area but not much space is used as the proprieter keeps a close check on the size of her inventory, keeping only the necessary amount of merchandise to do business on a weekly basis. She reckons that the business would not be profitable if she

expended capital on the physical plant, as her clientele is parochial which limits the volume of her weekly sales. She expressed a reluctance to transcend the boundries of the housing scheme which she believes would not be worth the extra work, and worry, as her present operation covers her needs.

"I am comfortable in my own home. I do not think that people will get this level of benefit again because the price of everything has skyrocketed. I had a hard time initially, with people stealing my materials when I was building the house, but I persevered and things have turned out well. I worked as a store clerk when I came to live here but now I sell stuff from the house which is a better living....I was ill for a while back in 82 which made it hard for me to go to work on a regular basis, plus my children had come along and my sister went to live on her own. I sold some stuff while convalescing to make ends meet and the sales were good so after a while I went into it fully".

## c) Dwelling #50, De La Vega City - Furniture Manufacture

The beneficiary, his wife, and their daughter started occupying this dwelling in 1978 when he was 22 years old. An initial habitable area of 40 M2, inclusive of a bathroom, kitchen, living/dining area and a bedroom was constructed to accommodate the family as shown in annex 2. A further 24 M2 was added the following year which consisted of two bedrooms. This was followed by the addition of a carport and workshop in 1982 totalling 22 M2 (see annex 2). The beneficiary did most of the construction himself, employing a few skilled personnel and labourers as the need arose. Consolidation took approximately 7 years, and financing came from personal savings and weekly earnings.

The beneficiary was employed with a furniture manufacturing company earning JS60.00 per-week when he received the benefit and, held that job until 1982 when he left to start his own enterprise. He utilized the semi-enclosed space between the front bedroom and the front fence as a workshop. His wife is employed in the garment industry. At first, his clientele came mainly from within the housing scheme as the other consolidators required furniture (especially beds) for their dwellings, but he progressively increased the volume of business by securing individual clients from outside of the housing scheme and by making furniture on contract for larger retailers. In 1985, with the

enterprise going well and being able to acquire additional machines, the beneficiary converted the front bedroom, thus increasing the area of the shop (Eig, 29)



Fig. 29 Furniture workshop - Dwelling: 50, De La Vega City

The enterprise is the major source of income, which, coupled with the beneficiary's wife's earnings, and the small size of the household, ensures some stability.

"At first I was just building my house as they said I should, but when a nunber of the other residents started approaching me to build furniture for them (because they knew my line of work) I decided to put a temporary roof over the front yard and work there at night. I guess they liked my work because more and more people kept on coming. As I said, I was building my house in the evenings and on weekends.... so when the furniture work got heavy, I decided to leave my job with the company and do business for myself as I got more money that way. After a while I had to use that bedroom there (pointing) to store my materials, machines and the pieces I was making for people. I do not have to pay rent for this place, I am comfortable in the rest of the house and my neighbours do not object to the shop as long as I keep the dust down".

#### Dwelling #300, Nannyville Gardens - Grocery Shop and Bar

The beneficiary, his wife, 2 daughters and 3 sons started occupying this dwelling in 1977 when he was 37 years old. The plot was allotted to the beneficiary after the original allottee decided not to participate in the scheme. An initial habitable area of 34 M2, inclusive of a bathroom, kitchen and the living/dining area was constructed. This amount of space however, was not adequate to accommodate the family (as shown in annex 2). A further 42 M2 was added the following year consisting of three bedrooms, the verandah and a new kitchen to the rear of the plot which satisfied the family's space requirements. This was followed by the addition of a grocery shop (27 M2) in 1991, and a bar (32 M2) the following year (see annex 2). A small contractor was engaged to construct the habitable areas of the dwelling which was financed by a loan from the National Housing Trust (NHT).

In the years between 1978 and 1991, the household changed from a nuclear family to an extended family with the addition of 5 grand children. To accommodate the family, the former kitchen was modified and is used as a bedroom.

The beneficiary is employed as a storekeeper in a hostel run by a teacher's college, a job he held when he was allotted the plot. His salary at that time was JS40.00 per week. His wife is an ancillary worker in an office, and three of the five children see to the operations of the grocery shop and bar located on the premises. This plot is located on one of the two main thoroughfares in the scheme and is well positioned, being the second house encountered from the south-eastern entrance.

The beneficiary decided to engage in business from his premises because he recognized the potential viability due to the location of his plot. He says he always had the idea, but lacked the necessary financing to turn his it into reality. He managed to accumulate some savings over the period 1978 to 1990, which he used to erect the grocery shop on the front of the plot (*Fig. 30*).

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Fig. 30 Grocery and Bar - Dwelling = 300, Nannyville Gardens

The enterprise serves a dual purpose, bringing in much needed income for a household that has expanded to 12 persons and providing employment for the beneficiary's children none of whom had steady employment. The grocery has done well and the family has underlined its importance by giving up the verandah for use as a store room for the shop. The establishment of a bar on top of the shop came on stream the following year.

The beneficiary admits to being somewhat indebted because of the amount of construction he has undertaken, but he his confident that he will be able to pay off the debts in the near future. He has kept his job at the hostel so that he can realize his full pension when he retires in 7 years, at age 61, and to provide a better cash flow and stability to the enterprise until his loans are repaid.

"This was an easy start for poor people to build on. I was fortunate to get this plot because the person who got it first changed his mind. In those days most people could not visualize the possibilities that existed here. Most of them said the plots were too small but I was desperate for somewhere to put my family and to get out of the rental and overcrowded conditions where I used to live. I had ideas for the shop from the moment I came to live here. However, with the size of my family and building the house, I had to save for quite a while before I could start it. It has been a blessing......my children do the day to day operations which gives them money in their pockets and keep them from being idle.....keeps them out of trouble. I owe money because of the business but that will be paid off soon, so right now I am still at my job which take care of the little emergencies. Anyway, I will be retiring in about 7 years time and the children can take over things."

## Dwelling #212, Nannyville Gardens - Clothing Manufacture

The beneficiary, her 2 daughters and 3 sons started occupying this plot in 1978 when she was 31 years of age. At the time of allottment she was employed as a supervisor in a garment manufacturing factory, where she earned JS50.00 per week. An initial floor area of 72 M2 inclusive of the bathroom, kitchen, living/dining, verandah and three bedrooms was constructed in 1978. The laundry area (8 M2) was added the following year. Hired tradesmen and friends effected out the construction which was financed through a loan from the National Housing Trust (NHT). Finishes to the structure were carried out over a 10 year period culminating in 1988.

The household size and composition changed in 1986 when the beneficiary got married. She had started manufacturing clothes from her house in 1982 to supplement her income from her regular employment. This was done initially from her bedroom, but spilled over to the living/dining area, and the bedroom in the rear when the volume of business increased. Her two daughters helped in the business by doing minor tasks after school, but got more involved as they grew older.

In 1989, her husband made an investment in her enterprise by constructing a second floor 39 M2 workshop on top of the rear portion of the dwelling (*Fig. 31*) and purchased additional machines. Nine persons are currently employed in the enterprise, in addition to her children whohelp out in their spare time. The volume of business is substantial, as the beneficiary works on contracts for several large retailing concerns. According to the beneficiary, the family's financial situation is very stable, all of the children's schooling and other committments are met as are other household expenses.



Fig. 31 Clothing Manufacture - Dwelling = 212, Nannyville

"I got a lot of help when I was building this house. At the time it was me alone but my friends gave me a lot of help. I would say over 70% of my labour cost was saved through my friends' help. This kind of housing is for poeple who are willing to help themselves. The good thing about it is that you can put your personal touch on your house. My situation was not too good in the earlier years of living here. I had to be spending money on the house so that the children could be comfortable plus feed and clothe them and send them to school.....so I started some sewing here in the evenings with my girls giving me a hand. When I got married things became easier and my husband also encouraged me to go into business for myself on a fulltime basis. I must say things have turned out well because I employ nine girls.....mainly from the area and I always have many orders to do. I can't complain, my bills are paid and I can travel abroad when I want to."

## Summary of findings

The analysis of survey data revealed that home-based enterprises (HBEs) have been established in approximately 22% of the dwellings in the housing schemes surveyed. The enterprises are mainly small grocery shops, vending from verandas, the renting of rooms and flats, and the provision of services (hairdressing, clothing manufacture and appliance repairs). This has occured, although no provision was made or incentives given by the project implementors to participants for the establishment of economic enterprises from their homes. In fact, many of the enterprises established, contravene project regulations and the local ordinances.

The analysis also show that 50% of the enterprises are established on a shared

space basis, usually using the verandah, living/dining area or rooms to the rear of the plot. Approximately 26% are located at the front of the dwelling and 17% are attached to the side. Most of the enterprises are small and cater mainly to a clientele drawn from the residents living in the pathway or street on which it is located.

The establishment of a HBE is preferable on a street, but many are located on pathways due to the design of the schemes. A strong relationship exists between HBEs and corner plots, given the additional pedestrian traffic.

The analysis revealed that renting uses the most space by any HBE with the least being used for making clothing. The average household with a HBE used 25% of the dwelling for the business, from a high of 40% for those providing lodging, to approximately 10% for those activities taking place on verandas.

Dwellings with HBEs carried out more stages of additions than those without, and on average were larger. The different classes of HBEs differ in their relationship to the number of stages, final unit sizes and amount of increased building area. Households with vending activities follow the same pattern with respect to the three measures as those without HBEs. The more capital intensive enterprises requiring exclusive use of space had the most effect on housing consolidation. HBEs did not influence the pace of consolidation or the quality of construction, but they influenced the sizes of the dwellings where the exclusive use of space for business was required.

Households with couples established more HBEs than single person headed households (61% to 39%) and are more likely to engage in businesses requiring a larger outlay of capital. Single females are mostly engaged in petty vending, mainly from their verandas (see table 23). Single males displayed no tendency to establish HBEs, but it appears as though they engage in business activities outside of the housing schemes.

The average HBE was established 5.9 years after occupation of the plot, with the earliest occurrence in the second year of occupation and the longest delay being as much as 15 years. The enterprises operated on a space sharing basis are usually established earlier than those requiring addition of space to the dwelling.

Beneficiaries who did not establish an HBE are usually gainfully employed, have

their businesses outside the housing scheme, or depend on transfer payments from relatives, residing locally and overseas. More often than not, it is the beneficiaries' children who have joined the ranks of the work force, that provide funding for the respective households. As was seen from the case studies, most HBEs were initiated out of necessity. They however, satisfy a need and play important roles in the lives of the operators and their resident clients.

# **CHAPTER 6**

## CONCLUSIONS

#### 6.0 INTRODUCTION

This chapter is divided into four sections, the first section summarizes the research and presents its most relevant findings, while the second section discusses and interprets the results. The third section addresses the significance of the research with respect to formal low-income housing projects, and the fourth consists of reflections and recommendations for sites and services projects.

## 6.1 SUMMARY OF THE RESEARCH

This study observed the process of housing consolidation in two sites and services schemes in the KMR of Jamaica. It reviewed works relevant to the progressive development of dwellings both in informal settlements and sites and services schemes along with a recently recognized feature of low-income housing, home-based economic enterprises(HBEs). The primary focus of the analysis was the relationship between the manner and extent of housing consolidation, housing-based economic activities and other household processes.

Nannyville Gardens and De La vega City, two sites and services schemes implemented in the Kingston Metropolitan Region of Jamaica in 1974, were used as cases for analysis to ascertain the extent of dwelling consolidation and the factors that fuelled the process. The analysis dealt with the physical characteristics of the dwellings at the initial stage of development, and the manner of development during subsequent stages. This was done using variables such as, size of the habitable area, the level of finishes undertaken, and the incorporation of space for HBEs. The impacts of certain household processes on these variables were investigated.

The analysis of the first stage of dwelling development showed that the beneficiaries of both schemes opted for substantial habitable areas to comfortably house their families. The average area built at this first stage was approximately 60 M2, inclusive of bedrooms, service areas (kitchen and bathroom) and the living/dining area. Space took precedent over finishes at this stage, although, sufficient attention was also paid to the security and privacy of the dwellings in terms of windows and doors. Security and privacy of the plot at this juncture was not an immediate concern as the units were designed as quadraminiums, which more or less defined plot boundaries from the outset. Provision of loans (material and cash) and a time frame set by the project administrators for the completion of certain stages influenced the pace of consolidation. A substantial number of beneficiaries (39%) only carried out a single stage, although in the many cases, the finishes took quite a number of years.

The analysis of the latter stages showed that once sufficient habitable area was achieved, energies were concentrated towards finishes, aesthetics, improved service facilities and the incorporation of HBE spaces. A fair amount of additions in the latter stages of consolidation were exclusively for economic gain.

The beneficiaries carrying out a second stage opted for increased area to their respective dwellings. At this stage, 60% of the dwellings surveyed had completed all finishes. The manner of consolidation at this point, suggests the household's preference for sufficient space as a primary concern.

At the third stage, the additions were made to increase the habitable area and for commercial activities. Approximately 70% of the dwellings completing a third stage, added area for a single purpose. The addition of the above areas underlines the household's pre-occupation with increased privacy, comfort, and the opportunity to supplement income through home-based economic activity from their dwellings. The residents of both schemes totally rejected the initial project design regarding the location of the bathroom and kitchen, and so relocated them at great expense. The back yard was incorporated into the dwelling so that the bathroom could be accessed from inside the house, and to remove the kitchen from the living/dining area. The level of finish to dwellings continued to improve as 80% of the dwellings had been completed. (see annex 3).

A fourth stage was undertaken by only four dwellings (5% of the total sample), all in Nannyville. Three of the four additions made were for commercial activities, a bar and two rental situations. This stage was undertaken approximately 17 years after the project was implemented by those units engaging in economic activities. The average dwelling in both schemes was consolidated in approximately 5.69 years.

Approximately 22% of the plots in both schemes are engaged in some form of home-based economic activities. The enterprises observed during the survey catered mainly to the daily needs of the residents within the schemes, retailing food and other household products, and providing a range of personal services. A small number of enterprises engaging in the manufacture of clothing appears to have a clientele which exists both in and outside the schemes.

Most of the enterprises concentrating on petty retailing, are done on a shared space basis with other household activities. These areas are mainly verandas, living/dining areas and rooms to the rear of the plot. Physical additions are made for grocery shops, work shops, bars and rented rooms, which are usually located to the front, side or on top of the original dwelling.

Space used for HBEs ranged from 3.5 M2 to 132 M2, with the average household using 25% of the dwelling for business. Providers of lodging devoted the most space to business (40%), followed by those engaged in retailing (24%). Vending and personal services used an average of 10% of the dwelling. On an average, dwellings with HBEs were about 10 M2 larger than those without HBEs. The largest dwelling surveyed attained a size of 193 M2, and was engaged in renting and retailing of groceries.

The establishment of HBEs are preferable on streets, although many are located on pathways due to the design of the schemes. A strong correspondence exists between their establishment and their distribution within the schemes. A strong relationship also exists with regard to the disposition of the plot, as most HBEs utilized corner plots. This is especially strong for grocery shops.

Plots with couples established the greater portion of HBEs observed in the schemes and also the more capital intensive and sturdier enterprises. Single females were

more involved in vending and other perty retail activities, while single males showed almost no inclination to engage in any form of business from the dwelling. Male headed households established more enterprises (61%) than female headed households. No pattern was evident for the renting of rooms as regards the beneficiaries' profiles.

The average HBE was established approximately 6 years after occupation of the plot. The earliest occurrences of enterprises came in the second year of occupation, although no modification was made to the dwelling to accommodate them. The more sturdier and capital intensive enterprises were established an average of 10 years after plot occupation.

#### **6.2 INTERPRETATION OF THE FINDINGS**

This study investigated dwelling development over the entire existence of two housing schemes (19 years). The study focused on the stages of addition to the dwellings for family use and economic gain. The stages depict the dynamics of the households' socio-economic realities and the setting of the projects in which they participated. The findings suggest that although the beneficiaries were mostly poor, they were the more well-to-do stratum of the low-income population in the KMR. This was a necessary concomitant of the need to attract families that had the capabilities for meeting the mortgage and other financial commiments associated with the schemes.

Consolidation of dwellings which began as permanent structures, was done on a gradual basis, in most instances in accordance with the particular household's needs and capabilities. Most houses however, did not take an inordinarily lengthy period of time to attain a reasonable level of consolidation, as loans made available by the project implementors and time frames set for construction stages speeded up the pace of consolidation.

The results suggest that the initial stage of dwelling development was devoted to the realization of the households' space requirements, most of which were achieved before finishes were undertaken or completed. The focus of the second through fourth stages were additional habitable area, improved service facilities within the dwelling,
attention to aesthetics, or incorporation of HBE.

The results also suggest that during the early stages of consolidation, dwellings were only developed for the family's personal use. This resulted from the planners' perspectives and the prevailing regulations at the time which segregated economic and housing activities into separate zones, except for those economic activities which were unobtrusive. The consolidators were also constrained by the size of the plots they received, and to some extent by the house designs they had to follow.

As a result of the foregoing, the establishment of HBEs did not influence the pace of consolidation or the quality of construction, but they influenced the sizes of most of the dwellings in which they are located. HBEs also figure prominently in the economy of a significant percentage of the households in both housing schemes, especially since the latter years of the consolidation process.

The findings of this study suggest that housing consolidation in Jamaican sites and services projects generally followed a pattern of development similar to those found in other highly serviced sites and services schemes such as San Jose de Pino in El Salvador, (O.A.S. - F.S.D.V.M. 1977) and other projects also located in El Salvador (World Bank 1982). The phases of development are:

- 1) Erection of the sanitary core and consolidation of the basic living area.
- 2) Addition of bedrooms and securing the entire dwelling (windows and doors).
- 3) Verandah and the area between sanitary core and rear bedroom incorporated into the dwelling (used as laundry, work space and/or kitchen).
- 4) Aesthetics attended to and perimeter fence erected.

- 5) Internal finishes attended to (floors, walls and ceilings).
- 6) Aesthetics improved (windows, doors and painting), second floor added or additions made to accommodate economic enterprise.

#### **6.3 THE STUDY'S SIGNIFICANCE**

The findings of the KMR study adds to the literature on housing consolidation in sites and services housing projects by confirming that there are aspects or characteristics of the process that remain constant regardless of the geographic, socio-economic or cultural setting.

The study enhances the understanding of housing consolidation in sites and services projects by documentating the characteristics observed in Nannyville Gardens and De La Vega City and providing further information on HBEs which can be a useful tool in the formulation of future progressive development projects for the low-income sector of the Jamaican population.

# 6.4 REFLECTIONS AND RECOMMENDATIONS

Although this study observed housing consolidation in two 19 year old sites and services projects and presented some of the characteristics of the process, the scope was unfortunately narrow. Further work is needed in order to understand the full implications of the approach, its impact on the users and on the development of the dwelling.

Future assessments of low-income projects in the KMR should be undertaken through a multi-disciplinary approach, and should begin early in the life of the relevant projects, so as to capture events as they unfold or when they remain fresh in the minds of consolidators and project administrators, and to provide insights to regultory agencies.

This study reiterates the conclusions of earlier studies that found progressive development as a viable model for formal low-income housing development, as the dwellings observed in Nannyville and De La Vega have evolved into standard units. The study also acknowledges the diverse outputs of the model which are dependent upon the context of implementation, the aspirations and the financial capabilities of the participants. Finally, the findings of this study suggests that the use of dwellings in formal low-income housing for economic purposes, is an inevitable part of the consolidation process which should be given positive consideration when formulating such projects.

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ANNEX

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23)		DE	LA	VES	<b>к (</b> п	M	6+ 45
THESIS RE Sites and	TYPE 1 MOTHER + 5 CHildren: SITES AND SERVICES SCHEMES - KINGSTON METROPOLITAN AREA						
1. HOUSE	90LD CO	MPOSI	TION				ø
a) How many people live here althogether ?							
	1.24		30		10.04	Best L	INCIDE
OWNER	44	F	6	lege	- (Ain	# ARM	•
SON	201	M	Hyra	<u>Gr</u>	nen		
DAUGHTER	122		<u>Nave</u>	<u> E CL</u>	RIL		<u> </u>
<u> </u>	12	E	<u> </u>	<u> </u>			<u></u>
÷ · · · · · · · · · · · · · · · · · · ·					· · · -	1400	
SON		5				Para and	
Cord	15	1			_	High S	
<ul> <li>a) Do you own or rent this house? Own</li> <li>b) How long have you been living here ?</li></ul>							
3 <u>. comanni</u>	ROOM FOR EDEST SON SO HE could have privacy						
<ul> <li>a) What type of house did you occupy before living here? . FENTER</li> <li>b) Do you like it better here?</li></ul>							
····	-						







De La Vega City (One-Stage Consolidators)

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# DWELLING #151 - De La Vega City DWELLING #118 - De La Vega City

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	72 M2 (777 sq. ft.)
Benefit:	Type 2
Consolidation time:	3 Years

## Household Characteristics

Initial size:	2 persons
Present size:	4 persons
Year of occupation:	1978
Beneficiary:	Male with spouse
HBE:	No

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	76 M2 (824 sq. ft.)
Benefit:	Type 2
Consolidation time:	9 Years

Household Characteristics 9 persons Initial size: 6 persons Present size: Year of occupation: 1978 Single female No Beneficiary: HBE:









# DWELLING #420 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	79 M2 (847 sq. ft.)
Benefit:	Type 1
Consolidation time:	10 Years

Household Characteristics

Initial size:	4 persons
Present size:	4 persons
Year of occupation:	1977
Beneficiary:	Single male
HBE:	No

# DWELLING #221 - De La Vega City

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	75 M2 (806 sq. ft.)
Benefit:	Type 2
Consolidation time:	15 Years

Household CharacteristicsInitial size:3 personsPresent size:3 personsYear of occupation:1978Beneficiary:Male with spouseHBE:No







# DWELLING #218 - De La Vega City DWELLING #160 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	71 M2 (769 sq. ft.)
Benefit:	Type 2
Consolidation time:	4 Years

# Household Characteristics

Initial size:	3 persons
Present size:	5 persons
Year of occupation:	1977
Beneficiary:	Male with spouse
HBE:	No

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	78 M2 (845 sq. ft.)
Benefit:	Type 1
Consolidation time:	3 Years

Household Characteristics Initial size: 9 persons 10 persons Present size: Year of occupation: 1980 Beneficiary: HBE: Male with spouse No



358 cm

150





# DWELLING #341 - De La Vega City DWELLING #81 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	74 M2 (798 sq. ft.)
Benefit	Type 1
Consolidation time:	9 Years

# Household Characteristics

1

Initial size:	6 persons
Present size:	3 persons
Year of occupation:	1984
Beneficiary:	Male with spouse
HBE:	No

94 M2 (1008 sq. ft.)
70 M2 (756 sq. ft.)
Type 3
l Year

Household Characteristics	
1 person	
2 persons	
1982	
Single female	
No	









# DWELLING #165 - De La Vega City DWELLING #380 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	79 M2 (850 sq. ft.)
Benefit:	Type 3
Consolidation time:	3 Months

Household Characteristics

Initial size:	4 persons
Present size:	3 persons
Year of occupation:	1976
Beneficiary:	Male with spouse
HBE:	No

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	55 M2 (598 sq. ft.)
Benefit:	Type 1
Consolidation time:	3 Months

Household Characteristics 9 persons Initial size: Present size: 5 persons Year of occupation: 1978 Beneficiary: Male with spouse HBE: No









## DWELLING #536 - De La Vega City

Plot size:	94 M2 (1008 sq. fl.)
Unit size:	37 M2 (402 sq. ft.)
Benefit:	Type 1
Consolidation Time:	5 Years

Household CharacteristicsInitial size:2 personsPresent size:2 personsYear of occupation:1983Beneficiary:Single femaleHBE:No

#### DWELLING #493 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	65 M2 (706 sq. ft.)
Benefit:	Type 1
Consolidation time:	9 Years

Household CharacteristicsInitial size:1 personPresent size:3 personsYear of occupation:1978Beneficiary:Single femaleHBE:Clothing Manufacture



350 cm

150







# DWELLING #527 - De La Vega City

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	66 M2 (714 sq. ft.)
Benefit:	Type 1
Consolidation time:	9 Years

# Household Characteristics

Initial size:	2 persons
Present size:	2 persons
Year of occupation:	1979
Beneficiary:	Female with spouse
HBE:	Bar

# DWELLING #343 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	75 M2 (808 sq. ft.)
Benefit:	Type 1
Consolidation time:	4 Years

Household CharacteristicsInitial size:2 personsPresent size:3 personsYear of occupation:1979Beneficiary:Single femaleHBE:Verandah vending



350 cm







# DWELLING #123 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	76 M2 (823 sq. ft.)
Benefit:	Type 2
Consolidation time:	9 Months

# Household Characteristics

Initial size:	11 persons
Present size:	4 persons
Year of occupation:	1981
Beneficiary:	Single female
HBE:	No

# DWELLING #484 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	72 M2 (777 sq. ft.)
Benefit:	Type 1
Consolidation time:	1 Year

Household CharacteristicsInitial size:9 personsPresent size:6 personsYear of occupation:1978Beneficiary:Male with spouseHBE:No









# DWELLING #304 - De La Vega City

Plot size:94 M2 (1008 sq. ft.)Unit size:74 M2 (800 sq. ft.)Benefit:Type 1Consolidation time:1 Year

Household Characteristics

Initial size:	9 persons
Present size:	10 persons
Year of occupation:	1978
Beneficiary:	Female with spouse
HBE:	No



350 cm 50 150

Nannyville Gardens (One-Stage Consolidators)

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# DWELLING #106 - Nanayville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	70 M2 (721 sq. ft.)
Benefit:	Type 1
Consolidation time:	9 Years

# Household Characteristics

Initial size:	4 persons
Present size:	9 persons
Year of occupation:	1982
Beneficiary:	Single female
HBE:	No

# DWELLING #119 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	64 M2 (688 sq. ft.)
Benefit:	Type 2
Consolidation time:	l Year

Household Characteristics	
Initial size:	2 persons
Present size:	l persons
Year of occupation:	1977
Beneficiary:	Single female
HBE:	Rent/Vending



154

359 m



# DWELLING #61 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	70 M2 (759 sq. ft.)
Benefit:	Туре 2
Consolidation time:	3 Years

# Household Characteristics

Initial size:	3 persons
Present size:	2 persons
Year of occupation:	1979
Beneficiary:	Single female
HBE:	Rent

# DWELLING #49 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	64 M2 (692 sq. ft.)
Benefit	Type 2
Consolidation time:	7 Months
Household Character	istics

Initial size:	6 persons
Present size:	5 persons
Year of occupation:	1978
Beneficiary:	Female with spouse
HBE:	No







# DWELLING #83 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	74 M2 (800 sq. ft.)
Benefit:	Type I
Consolidation time:	1 Year

# Household Characteristics

Initial size:	8 persons
Present size:	9 persons
Year of occupation:	1978
Beneficiary:	Male with spouse
HBE:	Vernadah vending

# **DWELLING #270 - Nannyville**

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	70 M2 (758 sq. ft.)
Benefit	Type 1
Consolidation time:	10 Years

Household CharacteristicsInitial size:7 personsPresent size:5 personsYear of occupation:1978Beneficiary:Single femaleHBE:Verandah vending









# DWELLING #204 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)	
Unit size:	62 M2 (674 sq. ft.)	
Benefit:	Type 2	
Consolidation time:	1 Year	

# Household Characteristics

Initial size:	3 persons
Present size:	5 persons
Year of occupation:	1975
Beneficiary:	Single female
HBE:	Verandah vending

# DWELLING #178 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	82 M2 (882 sq. ft.)
Benefit:	Type 3
Consolidation time:	10 Years

Household CharacteristicsInitial size:6 personsPresent size:7 personsYear of occupation:1981Beneficiary:Male with spouseHBE:Furniture maker









# DWELLING #242 - Nannyville

Piot size:	94 M2 (1008 sq. ft.)	
Unit size:	68 M2 (732 sq. ft.)	
Benefit:	Type 1	
Consolidation time:	1 Year	

# Household Characteristics

Initial size:	9 persons
Present size:	13 persons
Year of occupation:	1980
Beneficiary:	Male with spouse
HBE:	No

# DWELLING #407 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	68 M2 (738 sq. ft.)
Benefit:	Type 1
Consolidation time:	7 Year

istics
12 persons
12 persons
1977
Male with spouse
No









# DWELLING #238 - Nannyville

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	73 M2 (787 sq. ft.)
Benefit:	Type 1
Consolidation time:	4 Years

## Household Characteristics

Initial size:	5 persons
Present size:	7 persons
Year of occupation:	1980
Beneficiary:	Female with spouse
HBE:	Verandah vending

# DWELLING #379 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	68 M2 (730 sq. ft.)
Benefit:	Type 2
Consolidation time:	6 Months

Household CharacteristicsInitial size:10 personsPresent size:10 personsYear of occupation:1977Beneficiary:Male with spouseHBE:No





JSE cm



# DWELLING #274 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	71 M2 (766 sq. ft.)
Benefit:	Type 1
Consolidation time:	9 Years

Household Character	istics
Initial size:	6 persons
Present size:	10 persons
Year of occupation:	1979
Beneficiary:	Male with spouse
HBE:	Clothing manufacture





# DWELLING #426 - Nannyville

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	75 M2 (810 sq. ft.)
Benefit:	Type 2
Consolidation time:	5 Years

Household Character	istics
Initial size:	5 persons
Present size:	7 persons
Year of occupation:	1976
Beneficiary:	Male with spouse
HBE:	Hairdressing



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# DWELLING #278 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	69 M2 (745 sq. ft.)
Benefit:	Type 2
Consolidation time:	5 Years

Household Characteristics		
Initial size:	3 persons	
Present size:	4 persons	
Year of occupation:	1977	
Beneficiary:	Male with spouse	
HBE:	Clothing manufacture	



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De La Vega City (Incremental Consolidators)

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. DWELLING #71 - De La Vega City

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# DWELLING #2 - De La Vega City

Plot size:	140 M2 (1512 sq. ft.)
Unit size:	69 M2 (750 sq. ft.)
Benefit	Type l
Consolidation time:	10 Years

Household Characteristics

Initial size:	5 persons
Present size:	4 persons
Year of occupation:	1978
Beneficiary:	Female with spouse
HBE:	No








#### DWELLING #418 - De La Vega City

Plot size:94 M2 (1008 sq. ft.)Unit size:74 M2 (798 sq. ft.)Benefit:Type 1Consolidation time:3 Years

Household CharacteristicsInitial size:5 personsPresent size:5 personsYear of occupation:1979Beneficiary:Male with spouseHBE:Verandah vending



350 cm 150







# DWELLING #43 - De La Vega City

Plot size:94 M2 (1008 sq. ft.)Unit size:75 M2 (819 sq. ft.)Benefit:Type 2Consolidation time:4 Years

Household CharacteristicsInitial size:7 personsPresent size:3 personsYear of occupation:1978Beneficiary:Female with spouseHBE:Clothing manufacture





978)

70 M2 (1978)



# DWELLING #23 - De La Vega City

94 M2 (1008 sq. ft.) Plot size: 70 M2 (758 sq. ft.) Unit size: Type 2 Benefit: Consolidation time: 4 Years

Household Characteristics 4 persons Initial size: 5 persons Present size: Year of occupation: 1981 Single female Beneficiary: Verandah vending HBE:



ī 358 cm 150



64 M2 (1981)



#### DWELLING #473 - De La Vega City



58



# DWELLING #504 - De La Vega City

Plot size:94 M2 (1008 sq. ft.)Unit size:61 M2 (657 sq. ft.)Benefit:Type 1Consolidation time:5 Years

Household CharacteristicsInitial size:8 personsPresent size:11 personsYear of occupation:1983Beneficiary:Single femaleHBE:No





59 159 330 cm



# 41 M2 (1983)

# DWELLING #510 - De La Vega City

Piot size:94 M2 (1008 sq. ft.)Unit size:76 M2 (823 sq. ft.)Benefit:Type 1Consolidation time:3 Years

Household CharacteristicsInitial size:4 personsPresent size:6 personsYear of occupation:1978Beneficiary:Single femaleHBE:Grocery shop



350 cm 150





#### DWELLING #349 - De La Vega City

Plot size:94 M2 (1008 sq. ft.)Unit size:89 M2 (962 sq. ft.)Benefit:Type 1Consolidation time:5 Years

Household CharacteristicsInitial size:6 personsPresent size:4 personsYear of occupation:1979Beneficiary:Male with spouseHBE:No















11M2 (1991)



# DWELLING #45 - De La Vega City

Plot size:109 M2 (1175 sq. ft.)Unit size:89 M2 (956 sq. ft.)Benefit:Type 1Consolidation time:12 Years

#### Household Characteristics

Initial size:	6 persons
Present size:	8 persons
Year of occupation:	1978
Beneficiary:	Single female
HBE:	No











DWELLING #134 - De La Vega City

# DWELLING #50 - De La Vega City

Plot size: Unit size: Benefit: Consolidation time: 7 Years

94 M2 (1008 sq. ft.) 86 M2 (929 sq. ft.) Type 1

Household Characteristics Initial size: 3 persons 2 persons Present size: Year of occupation: 1978 Beneficiary: Male with spouse HBE: Furniture making











#### DWELLING #131 - De La Vega City

Plot size: Unit size: Benefit: Consolidation time:

94 M2 (1008 sq. ft.) 77 M2 (827 sq. ft.) Type 2 time: 14 Years

Household CharacteristicsInitial size:3 personsPresent size:3 personsYear of occupation:1979Beneficiary:Single femaleHBE:No





350 cm

50 150





#### DWELLING #335 - De La Vega City

















19 M2 (1978)





7 M2 (1980)

#### DWELLING #330 - De La Vega City

## DWELLING #191 - De La Vega City

Plot size: Unit size: Benefit: Consolidation time: 4 Years

94 M2 (1008 sq. ft.) 80 M2 (865 sq. ft.) Type 1

Household Characteristics 3 persons Initial size: 4 persons Present size: Year of occupation: 1978 Beneficiary: Male with spouse Clothing manufacture HBE:











## DWELLING #225 - De La Vega City

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	76 M2 (820 sq. ft.)
Benefit:	Type 2
Consolidation time:	1 Year

Household Characteristics Initial size: 8 persons Present size: 6 persons Year of occupation: 1976 Beneficiary: Single female HBE: No









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• 5+ 150 330 cm

Nannyville Gardens (Incremental Consolidators)

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#### DWELLING #102 - Nannyville

Plot size:94 M2 (1008 sq. ft.)Unit size:76 M2 (820 sq. ft.)Benefit:Type 2Consolidation time:3 Years





9 M2 (1976)



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#### • DWELLING #152 - Nannyville

Plot size: Unit size: Benefit: Consolidation time:

HBE:

119 M2 (1288 sq. ft.) 90 M2 (967 sq. ft.) Type 2 11 Years

Household Characteristics 11 persons Initial size: 6 persons Present size:

Year of occupation: 1978 Female with spouse Beneficiary: Clothing manufacture





1 63 M2 (1978)











#### DWELLING #64 - Nannyville



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350 cm 150

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# DWELLING #109 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	37 M2 (398 sq. ft.)
Benefit:	Type 1
Consolidation time:	2 Years

Household Characteristics

Initial size:	7 persons
Present size:	8 persons
Year of occupation:	1991
Beneficiary:	Male with spouse
HBE:	No



• 50 150 350 cm























## DWELLING #363 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	75 M2 (808 sq. ft.)
Benefit:	Type 1
Consolidation time:	3 Years

Household CharacteristicsInitial size:6 personsPresent size:10 personsYear of occupation:1978Beneficiary:Male with spouseHBE:Rent









# DWELLING #350 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	74 M2 (800 sq. ft.)
Benefit:	Type 1
Consolidation time:	10 Years

Household CharacteristicsInitial size:6 personsPresent size:10 personsYear of occupation:1979Beneficiary:Single femaleHBE:No











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#### DWELLING #186 - Nannyville

Plot size:	94 M2 (1008 sq. fl.)
Unit size:	175 M2 (1894 sq. ft.)
Benefit	Type 2
Consolidation time:	17 Years

Household Characteristics	
Initial size:	5 persons
Present size:	4 persons
Year of occupation:	1976
Beneficiary:	Male with spouse
HBE:	No





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3 13 M2 (1979)




Piot size:	94 M2 (1008 sq. ft.)
Unit size <sup>.</sup>	76 M2 (823 sq. ft.)
Benefit:	Type 1
Consolidation time:	2 Years

Household CharacteristicsInitial size:7 personsPresent size:7 personsYear of occupation:1978Beneficiary:Male with spouseHBE:Rent



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16 M2 (1979)



## DWELLING #305 - Nannyville

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	73 M2 (792 sq. ft.)
Benefit:	Туре 3
Consolidation time	3 Years

Household CharacteristicsInitial size:6 personsPresent size:9 personsYear of occupation:1979Beneficiary:Single femaleHBE:No

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#### DWELLING #319 - Nannyville





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#### DWELLING #313 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	76 M2 (820 sq. ft.)
Benefit:	Туре 3
Consolidation time:	2 Years

Household CharacteristicsInitial size:9 personsPresent size:8 personsYear of occupation:1976Beneficiary:Male with spouseHBE:No









### DWELLING #377 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	76 M2 (820 sq. ft.)
Benefit:	Type 2
Consolidation time:	5 Years

Household CharacteristicsInitial size:5 personsPresent size:4 personsYear of occupation:1977Beneficiary:Single femaleHBE:No









### DWELLING #383 - Nannyville

Piot size:	94 M2 (1008 sq. ft.)
Unit size:	77 M2 (830 sq. ft.)
Benefit:	Type 1
Consolidation time:	4 Years

Household Characteristics 5 persons 5 persons 1976 Initial size: Present size: Year of occupation: Beneficiary: Male with spouse HBE: No











# DWELLING #292 - Nannyville

Piot size: Unit size: Benefit: Consolidation tim	94 M2 (1008 sq. ft.) 148 M2 (1600 sq. ft.) Type 1 8 Veers	
Consolidation tim	o rears	
Household Character	istics	
Initial size:	6 persons	
Present size:	6 persons	
Year of occupation:	1985	25 M2
Beneficiary:	Male with spouse	
HBE:	Kent	
		42 M2
		7 M2



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74 M2 (1992)



#### DWELLING #301 - Nannyville

125 M2 (1350 sq. ft.) Plot size: Unit size: Benefit: Consolidation time:

83 M2 (900 sq. ft.) Type 3 13 Years

Household Characteristics

7 persons Initial size: Present size: 15 persons Year of occupation: 1977 Beneficiary: Male with spouse HBE: Apliance repairs







2 46 M2 (1978)



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### DWELLING #297 - Nannyville

Plot size:	94 M2 (1008 sq. ft.)
Unit size:	69 M2 (747 sq. ft.)
Benefit:	Type 3
Consolidation time:	4 Years

Household CharacteristicsInitial size:3 personsPresent size:4 personsYear of occupation:1980Beneficiary:Single femaleHBE:No





1 **750** 359 cm -

2 41 M2 (1983)

# DWELLING #293 - Nannyville

94 M2 (1008 sq. ft.)

68 M2 (732 sq. ft.)

Piot size: Unit size: Benefit:

Type 3 Consolidation time: 4 Years Household Characteristics

Initial size:	2 persons	
Present size:	3 persons	
Year of occupation:	1977	
Beneficiary:	Male with spouse	
HBE:	No	







29 M2 (1979)

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5 M2 (1980)





6 M2 (1980)

# Annex 3: Aerial Photographs

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De La Vega City

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Plate 1: De La Vega City - November 30, 1974 (Source J. S. Tyndale-Biscoe)



Plate 2: De La Vega City - January 30, 1975 (Source - J. S. Tyndale-Biscoe)



Plate 3: De La Vega City - May 30, 1975 (Source J. S. Tyndale-Biscoe)



Plate 4: De La Vega City - November 2, 1975 (Source - J. S. Tyndale-Biscoe)



Plate 5: De La Vega City - February 1, 1976 (Source J. S. Tyndale-Biscoe)



Plate 6: De La Vega City - September 1, 1976 (Source - J. S. Tyndale-Biscoe)



Plate 7: De La Vega City - April 1, 1977 (Source J. S. Tyndale-Biscoe)



Plate 8: De La Vega City - July 25, 1977 (Source - J. S. Tyndale-Biscoe)



Plate 9: De La Vega City - November 1, 1977 (Source J. S. Tyndale-Biscoe)



Plate 10: De La Vega City - July 31, 1978 (Source - J. S. Tyndale-Biscoe)

Nannyville Gardens

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Plate 11: Nannyville Gardens - October 2, 1974 (Source J. S. Tyndale-Biscoe)



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Plate 12: Nannyville Gardens - April 4, 1975 (Source - J. S. Tyndale-Biscoe)



Plate 13: Nannyville Gardens - September 1, 1975 (Source J. S. Tyndale-Biscoe)



Plate 14: Nannyville Gardens - November 30, 1975 (Source - J. S. Tyndale-Biscoe)



Plate 15: Nannyville Gardens - May 31, 1976 (Source J. S. Tyndale-Biscoe)



Plate 16: Nannyville Gardens - November 30, 1976 (Source - J. S. Tyndale-Biscoe)



Plate 17: Nannyville Gardens - July 25, 1977 (Source J. S. Tyndale-Biscoe)



Plate 18: Nannyville Gardens - October 31, 1977 (Source - J. S. Tyndale-Biscoe)



Plate 19: Nannyville Gardens - May 4, 1978 (Source J. S. Tyndale-Biscoe)



Plate 20: Nannyville Gardens - October 13, 1978. (Source - J. S. Tyndale-Biscoe)



Plate 21: Nannyville Gardens - January 30, 1980 (Source J. S. Tyndale-Biscoe)



Plate 22: Nannyville Gardens - August 30, 1980 (Source - J. S. Tyndale-Biscoe)









Annex 6: Types of HBEs

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Types of Home-Based Enterprises

Annex 7: Consolidated Dwellings (Interior and Exterior)

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Consolidated dwellings (Interior)











Consolidated dwellings