

GATED COMMUNITIES IN METRO MANILA

An Empirical Analysis on Living Conditions and Social Functions

メトロマニラにおけるゲートッド・コミュニティに関する研究

生活環境と社会作用に関する実証分析

**Graduate School of Systems and Information Engineering
Doctoral Program in Policy and Planning Sciences**

University of Tsukuba

January 2005

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Publication and Conference Information

PUBLICATIONS

Journal:

Tanate, Kenneth and Omura, Kenjiro. *Perceived Living Conditions in the Gated Communities in Metro*. Journal of the City Planning Institute of Japan, No. 39-3, October 25, 2004.

Refereed Conference Proceedings:

Tanate, Kenneth and Omura, Kenjiro. *Implications of Clustered Gated Communities on Urban Space: a preliminary investigation in Quezon City, Metro Manila*. The City Planning Institute of Japan. International Symposium on City Planning 2003. Sapporo City, 26 August 2003.

Tanate, Kenneth and Omura, Kenjiro. *A Comparison of Social Functions between Gated and Ordinary Communities*. The City Planning Institute of Japan. International Symposium on City Planning 2003. Sapporo City, 12 September 2004.

MAJOR CONFERENCE PRESENTATIONS

City Planning Institute of Japan (CPIJ). *International Symposium on City Planning 2003*. Sapporo City, Hokkaido, 26 August 2003.

Paper: *Implications of Clustered Gated Communities on Urban Space: a preliminary investigation in Quezon City, Metro Manila*.

CPIJ. *International Symposium on City Planning 2004*. Sapporo City, Hokkaido, 12 September 2004.

Paper: *A Comparison of Social Functions between Gated and Ordinary Communities*

CPIJ. *Annual Conference on City Planning 2004*, Hiroshima, 13 November 2004.

Paper: *Perceived Living Conditions in the Gated Communities in Metro*

Abstract

In the process of urbanization, industrialization, and now globalization, the decline of cities and peripheral suburban are among the prevalent discussions of contemporary urban and regional planning. Planners and decision-makers continue to seek new solutions to the ever-complex urban problems, considering that some solutions lead to another set of problems. Today, the world has to face the phenomenon of “gated communities”. Gated communities are widely advertised as exclusive residential communities with adequate facilities, healthy environment and a secured neighborhood in response to the deteriorating living conditions of the cities. There have been increasing debates over whether any neighborhood should be walled and gated. Recently however, the worldwide threat of terrorism that could possibly popularize the concept of gated communities further complicates the issue.

The impact of gated communities is closely related to the sustainability of cities. Such a broad topic requires large amount of resources to be able to fully understand the issue. Hence, this research covers only some selected aspects related to gated communities. Given the scarcity of research done on gated communities in the Philippine context has led this study to start with the basic question – why do people opt to live in gated communities? Two main areas of research were selected – living conditions and social functions. The goal is to investigate whether gated communities really do provide better living conditions and social functions.

To attain the research objectives, the conditions within ordinary communities were included to serve as baseline in determining the extent of differences between gated and non-gated communities. Data surveyed from the case study area in Metro Manila regarding the perceptions of residents on their living conditions (LC) and social functions (SF) were utilized. The Likert’s scale technique was used to derive the indices of LC and SF from the selected variables. Minimum attributes related to physical and environmental aspect were considered for LC. On the other hand, ideally accepted social functions that a community can provide based on literature were used for SF. Multiple linear regression and logit models were used to estimate the significant differences between the gated and the non-gated or ordinary communities.

In brief, the study shows that gated communities generally provide better LC and SF. This helps explain why people in Metro Manila prefer to live in this type of community. The study provides several interesting findings that are vital for policy-making. In closing, the recommendation supports a call for policies designed to control the development of gated communities – capitalizing on the merits of the design concept and mitigating its negative impact in the urban areas.

Acknowledgments

Numerous people have inspired and helped in the preparation of this dissertation. I am extremely grateful to Professor Omura Kenjiro for his guidance and support, without whom, the completion of this research study would not have been possible. Also, to Associate Professor Arita Tomokazu for the constructive comments during the regular seminars of the Land Use Laboratory; and to Professor Hibata Yasuo of the Keio University who provided valuable suggestions during the yearly summer seminar of the Land Use Laboratory.

Special thanks to the faculties of the Institute of Policy and Planning Sciences, namely: a) Professor Ishida Haruo, Professor Yoshida Atushi, Professor Obase Reiji, and Professor Yokohari Makoto for their initial comments and suggestions during the mid-term presentation on 5 November 2003 that have helped shape the direction of this research; b) Professor Masayuki Doi, Professor Yoshida Atushi, Professor Yoshiaki Ohsawa, Professor Makoto Yokohari, Associate Professor Shun Watanabe, Associate Professor Masaki Fujikawa, and Associate Professor Naohisa Okamoto as members of the critic committee during the first defense held on 6 October 2004; c) the two anonymous reviewers of this dissertation; and d) other faculties and students who have expressed interest to this study.

Deep appreciation also goes to the following: the discussants of the International Symposium on City Planning (ISCP) in 2003 whose comments have contributed to my discussions in Chapter 3; the two anonymous referees of my paper published in the *Journal of the City Planning of Japan* whose lengthy comments have also improved the logical analysis in Chapter 4; and the participants of the ISCP-2004 from Japan, Korea and Taiwan that contributed insightful comments on the ideas presented in Chapter 5.

I would like to acknowledge that this research depends on the contributions and cooperation of the hundreds of residents, the homeowners' association presidents, the real estate brokers and developers, and a number of officials from the national and municipal government who filled-out the survey forms and agreed to be interviewed at length.

Moreover, this research would not have been possible without the funding support from the Government of Japan-Ministry of Education and Culture.

Finally, I am greatly indebted to my family who have supported this endeavor from the beginning, but opted to remain in the Philippines for the whole period of this research and have endured the loneliness of being separated thousands of miles away from each other.

This dissertation is dedicated to my wife Marie

論文概要

都市化、工業化、そして近年のグローバリゼーションが進行する中で、都市及び郊外の衰退が現代の都市計画の一般的な議論となっている。プランナー及び意思決定者は、ある問題の解決策が新たな問題へと連鎖しているような、より複雑化していく都市問題の解決策を求め続けている。近年、世界各地では、ゲート・コミュニティという新たな現象に直面している。ゲート・コミュニティとは、都市の生活環境悪化への対応策として、生活に必要な施設、健康的な環境、より安全な環境を備えた排他的な住宅地開発のことである。塀とゲートで囲まれた住宅地が望ましいものであるかについては、多くの議論が交わされてきているが、世界的なテロリズムへの対応の高まりから、ゲート・コミュニティがさらに普及していく可能性があり、それによって問題がより複雑化していくと考えられる。

ゲート・コミュニティの影響は、都市の持続可能性と密接に関連しているが、そのような壮大な問題を検討するには、膨大な研究の蓄積が必要となる。したがって、本研究はゲート・コミュニティに関連する特定の問題のみを対象としている。フィリピンのゲート・コミュニティに関する研究はあまり行われていないことから、本研究では、なぜ多くの人々が、ゲート・コミュニティに住みたいと思っているのかという基本的な設問から出発することとする。本研究では、ゲート・コミュニティの生活環境と社会機能の二点に着目して研究を行う。生活環境については、ゲート・コミュニティがよりよい生活環境を提供しているのかという点を明らかにする。社会機能については、ゲート・コミュニティがよりよい社会機能を提供しているのかについて検討を行う。

これらの研究目的を明らかにするため、一般的な住宅地の状況を基準として、ゲート・コミュニティとそうでないコミュニティの違いを分析する。研究対象としては、メトロ・マニラをケースとして選定し、居住者による生活環境と社会機能の評価に着目して、調査を行った。生活環境と社会機能の分析に際しては、特定の変数からリッカート・スケールの手法を用いて、生活環境と社会機能の関数を導いた。生活環境については物理的条件及び環境の項目に関して、社会機能については理想的な社会機能を基準としている。分析にあたっては、多重線形回帰モデル及びロジットモデルを用い、ゲート・コミュニティと一般的なコミュニティの重要な違いを検討している。

本研究の結果として、ゲート・コミュニティでは一般的によりよい生活環境と社会機能が備わっていることが明らかになった。このことはなぜメトロ・マニラの多くの人々がゲート・コミュニティに住みたいと思っているのかを説明している。また、本研究から、ゲート・コミュニティの開発のコントロールするような政策の立案が必要との示唆が得られた。具体的には、デザイン・コンセプトの利点を生かすこと、また都市部への負の影響を軽減することがあげられる。

Introduction

Many observers consider the development of gated communities as a global phenomenon and debates on this type of community are increasing in many countries. In the context of Metro Manila, Philippines the basic question that this research will focus on is why do people opt to live within a gated community?

1.1 DEFINITION OF GATED COMMUNITIES

For purposes of this research, the Gated Community (GC) is defined as a planned, exclusive residential subdivision, managed by the homeowners' association. The perimeter fences, gates, and 24-hour security guards are the main physical characteristics of its exclusivity. This research considered only the residential subdivisions of detached single-family homes that is the predominant building type in GCs.

1.2 BACKGROUNDER

The United Nation Development Programme (UNDP)¹ in collaboration with other organizations has declared that Asia is changing from a predominantly rural to an increasingly urban continent. It says that more than half of the world's urban population will live in Asia by 2020; and half the population of Asia is expected to live in urban areas by 2025. The UNDP suggests that if Asian Cities are to function as engines of development, it is

¹ UNDP Urban Governance Initiative's Virtual Policy Studio, <http://t062.cpla.cf.ac.uk/wbimages/gci/main.html>

crucial that they be socially just, ecologically sustainable, politically participatory, economically productive, and culturally vibrant.

Relevant to this declaration is the rising concern regarding the proliferation of GCs worldwide. This form of community development, as an enclosed neighborhood, has various issues contradicting the UNDP's propositions for better Asian Cities. The fact that GCs are enclaves with access restrictions considerably decreases the cities' mobility potential. Further, this practice of exclusivity can cause a concern for social injustice because it connotes the segregation of society. In this light, GCs have negative implications on the sustainability of the cities.

Realizing the serious consequences of GCs, an international and interdisciplinary research network was established in 1999 in order to facilitate the exchange of information between academics working in this field. The first activity of the network was an international workshop in 1999 with a theme "*Issue of Environment and Planning*," held in Hamburg, South Africa. The worldwide awareness on the consequences of gated phenomenon is now receiving increasing interest from a range of professions (geographers, planners, urban designers, legal practitioners, sociologies, anthropologists, criminologists, etc.) and stakeholders (residents, local authorities, etc.).²

1.3 OVERVIEW OF THE GATED COMMUNITIES PHENOMENON

1.3.1 Development in other Countries

The increasing development of GCs has been observed in both developed and developing countries. There are huge growths in the USA, South Africa, the Middle East, and Southeast Asia. Dramatic rise had been observed also in Europe, Canada, Australia and New Zealand but not so widespread. Almost every country now has some examples. According to

² CSIR homepage, South Africa

Blakely and Snyder (1999), the debates on GCs have intensified since 1997 in the USA wherein American citizens are taking sides in the debate over whether any neighborhood should be walled and gated to prevent any intrusions from outsiders. Moreover, Blakely and Snyder observed that this issue has become an international concern. Countries such as Switzerland, Sweden, France, England, Japan, Australia, and New Zealand are seeking guidance in regulating the gating phenomenon. These countries are also faced with stark economic differences, increasing number of international visitors, and rising crime in their growing cities.

In general, the GC phenomenon raises important policy implications due to several conflicts and issues emerging from its development. The issues basically stem from the enforcement of *access restrictions* wherein land spaces normally considered public are being privatized. Access restrictions allow some citizens to segregate from mainstream society, excluding them from sharing their economic and social privileges. Moreover, access restrictions in the form of gates and fences around neighborhoods represent more than simple physical barriers. They manifest tension between outsiders and insiders. Access restrictions also bring out issues on the pros and cons of privatizing public services vis-à-vis pushing for the ideals of society's general welfare.

The issues and questions pointed out in over 75 studies regarding the existence of GCs presented in the International Conferences³ on Gated Communities may be summarized as follows:

- Sense of social relation – relates to the quality of life, whether GCs weaken or strengthen the feeling of community.

³ International Conferences held in Hamburg, South Africa (1999); New York, USA (2001); Mainz, Germany (2002); Glasgow, United Kingdom (2003); and New Orleans, USA (2004).

- Sense of safety or security – whether GCs really reduce crime within the enclosed neighborhood or it endanger the residents due to poor response time during emergency situations. It is also a question of displacement of crimes to other areas.
- Social segregation – suggests that GCs exclude certain classes of population.
- Spatial fragmentation – is the physical separation of specific urban areas from its environment. This has negative implications on the mobility of population and efficiency of transportation.
- Private governance – is the privatization of public services and the collection of membership fees for the management and maintenance of private facilities. This has implications on the general urban maintenance and traditional role of the local government.

So far, most of these studies are qualitative in context and primarily present the local character of GCs in their respective countries.

1.3.2 Development in the Philippines

In the Philippines, the GCs have started to demonstrate its impact in the metropolitan area. In recent years, the controversy involving GCs in Metro Manila has been the limelight when the metropolitan government planned to open the major GC roads as part of traffic decongestion measures on main thoroughfares. This situation poses a clear conflict of interest between the government and GC homeowners' associations as far as livability in the urban environment is concerned. The former aims at improving urban accessibility for a greater number of society, while the latter's concern is of preserving quality living environment for GC residents through exclusivity. This, alone, poses an issue on transportation and traffic policies – the tip of an iceberg considering the range of issues circumscribing GCs.

Research on GCs in the Philippines is very limited. Only two (2) related studies are known to explore the existence of GCs. First is the general study of Nishioka (1994, 1996), a

former JICA expert assigned at the NCTS⁴, who was involved in the inventory of GCs in Metro Manila. Nishioka related his survey to the issues on transportation traffic. This research was also the basis of his dissertation at the University of Tokyo in 1996. Second is the case study of Diaz (1995), which focus on the impact of GCs on urban mobility. Both studies contributed useful ideas on how to improve the transportation system in Metro Manila. These inputs were implicitly acknowledged in the Metro Manila Urban Transportation Integrated Studies (MMUTIS, 1999).

The study of Nishioka captured the evolution of GCs on why it exists in the Philippines. The scope of this study can be simplified in Figure 1-1. Basically, the study adopted general information on historical events, cultural, and socio-economic data as basis for his arguments on the existence of GCs. He argued that the exclusivity of GCs contributed to the worsening traffic in Metro Manila. Thus, he proposed a solution to open-up major roads within GCs to decongest the main thoroughfares. Nishioka, however, warned that any decision to open-up major GC roads must take into consideration the preservation of the essential qualities of GCs. In particular, he suggested that a study be done on security and social aspects of GCs in order to package a more feasible solution.

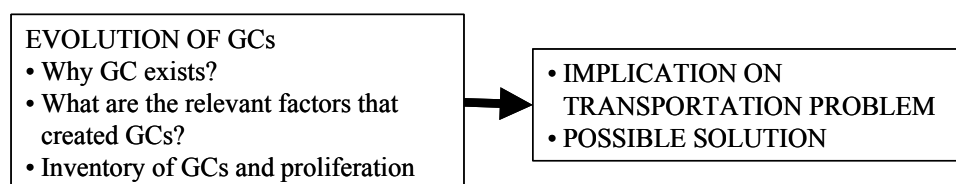


Figure 1-1. Simplified Scope of the Study by Nishioka (1994)

Corollary to Nishioka's study, Diaz (1995) confirmed that the opening of private roads would greatly improve the traffic situation in Metro Manila. He suggested a "decision mechanism" on the opening-up of GC roads. However, due to strict privacy policies being

⁴ University of the Philippines - National Center for Transportation Studies (NCTS)

imposed within GCs, Diaz gathered less than 50 samples only for his case study. Thus, to strengthen Diaz' findings, there is a need to increase the sample size and solicit more views from GC residents.

1.4 RESEARCH GAP AND SCOPE

The suggestion of Nishioka to study the security and social aspects in GCs has provided the research gaps for this study. It was the basis for the modification of the research topic to focus mainly on the living conditions and social relations in GCs. Research was subsequently confined to inputs of people regarding the existence of GCs. Respondents were asked following questions:

- What are your perceptions on the living conditions within GCs? Do you think GCs provide better living conditions?
- What are your perceptions on the social functions within GCs? Do you think it provides better or lesser level of social functions compared to ordinary communities?

The uniqueness of this research from the international studies is the attempt to conduct a comparison between the conditions within GCs and ordinary communities based on the above-mentioned questions. The methodology enables readers to have a more comprehensive insight on the magnitude of differences between the gated and the non-gated form of community. A number of studies have argued that community segregation leads to lower level of social relations. However, there are no clear arguments whether the social relation within a GC is higher or lower than that of the ordinary community.

The initial tentative response to the questions presented earlier stimulated the search for the possibility of variable relationships that may exist and thus, warrant a more detailed and systematic investigation. Hence, the gaps identified for this research are believed to be

necessary in complementing the results of earlier studies. It is on this premise that this study was conducted.

1.5 SIGNIFICANCE OF THE STUDY

Gated communities are an emerging global phenomenon that many countries now are seeking guidance in controlling this development. Scholarly work on this form of community development is virtually non-existent (Blakely and Snyder, 1999).

Given the proliferation of GCs in Metro Manila, it is imperative to understand its characteristics and implications to the metropolis. This research intends to fill an essential gap that has not been studied so far in the Philippines. Focusing on living conditions, social functions, and the corresponding negative implications of GCs are fundamental steps toward new dimensions and deeper understanding of this type of community in Metro Manila.

There is a certain degree of confidence that the result of this study would contribute to international research organizations that seek varied information about GCs in different countries. In particular, it would allow planners and decision-makers in the Philippines to formulate appropriate plans, programs, and policies aimed to address the issues related to GCs, especially on transportation and traffic problems as well as on housing development.

1.6 OBJECTIVE OF THE STUDY

The objective of this study is to determine why people prefer to live in GCs through the investigation of living conditions and social functions within this type of community. A comparison of GCs and ordinary communities is necessary in order to establish logical results.

To accomplish this objective, the following is the sequence of critical research tasks:

- Review of literature on GCs;

- Information gathering – exploratory surveys to identify prevalent issues and to determine relevant variables/factors that may be considered for the study of living conditions and social functions;
- Review of related literature on living conditions and social functions;
- Administration of the questionnaire on living conditions and social functions in the defined case study area;
- Utilization of simple but appropriate statistical tools that would establish a more scientific analysis; and
- Outline of conclusion and policy recommendations.

1.7 STRUCTURE OF DISSERTATION

This paper consists of six chapters. Chapter 1 introduces the significance of the topic and the contents of other chapters. Chapter 2 provides the framework of the analyses and discusses the analytical models used in conducting the empirical analysis.

The main part of this study is discussed in Chapters 3, 4, and 5. Chapter 3 provides the overview of GCs in Metro Manila based on exploratory research. Exploratory research was applied in view of the limited information available regarding the topic. The output of this research methodology provides a more comprehensive description of the characteristics of GCs in Metro Manila, as well as its evolving negative implications. This Chapter also serves as the foundation for the analyses in Chapters 4 and 5.

Chapter 4 analyzes the living conditions in GCs. To be able to determine the nature of the living conditions in GCs, this is compared with non-gated communities. The analysis was based on the opinion of residents regarding their own particular communities. It is assumed that the opinions reflect the physical quality of the community. The multiple linear regression and logit models were used to analyze the living conditions of these communities. It must be

noted that the main purpose of the analysis is to determine the significant difference between GCs and ordinary communities. Other analyses, such as determining the significant socio-economic factors, are secondary findings.

Chapter 5 analyzes the social aspects of the community. The same procedure and analytical models applied in Chapter 4 were used for this analysis. However, the purpose for this chapter is to determine whether GCs provide better social functions than ordinary communities. Moreover, through the logit model, the most essential social functions for the residents of GCs were identified

Chapter 6 covers the conclusion and policy recommendations. The conclusion presents the principal findings in Chapters 3, 4 and 5. The recommendations laid out some policy implications that would help if not totally eradicate the negative effects of the GC phenomenon. It encompasses some considerations of the spatial consequences and quality living in the urban area. Lastly, a number of topics for future research are recommended

METHODOLOGY

This chapter presents the general flow of the whole research, the study area, framework of analyses, and the statistical models used.

2.1 GENERAL FLOW OF RESEARCH

The research design was made flexible in order for the study to look broadly in many different directions in the beginning and trying not to come to a premature closure on what specific issue to concentrate.

During the initial research stage, as shown in Figure 2-1, it started with the review of literature regarding the phenomenon of gated communities (GCs) and the studies that had been conducted so far, as well as the framework of analysis appropriate for this research. The whole purpose was to develop a research topic that would contribute new ideas in the field of urban policy and planning.

The scarcity of data prompted us to conduct an *exploratory research* in order to gather wide range of information that would help describe the characteristic of gated communities in Metro Manila. Questionnaire survey, formal and informal interview, and various secondary sources were utilized during this research stage.

Two major research areas were selected for specific investigation taking into account the results of *exploratory research* and other previous studies. The selection

took into consideration the research gaps in the Philippine context vis-à-vis the feasibility of accomplishing the task given the limitation of information and resources. It was finally decided to focus on living conditions and social functions of gated communities. To make the results meaningful, a comparison between the gated and ordinary communities was conducted. This is based on the actual situation that gated and ordinary communities are separated physically by walls and gates, and may have distinct differences in terms of socio-economic and physical environment, which may help explain the characteristics and the increasing trend of GC developments in Metro Manila. Only one questionnaire was used to gather information for living condition and social function. Each has separate section in the questionnaire with different sets of attributes/factors for evaluation. The questionnaire also includes section for socio-economic information of the respondents and their perceptions on selected issues regarding GCs.

The final stage of the research is the formulation of conclusion and policy implications.

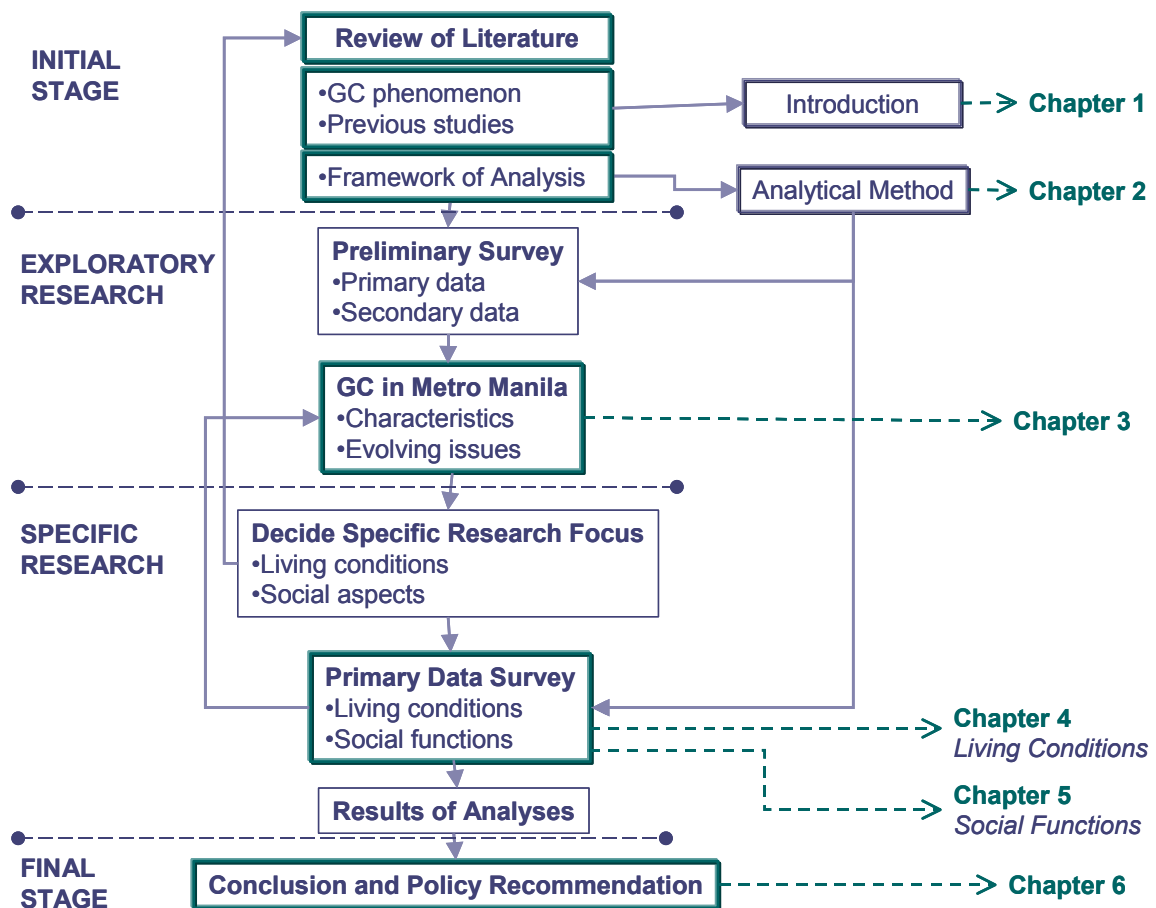


Figure 2-1. Research Flow and Scope

2.2 STUDY AREA

2.2.1 General Study Area

Metro Manila was selected as the study area among other metropolises in the Philippines due to its primacy and with the highest proliferation of gated communities. It is where the negative consequences of GC's existence are evident. Nevertheless, the general public seems unaware of the real future consequences of this type of residential development in the metropolis.

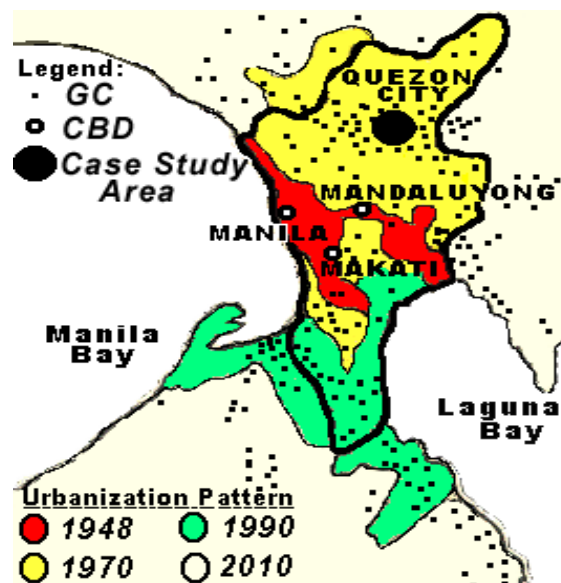


Figure 2-2. Case Study Area in Metro Manila
Source: Modified of REMEI (1990) in Ballesteros, 2000

2.2.2 Case Study Area

The specific case study area is located in Quezon City. It is the largest city in Metro Manila that became a popular destination of settlers [including the “old rich” families of Manila City (Caoili 1988)] due to government's decision to make the city the government center in 1948 and once declared as the new capital city. It is where many national government offices were transferred, big universities were established,

and large government housing subdivisions were developed. Its population stands at 2,173,831 people as of 2000 census. In 2001, the total number of residential subdivisions in the city reached 615 communities, of which 239 are gated communities, the highest in Metro Manila.

The degree of spatial impact of GCs in an urban area depends on the area size of its neighborhood and geographical location. And Quezon City was identified in the report of MMUTIS (1999) and Diaz (1995) as among to experience severe problems on accessibility due to the existence of GCs.

Two areas of clustered GCs, as presented in Figure 2-3, were considered for the conduct of surveys. Area 1 is geographically situated inside the curve of a highway and is critical to the decongestion measures of the thoroughfare (MMUTIS). Accordingly, the Metropolitan Manila Development Authority (MMDA) wants the major private roads in this area be opened for public use. The survey Area 2 is outside the curve with lesser degree of accessibility issue, but has considerable size to merit a spatial impact.

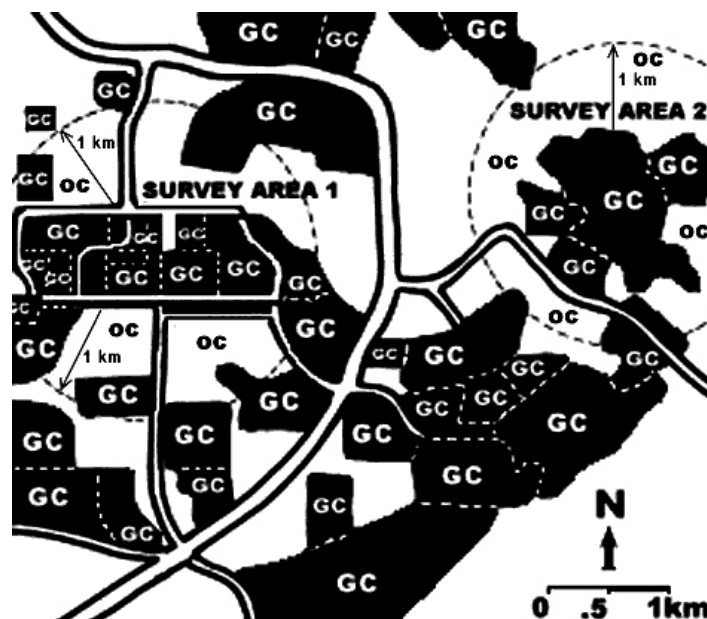


Figure 2-3. Location of Survey Areas

Clustered GCs in Area 1 is composed of 14 GCs with an estimated total area of about 274 hectares, and Area 2 has 4 GCs with a combined area of approximately 100 hectares.

Note that the selection of survey areas practically considered a cluster of different GCs, as well as, the socio-economic status in the area because it is where a number of conflicts can be observed.

Meanwhile, the Ordinary Community (OC) is a public and open community immediately surrounding the clustered GCs. In general, OC is a mixture of both the low-, medium-, and high-density (slum-like) neighborhoods. They are either planned or unplanned and composed of squatters or legitimate lot-owner residents. Unplanned OCs normally developed out of sprawl residential and commercial developments without adequate spaces allotted for recreation and social gathering. There are also OCs that were originally planned public residential subdivisions, but later the constructions were abandoned and left the project not fully developed. As a result, some vacant spaces allotted for the construction of roads and recreational facilities are now home of illegal settlers. Those fully developed planned public communities are also exposed to degradation due to the encroachment of undesirable mixed developments. At present, the main city park and local public sport facilities are the only places where the OC residents can freely gather for socialization and relaxation. These facilities, however, are not conveniently accessible compared to the situations in GCs.

For purposes of this research, the survey considered the coverage area of OCs to be within the 1-kilometer radius from the walls of GCs.

2.3 FRAMEWORK OF PRELIMINARY INVESTIGATION

2.3.1 Objective

The objective of preliminary investigation is to gather relevant information in describing the characteristics of gated communities in the case study area. It involves information on social, economic, physical environment, residents' opinions on GC-related issues, community preferences, and so on.

2.3.2 Approach of Data Collection

The study utilizes the *exploratory research approach* (Sedlack and Stanley, 1992), which would allow exploring the possibility of ideas about GCs where little has been previously recorded. This is similar to the *investigatory standpoint approach* of Blakely and Snyder (1999) in studying the American GCs.

A Triangulation Strategy¹, the procedure of gathering data from multiple sources, had been adopted in this exploratory research. Observation was used as the central data collection procedure. This is because the utility of observation is immediately apparent when providing description of community environment. This approach had been augmented with primary sources through survey questionnaire, formal and informal interview; and secondary sources from the national government agencies, local government offices, real estate developers, published studies, and newspapers. The data/information gathered from this exploratory research are by nature a tentative data.

2.3.3 Flow of Exploratory Research

The flow of exploratory research is shown in Figure 2-4. Site visits were conducted in areas with densest concentrations of GCs, such as in Paranaque City,

¹ See Sedlack and Stanley, 1992, pp. 293, 302

Pasay City, and Quezon City. The visits simply begun by observing and identifying the physical characteristics and the pattern towards the establishment of gated communities. The information gathered was used as basis in defining the GCs. Consequently, the number of GCs was identified based on the inventory of exclusive villages conducted by JICA in 1993, and from the License to Sell (1981-2001) issued by the House and Land Use Regulatory Board (HLURB). Some GCs were verified through the list of projects posted on-line in the respective homepages of developers. Thousands of GCs were estimated to proliferate in Metro Manila and were outlined according to their location.

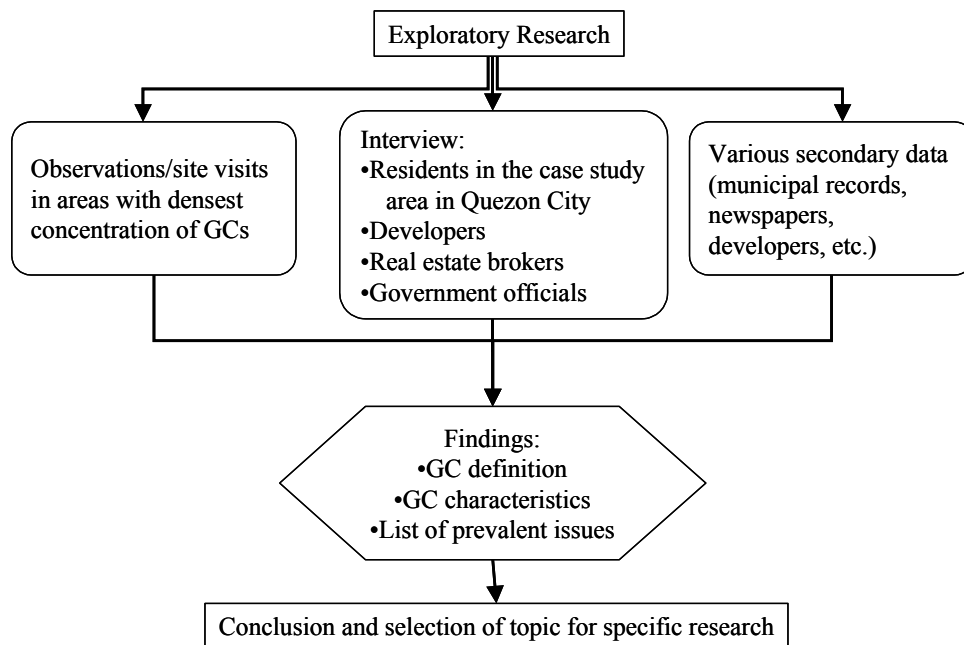


Figure 2-4. Preliminary Investigation on GCs

Subsequently, the social event and actors were observed within a clustered GC environment in several municipalities and describing these observed situations. Next, a working typology of GCs and major themes and issues identified from the observations were developed.

When certain patterns seem to be evident in the observation, these were crosschecked through the conduct of interview and questionnaire survey. The interview guide and questionnaire contain a list of general questions/topics based on the literatures, as well as set of specific issues of significant. The presidents of homeowners associations, residents in GCs, and residents in OCs were interviewed.

2.3.4 Interview and Questionnaire Survey

After mailing out the request letter for interview, 10 out of 14 homeowners' association presidents in the case study area had allowed themselves to be interviewed. This include the president of BF Homes, Mapayapa Village I, Mapayapa Village II, Mapayapa Village III, Ramax Subdivision, Doña Petrona Subdivision, CB Townhomes, Fern Village, Silverland, and Ferndale Homes. Interview guide questions were prepared, as presented in Appendix 3-1 Section 1.1. During the interview, the presidents were given sufficient time to answer each question and to elaborate on other related topics. The discussions were "free flowing" and informal in order to extract unlimited information regarding the life inside the gated communities. The interviewees were not given choices on what to respond in order to get the most usual and immediate concern of the associations. Important points were properly recorded and the number of responses on every particular point was tallied.

For the conduct of survey with the households using a questionnaire in Appendix 3-1 Section 1.2, a systematic sampling method was adopted. Below are the important procedures taken.

- Estimated number of households based on the records of barangay (municipal district) was used in calculating the size of sampling frame.

- Residential areas in the ordinary communities determined as risky to visit for security reasons were removed from the list and another locations were selected.
- After predetermining the possible residential areas for the survey, a 10% target samples was calculated based on a “one-tenth rule” method (Sedlack and Stanley).
- The first house to be sampled was randomly selected. The succeeding houses were selected every interval of ten houses.
- In the event of refusal, the next house was visited.
- Two interviewers (including the author) conducted the face-to-face interview.
- Coordinative letters were provided to the barangay chairman for the survey in OCs and to the homeowner associations of gated communities. Some homeowners association, however, declined to grant us permit citing the privacy of residence.

A total of 225 responses were gathered breaking down into 109 from GCs and 116 from OCs. The numbers are 6.1% and 7.6% of the sampling frame of GCs and OCs, respectively, which are less than the target of 10%. This is mainly due to the refusal of households for interview. The reason might have been due to bad political atmosphere at that time, wherein there were many uncertainties because of the nearing presidential election, and the rumors of military takeover were often in the news. Hence, the author might have been suspected of surveying for political purposes. Nevertheless, the information gathered shows some significant patterns.

2.3.5 Analytical Approach

For this research, we utilized simple statistical computations and analysis. This involves tabulations and aggregating of survey results. The outcomes of computations were logically interpreted based on theories.

2.4 FRAMEWORK OF SPECIFIC INVESTIGATION

2.4.1 Objective

The study aims to gather the perceptions of residents regarding their living conditions and social functions. The intention is to compare the perceived results between GCs and OCs and determine which community has better living conditions and social functions.

2.4.2 Analytical Procedure

The whole framework of analysis can be illustrated in Figure 2-5. There are three major measurements used in the study: Likert scale technique, linear regression model, and logit model. A Likert scale technique was used to derive the composite indices of Living Condition (LC) and Social Function (SF). A linear regression analysis was carried out in analyzing any significant difference between the perceived LC/SF in GCs and OCs, and the effects of socio-economic variables (SEV) on their perceptions of LC/SF. On the other hand, the logit model was used to determine the attributes/factors of LC/SF that are most distinct in GCs, as well as, to confirm the result of linear regression. STATA Release-7 software was used to run the estimations of linear regression and logit models.

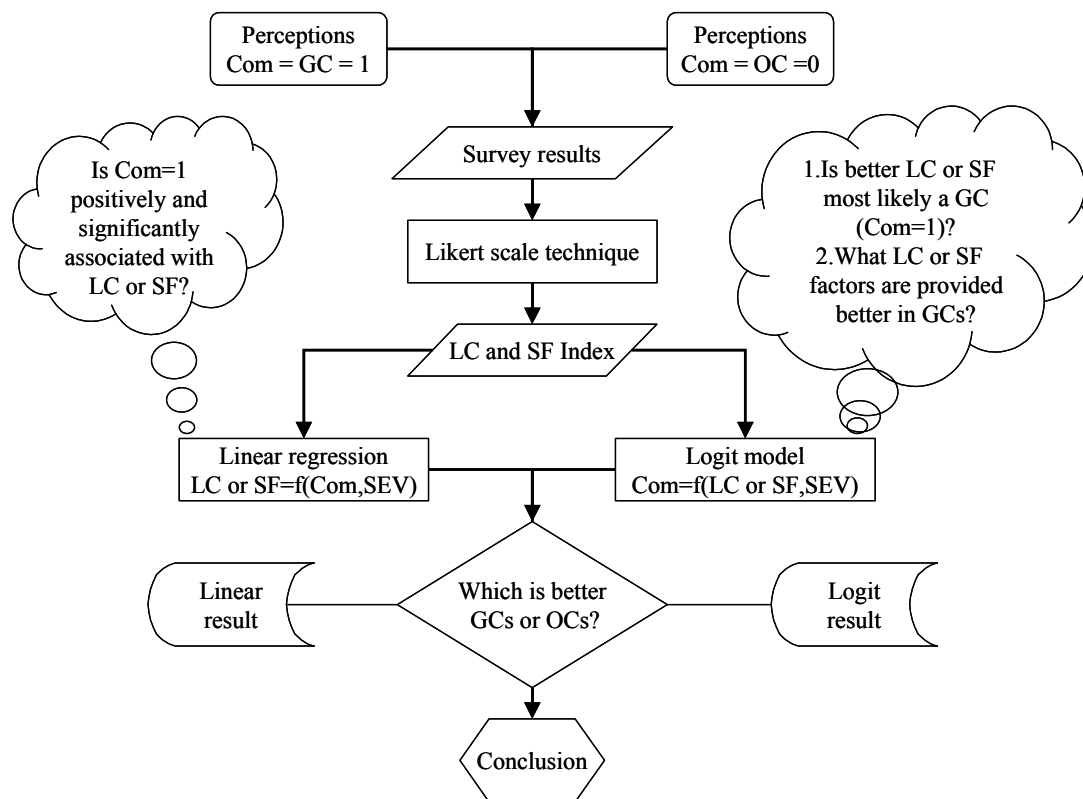


Figure 2-5. Analytical Framework for Living Condition and Social Function

2.5 MEASUREMENT OF LIVING CONDITIONS

2.5.1 Questionnaire Design of Living Conditions

The evaluation of LC is based on 15 attributes (see Appendix 3-2). Most attributes, such as water supply system, electricity, roads and sidewalks, drainage system, waste and garbage management, and open space for community playground and sports facilities were based on the minimum design standards for residential subdivision developments of the Philippines housing laws – the Presidential Decree 957² and Batas

² PD 957 is known as the Subdivision and Condominium Buyers Protective Decree

Pambansa 220³. The roads, sidewalk, community playground, and sports facilities are allocated with minimum area size under the open space requirement of the housing laws.

Other attributes were based on the major concerns/problems gathered from the exploratory survey conducted in May 2003, such as physical design, community maintenance, cleanliness, quietness, security, and transportation. Most of these attributes are commonly cited considerations for better community environment in the literature⁴.

2.5.2 Data Collection and Sampling

A systematic sampling method was utilized for the conduct of questionnaire survey. It is generated basically by selecting every *nth* element from a sampling frame after a random start within the first sampling interval. This method was selected because of its two basic advantages: 1) the procedure is quick and easy to do; and 2) it takes the least amount of time and effort compared to other sampling design (Sedlack and Stanley, 1992, pp. 132-133). Hence, given the time and financial constraints for this research, this sampling method is appropriate.

The actual survey was conducted in December 15, 2003 to January 10, 2004 in 18 GCs and 8 OCs in the two survey areas. The coverage area of the survey for OCs was set within a 1-kilometer radius from the walls of GCs (see Figure 2-3). The surveys were made through house-to-house visits by four interviewers including the author.

The actual procedure is as follows. Firstly, the estimated number of elements of the sampling frame was identified from the estimated number of households provided by the local government units (LGUs) and the homeowners associations of GCs, which

³ BP220 is the Rules and Standards for Economic and Socialized Housing Projects

⁴ Kelly and Becker (2000), Zelinka and Brennan (2001), Wekerle and Whitzman (1995)

totals to 6,902 households (GC=3,070 and OC = 3,832). Given the estimated number of families in the case study area, we applied the “1/10th rule,” which suggests that one-tenth (or 10%) of the sampling frame should be included in the sample (Sedlack & Stanley). This is equivalent to about 690 samples, which would allow a sampling error of four percent (deVaus 1996, p.71).

Secondly, with the one-tenth rule, sampling interval was established at 10. This means the sample will be selected every 10 houses within the sampling area.

Thirdly, a random start or starting point within the first 10 houses of a community was decided through draw lots from numbers 1 to 10. If number 4 is drawn, the fourth house would be the starting point. Then the survey must proceed by selecting every 10th house (i.e., from 4, then 14, 24, 34 and so on). Applying this in GCs, a random start was selected from the first 10 houses near the gate. While in OCs, a certain corner of the neighborhood was chosen as reference point and a random start was selected. The household heads or desired family representatives with age of at least 20 years old were interviewed.

It took an average of 20 minutes to administer the questionnaire per respondent, which include the briefing of the research objective and instruction of the questionnaire. Initially, the survey aimed to collect at least 10 percent of the households in OCs and 10 percent in the cluster of GCs under consideration. The actual total number of samples gathered was 773, consisting of 373 from GCs and 400 from OCs. These constitute about 12.15 percent of the total households in GCs and 10.44 percent in OCs.

2.5.3 Indexing

The LC index is a term used to determine the average perception of the respondent regarding its living environment. The approach of measuring the LC index was patterned from the Likert's scale technique⁵. In Likert's scale, each attribute becomes a scale in itself and a person's rating to each attribute was given a score. Hence, the respondents were requested to evaluate their communities on scale of 'very poor,' 'poor,' 'satisfactory,' 'good,' and 'very good.' These were later translated into numerical term scores, such as 1 for 'very poor,' 2 for 'poor,' and so on, where 5 is the highest score for 'very good.' Thus, using Likert's scale technique, the LC index is computed for each respondent as the average of scores of the attributes Z_1 to Z_{15} shown by Equation 1. This approach of indexing was applied in many published studies, such as the "Community Solidarity Index" questionnaire presented in the Handbook of Research Design and Social Measurement (Miller, pp 420-422, 1991).

$$LC\ Index = (Z_1 + Z_2 + K + Z_{15})/15 \quad (Equation\ 1)$$

where: $Z_1 =$ water supply system, $Z_2 =$ electricity, $Z_3 =$ roads, $Z_4 =$ sidewalks,

$Z_5 =$ drainage, $Z_6 =$ waste & garbage management, $Z_7 =$ playground,

$Z_8 =$ sports facilities, $Z_9 =$ streetlights, $Z_{10} =$ physical layout,

$Z_{10} =$ physical layout, $Z_{11} =$ maintenance, $Z_{12} =$ cleanliness, $Z_{13} =$ quietness,

$Z_{14} =$ security / safety, and $Z_{15} =$ availability of public transport .

⁵ Dooley (1995), Sedlack and Stanley (1992), deVaus (pp.252-257), Guy (1987)

2.6 MEASUREMENT OF SOCIAL FUNCTIONS

The study of social function is based on the premise of utopian communities in the nineteenth century that sought both to enhance meaningful interpersonal relationships and to provide political, economic, and other services for their residents (Keller, 1968).

2.6.1 Social Function

Social functions (SF) is a summed up term of several intervening social factors. It is generally a measurement of homogeneity or solidarity or shared social relations among residents in a given neighborhood. It is where the *community of interest* and the *community of residence* coincide. Hence, with strong level of SF, the neighborhood allows life to proceed on a comfortable scale among residents.⁶

GCs which is a residential product marketed by real estate developers at certain price level have resulted to the segregation of financially well-off population. The question is whether this assembly of certain socio-economic groups in the GC neighborhood who were initially strangers to each other would be able to establish better social relations. To arrive at an overall estimate of the group's social relations, six factors were considered as discussed next. Each factor explains specific social aspect, and together they explain the overall social quality of life. Below is the modified version of the *six ideal social functions and needs* that the urban neighborhood would ideally serve to the residents (Krupat 1985, p.143):

- a. Community spirit or organizational ties – as a place for shared participation, both formally and informally. It pertains to the belief of residents such as “what is good for the community is good for the resident,” “people are active in community

⁶ Krupat (1985), Wireman (1984), Kanter (1972), Keller (1968)

activities,” “people are active in making the community a better place to live in,” “people care much how the community looks,” etc.

- b. Sense of security – as a place where fear and threats are minimized. This includes whether “people value the essence of peace and order,” “children are safe to play outside the house,” “residents are getting enough support from neighbors,” “residents trust other members in the community,” etc.
- c. Interaction or interpersonal relation – as a place to find friendship and support. This include whether “real friends are easy to find in the community,” “you do not need to spend lots of money to be socially accepted,” “almost everyone is polite and courteous to you,” etc.
- d. Family responsibility or socialization – as a focus for parent-child interaction and care for the youth. This is also about strong commitments to the appearance of their neighborhood because these things affect opportunities for sociability. It evaluates whether “most people get their families to church on Sunday,” “the community tries hard to help its young people become good citizens,” “the community provides the opportunity for closer family relation,” etc.
- e. Social control – as a place in which residents see that others adhere to locally accepted norms. It considers whether “the community has been managed by good leaders,” “the community rules and norms are acceptable,” “Homeowners official gets many things done for the community,” etc.
- f. Satisfaction or sense of collective identity – as a place of symbolic attachment whether one is “GCian” or “OCian”. Also, it refers to the relationship of self to environment, and the place of preference of people that “inspire” or at least allow them to engage themselves emotionally and symbolically with their surroundings

(Proshanky, 1978). It refers to the feelings of residents whether “they consider their community a good place to live in,” “their intention to remain in the community permanently,” “they are proud and feel very much to belong in the community,” etc.

2.6.2 Data Collection and Sampling

The formulation of questionnaire for SF (see Appendix 3-2) was patterned from the “Community Attitude Scale” and “Community Solidarity Index” questionnaires presented in the Handbook of Research Design and Social Measurement (Miller, 1991, pp 416-422). The contents and format were modified to fit the objective of this research. Most questions or statements were adopted from the two-mentioned questionnaires and were improved based on several sources⁷.

As explained earlier, SF consists of six social functions or factors⁸. Each social factor in the questionnaire contains five item statements that describe the social condition of community. The purpose of including five statements for every factor is to cover as much as possible the social meanings and to provide a reconfirmation mechanism on the answers of respondents. Hence, the degree of SF is determined from a total of 30 statements that the respondents were requested to rate on a 5-item scale according to their judgments of how the statements apply to their community. The 5-item scale ranges from ‘Definitely Untrue’ to ‘Very True’ with scores ranging from 1 for “Definitely Untrue” to 5 for the “Very True.”

On sampling, the survey for SF was conducted together with LC in one questionnaire (refer to section 2.5.2).

⁷ Krupat (1985), Wireman (1984), Herbert & Smith (1979), Kanter (1972), Herbert (1972), Keller (1968)

⁸ Social functions and social factors are used interchangeably, but Social function (note with no s) refers to the summed up term of the six social functions/factors.

2.6.3 Indexing

A Likert scale technique was used to derive the composite indices of the six social factors. Each social factor index was computed as the mean of the total score per respondent as derived from the five evaluation statements (*Equation 2*). The overall SF index was computed as the average of the scores of six social factors per respondent, which describe the level of the resident's opinion on the social quality of a community (*Equation 3*). The procedure can be outlined as follows:

$$Z = \frac{Q_1 + Q_2 + Q_3 + Q_4 + Q_5}{5} \quad (\text{Equation 2})$$

where: Z = social factor index
 Q = evaluation statements that total to 5 per social factor

$$SF\ index_r = \frac{\sum_{i=1}^n Z_i}{n} \quad (\text{Equation 3})$$

where: r = respondent under consideration
 i = social factors (*community spirit, security, interaction, family responsibility, social control, and satisfaction*)
 n = total number of factors
 Z_i = index for social factor i

Gated Communities in Metro Manila

What influences the development of gated communities in Metro Manila? What are its basic characteristics? What are the implications of its proliferations in metropolis?

3.1 BRIEF ON METRO MANILA

3.1.1 Population Growth

The Metropolitan Manila, which is composed of 12 cities and 5 municipalities, is the Philippines' premier urban area with a total land area of 636 square kilometers. Its population has been growing rapidly at the rate of 2.36 percent annually between 1995 and 2000 (Figure 3-1). This is slightly higher than the growth rate during the first half of the 1990s with 2.32 percent. On the average, the annual growth rate during the entire 1990s was 2.34 percent and in the 1980s was 2.35 percent.

As of 2000 census, the total population of Metro Manila reached 9.93 million people. This yields a population density of 15,617 people per square kilometer. The breakdown of population by cities/municipalities is presented in Figure 3-2.

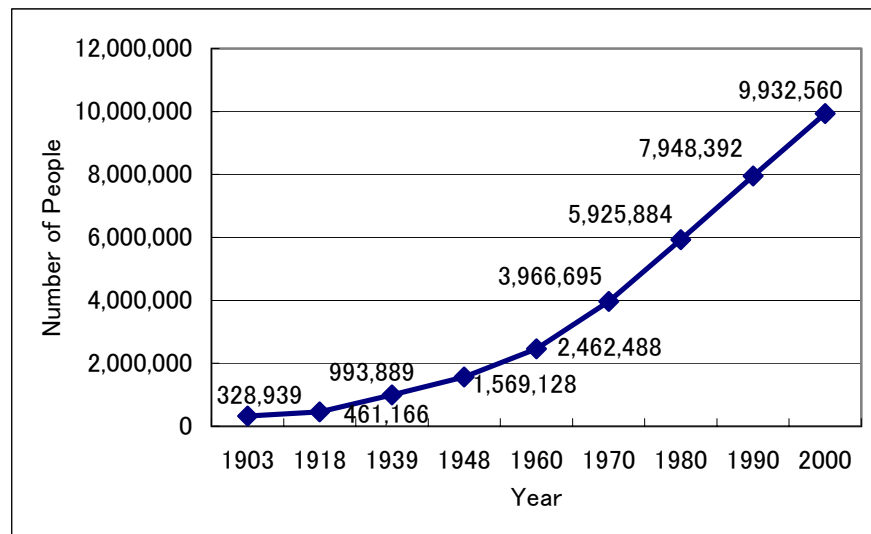


Figure 3-1. Population Growth of Metro Manila, 1903-2000

Data source: National Statistics Office

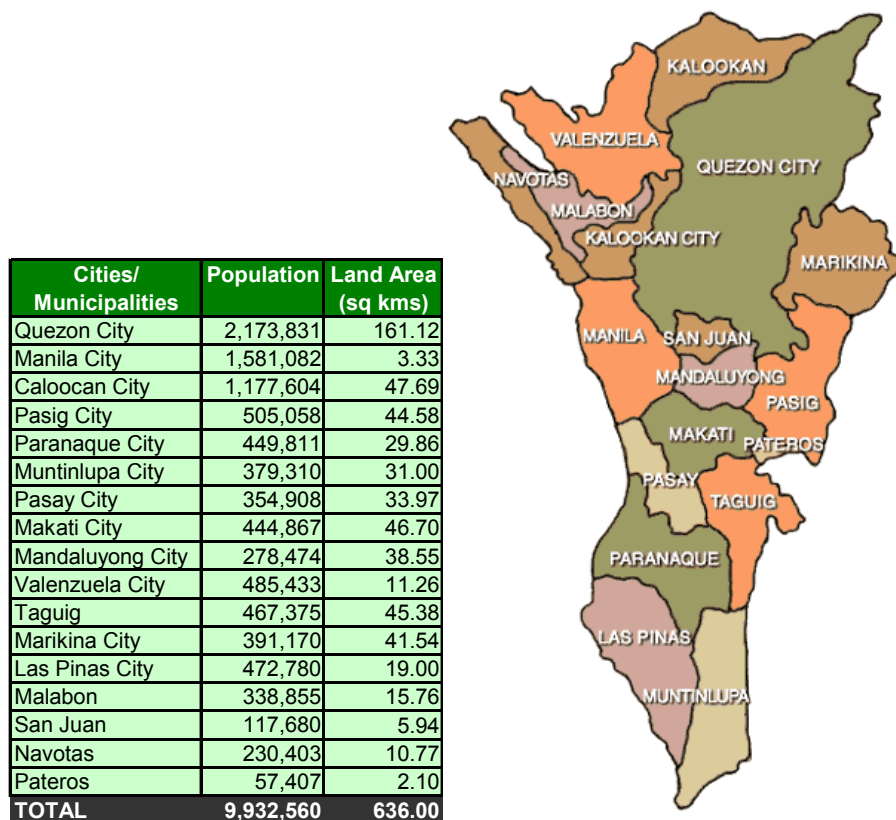


Figure-3-2. Population as of 2000 Census and Land Area of Metro Manila

Source: Modified of MMUTIS (Republic of the Philippines and JICA, 1999)

3.1.2 Land Use

As shown in Figure 3-3, residential land use is the most predominant activity in Metro Manila that farms-out towards the periphery. Based on the estimates of the Metropolitan Manila Development Authority (MMDA), around 65% of the total land area of Metro Manila was devoted to housing in 1992. There are still patches of small areas devoted for agricultural use near the peripheral areas, which accounted to about 14% of the total land area. The commercial developments are mostly concentrated along the major thoroughfares. While small and medium industries are scattered around the metropolis.

There are four trends identified by MMDA to characterize the land use in Metro Manila, as follows: 1) increase density and size of squatter settlement in the city centers; 2) development of medium-scale residential subdivisions for upper and upper middle income markets in the suburban municipalities, and low-cost housing in the fringe areas; 3) growth of big commercial centers along the major thoroughfares; and 4) infilling of urban area with high density housing.

LAND USE OF METRO MANILA 1986 and 1996^{1/}

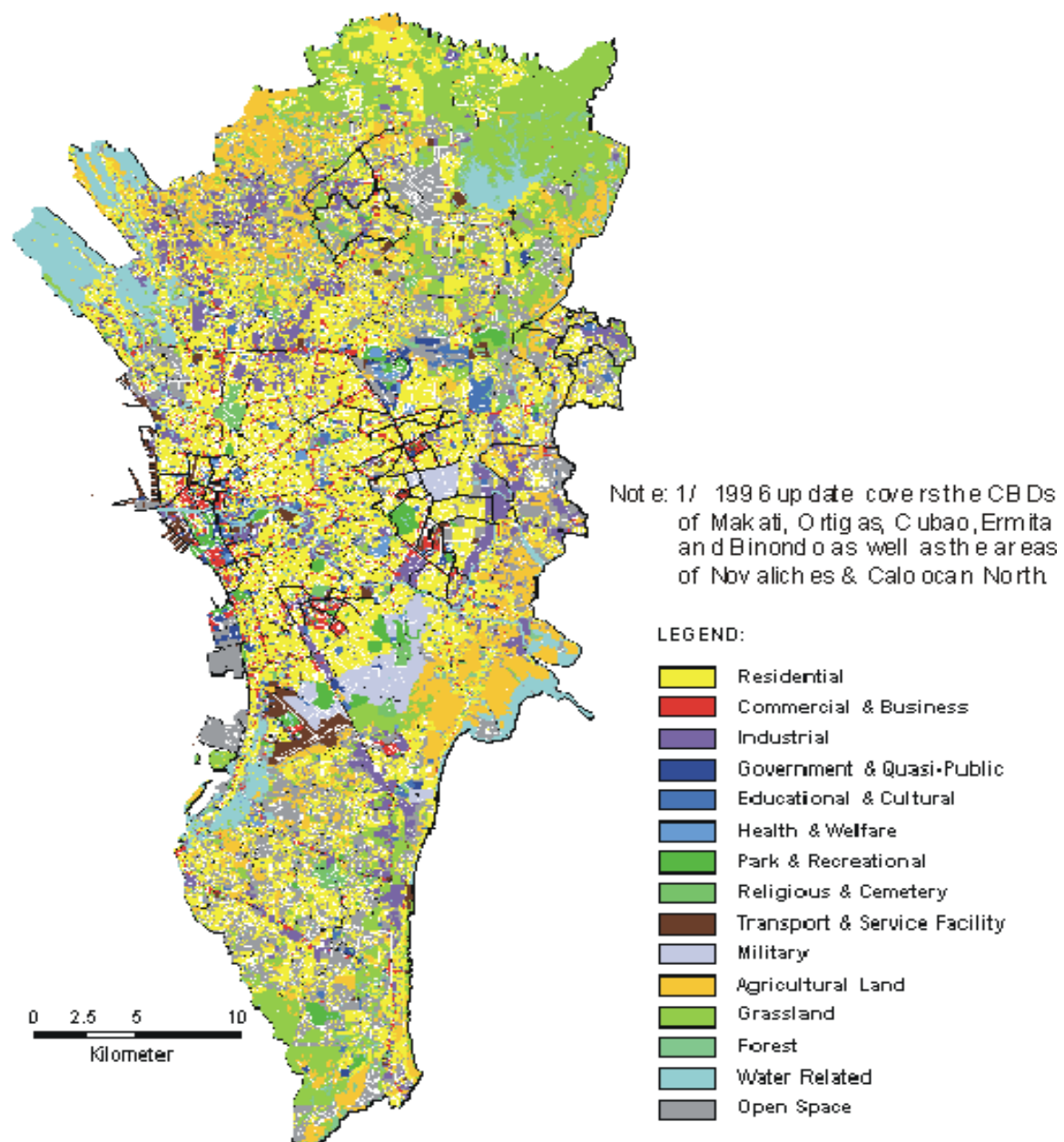


Figure 3-3. Land Use of Metro Manila

Source: Lifted from MMUTIS (Republic of the Philippines and JICA, 1999)

3.1.3 Housing Development

As summarized in Table 3-1, initial government concern for housing in 1935 was a campaign for public health and safety. Squatters' relocation projects were basically intended to prevent the proliferation of congested squatter areas widely believed to be the breeding grounds for crime. In the late 1950's up to the 1970's, the municipal governments had jurisdiction over the activity of subdivision development and each locality prescribes different standards for development (Fabella, A. 1987). It was only in 1976 that Presidential Decree (PD) 957 was promulgated to regulate the private subdivision development, where the enforcement of this policy was vested under the National Housing Authority (NHA). PD957, also known as the Subdivision and Condominium Buyers Protective Decree, requires conformity to the standards on roads, drainage, sewerage, water systems, etc., including the registration of all developed properties on sale.

The government continued to intervene in the housing market in a bid to address the demand-supply gap for the lower-income households who failed to have access to decent housing because housing projects became too expensive for them. In 1982, Batas Pambansa (BP) 220, also known as the Rules and Standards for Economic and Socialized Housing Projects, was passed. It defines the development standards specific to low-cost housing developments.

Today, PD957 and BP220 are the two major housing development policies relevant to the research on gated communities. This will be discussed later in the Chapter.

Table 3-1. Selected Highlights of Housing Development	
1935:	Campaign for public health and safety through squatters' relocation projects.
1950s-70s:	Municipal governments had jurisdiction over the development of subdivisions.
1976:	Presidential Decree (PD) 957 was promulgated regulating the private subdivision development and enforcement vested under the National Housing Authority (NHA).
1982:	Batas Pambansa (BP) 220 was passed that defines the development standards specific to low cost housing developments.

3.1.4 Location and Spread of GCs

Development of gated communities in the Philippines becomes a mass trend, exploiting people's desire to live inside the walled communities. Over the last five decades, the construction of exclusive communities has increased gradually in Metro Manila, as well as in the neighboring provinces. Based on the report of Nishioka (1994), the concept of exclusive village in Metro Manila has been in existence for more than five decades now, which started in the neighborhood of 'Forbes Park', established in 1948 for the rich elite families.

The suburbs of Metro Manila have been the favorite sites of the GC developments. Usually, GCs are being advertised as master-planned neighborhood that emphasizes on security, healthy atmosphere, and adequate facilities and amenities. Seemingly, its proliferation symbolized the type of community that most middle- and high-income urbanites want to live in. However, with their frenetic spread and varied forms, they have a growing impact on the physical structure of urban landscape and the inhabitants. Their development distributions were observed as extending out from the Central Business Districts (CBD) and major commercial nodes (Figure 3-4).

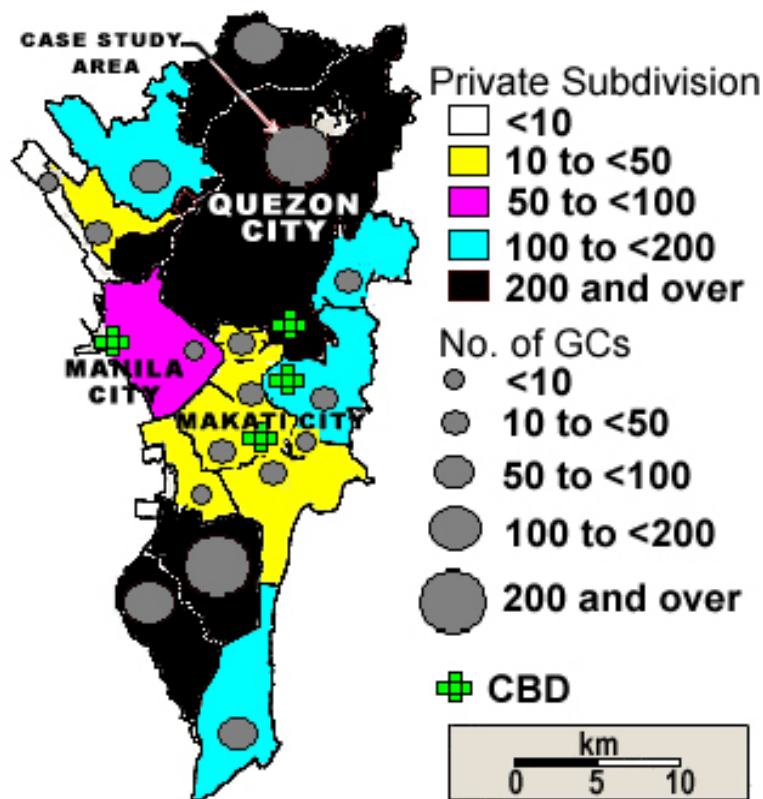


Figure 3-4. General Distribution Map of Gated Communities
Source: Kenneth Tanate. Author's own sketch.

Based on the inventory JICA, the estimated number of GC developments within the political boundary of Metro Manila was 905 as of end 1993. And based on the records of the House and Land Use Regulatory Board (HLURB), an additional of 122 new GCs have been established from 1994 to 2001. This brings the estimated total at 1,027 GCs in Metro Manila. The breakdown per municipality is shown in Table 3-2 and graphed in Figure 3-5.

Other calculated information of GCs in Metro Manila is presented in Table 3-3. The estimated average area of GCs is about 10 hectares with average lot size of around 268 square meters. The average number of lots per GC is estimated at 254 units, which means a total of 254 households for every GC. Meanwhile, it is estimated that around

1.3 million of Metro Manila's population are living inside the GCs that occupies approximately 16% of the total land of Metro Manila or equivalent to 101 square kilometers of land area. The population density in this area is 12,883 people per square kilometer, considerably lower compared to the general density of Metro Manila.

Table 3-2. List of Residential Subdivision and Gated Communities

CITIES/ MUNICIPALITIES	1940-1993		1994-2001		TOTAL	
	Subdivision	GC	Subdivision	GC	Subdivision	GC
Caloocan	229	86	38	25	267	111
Las Pinas	219	101	45	17	264	118
Makati	9	8	9	1	18	9
Malabon	25	19	2	0	27	19
Mandaluyong	23	17	3	0	26	17
Manila	39	6	21	2	60	8
Marikina	151	20	12	2	163	22
Muntinlupa	86	81	20	8	106	89
Navotas	2	0	2	1	4	1
Paranaque	210	211	36	13	246	224
Pasay	6	1	4	0	10	1
Pasig	131	36	22	8	153	44
Pateros	2	2	2	2	4	4
Quezon	489	203	126	36	615	239
San Juan	11	11	10	0	21	11
Taguig	26	16	4	1	30	17
Valenzuela	126	87	15	6	141	93
TOTAL	1,784	905	371	122	2,155	1,027

Data source: 1940-1993 Nishioka (1994); 1994-2001 HLURB license to sell

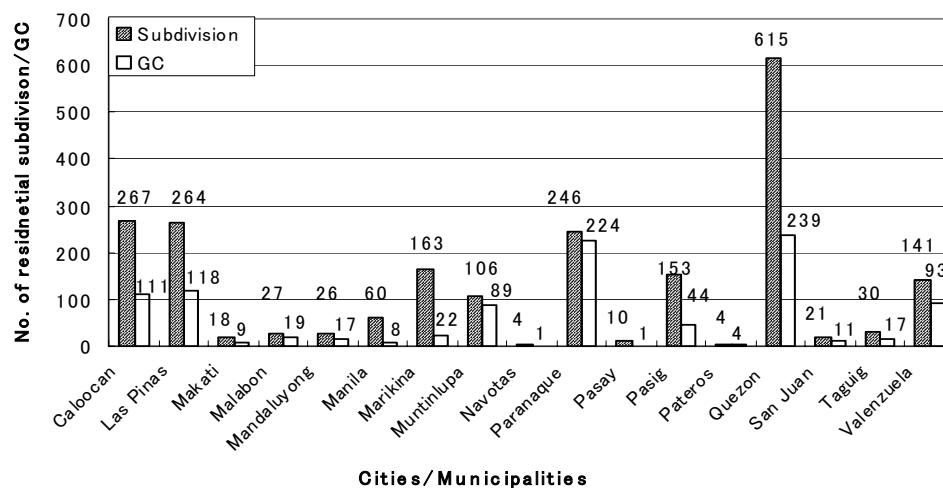


Figure 3-5. Distribution of Gated Communities per Municipalities in Metro Manila

Table 3-3. Estimated Information of GCs in Metro Manila

	Residential Subdivision	No. of GCs
Number of planned residential projects	2,155	1,027
Average total land area per project (in hectare)	9.7	
Average number of lots per project	254	
No. of population (assuming full occupancy & household size of 5 person)	2,735,773	1,303,777
Total land area developed into residential (in square kilometer)	212.3	101.2
% to total land area of Metro Manila	33.4%	15.9%
% to total residential land use area of Metro Manila	51.4%	24.4%
Estimated population density in planned residential per sq. km. (as of 2001 list)	12,883	
Population density of Metro Manila (2000 census)	15,617	

Source: Samples from NCTS/JICA inventory (1941-1992) & NSCB license to sell (1993-2001).

Note: Estimates were primarily based on simple averaging of total land area of residential subdivisions and total number of lots.

3.2 HISTORICAL DEVELOPMENT INFLUENCES¹

3.2.1 Native's Situation in Pre-Spanish Occupation

Community Pattern

Before the Spanish conquest of the Philippines, the natives were settled in several independent small communities called 'barangays,' composed typically of 30 to 100 households. They were mostly located along sheltered bays, coastal areas, and mouths of big river system. Each barangay was led by a recognized chief called 'datu' with an obligation to protect his followers and aid them in their necessities. The followers in return were obliged to aid their chief both in time of wars with other barangays and in the cultivation of his field. (Roces, 1977, Vol.3, pp744-747)

It was observed that the internal structure of communities during this pre-colonial civilization showed evidence of discrete self-sustained neighborhood. Sense of community was fostered through provision by the wealthy of utilities and services and through communal rights over property, especially land. (Lowder 1986 in Serote 1991)

¹ Other sources of the historical overview of urban planning are: Alcazaren (2003), Baetiong (1999)

When Spaniards came, a supra-barangay confederation was supposed to be formed, but was nipped in the bud by the Spanish conquest (Reed 1977). Hence, indigenous settlements in the archipelago were socially, economically and politically independent of one another on the eve of Spanish colonization (Reyes 1998). This historical nature of fragmented society has given rise to many sociological speculations on the evolution of Filipino behavior and political peculiarities. The absence of cohesion and supra-barangay organization was inferred as one reason that the Spaniards easily deal with uncoordinated resistance and revolt, and successfully colonized the Philippines.

Concept of Fencing and Gating

Prior to the occupation of Spaniards, there was already a practice of perimeter fencing by the some natives in the mountain area. The Spanish documents in 1591 and 1755 reveal the existence of strange highland tribes living deep in the Cordillera Mountain Range of Northern Luzon, Philippines. They are called I'Wak. It is described that a typical I'Wak settlement was different from any other tribes in the country. Its most striking feature is the perimeter fence made of sturdy wooden picket that surrounds practically the entire primitive cluster of houses. The main reason was to prevent outside hogs from destroying the planted fields. (Roces, 1977, Vol.1, pp162-168)

This shows that the primary purpose of perimeter fencing is to prevent any outsiders from direct intrusions, which in effect secure lives and properties inside the community.

3.2.2 Spanish Colonial Urban Development Concept

Walled City

The concept of exclusivity, whether in the form of perimeter walls and moats, gates and guardhouses is not actually new, especially in Central Europe where the remains of walls and gates from the Middle Ages in several towns still exist. Even in America, Blakely and Snyder (1999) pointed out that the upper-class families of Tuxedo Park, New York, began living behind gates and barbed wires and with a homeowners' association in 1885. And in parts of Asia, some cities have somewhat similar experience.

In the colonial cities of Southeast Asia, the living areas between the colonizers, natives, and other foreign nationals had always been separated. The living enclaves of the colonizers had been protected by walls, as was the case of "Intramuros" in Manila (Figure 3-6) during the Spanish occupation from 1565 to 1898. It was a walled city with only 1.2 square kilometers in area. Within this tiny enclosure all the institutions of Spanish colonial administration, both civil and ecclesiastical, were established.

At that time, the colonial policy of ethnic segregation was explicit. All political and religious colonist and some 3,200 Spanish elite lived within the walls except the friars, civil officials and soldiers who were assigned in other places. The city was supplied through a flea market in the Chinese quarter, just outside the northeast gate of the walled city. The Japanese who served as live-out domestics were also assigned their own quarters outside the walls. Filipino carpenters and masons who worked during the day inside the city went home in the evening to the hinterlands. (Reed, 1977)

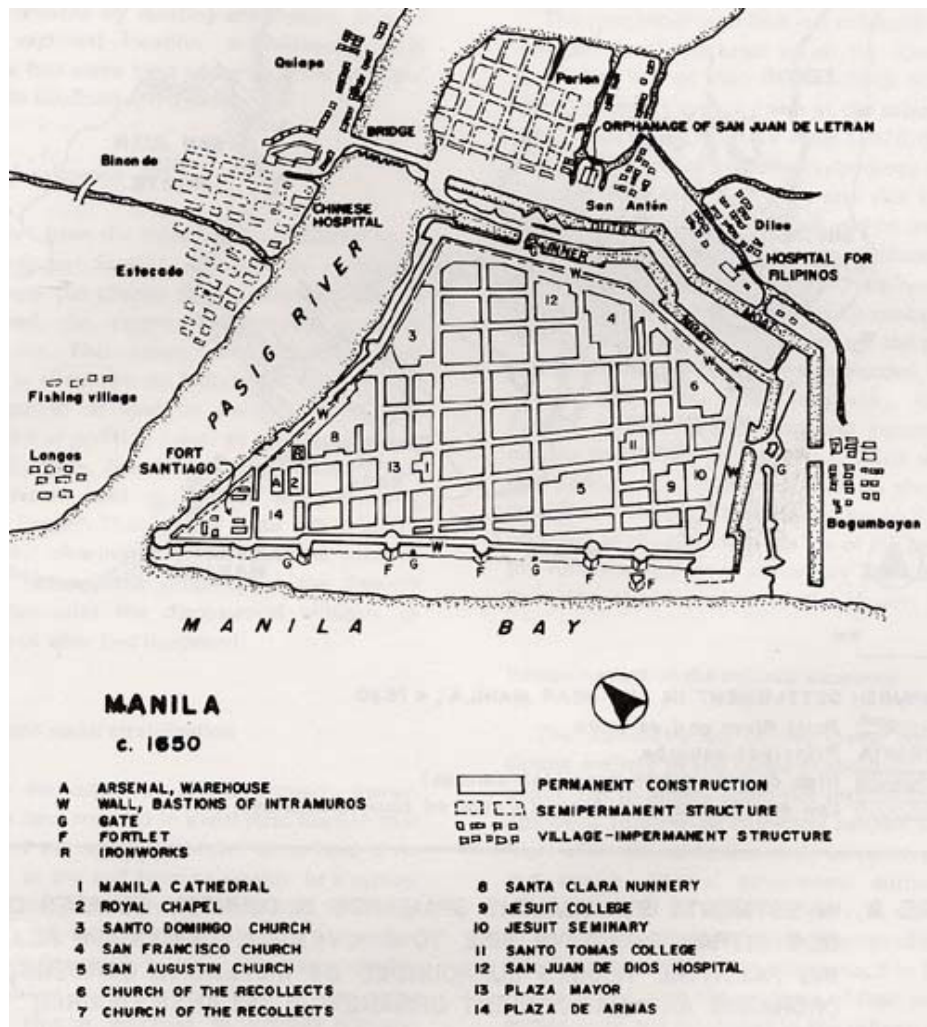


Figure 3-6. "Intramuros": the Walled City of Manila
Source: Lifted from Reed R.R. (1977)

Spanish Residential Decentralization

As "Intramuros" grew, the wealthy Spaniards built their second homes in choice locations to escape the heat and humidity of the walled city. They built vacation houses along Manila bay and suburban areas along the rivers complete with orchards, bath, and gardens. Others built mansions in country estates that were normally secured by perimeter walls against thieves and angry natives (Figure 3-7). The "Malacañang Palace," now the official residence of the Philippine president, was one such country estate. (Reed 1978)

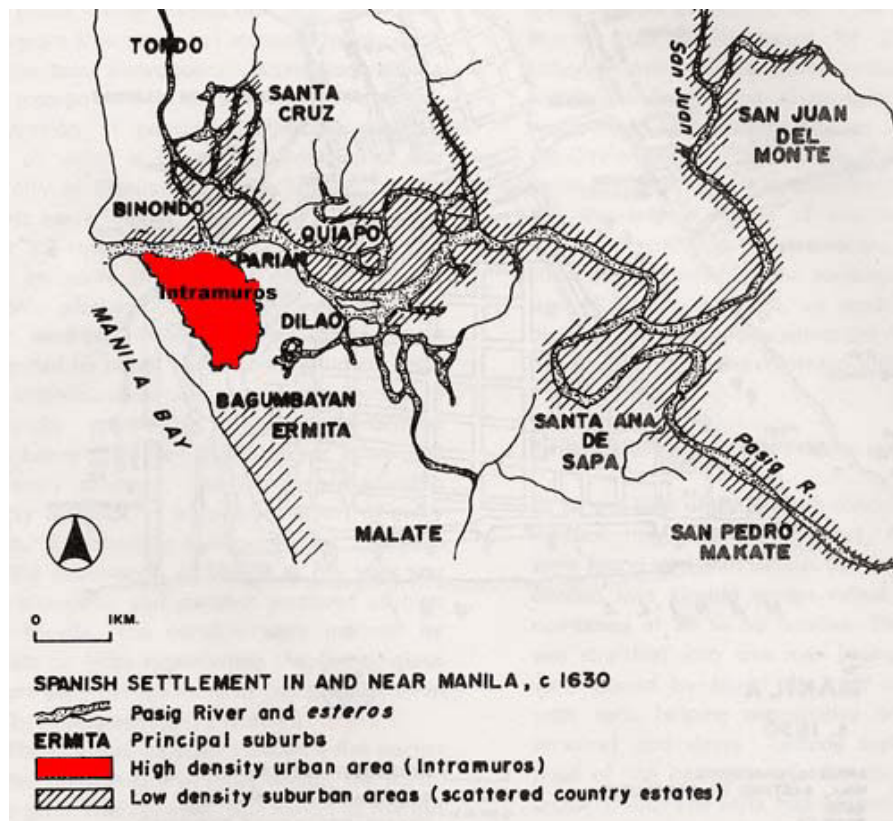


Figure 3-7. Location of Country Estates of Spaniards
 Source: Modified from Reed R.R. (1977)

City/Town Development Concept

In general, the layout of colonial cities and towns during the Spanish occupation followed the “Laws of the Indies” proclaimed by King Phillip II in 1773. In this law, the “town plaza” concept was emphasized primarily to facilitate the colonization and evangelization. It is basically an open square called a plaza where most commercial and social activities took place. Surrounding the plaza is the governor general’s place, church, school and market. Within hearing distance of the church bells are the low-density residential areas where the rich and affluent lived. Encircling this built-up area was the rural hinterland where dispersed houses belonging to the landless tenants were situated among rice paddies, fruit trees and bamboo thickets. (Reed 1978, pp.60-61)

The development concept showed that the lower social class population lived farther from the church. The peasants and ordinary people lived at the outskirts and had to travel miles before they reached the town plaza.

Land Ownership

The strongest Spanish influence on native society was the change in land tenure. They introduced the concept of private property ownership. This concept had allowed such rights as alienation by individuals, taxation and confiscation of land by political rulers, and the right of political rulers to make land grants to individuals. Spanish law also declared that uncultivated land should be under the patrimony of the Crown. Thus, undeveloped fertile farms or forest left to regenerate automatically became the property of the Spanish sovereign.

Since land is regarded as the real form of wealth, the institution of private property ownership in land resulted in social stratification that is based on economic power. Hence, during the colonial time, it ranked the Spaniards at the top. Followed by the native principalia, who were the traditional ruling classes that were coopted into the civil administration and accorded the privilege to appropriate private properties. At the bottom of the social scale were the landless masses who worked the land as tenants, or as paid laborers. A fourth layer was composed of the Chinese who were considered slightly higher than the masses. (Serote 1991)

3.2.3 American Colonial Urban Development Concept

City Design Concept

The Americans took position of the Philippines archipelago from 1898 to 1946. They started developing the city and its suburbs through infrastructure improvements, such as sanitary and drainage facilities to improve the urban environment; more roads

and railways were built to facilitate the transport of goods to and from Manila. (Serote 1991)

The Americans introduced the modern town planning when they commissioned Daniel Burnham, the famous proponent of the City Beautiful Movement to do a master plan for Manila. Burnham completed his plan in 1905 (Figure 3-8).

The Burnham plan, if fully implemented, would have made Manila one of the monumental cities after Washington, Paris, or New Delhi. Unfortunately, construction had barely gone halfway when World War II reduced Manila to rubble. After the war, the Philippines became independent, but the Burnham plan was abandoned.



Figure 3-8. The Burnham Plan of Manila
Source: Lifted from Serote, 1991

Residential Development Concept

The extended period of industrial capitalism during the American occupation had increased rapidly the migration in Manila, either to take jobs in the foreign firms or enroll in the universities that started to proliferate (Doeppers 1984 in Serote 1991).

The congestion and increasing demand for housing due to rapid in-migration led to another form of urban land development. And with the introduction of private vehicles, the Americans implemented the concept of “working here and living miles away.” They bought large land estates belonging to the religious orders and subdivided into home-lots intended to any interested buyers. The success of this organized housing had encouraged the native elite with extensive landholdings to likewise convert their agricultural lands to urban housing development. (Serote 1991)

Historically, this is how the proliferation of planned residential subdivisions in suburban locations had started in the Philippines.

3.2.4 Utopian Model: From Garden City to Gated Community?

GC developments that require large vacant area are normally located in the fringes of cities and even in the far-flung suburban areas. Such communities provide private facilities and amenities within its boundary and are managed by the homeowners’ associations. Except for the walls and gates, this form of community could be the product of utopian community design in the 19th century.

One century ago Howard published his famous Garden Cities.² It pulled together a set of ideas popular at the time, to come up with practical solution for overcrowded and unhealthy cities. The fact that land values in urban center become very expensive,

² Hall & Ward (1998), Freestone (2000), Le Gates and Stout (2000)

his solution was to transfer jobs and workers to new settlements privately built on low valued agricultural sites, which would be privately governed too; such as Letchworth founded in 1903 as the world's first garden city, located 34 miles from city of London, was managed by the Garden City Pioneer Limited. Letchworth features a housing style of a medieval English village, and factories and workshops were placed in a separate zone near the railway.

The American model of garden city was first applied in the construction of Sunnyside Garden. The project was completed in 1928 with 1200 housing units, community center, garden areas inside the blocks, and with organized Sunnyside Association. Subsequently, Clarence Perry had predicted the need for new urban planning solutions because of the increase in private car ownership. He formulated the first definitive expression of the neighborhood unit as a self-contained suburban subdivision. Stein and Wright translated this theoretical framework into built reality as Radburn Plan in 1928 (Freestone, 2000). Some distinct features of Radburn Plan include a complete separation of pedestrian and automobile traffic, and houses turned away from the street to face a series of parks forming the backbone of the community. The present suburbs offered the same features that attract residents today: quality housing, security, proximity to city amenities, and exclusivity.

Obviously, these utopian community designs were aimed at any urbanites that wished for a cleaner, more healthy and efficient living and working environment. It is in this sense that modern community concepts are link to Howard's Garden Cities. It has spurred communal lifestyles and was meant to meet modern demands.

After World War II, developers in the US have been offering 'master-planned communities' or 'planned unit developments' (PUD) that have open spaces and sports

facilities for communal use. Planned retirement villages were the first places where average Americans could wall themselves off. The gates were soon applied to middle-class suburban subdivisions.

In the 1980s, the trend to conspicuous consumption saw the proliferation of gated communities around golf courses that were designed for exclusivity, prestige, and leisure. At the end of the 1980s, 12 million Americans lived in 'Common Interest Development' (CID) and more than 225,000 of such settlements were in the development pipeline for the year 2000 (McKenzie, 1994). The purchase of such properties means the contractual acceptance of conditions that govern life in the community. The current trend is for wealthy Americans to enclose such precincts with high fences (Freestone, 2000). The additions of perimeter walls and gates are meant to attain some purpose in modern time. And since gating is more prevalent in the USA, talking about gated communities one usually forces to trace this phenomenon from the American situation.

3.3 RELEVANT URBAN CONDITIONS

The socio-economic and cultural characteristics of population, as well as the peace and order situation, have relevant effects to the proliferation of GCs (Nishioka, 1994).

3.3.1 Peace and Order

Crime Incidence

Crime incidence is an indicator of the peace and order situation of Metro Manila. The crime rates shown in Figure 3-9 are reported crime activity standardized by population. It shows that the number of crimes in Metro Manila is higher compared to

other regions. The overall crime trend has been declining over the last seven years from the highest of 302.9 crimes per 100,000 populations in 1994 to 140.2 crimes in 2001, a total of 54 percent decrease.

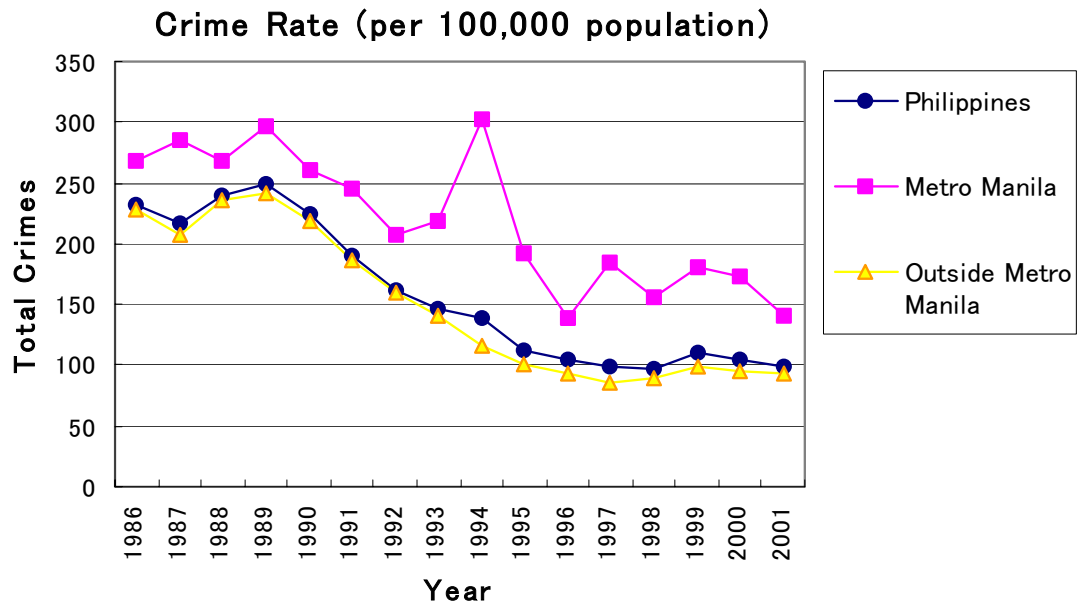


Figure 3-9. Total Crime Rate in Metro Manila
Source: Philippine Statistical Yearbook 2003

Within Metro Manila, the cities with highest volume of crimes are the cities of Manila and Quezon (Figure 3-10). From 1996 to 2002, the City of Manila recorded its highest volume in 1996 with 4,451 crimes, while Quezon City has the highest in 2000 with 5,034 crimes.

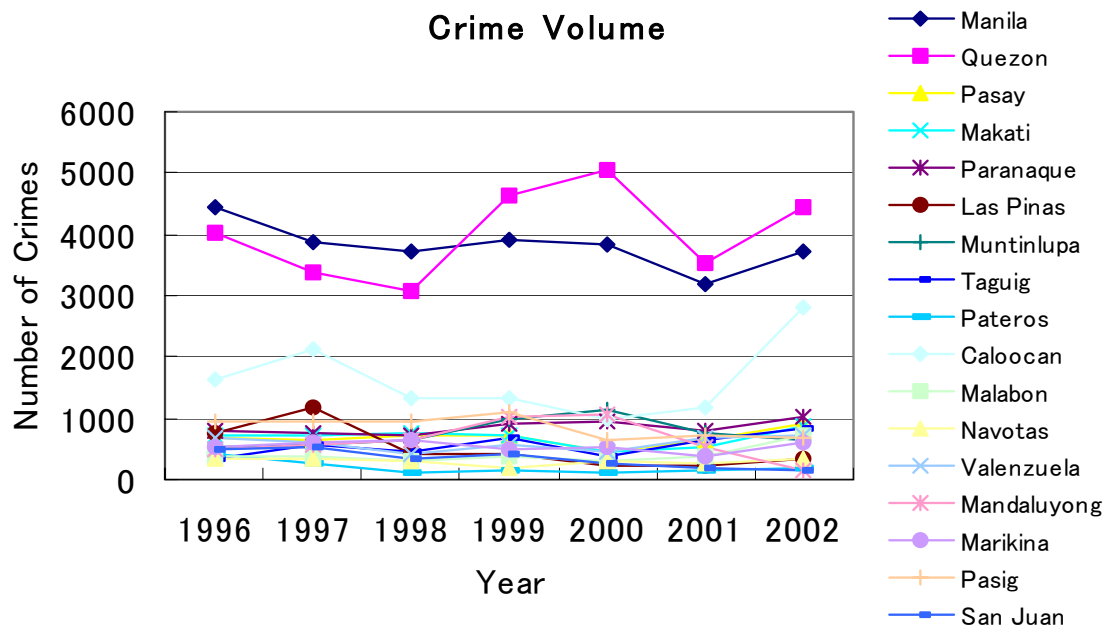


Figure 3-10. Crime Volume in Metro Manila by Cities/Municipalities
Source: Philippine National Police (PNP) – Camp Crame

Looking closely at the crime volume in Quezon City (where the specific case study was conducted), the index crimes in the city is higher compared to non-index crimes for the period 1999 to 2003 (Figure 3-11). Those classified as index crimes or crimes of serious nature that include murder, homicide, physical injury, robbery, theft and rape, was highest in year 2000 with 2,426 cases. It decreased to a lowest volume in year 2001 with a total of 2,083 crimes and up again in year 2002. On the other hand, the crimes classified as non-index include rental dispute, trespassing, oral defamation, etc. According to the crime investigation officer at Camp Karingal, most of the crimes happened in GCs are just non-index crimes, which constituted only about 5 percent of the total non-index crimes in the city.

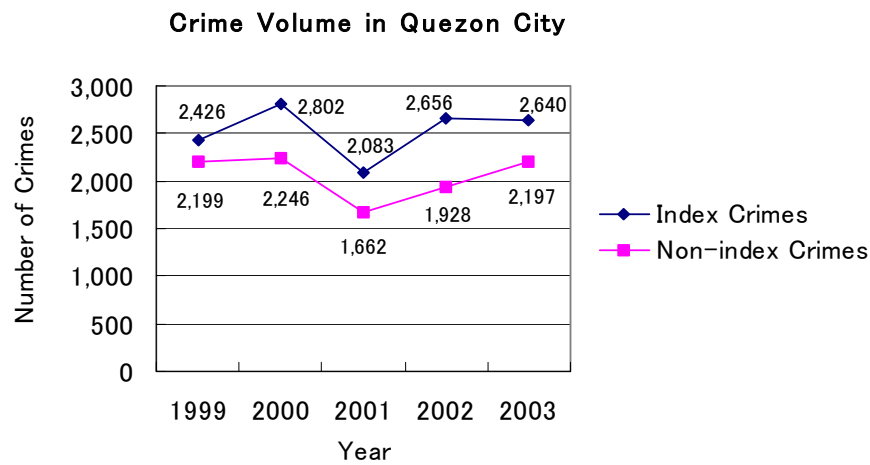


Figure 3-11. Crime Volume in Quezon City
Source: PNP – Camp Karingal

The case of *theft* tops the list of index crime in Quezon City followed by *robbery* and *physical injury* (Figure 3-12). At the bottom is the crime of *murder*, but it is increasing from its lowest of 11 cases in 2001 to 67 cases in 2003.

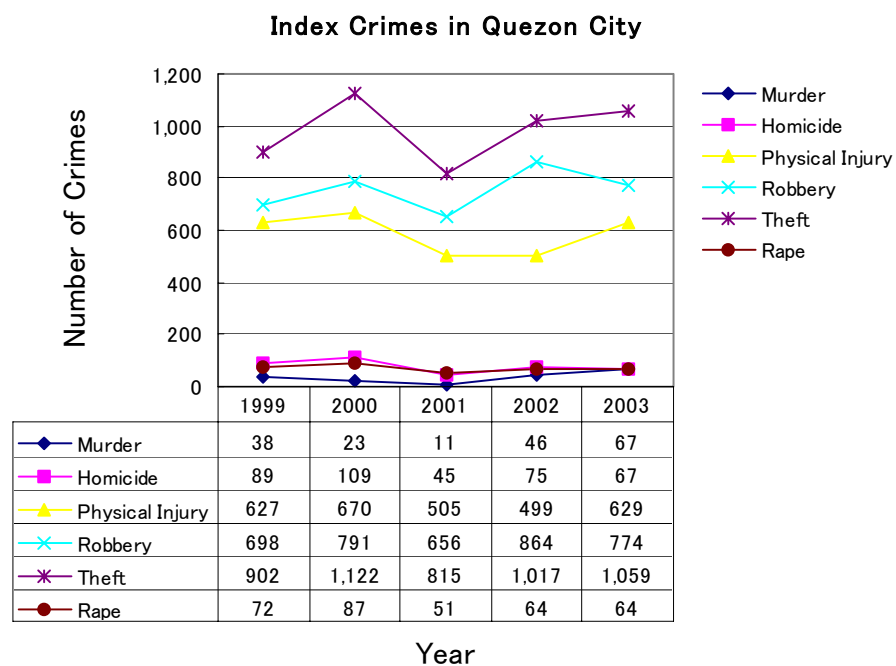


Figure 3-12. Index Crimes in Quezon City (1999-2003)
Source: PNP – Camp Karingal

Furthermore, there was a huge increase in the number of policemen in Metro Manila from 1990 to 1992 (Figure 3-13). In 1991 the police force totals to 89,296 from 55,072 in 1990. With an additional of 11,621 policemen, this totals to 100,917 in 1992. Looking back on the crime rate presented in Figure 3-9, there was a decreased in crime in 1990 to 1992. However, the crime rate had increased again in 1993 and reached its peak in 1994, then started to level off again.

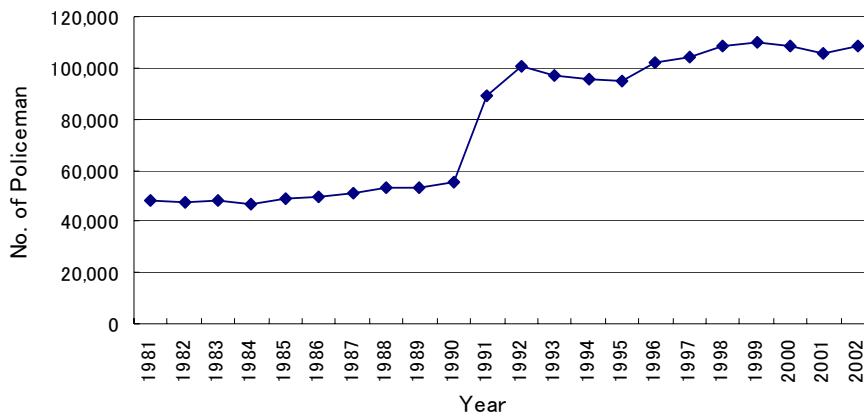


Figure 3-13. Number of Policemen in Metro Manila
Source: *Philippine Statistical Yearbook, 2003*

In general, the crime rate in the Philippines is lower compared to that in the USA (Figure 3.14). Both countries are experiencing a decreasing rate of crimes. Meanwhile, the crime in Japan is soaring as reported on the BBC News in 19 November 2002. Japan's Prime Minister Junichiro Koizumi nevertheless said he was worried by the new crime figures. He appealed "This is Japan, which is called the safest country in the world. We have to seriously consider what we have to do to restore that safe reputation." Despite this situation, however, Japan is still far safer compared to the situation in the Philippines.

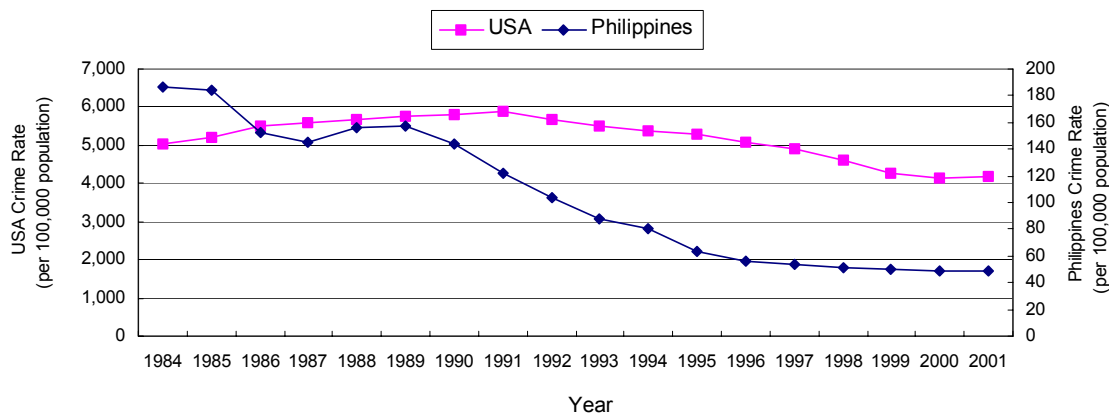


Figure 3-14. Index Crimes (Murder, Homicide, Rape, Physical Injury) in the USA and Philippines
Source: Philippine Statistical Yearbook, 2003 and US Department of Justice (2003)

Pattern of Crime Rate and Number of GCs

The above crime statistics suggests a problem of security in Metro Manila particularly in Quezon City. Hence, the high level of crime could have encouraged people to live in a more secured community.

The graph in Figure 3-15 shows that an increase in GC developments has some improvement in the crime rate in Metro Manila. This is noticeable in the situation in year 1995 to 2001. However, the graph does not show any proportionate decrease in crime rate for certain increase in GC development. It only illustrates a stabilized crime rate within a range of 140 to 192 from 1995 to 2001.

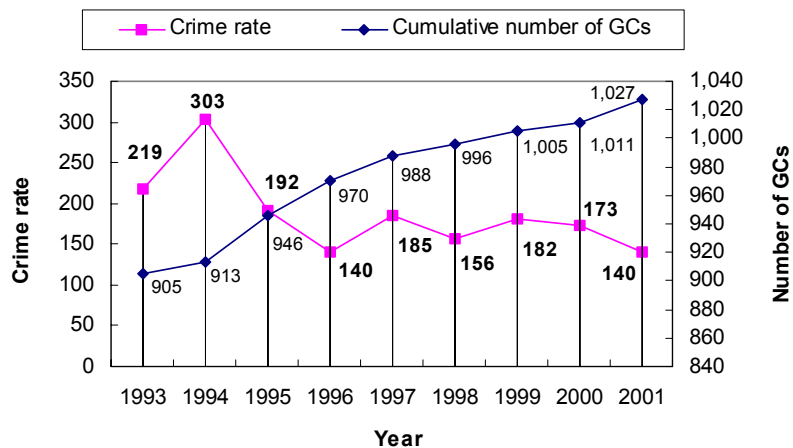


Figure 3-15. Crime Rate and Number of GCs in Metro Manila
Source: Philippine Statistical Yearbook (2003) for crime rate and HLURB for number of GCs

Moreover, the graph in Figure 3-16 may be explicitly interpreted in two ways. First possible interpretation is that some cities have greater number of GCs because their areas suffer from high crime rates, such as the cities of Quezon and Caloocan. Quezon City rank first in terms of the number of GCs and crime rate, while Caloocan City rank fourth in the number of GCs and third in the high rate of crimes. The other possible interpretation is that some cities with greater number of GCs have lesser crime rate, such as the situation in the cities of Parañaque, Valenzuela, and Las Piñas; and that, lesser number of GCs have higher crime rate, such as in the City of Manila.

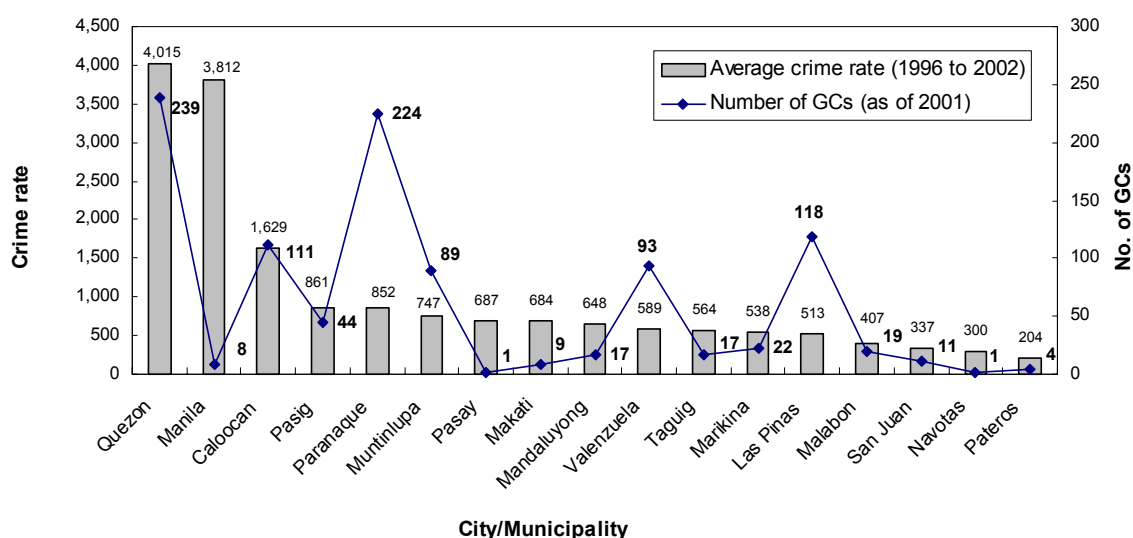


Figure 3-16. Number of GCs (as of 2001) and Average Crime Rate per City/Municipality (1996 to 2002)
Source: *Philippine Statistical Yearbook (2003)* for crime rate and *HLURB* for number of GCs

However, in the absence of reliable historical data on crime rates per city/municipality, it is difficult to precisely trace whether GCs were there in the beginning that results to lower crime rates, or rampant crimes in the area spurred the increase of GC development. Based on personal observations and experience, what is absolute is the “fear” for crimes, whether crime is rampant or not in the area or the threat to lives and properties is real or perceived. Crime reports shown on televisions

and published in daily newspapers can establish fear, which negatively affects the quality of life. The occurrence of crime in other city/municipality can cause some degree of fear that it might happen in one's own neighborhood. Hence, it may encourage the gating of neighborhoods.

There is always certain level of crimes in a given area and the establishment of GCs could possibly permit the displacement of crimes from one location to another. Although there is no sufficient evidence that prove such displacement of crimes, we have so far noted that there are very minimal cases of crimes within GCs. Serious crimes (e.g., rape, murder, robbery, etc.) have very rare chances in GCs due to tight security system. Hence, for a given urban space, the construction of perimeter fence for the development of GC clears the site from direct exposures to all sorts of crimes in OCs. Nevertheless, the exclusivity of GCs is sometimes taken advantaged by some illegal activities. Such as the case in Merville Subdivision, Parañaque City, where drug syndicates was able to operate drug laboratories (Inquirer, 15 July 2003). The drug operators were transient residents and just renting units inside Merville Subdivision.

Further, it is a known fact in Metro Manila that squatter areas exist in all cities/municipalities. Most of them occupy makeshift dwelling units, wherein the construction materials used for walls or roofs are made of salvaged, improvised or makeshift materials (NSO, April 1996). The number of this type of dwelling units is graphed in Figure 3-17, which shows a similar pattern with the annual crime rates. The graph suggests that the greater number of makeshift dwelling units, the higher the crime rates, and vice versa. This implies that squatter areas could be the breeding grounds for crimes.

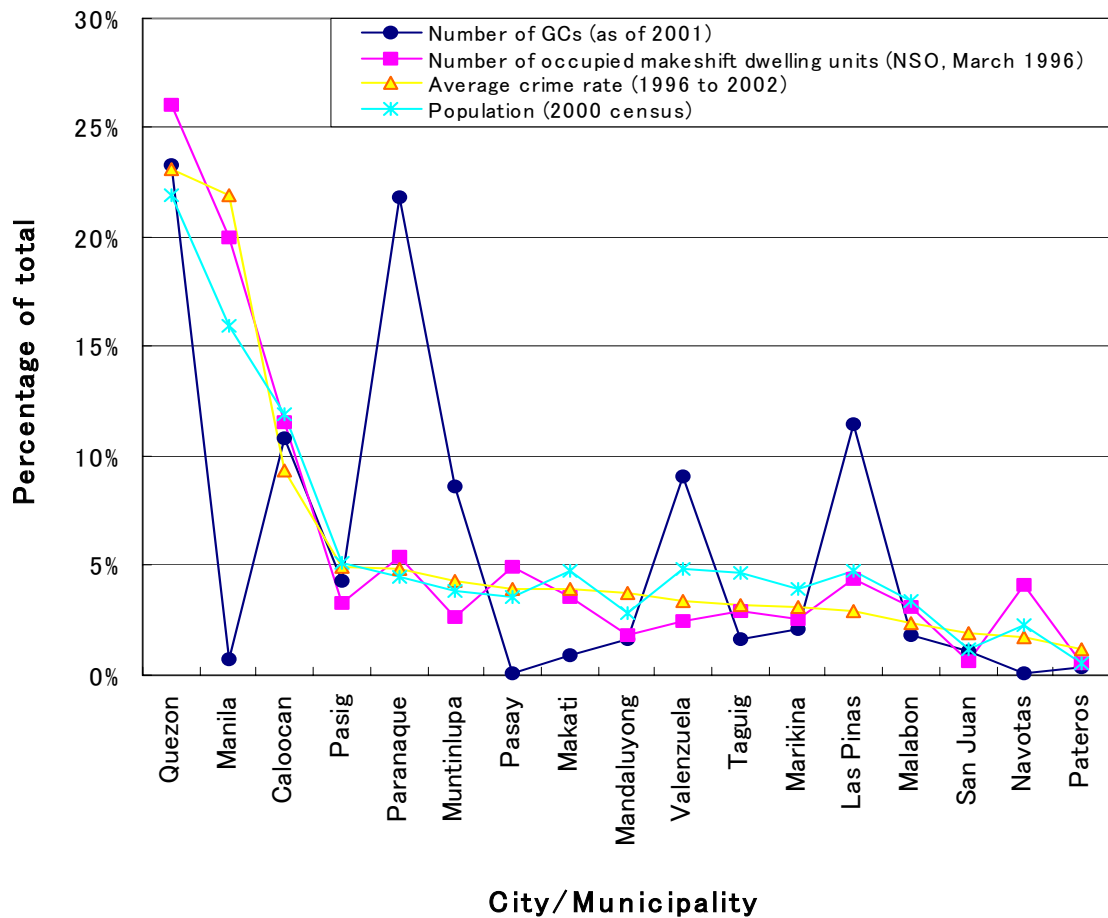


Figure 3-17. Pattern of the Number of GCs, Makeshift Dwelling Units, Crime Rate, and Population

Currently, there are several anti-crime measures being implemented by the Philippine National Police and the Local Government Units in Metro Manila, as well as, by the National Government. These are as follows:

- Increase police visibility that includes constant patrolling in the area and assigning stationary police force in strategic corners of the metropolis.
- Organize anti-crime task force at the district level.
- Installation of streetlights.
- Provision of “police hotline” for emergency call.

- Encourage active cooperation from the general public in reporting crimes and any suspicious activities.
- Reduce unemployment rate.
- Provision of decent housing for squatters.

3.3.2 Socio-economic Aspect

Income and Poverty

Income gap has widened in the Philippines with more and more wealth has been accumulated by the upper class. In 1988 the most affluent 20 percent of families in the Philippines received more than 50 percent of total personal income, with most going to the top 10 percent. Below the richest 10 percent of the population, the share accruing to each decile diminished rather gradually. (*World Bank Report, 1988*)

A 1988 World Bank poverty report also suggests that there had been a small shift toward a more equal distribution of income since 1961. The beneficiaries appear to have been middle-income earners, rather than the poor. This is when a previously unknown middle class has developed, which can be observed also in the mushrooming new housing estates ranging from the comfortable to the luxurious, all replete with security guards and various forms of enclosure.

Based on the information gathered from the real estate brokers, people belonging to the upper or middle classes tend to emphasize prestige in their consumption and spatial behavior. They want to live in exclusive community with symbolic gates and guards that salute when one passes the gate, and with common facilities and amenities for exclusive use of the residents.

On the other hand, the urban poor generally lived in crowded slum areas, often on government vacant land without permission – they were referred to as squatters. These settlements often lacked basic necessities such as running water, sewerage, and electricity. The National Housing Authority had estimated in 1996 that about 36 percent of populations (or 432,450 families) in Metro Manila are squatters. They are distributed to around 276 major slum areas in the metropolis (MMDA, 1999).

This aspect results in resentment and the consequent danger of burglary and robbery. For the past ten years, the rich Chinese families were victims of “kidnap for ransom” in Metro Manila. Accordingly, there is a growing need for security among the affluent, either by private or common “fortification” and hiring some security personnel.

Working Family Structure

As presented in Figure 3-18, the average number of working household members in both gated and ordinary communities in the case study area is about two persons. Since the survey did not specify who are the working members, it is assumed that two working members mean both parents are working. If there are more than two working members, it means that some children are already working. The survey shows that the average-working members are 2.12 for high-end gated community, 2.22 for moderate gated community, 2.05 for affordable gated community, and 2.12 for ordinary community. In general, there is no significant difference between gated and ordinary communities in terms of working couples.

Since the survey shows that both parents are normally working, it suggests that they are out of the house for the entire day. Such situation can encourage the couples to live in a more secured neighborhood where security precautions for houses could be minimal.

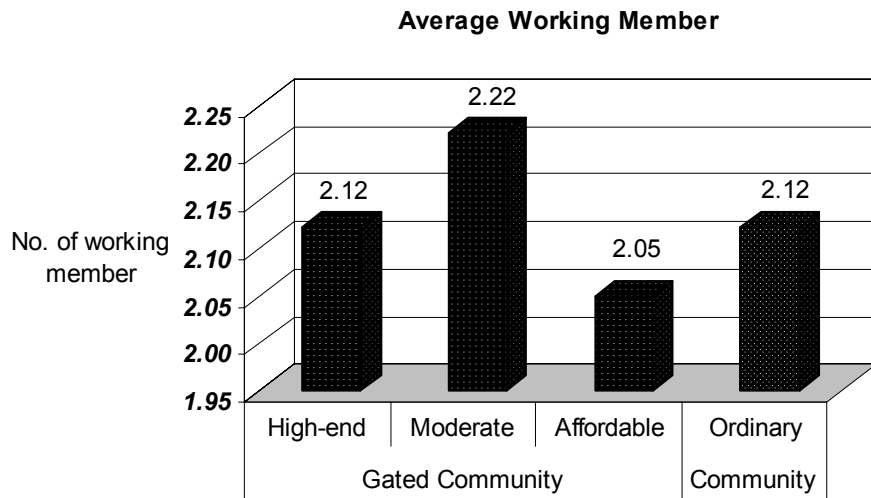


Figure 3-18. Average Working Household Members by Type of Community
Source: Kenneth Tanate. Author's own survey in the case study area (December 2003-January 2004)

3.3.3 Cultural

Ethnicity, geographical origin and religion can also be reasons for living separately. The historical review provided earlier shows that ethnic segregation stems from colonial times. The main reason for separations at that time might have been political, but in the present situation, security became more and more important, especially due to the worldwide threats of terrorism.

Somehow there are cases of segregation with the fundamentalist Moslems in some areas in Metro Manila. It is their belief that life becomes easier for people of the same religion to meet, work, and live together. Religions in the Philippines is composed of 90% Christians, 5% Muslims, 2% Buddhists, and the rest are believed to be animists³. Religion, however, is not really the main determinant for community segregation in Metro Manila.

³ Wikipedia (2003)

3.4 GATED COMMUNITIES IN METRO MANILA

3.4.1 Beginnings of Modern Exclusive Communities in the Philippines

The above historical review suggests that the Americans had introduced the first concept of “planned residential subdivision,” primarily focused on addressing the housing backlog at that time. Undoubtedly, the idea of exclusivity had originated also from America. It was an American businessman-soldier, Col. Joseph McMicking, who first conceptualized the first exclusive high-end community in Metro Manila. Together with the Ayala Corporation in 1948, they developed Forbes Park surrounded with lawns and tress, showcased as first class residential village intended for the rich families. It became part of the phenomenal growth and development of the now Makati City, which was formerly a suburban and quite distant from the old CBD of Manila City. With proximity to Makati’s growing business district, shops and cinema as pulling factor, the Ayala Corporation opened up other high-end residential villages: San Lorenzo in 1952, Bel-Air in 1954, Urdaneta in 1957, and Magallanes and Dasmarinas in 1962 (source: Forbes Park Association, 1992). Today, this is where most of the VIPs (e.g., rich businessmen, ambassadors of foreign countries, expatriates, prominent politicians, etc.) reside.

3.4.2 Facilities and Amenities

There are four integral parts of gated communities: the association-owned common property, the public streets, the perimeter walls and gates, and the individual homes. Each serves a particular function and yet all are closely interrelated in shaping the so-called gated communities (see example in Figure 3-19 and 3-20). The facilities and amenities are privately built and maintained. Clubhouse, sports facilities and common green area are featured as a neighborhood center.

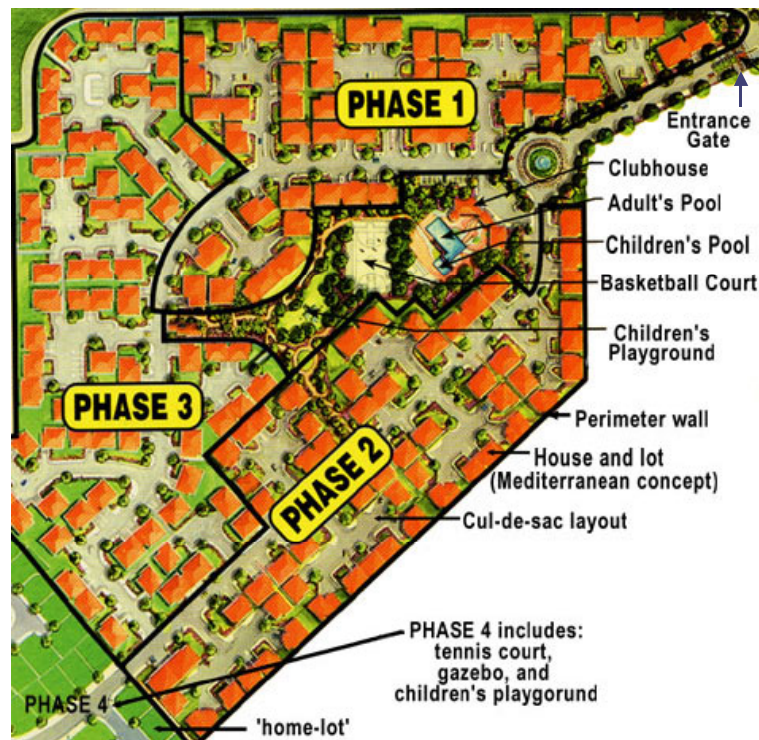


Figure-3-19. Example of High-end Gated Community Layout

Source: Modified from Ferndale Homes, Ayala Land, Inc.



Figure 3-20. Example of Housing in Mapayapa Village and Ferndale Homes

Source: Author's own photo (Mapayapa), Ayala Land Inc (Ferndale)

According to some developers, “the key elements in the development of middle and high-end communities are the association clubhouse and other common facilities.” They serve as a unified recreation center that can boost home sales for the private community. Association clubhouse can be the symbol that comes to mind when one speaks of a homeowners association or a gated community. It can be a link between residents of all ages, providing a meeting place for various social activities.

As a common practice, the best way to preserve this type of neighborhood is to build a fence around it. The result of interviews with Homeowners Association (HOA) Presidents revealed that the essence of gates, perimeter fences and security guards are basically to establish a more secured and peaceful community environment, and to have exclusive use of community facilities/amenities. In this respect, outsiders are allowed entry only when they have a valid purpose or business to transact inside the community. Once access is permitted, the non-resident has to leave a personal Identification Card to the security personnel; or in the case of road access, the driver has to leave his Driver's license. Figure 3-21 shows the guards manning a private road and Figure 3-22 shows a signage of "no-sticker pass, no entry" policy usually posted at the entrance gate.



Figure 3-21. Security Guards Controlling Road Access
Source: Kenneth Tanate. Author's own photo.



Figure 3-22. Common Signage Reminding Outsiders of the Entry Policy
Source: Kenneth Tanate. Author's own photo.

An example of perimeter wall is shown in Figure 3-23, which varies in height in the different GCs. Usually, the perimeter wall for the high-end GCs ranges from 5 to 7 meters, with structural combination of concrete wall, then cyclone wires and barbwires on top portion. If only the concrete and barbwires are used, the height of perimeter wall ranges from 3 to 4 meters. On the other hand, the perimeter fences/walls of Moderate

and Low-end GCs ranges from 1.5 to 4 meters high. They are often made of concrete walls and barbwire, and some just used cyclone wires.



Figure 3-23. The Perimeter Wall of GC
Source: Kenneth Tanate. Author's own photo.

According to Mr. Wage, a licensed real estate broker and once the HOA president of BF Homes in Quezon City, the boundaries and entrances to a GC are visually distinctive and they may serve several useful purposes. First, they can become symbols for those inside reinforcing their mutual interests. Sharing land area as one community tends to evoke a group image in the minds of residents, as well as to endow the neighborhood with a meaning or value in the attitudes of outsiders. Secondly, such values tend to confirm and continue its economic value and use. Thus entranceways or buffer areas are often desirable additions for economic conservation and in order to enhance the association vitality. A third kind of purpose, relates to the use of fences and gates in a literal sense to enhance the prestige of living in an exclusive neighborhood, control traffic, and provide security. A fourth purpose of perimeter walls is to shield

nearby homes from any external influences such as, noise from commercial activities and vehicles, fire incidents, cover the view of squatter settlement, etc. Therefore, proper maintenance of such buffer treatments by the homeowners association protects the community development as a whole.

3.4.3 Automatic Membership to Homeowners Association

As pointed out by McKenzie (1994), the purchase of properties in GCs means the contractual acceptance of conditions specified in the association bylaws. It is a belief that the automatic membership homes association performs functions beneficial to the community and to the individual homeowner.⁴ The president of HOA in the case study opined that the association practically performs community functions that the homeowners individually cannot do economically or efficiently or what they are unable to get local government to do.

The automatic-membership HOA, established and operated as recommended by the HLURB, provides through recorded land agreements a responsible private organization to govern and serve a defined residential area for the general good of the residents according to their own determination. The HOA and its common properties, exhibits some practical applications of many desirable land-planning concepts. The local government does not need to use general public funds for special benefits of the GC residents. Developers and homebuyers do not need to place under public control the common open spaces intimately related to individual homes of GCs.⁵

It has been observed that HOA (i.e., Ferndale Homes) successfully perform the full range of functions of municipal-type operations and services from administering

⁴ U.S. Department of Housing and Urban Development (1970)

⁵ Author's Interview (2003),

private covenants for land use and architectural control, through maintenance of playground and recreation areas. The practical limits of association services are set by the desires of the homeowners and by their ability and willingness to carry out their program through their association.

However, this led many observers to float an issue about the concept of private governance. They argued that such concept entails tension between the privatization of public services and the ideals of general welfares.

3.4.4 Management System

The homeowners in GCs elect among themselves their board of directors for the association who will be responsible on the daily management of community. In some GCs, such as Forbes Park and other high-end communities, their HOAs established a management group to perform the daily management tasks, whose personnel are not necessarily residents of their community. In the case of non-high-end GCs, the board members do the job themselves during their free time, and sometimes just hire one or two personnel to perform the clerical tasks.

Section 27 of PD957 provides that “fees to finance services for common comfort, security and sanitation may be collected by a properly organized homeowners association and only with the consent of a majority of the subdivision residents.” Accordingly, the maintenance of GC facilities and amenities depends primarily from the membership fees of the homeowners, which are collected either monthly or annually (Figure 3-24). The amount varies per GC depending on the agreement reached by their association. In the case study area, it ranges from a fix amount of 150 to 600 pesos per month. Aside from this collection, GCs usually collect separate fee for garbage management. Sometimes the basis of charging the homeowners with all these fees were

based on the per square meter size of their lot. Nevertheless, most GCs made an arrangement with the LGUs for the collection of garbage, where residents usually pay token (donation) money to the garbage collectors.

Other sources of income are commission from water bill collections, building permits, and sometimes from rent fees of community facilities. Recently, the ‘sticker pass’ requirement for the members and passers-by also become one major source of funds for the homeowners associations.

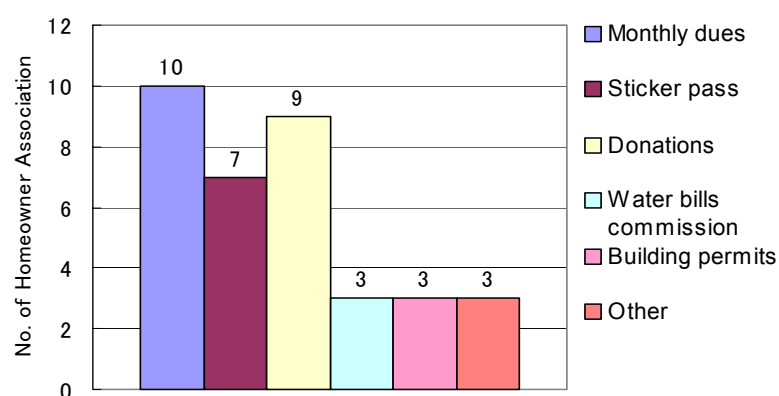


Figure 3-24. Common Sources of GC's Income/Funds
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

In general, all the fees cover the payments for security personnel, garbage collection, and maintenance of water supply system for those GCs with independent water source, as well as for maintenance of other facilities like roads, sports, playgrounds, etc.

3.4.5 Types of GCs

The GCs in Metro Manila may be classified according to the project categories of the housing laws. The laws set the cut-off price per housing unit in each type of residential subdivision projects, which have equivalent sets of minimum development standards. While this classification is basic in the planning stage of the projects, it helps

in describing the nature of community differences during their completed or established stage.

As mentioned earlier, PD957 and BP220 are the major laws that provide the minimum design standards for subdivision developments. Basically, there are four types of housing project categories, as presented in Table 3-4: Open Market, Medium Cost, Economic and Socialize housing. They differ essentially in terms of their selling price, minimum lot size and floor area, and road network.

Table 3-4. Minimum Design Standards for Residential Subdivision Projects under PD957 and BP220

Parameters	Presidential Decree 957 Housing Projects						Batas Pambansa 220 Housing Projects					
	Open Market Housing			Medium Cost Housing			Economic Housing			Socialized Housing		
1. Selling Price	Above \$38,462			\$9,615 - \$38,462			\$9,615 maximum			\$3,462 maximum		
2. Land Allocation												
a) Saleable area	70% maximum			70% maximum			Variable			Variable		
b) Open space:	30% minimum			30% minimum			(see b.1 - b.3)					
b.1 Road system	Correspond to the hierarchy of road network requirements											
b.2 Parks & playground	Ranges 3.5% - 9% (Depends on number of lots)											
b.3 Community facilities	Mandatory provision of multi-purpose center						Ranges 1% - 2% (Depends on number of lots)					
3. Minimum Lot Areas												
a) Single Detached	120 sqm			100 sqm			72 sqm			64 sqm		
b) Duplex	96 sqm			80 sqm			54 sqm			48 sqm		
c) Row house	60 sqm			50 sqm			36 sqm			32 sqm		
4. Min. House Floor Area												
a) Single Detached	42 sqm			30 sqm			22 sqm			18 sqm		
b) Duplex	42 sqm			30 sqm			22 sqm			18 sqm		
c) Row house	42 sqm			30 sqm			22 sqm			18 sqm		
5. Road Network by Project Size	Major	Collector	Minor	Major	Collector	Minor	Major	Collector	Minor	Major	Collector	Minor
a) 2.5 has.& below	10 m	-	8 m	10 m	-	8 m	8 m	-	6.5 m	8 m	-	6.5 m
b) above 2.5 - 5 has.	12 m	10 m	8 m	10 m	-	8 m	10 m	-	6.5 m	10 m	-	6.5 m
c) above 5 - 10 has.	12 m	10 m	8 m	12 m	10 m	8 m	10 m	8 m	6.5 m	10 m	-	6.5 m
d) above 10 - 15 has.	12 m	10 m	8 m	12 m	10 m	8 m	10 m	8 m	6.5 m	10 m	8 m	6.5 m
e) above 15 - 30 has.	15 m	12 m	10 m	10 m	10 m	8 m	12 m	8 m	6.5 m	10 m	8 m	6.5 m
f) above 30 has.	15 m	12 m	10 m	15 m	12 m	10 m	15 m	10 m	6.5 m	10 m	10 m	6.5 m
6. Water Supply System	Connection to public water system or independent deepwell source											
7. Electrical Power	Connection to primary or local franchises											
8. Drainage System	Underground canal						Underground or open canal					
9. Sewage Disposal	Individual septic tank conforming to the standards & design of the Philippines' Sanitation Code											
10. Garbage Disposal	Independently or with conjunction with LGU garbage collection and disposal services											

Exchange Rate used: US\$1.00=Peso52.00

As observed during site visits, Open Market projects were developed into a High-end GCs, Medium Cost Housing into Moderate GCs, and some Economic Housing into Affordable GCs. So far, none of the Socialized housing subdivision has

developed into a GC. Hence, this research has identified three types of GCs in Metro Manila, classified as follows:

- High-end Gated Community (HGC) – an exclusive Open Market residential subdivision of PD 957 that emphasized the provision of large homelots and houses, and offer high-end amenities.
- Moderate Gated Community (MGC) – an exclusive Medium Cost residential subdivision of PD 957 that basically features moderate amenities. It mainly differs from HGC in terms in terms of price of the housing package and minimum design standards shown in Table 3-4.
- Affordable Gated Community (AGC) – an exclusive Economic Housing of BP220 with basic amenities and small home-lot sizes intended for the average income families.

The average lot sizes of the three types of GCs in Metro Manila were estimated based on the random selection of 468 residential subdivisions from the JICA-NCTS database inventory of subdivisions projects constructed until end of 1993. The breakdown of which are, 11 Open Market, 418 Medium Cost, and 39 Economic housing. Their average lot sizes are shown in Figure 3-25. It shows that residential subdivision projects have average lot sizes of 662 square meters for Open Market, 388 square meters for Medium Cost, and 107 for Affordable Housing.

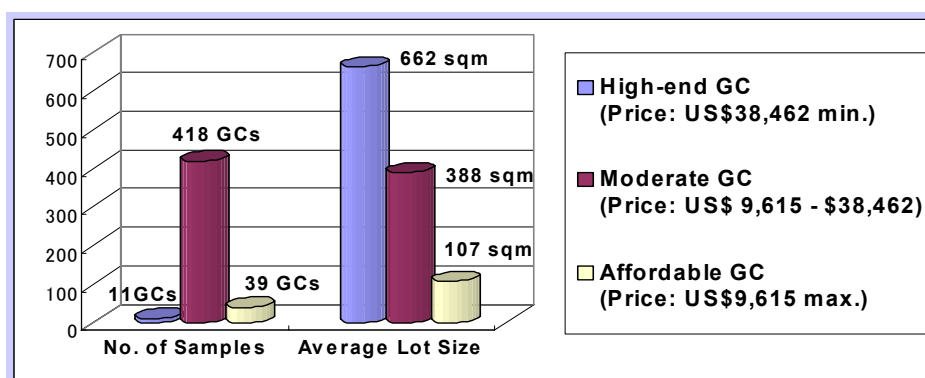


Figure 3-25. Average Lot Size of GCs in Metro Manila
Source of raw data: JICA-NCTS database of subdivision inventory

In general, the average lot size of GCs in Metro Manila varies by cities/municipalities. As presented in Table 3-5, GCs in Makati City area have the largest average lot size. It is composed largely of high-end GCs developed by the Ayala Corporation as mentioned in Section 3.4.1. The second largest average lot size is the GCs in Quezon City.

Table 3-5. Estimated Average Lot Size of GCs by Cities/Municipalities

CITIES/ MUNICIPALITIES	Number of Subdivision	% of Exclusive Village	Average GC Lot Size (sqm.)	
			(a)	(b)
Caloocan	229	37.6%	284	198.8
Las Pinas	219	46.1%	279	195.3
Makati	9	88.9%	1153	807.1
Malabon	25	76.0%	386	270.2
Mandaluyong	23	73.9%	135	94.5
Manila	39	15.4%	107	74.9
Marikina	151	1.3%	354	247.8
Muntinlupa	86	94.2%	394	275.8
Navotas	2	0.0%	–	–
Paranaque	210	79.0%	316	221.2
Pasay	6	16.7%	97	67.9
Pasig	131	27.5%	362	253.4
Pateros	2	100.0%	201	140.7
Quezon	489	41.5%	475	332.5
San Juan	11	100.0%	209	146.3
Taguig	26	60.7%	442	309.4
Valenzuela	126	69.0%	238	166.6
TOTAL	1784	48.9%	367	256.9

Note: (a) –simple averaging of total land area of subdivisions and total number of lots.

(b) –less 30% for communal space (road circulation, playground, etc.)

Source: Modified version of Nishioka (1994)

In the case study area, the three types of GCs show some differences in the provision of facilities (Table 3-6). In particular, the high-end GCs have higher perimeter walls and with variation of sports facilities than the moderate and affordable GCs. The table also shows other information such as: the type of community layout; the type of housing product whether it was offered as house and lot or home-lot only; and the approach of establishing an exclusive neighborhood. It shows that most GCs were originally open communities and has evolved to become GCs through retrofitting the community boundaries with gates and walls. This suggests that most developers before did not intend to create an exclusive community, but after a homeowner's association was formed, the residents decided to install gates and walls in an attempt to defend their existing way of life, presumably against increasing population in the area, increasing vehicular traffic, and against actual or perceived threats to lives and properties.

A high-end GC such as the recently developed 14-hectares Ferndale Homes (as shown earlier in Figure 3-19), offers 181 units of house-and-lot and 117 'home-lots only'. Its development features include an entrance gate, average home-lots of 235 square meters, gross floor area of 149 to 200 square meters, clubhouse, 2 swimming pools, basketball court, tennis court, 2 children's playgrounds, a gazebo, a Mediterranean housing concept, and a cul-de-sac layout of houses.

Moderate and affordable GCs that offer 'home-lots only,' such as the Mapayapa Village and Silverland Subdivision, do not have specific requirement for house design concept, but normally have their own specific building code such as setback spaces and building height. The facilities in these GCs are limited to a simple playground, basketball court, clubhouse, and few of them with a chapel.

Table 3-6. Facilities, Layout, Development Product and Method of Enclosures in Different Types of GCs

Type of GCs	No. of Gates	Fence Height	Club-house	Church/ Chapel	Basketball Court	Tennis Court	Swimming Pool	Play-ground	Layout	Product	Method of Enclosures
High-end GCs:											
Ferndale Homes	2	high	1	0	1	1	1	1	Cul-de-sac	H&L	original
BF Homes	5	medium	1	1	1	1	1	1	cul-grid	L	retrofitted
Don Enrique	3	medium	1	1	1	1	0	1	grid	L	retrofitted
Moderate GCs:											
Dona Petronas	2	low	0	0	1	0	0	1	grid	L	retrofitted
Metrogate	2	medium	0	0	1	0	0	1	grid	L	original
Don Antonio Heights	2	medium	1	0	1	0	0	1	grid	L	retrofitted
Mapayapa Village - I	2	medium	1	1	1	0	0	1	grid	L	retrofitted
Mapayapa Village - II	3	medium	1	0	1	0	0	1	grid	L	retrofitted
Mapayapa Village - III	3	low	1	1	1	0	0	1	grid	L	retrofitted
Dona Ana Village	2	medium	1	0	1	0	0	1	grid	L	retrofitted
Filinvest Homes	3	high	1	1	1	1	1	1	grid	L	original
Affordable GCs:											
CBE Townhomes	2	medium	1	1	1	0	0	1	grid	H&L	retrofitted
Silverland Subdivision	1	low	0	0	1	0	0	1	grid	L	retrofitted
Fern Village	2	medium	0	0	0	0	0	1	Cul-de-sac	L	retrofitted
Ramax Subdivision	2	low	0	0	0	0	0	1	grid	L	retrofitted
Hobart Subdivision	2	low	0	0	0	0	0	1	grid	L	retrofitted
Sugartown	2	low	0	0	1	0	0	1	grid	H&L	retrofitted
Sunnyside Heights	2	medium	0	0	1	0	0	1	grid	L	retrofitted

Legend: high=more than 5m; medium=3-5m; low=less than 3m; H=house; L=lot; Available=1; None=0
 Original=gates & walls completed part of original plan; retrofitted=gates & walls are additions to former open subdivision
 Source: Author's site survey & interview (2003)

Affordability of Housing Segments

As presented in Table 3-7, these projects have corresponding range of prices provided in PD 957 and BP 220: the price of Open Market has suggested price that start from over 2 million pesos; the Medium Cost has price range from 500,000 to 2 million pesos; Economic has maximum price of 500,000 pesos; and Socialized with maximum price of 180,000 pesos.

Since the classifications of GCs mainly depends on the price of house and lot package that have corresponding set of design standards, there is possible marginal difference in the classification of GCs when one developer applied for Affordable GC development permit with maximum price of 500,000 pesos and another developer applied for Moderate GC permit with price of a little over 500,000 pesos. This aspect depends on the business strategies of developers considering their target market.

Table 3-7. Affordability of Housing Segments

HOUSING SEGMENT	HOUSING LAW PRICE RANGE (PD 957 & BP 220)	TYPICAL PACKAGE PRICE	TERMS AND ANNUAL AMORTIZATIONS			ANNUAL INCOME REQUIRED (provided 30% is allotted for amortization)
OPEN MARKET	Above 2,000,000		18%	19%	21%	2,539,343 plus
Interest rate			5	5	5	(211,612 plus per month)
Term (years)		2,500,000	761,808	778,212	811,596	
Loan (minimum)						
MEDIUM COST	500,000 to 2,000,000		18%	19%	21%	576,593 to 1,801,851
Interest Rate			10	10	10	(48,049 to 150,154 per month)
Term (years)		800,000	172,980	179,208	191,940	
Loan (minimum)		2,499,999	540,552	560,016	599,796	
Loan (maximum)						
ECONOMIC	500,000 maximum		14%	15%	16%	120,376 to 168,527
Interest Rate			25	25	25	(10,031 to 14,044 per month)
Term (years)		250,000	36,108	38,424	40,764	
Loan (minimum)		350,000	50,556	53,796	57,072	
Loan (maximum)						
SOCIALIZED	180,000 maximum		12%	13%	14%	63,193 to 75,832
Interest Rate			25	25	25	(5,266 to 6,319 per month)
Term (years)		150,000	18,960	20,304	21,672	
Loan (minimum)		180,000	22,752	24,360	26,004	
Loan (maximum)						

Note:

- Modified version of data presented by George Uy (2001) during the *Young CEO Forum on Housing* held in 7 September 2001, hosted by the Asian Institute of Management in Makati, Philippines.
- The figures were derived from various typical payment terms and conditions of various housing segments.
- Figures were based on 2000 prices. All prices are in Philippine Peso (US\$ 1.0 = Peso 52.0).

Around 1,500 developers in the country have been producing an average of 104,000 housing units a year. Private developers produce Medium Cost and Open Market housing, and around 50% to 70% of the overall production of Economic and Socialized housing are Government-led/funded.

Based on the latest typical housing packages shown in Table 3-7, the price range of Open Market/High-end GCs is around 2,500,000 pesos; Medium Cost/Moderate GCs is 800,000 to 2,499,999 pesos; Economic/Affordable GCs is 250,000 to 350,000 pesos; and Socialized (usually remain an OC) is 150,000 to 180,000 pesos. Considering the available terms and annual amortization of payments, the required annual income of household is as follows: at least 2,539,343 pesos for High-end GCs; 576,593 to 1,801,851 pesos for Moderate GCs; and 120,376 to 168,527 pesos for Affordable GCs.

Considering the income of households in the case study area, around 68% of household samples in OCs, as presented in Figure 3-26, can possibly afford to buy a housing unit in the latest Affordable GCs; 23% of them can buy a unit in Moderate GCs,

and possibly 1% of them can buy a unit in High-end GCs. In general, the household income in OCs ranges from 30,000 to 39,999 pesos (Figure 3-27).

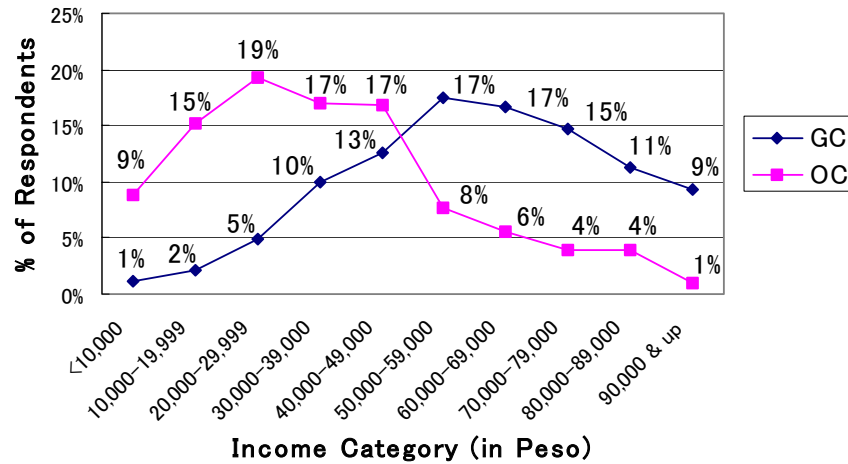


Figure 3-26. Percentage of Respondents by Income Category
Source: Authors survey of December 2003 to January 2004 (Appendix 5)

On the other hand, Affordable GCs has average household income of 50,000 to 59,999, Moderate GCs with 60,000 to 69,999 pesos, and High-end GCs with 80,000 to 89,999 pesos. As shown in Figure 3-26, around 3% of households in GCs have income below 20,000 pesos. They are retired or pensioner people. Also, it may be noted that around 9% of households in GCs can possibly afford to buy units in the latest High-end GCs. Since most of the GCs in the case study area were established 5 to 20 years ago (as shown in Appendix 4-1) and most of them were retrofitted form of GCs (Table 3-6), it suggests that housing units at that time are relatively cheaper. Presently, the value of land in this now developed areas are considerably higher, wherein the majority of households in the surrounding OCs might find it difficult to buy units in GCs or even the households in Affordable GCs might find it expensive to move in the nearby

established Moderate GCs. What are more affordable units are in the new GCs being constructed towards the outer area of Metro Manila.

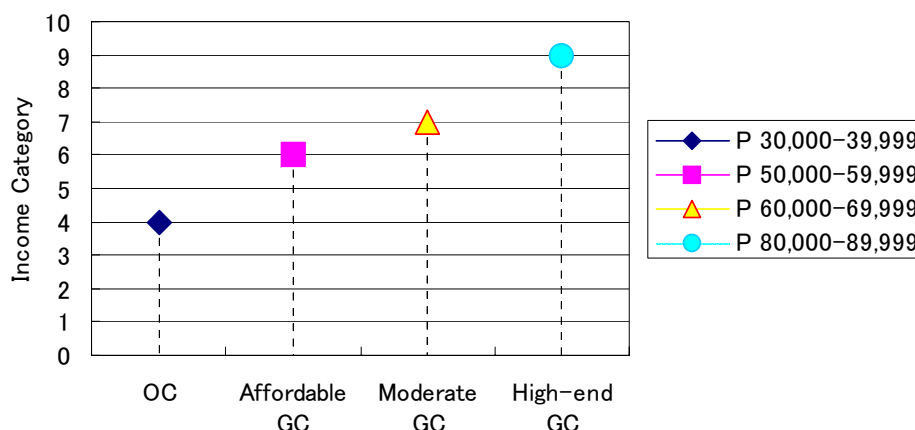


Figure 3-27. Average Income of Households by Type of Community
Source: Author's survey in the case study area (December 2003-January 2004)

Since it is very difficult to obtain detailed cost estimates of developing a GC from the developers, we just calculated it using the typical package prices of house and lot shown in Table 3-8. Assuming we want to develop a GC with 100 units, this will give a gross revenue of 25,000,000 to 35,000,000 pesos for Affordable GC; 80,000,000 to 249,999,900 pesos for Moderate GC; and 250,000,000 pesos and over for High-end GC. Assuming further a minimum acceptable return on investment of 30% per project (Uy, 2001) and subtracting this from the gross revenue, this yields an estimated development cost of 17,500,000 to 24,500,000 pesos for Affordable GC; 56,000,000 to 174,999,930 pesos for Moderate GC; and 175,000,000 pesos and up for High-end GC.

Table 3-8. Estimated Cost of GC Development (in Philippine Peso)

	Affordable GC	Moderate GC	High-end GC
(i) Typical package price of House & Lot*	250,000 to 350,000	800,000 to 2,499,999	2,500,000 up
(ii) Estimated gross revenue for 100 units [(i) x 100]	25,000,000 to 35,000,000	80,000,000 to 249,999,900	250,000,000 & up
(iii) Estimated cost of establishing a GC [(ii) – minimum acceptable return of 30% IRR per project*]	17,500,000 to 24,500,000	56,000,000 to 174,999,930	175,000,000 & up

Note:

* Based on the presentation of George Uy (2001) during the *Young CEO Forum on Housing*.

Differences with Ordinary Communities

In contrast to GCs, most ordinary communities (OCs) in the case study area portray an image of crowded and disordered community (Figure 3-28). They normally developed out of sprawl residential and commercial developments without adequate spaces allotted for recreation and social gathering. Several OCs were originally planned public residential subdivisions but the constructions were oftentimes partially completed, which later encroached by various development activities. Some of its vacant spaces supposedly allotted for the construction of roads and recreational facilities became homes of illegal settlers. Even those fully developed public communities, were exposed to degradation due to frenetic mixed development that have occurred over the years.

At present, the living condition of OC residents merely depends on whatever available services that the LGUs can provide. In the case of amenities, the main city park and few local public sport facilities are the only places where the OC residents can freely gather for socialization and relaxation. These facilities, however, are generally not in close proximity to every household. And with regard to the garbage management and road maintenance, it is entirely dependent on the capability of the local authorities.

Moreover, their living environment appears in many cases to have lack a place of privacy. Privacy within the home environment means privacy of sound and sight from the outside world of traffic and people. There is an obvious need for greater privacy, particularly personal privacy and individual yards abutting public roads. Hence, a common practice in OCs is the individual walling of properties (called a “privacy walls”) around at least some of the outside spaces.



Figure 3-28. Typical Image of Ordinary Community
Source: Kenneth Tanate. Author's own photo.

Selected Comparison Between GCs and OCs

Based on the results of survey in the case study area conducted by the author in May 2003, the above classification of three GCs can be differentiated in terms of house floor area, lot size, household income, merits and demerits, and from their opinions on certain issues. (Please refer to Appendix 3 and 4 for the questionnaire and survey results, respectively.) There is an increasing pattern of outcomes from OCs to high-end GCs. The size of house floor area (Figure 3-29) and lot size (Figure 3-30) are increasing from OCs to high-end GC. The level of family income (Figure 3-31) also increases from OCs to high-end GCs. On the question of community preference (Figure 3-32), obviously all GC residents prefer to live in gated communities, while about 60% from OC respondents want to live in GCs.

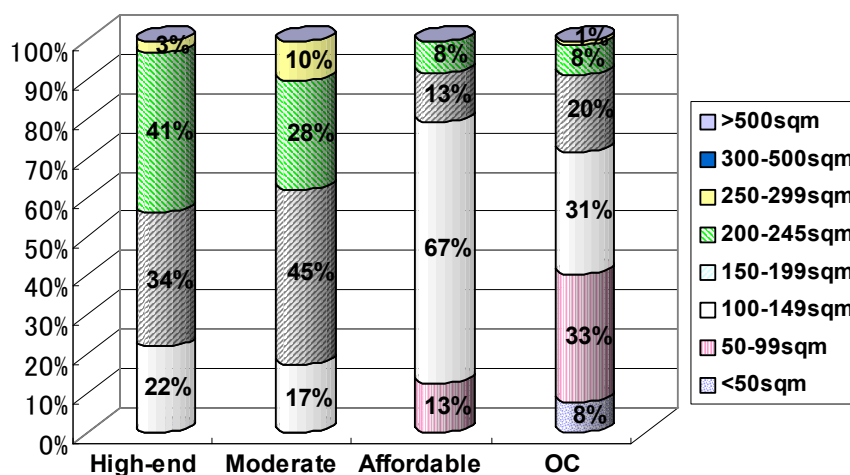


Figure 3-29. House Floor Area by Type of Community
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

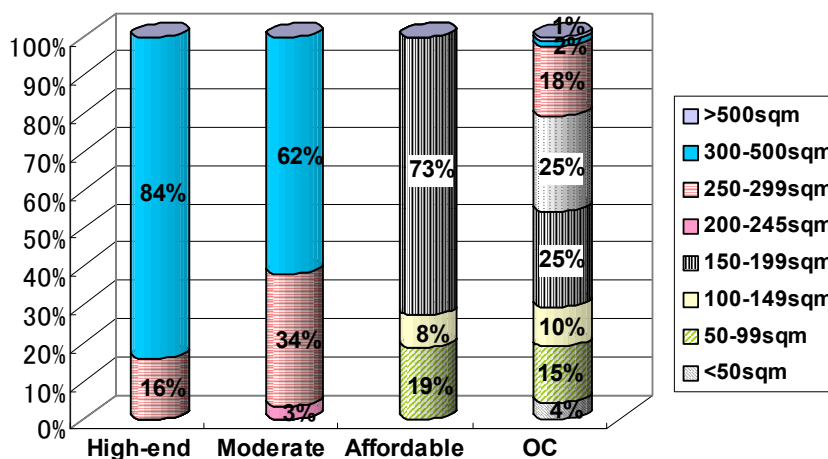


Figure 3-30. Lot Size by Type of Community
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

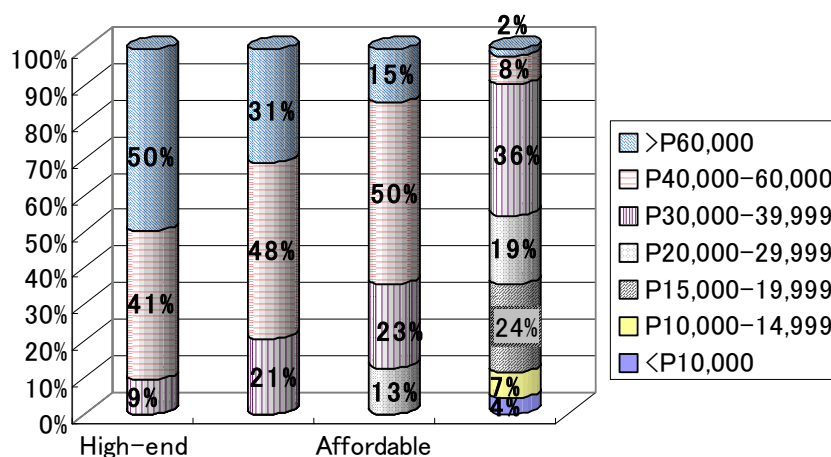


Figure 3-31. Pattern of Household Income by Type of Community
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

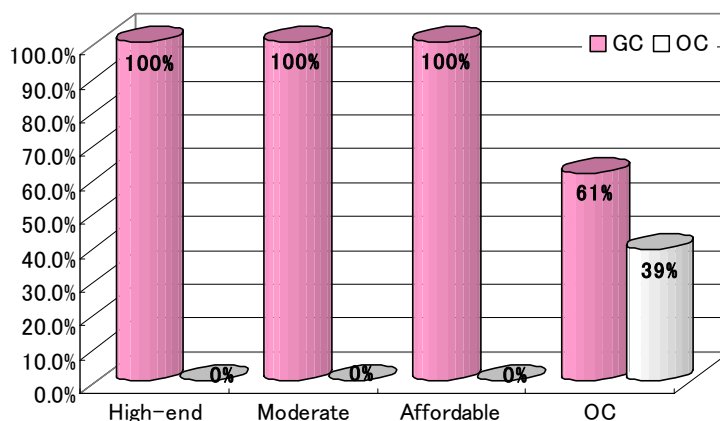


Figure 3-32. Community Preference

Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

3.5 APPROACH IN ESTABLISHING EXCLUSIVITY

The root of all the issues evolving from the gated communities is the construction of walls and gates. It is the main subject of debates “whether a community should be gated or not.” In this section, the investigation focuses on the role of major stakeholders, as well as the process on how gates and walls have evolved to effect a containment of neighborhood.

3.5.1 Role of Major Stakeholders

Role of Government

The HLURB and LGUs are the main government institutions that issues development permits to the developers. Through the housing laws PD957 and BP220, the government specifies the minimum design standards for subdivision developments, as summarized in Table 3-4.

The primary role of the government is to make sure that minimum design standard is observed in different housing projects. Since the housing policies are silent about perimeter fencing and gating of subdivision, such component of development are

not prohibited. However, the structural design of walling should conform to the standards set by the Building Code of the Philippines (PD 1096) in order to ensure safety of construction. In general, there is no policy that regulates the fencing or walling of a neighborhood unit.

In any occasion of conflicts involving the constructions of walls and gates that result to problem on access, the government's role comes into play again. This issue is resolved in a statutory manner, wherein a number of cities in Metro Manila had filed resolution to open-up the major private roads, after receiving persistent complaints from motorists regarding road restrictions imposed by GCs. This action is encouraged by the Metropolitan Development Authority as contribution to improve the traffic congestions in major thoroughfares.

In most instances, however, there are only partial compliances from the Homeowners Associations (HOA) with regard to the opening of private roads. For example, the areas of clustered GCs that were identified in MMUTIS study as critical to traffic problem are still imposing road restrictions. Although they agreed to open their roads, they only allow entry of small and medium vehicles at certain time schedule, such as during the rush hour in the morning from 6:00 a.m. to 9:00 a.m. Some generous GCs open their roads from 6:00 a.m. to 9:00 p.m., and close only from 10:00 p.m. to 5:00 a.m. However, in times of emergency situations, the GCs are strictly required to open their roads at any time; otherwise they will be criminally liable.

Role of Developers

The role of the real estate developers starts from the identification of project location, to the marketing and selling of individual units to prospective buyers, and up to the setting-up of HOA. They have exclusive decision on what type of residential

subdivision projects under PD957 and BP220 to develop with careful consideration of their target market. They are fully responsible of the extent design of the community; either the original plan specifies the project as an open or gated community. Normally, gated communities are intended for financially able middle-class and high-class families. While open or planned ordinary communities are for low-income class families. Most developers, however, prefer to develop middle and high-end residential subdivision, as it will provide them with higher return on investment. Based on the experiences of the three leading developers (Ayala Corp, Filinvest Corp, and Sta. Lucia Realty), 98% of their projects since the 1970s are gated communities.⁶

After successful completion of a residential subdivision, the developers have to facilitate the creation of HOA and to clarify the ownership of the common properties, which may be either public or private. If they decide for public ownership, then it will be turned over to the local government; and if they decide for private ownership, it will be turned over to the HOA. In practice, however, the common properties in almost all GCs are donated to the local government, but the management and control is given to the HOA. The reason behind this, according to the real estate broker I interviewed, is to exempt the community from paying the real estate tax for such a large parcel of common land.

Home Owners Association (HOA)

Section 30 of PD957 provides that “Homeowners Association shall be formed among the residents for the purpose of promoting and protecting their mutual interest and assist in their community development.”

⁶ List of projects and descriptions are available in their respective homepage.

The homeowners association is an incorporated, non-profit organization operating under recorded land agreements through which 1) each lot owner in a planned-unit is automatically a member, and 2) each lot is automatically subject to a charge for a proportionate share of the expenses for the organization's activities, such as maintenance of a common property. Common property in GCs is a parcel(s) of land together with the improvements thereon; the use and enjoyment of which are shared by the owners and occupants of the individual lot. It is considered a private property for common use.

In HOA system, the member residents elect the officials of their HOA, called the Board of Directors or Board of Governors. The election is usually conducted every year through popular votes. They formulate their own bylaws as basis in governing the community. They also identify priority programs and projects within the community. For example, most HOAs in the case study identified security or safety as the main priority of their communities (Figure 3-33). Also, there were four associations pointed to the maintenance of their water supply system as major concern. These communities are those with individual deep-wells as the main source of daily water supply.

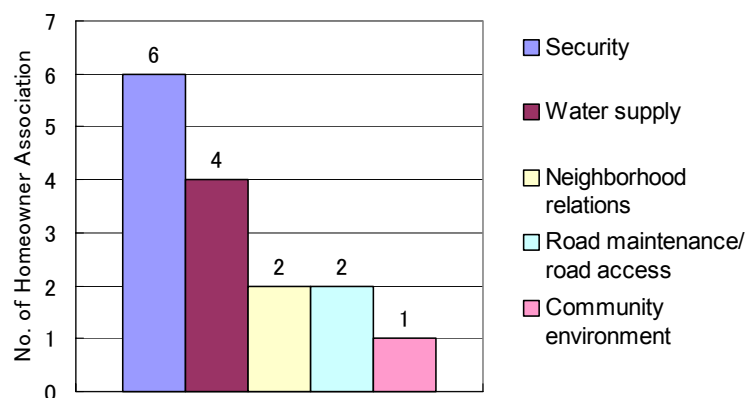


Figure 3-33. Major Concern in GCs
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

Moreover, two GC associations were concerned on the level of neighborhood's social relation. They observed that many residents seemed to be indifferent with others. Likewise, their concern for the maintenance of major roads has normally prompted them to impose access restrictions for the outsiders. They also consider this decision as a way of protecting their community environment.

3.5.2 Approach to Exclusivity

The communities in Metro Manila may be generally classified into three major types as shown in Table 3-9.

Table 3-9. Major Types of Communities in Metro Manila

Community	Nature	Development	Physical Characteristic
1. Unplanned	Public/open	Self-evolving; often initiated by illegal settlers.	Disordered land layout; crowded; poor infrastructure facilities.
2. Planned	Public/open	Subdivided land with no fence & gates; sometimes failed or incomplete subdivision project.	Ordered land layout; not so good infrastructure facilities.
3. Gated	Private/exclusive	Planned layout; secured by perimeter fence, gates, & security guards; homeowners' associations are organized; some were previously open.	Ordered land layout; good infrastructure facilities/amenities.

As mentioned earlier, the present housing policies do not include any provisions regarding fencing or gating. Based on site observations and interviews, there are two ways of establishing a gated community. One is a project that originally includes the construction of complete perimeter walls and gates, whether it is a house-and-lot or homelots subdivision project. The cost of walls and gates are accounted when pricing the housing units of the project for sale. This is the usual case of the High-end GC development.

The other is a gradual transformation of an open residential subdivision project into an exclusive gated community – a normal case for most of the Moderate and

Affordable GCs. This approach usually happened in ‘home-lots only’ subdivision projects where initially very few of the lot buyers built their respective houses right away. Hence, the transformation happened after a couple of years when the project has settled down a considerable number of occupants and a homeowners association is established. The automatic-membership homes association is said to govern and serve for the general good of the residents according to their own determination, and this includes the decision to construct fences for security purposes.

The layout of subdivision project of an open community also enhances the transformation into a GC. It has been noted that most subdivision projects have layouts as depicted in Figure 3-34. Note that the layouts of lots are designed to contain the neighborhood within its boundary. Once the lots are fully occupied and with the practice of individual fencing of houses, the neighborhood becomes partially enclosed; and by constructing gates along roads (sometimes called a *gated street*) or sealed-off some roads with walls, the community becomes exclusive that outsiders cannot simply enter without any valid purpose.

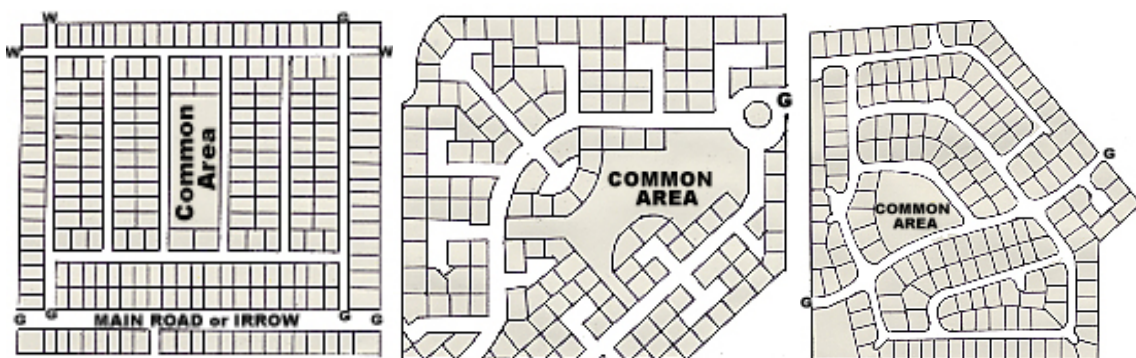


Figure 3-34. Common GC Layout: Grid (left), Cul-de-sac (center), Combination of Semi-grid and Cul-de-sac (right)
Source: Kenneth Tanate. Author's own sketch of GC layouts in the case study area

In Figure 3-35, HOAs justified that the main purpose of perimeter walls, gates and security guards is to establish peace and order within the community. It prevents any outsiders from direct intrusion and allows easy monitoring of the whole neighborhood. They also pointed out that perimeter walls had prevented the squatters who are looming in the periphery to occupy their vacant properties. Furthermore, walls and gates provide their residents exclusive use of the facilities and amenities.

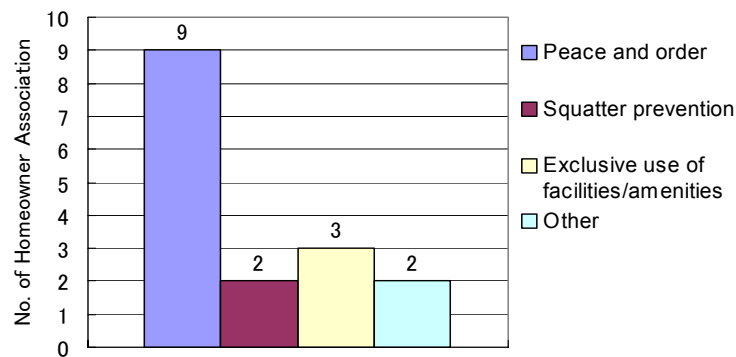


Figure 3-35. Purpose of Gates, Fences, and Guards
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

Consistent to the main objective of establishing exclusivity, the HOAs have expressed that the principal merit of GCs is the ability to provide a more secured and peaceful neighborhood for the residents (Figure 3-36).

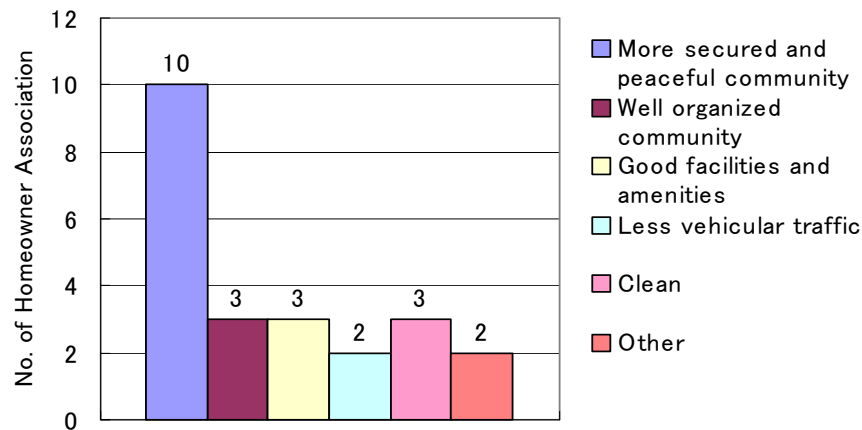


Figure 3-36. Merits of Gated Communities
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

Apparently, the initiative of providing better living environment comes with a price, and this is being paid through monthly or yearly contributions from the residents. In Figure 3-37, the association considered this as demerits of GCs because it is an extra expense to the members. Another, from the point of view of the association president, there is lack sense of community because residents seldom interact with each other. At this point we cannot assess the level of the “sense of community” in GCs. This will be clarified in Chapter 5.

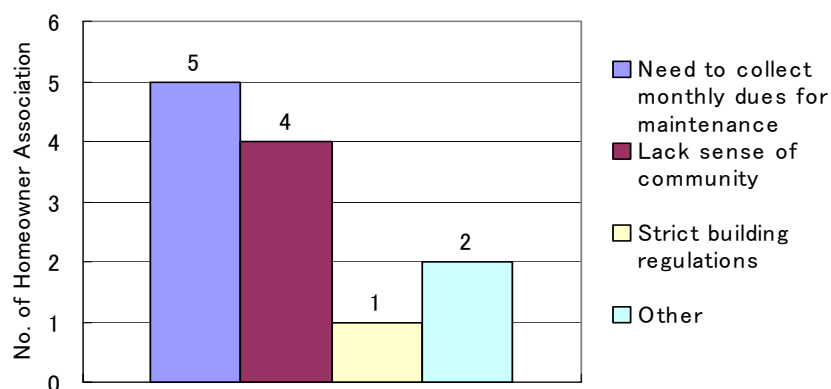


Figure 3-37. Demerits of GCs

Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

3.6 IMPACT ON ACCESSIBILITY

The most distinct impact of GCs is on the spatial accessibility in urban area. This issue had been the limelight in the newspapers particularly in late 1990s. The restrictions imposed on private roads obviously decreased the accessibility of the urban population. A single GC may have lesser impact, but a cluster of several GCs widens the ‘restricted zones’ that virtually solidify urban space.

At present, the development of residential subdivisions under the Implementing Rules and Regulations of PD957 and BP 220 has the following road-related guidelines:

- Land allocation and alignment of various utilities (roads, drainage, electricity and water) of the subdivision shall be integrated with those of existing networks and to link the subdivision to the nearest major transportation route and/or adjacent property.
- The provision of major street extension for future connection to adjoining developed and/or underdeveloped properties shall be mandatory and integrated or aligned with existing ones, by designating the major roads as interconnecting road right-of-way (IRROW).
- Interior subdivision project must secure right-of-way to the nearest public road and the right-of-way shall be designated as interconnecting road, and must be donated and deemed turned over to the LGU upon completion of the said road.

Generally, GCs provide better road facilities strategically connected to the main thoroughfares. As the law provides, construction of GC requires the provision of interconnecting road right-of-way (IRROW) for connections with existing or future communities. The grant of free access of several private IRROWs is for the benefits of different GCs in a cluster and is understood to be a reciprocal right-of-way for them. In many cases, the IRROWs become the major access roads for the cluster of GCs and neighboring non-GCs due to the absence of more accessible public roads. It develops considerable volume of vehicular traffic as more inner communities are established, and this is aggravated when public utility vehicle drivers also used IRROWs as alternative routes to congested metro streets. Example of an IRROW is shown in Figure 3-38.



Figure 3-38. Lesser Traffic along IRROWs after ‘No Sticker-No Entry’ Policy was Imposed by GCs.
Source: Kenneth Tanate. Author's own photo.

In the last decade, the closing of IRROWs has caused inter-neighborhood conflict between different GCs, as well as with the neighboring OCs. In fact, this has been pointed out as the most common conflict in the cluster of GCs (Figure 3-39). It started particularly in the early 1990s when some GCs in the case study area decided to close their IRROWs citing the problem of road maintenance, safety and concern for health of their residents, and that the alternative public road is already accessible. The closures prompted other GCs especially the adjacent ones to also close their own IRROWs, which then resulted to a chain reaction among other GCs. The conflict was resolved through a series of dialogues between the affected GCs. They agreed to impose a ‘No sticker-No entry’ policy. Individual GC may produce their respective ‘sticker passes’ that will be honored in passing the IRROWs. The purchase of a ‘sticker pass’ that is valid for one year and renewable every year was then required to all GC-residents. Later, this has been extended to OC residents who want to pass the IRROWs regularly,

and to avoid heated arguments when apprehended by the security personnel guarding the IRROWs. Non-GC residents, however, purchase these stickers at a premium price.

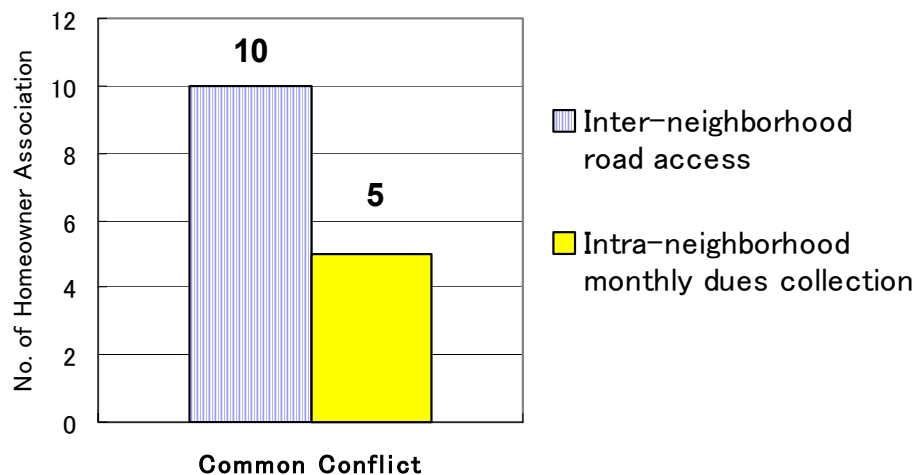


Figure 3-39. Common Conflict
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

Though the conflict between several GCs has been settled, the closures of IRROWs have still affected the majority of OC residents. To illustrate, let us consider Figure 3-40 which is a simplified sketch of major roads in the survey area 1, where R7 to R11 are IRROWs. Let us take the case of ordinary community A, B, and C going to important destinations X, Y, and Z. Destination X is where various government agencies and universities are located. It is also the main access node going to the CBDs of Metro Manila. While destinations Y and Z are large commercial complexes.

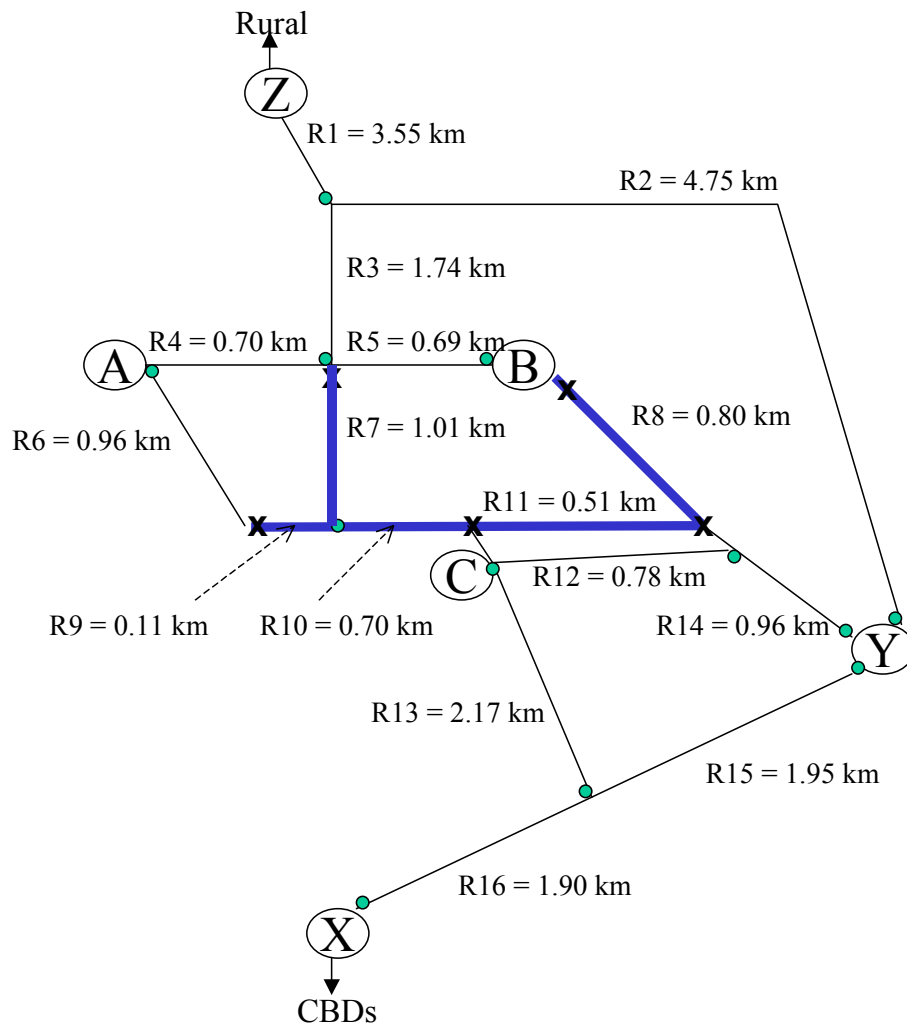


Figure 3-40. Sketch of Major Road Network in Study Area 1
Note: Thick lines are restricted major GC roads.

Using GC roads, the travel distance of residents going to their destinations can be shortened significantly. For example, residents in community A would take around 11.04 kilometers using normal route (R4, R3, R2, R15, R16) to reach destination X. But if they pass through the GCs by using route R6-R9-R10-R13-R16, it would take them only 5.84 kilometers of travel distance or a saving of about 5.2 kilometers. The same observation holds for the residents in community B and C. However, most residents in C who are relatively near the highway would prefer not to pass the IRROWs being

aware of the restrictions. This implies that full mobility potential of the urban population is being suppressed by the restriction measures of GCs.

This problem seems to have started about two decades ago as noted from the ordinance of the Quezon City Government passed on July 7, 1971 (No. 86633, S-71) “prohibiting the closing, obstructing, preventing or otherwise refusing to the public of vehicular traffic, the use of or free access to any subdivision or community street within the jurisdiction of Quezon City, so as to include in such prohibition the exaction of fees in any form for the use thereof.” Despite this ordinance, the closing of IRROWs continued, and this also happened in other cities in Metro Manila. Such as in Paranaque City, where the mayor criticized the Homeowners Associations for using the subdivision’s entry points as “toll gates” collecting “exorbitant” entry fees from passing motorists without stickers (Philippine Daily Inquirer, 25 Oct. 2001). This private ownership system has also affected the proposed government projects. The widening of White Plains Subdivision’s “Road Lot 1” that has become a thoroughfare cannot be pursued by Quezon City Government and the Department of Public Works and Highways because it is still a private property and has not yet been donated or turned over to the Quezon City Government (Case G.R. 95522, 7 Feb. 1991). Other list of related cases is provided in Appendix 2.

Despite the negative consequences of GC restrictions, most of the GC residents do not favor opening up of private roads (Figure 3-41). Those who said Yes, however, made some conditions, such as allowing entry in major roads at certain time schedule only and allowing outsiders to avail of authorize “sticker pass” for unlimited access of IRROWs.

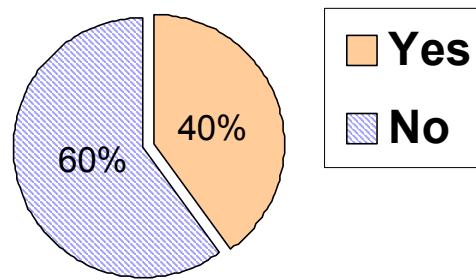


Figure 3-41. Do You Favor Opening-up of Private Roads?
Source: Kenneth Tanate. Author's survey in the case study area (May 2003).

In general, the GCs virtually solidify the urban space wherein the clustering developments of such form of communities widen the so-called 'restricted access zones'. This implies longer distance travel and further congestion of city's major roads. As such, the scenario has significant impact on the quality of life in the metropolis.

3.7 SUMMARY AND CONCLUSION

This Chapter have described and analyzed the charaterisitscs of GCs through the conduct of actual site observations and documentations, interviews, survey questionnaire, and through related secondary data.

The discussions on GCs include some historical traces such as notable developments during the period of pre-Spanish occupation, Spanish occupation, and the American occupation of the Philippines. It suggests that the gated community concept have been influenced by the desires for security, class segregation, and the desires for modern and more private atmosphere.

It was also noted that the conditions of the urban area affects the GC development. It may be recalled that utopian community designs were inspired to

address the ills of the urban environment. Hence, the increasing crime, unhealthy settlements, urban congestion, growing squatter habitations, and lack of facilities are major related reasons for the existence of GCs. Given this situation, the financially well-off families tend to escape from the undesirables of the mainstream society.

Based on the results of the survey, security is the major goal and concern of the homeowners associations of GCs. Installations of gates, perimeter fences, security guards, and other control system were utilized to establish a sense of exclusivity and safety. This practice became a “pulling factor” that convince people to live in GCs. The provisions of these features were either part of the original plan of a residential subdivision project or were just fitted gradually to an existing open neighborhood. Such features, however, has caused various negative implications in the urban area.

Among the prevalent problem is the conflict on accessibility. Consistent with other studies, it was also observed in the case study area that the self-serving safety measures and exclusivity of GCs particularly the closing of major private roads imply suppression of the potential mobility of the urban population. In fact this violates Kevin Lynch (1981) theory of ‘good city form,’ which advocate a mixing of people of different class, race and economic power in close proximity to one another.

Moreover, it was observed that GC becomes the symbol of social segregation because of its gates, perimeter fences and security guards. When these barriers are actually erected, their main purpose is usually to keep outsiders out which seems to effectively segregate the rich from the poor families.

The basic research question “why so many people opt to live in the gated communities” has so far been lightly answered in this preliminary research. Nevertheless, initial evidence showed that many people prefer to live in GCs. There is,

however, range of specific factors that require detailed investigation for deeper understanding of the issues circumscribing the GCs. Among the concerns of the homeowners' associations refer to the poor sense of social relations in GCs, which could imply a questionable quality of life within the segregated income class. This information has further motivated the focus on social relations inside GCs, as introduced in Chapter 1. Thus, to enrich understanding of GCs, the study focuses more about the perceptions of residents on the physical living conditions and social functions. These are the topics in presented in Chapter 4 and Chapter 5, respectively.

Meanwhile, some preliminary policy implications can be directed to the following: (i) The need for policy on exclusivity since there are no provisions controlling the gating and fencing of community boundaries; and (ii) The need to clarify policy on road control and management.

Living Conditions

Why so many people opt to live in the gated communities? Do gated communities provide better living conditions? What are the attributes that possibly attract people to live in the gated communities?

4.1 INTRODUCTION

The gates and fences around neighborhood represent more than simple physical barriers. They manifest a number of tensions between the outsiders and insiders, and between the privatization of public services and the ideals of general welfares.

With an alarming trend of exclusivity in Metro Manila, it is imperative to understand why so many people want to live in the gated communities (GCs). One of the basic steps is to determine the perceptions of people on the living environment of GCs. In this regard, this chapter aims to accomplish the following: 1) to present the opinions of the residents from both GCs and ordinary communities (OCs) pertaining to their living environment and their views regarding the essence of exclusivity; and 2) to determine whether there are statistically significant differences between the perceived living conditions in GCs and OCs, using socio-economic factors of the respondents as control variables. It is important to compare the situation in GCs with that in OCs in order to establish a meaningful analysis. The conditions in OCs serve as baseline in assessing the qualities of GCs.

Specifically, the study will try to answer the following questions:

- a. Is the living condition in GCs better than OCs?
- b. What particular socio-economic factors of people are significantly associated with their judgments on living conditions?
- c. What are the important characteristics/qualities of GCs that possibly attracts people to live in such community enclave?

4.2 ANALYTICAL MODEL

4.2.1 Measurement of the Living Conditions Index

Living Conditions¹ (LC) is the summed-up term of fifth-teen (15) attributes, as follows: water supply system, electricity, roads, sidewalks, drainage system, waste & garbage management, playground, sports facilities, streetlights, physical layout, maintenance, cleanliness, quietness, security/safety, and access to public transport. In order to conduct a quantitative analysis, the attributes involved must be in numerical terms and aggregated as the LC index. The Likert's scale technique (as discussed in Chapter 2) was used to derive the LC index². With Likert's technique, LC index was computed for each respondent as the average of scores of the fifth-teen (15) attributes considered for the evaluation of living conditions.

4.2.2 Application of Multiple Linear Regression Model

¹ The basis of 15 attributes is explained in Chapter 2 (Methodology), Section 2.5.1

² The attempt to assign weight for each attribute was carried out using the Principal Component Analysis (PCA). The PCA accounts the variability of several components and provides the characteristic vectors, which may be applied to construct an index (Ogwang, 1994). Since the vectors do not sum to unity, the resulting aggregated index of LC does not coincide with the evaluation scale of the research, which is meaningless without further mathematical transformation. However, a test of correlation between the LC index derived from Likert and PCA shows a 99% correlation. It means the index derived from Likert can be used as proxy to the weighted approach of PCA. One disadvantage of using PCA is that its vectors do not necessarily present the level of importance of each attribute since its primary basis is the variability of attributes. Besides, some attributes constitute the minimum design standard of the Philippines housing law, hence, should be treated with equal importance as they are already "minimum" standards.

The primary aim of this analysis is to investigate whether there are significant differences between GCs and OCs – whether the living conditions in GCs are better compared to OCs. This can be attained if the “type of community” (COM) variable has significant relation with LC. If COM, which is binary with GCs=1 and OCs=0, is positively and significantly associated with LC, it means that GCs are better than OCs.

Secondary purpose of the analysis is to determine any significant effects of socio-economic variables (SEV)³ of the respondents relative to their perceptions on LC. In this regard, LC index is set as dependent variable, and COM and SEV as independent variables. The general regression model can be expressed in the following manner:

$$LC\ index = f(SEV, COM)$$

Considering the data set, this can be further outlined as:

$$LC_r = \beta_0 + \beta_i X_{ir} + \beta_{kj} D_{kj,r} + u_r$$

The LC_r is the living conditions index for respondent r , B_0 is the constant and B_i is the parameter estimate associated with continuous independent variables X_i that include *Education*. The B_{kj} are dummy coefficients of category j under qualitative variables k where k consists of *Land Ownership*, *Income*, *Age*, and *Civil Status*. These dummy coefficients are considered differential intercept coefficients because it tells by how much the value of the intercept term of the category that receives the value of 1 differs from the intercept of the base category, which receives the value of zero. To avoid the problem of multicollinearity, some of the categories were dropped during estimation such that the number of dummies for each qualitative variable is one less than the number of categories of that variable. (Gujarati, 1992)

³ Other SEV were not considered in the model due to multicollinearity problem.

Applying the general equation, a specific empirical model was estimated to test the robustness of the significance of several independent variables on LC. COM is the main explanatory variable with SEV serving as control variable for the relationship of COM on LC.

Model-1: $LC\ index = f(SEV, COM)$

$$LC_r = \beta_0 + \beta_1 COM_{jr} + \beta_2 EDU_r + \beta_3 LAN_{jr} + \beta_4 INC_{jr} + \beta_5 AGE_{jr} + \beta_6 CIV_{jr} + u_r$$

where:

LC_r = Living conditions index for respondent r

COM_{jr} = Type of community, whether GCs (1) or OCs (0)

EDU_r = Educational attainment by number of schooling years

LAN_{jr} = Land ownership, whether owned or not

INC_{jr} = Gross household income by different income category

AGE_{jr} = Respondent's age by different age category

CIV_{jr} = Civil status, whether single (1) or not (0)

β_0 = The constant term

$\beta_{1\ to\ 6}$ = Parameter estimates of independent variable

u_r = Error term

4.2.3 Application of Logit Model

In the Logit model, the type of community (COM) variable becomes the dependent variable. It allows clearer differentiations of GCs from OCs. This analysis wishes to conduct the following:

- a. Verify whether the living conditions of GCs is indeed better compared to OCs;

- b. Identify the socio-economic variables of respondents that have significant relation on the choice of living inside the GCs; and
- c. Determine the significant LC attributes that possibly have encouraged people to live in GCs.

For this regression, the dependent variable COM assumes the value of one (1) for GCs and zero (0) for OCs. Here, COM is specified as a function of LC and SEV.

$$COM = f(SF, SEV)$$

A general equation of Logit model fitted for this analysis may be outlined as follows:

$$\ln \left[\frac{P_r}{1 - P_r} \right] = \beta_0 + \beta_i X_{ir} + \beta_{kj} D_{kj,r} + u_r$$

where P_r is the probability per respondent r that a given event will occur. In this case, it is the probability of a particular variable in relation to GCs.

Two specific Logit models (Model-2 and Model-3) were estimated to test the robustness of the significance of different variables under consideration. Model-2 considers LC index and socio-economic variables as independent, while Model-3 includes the 15 attributes of LC index as independent variables.

Model-2: $COM = f(LC\ index, SEV)$

$$\ln \left[\frac{P[COM_r = 1]}{1 - P[COM_r = 1]} \right] = \beta_0 + \beta_1 LC_r + \beta_2 EDU_r + \beta_3 LAN_{jr} + \beta_4 INC_{jr} + \beta_5 AGE_{jr} + \beta_6 CIV_{jr} + u_r$$

Model-3: $COM = f(LC_{ir}\ or\ 15\ LC\ attributes)$

$$\ln \left[\frac{P[COM_r = 1]}{1 - P[COM_r = 1]} \right] = \beta_0 + \beta_1 LC_{ir} + u_r$$

4.3 SURVEY RESULTS⁴

4.3.1 Summary of Data

In Table 4-1, the residents' opinions on their living conditions reveal that approximately 74.35% of the respondents in GCs compared to only 46.96% in OCs rated their community on the scale of 'good' and 'very good'. Considering all the attributes, GCs are perceived to be more desirable compared to OCs except on the aspect of *access to public transport*. This may be attributed to the fact that GCs in Metro Manila are master-planned communities and exclusive. Based on the average scores, there are minimal differences between GCs and OCs in terms of *water supply system* and *electricity*. However, there are considerable gaps between the two with regard to *security/safety*, *quietness*, *cleanliness*, *community playground*, and *drainage system*. Dominance of GCs can be noticed in terms of *security/safety* aspect, which is obviously due to its perimeter fences, gates, and 24-hour security guards that OCs do not have. Another is in terms of *community playground*, which is a component of GC construction for the purpose of providing residents readily accessible amenities; whereas the OC residents have the city parks as the only playgrounds freely available to them but could be too far from their community location.

A low score of GCs on *public transport* validates its exclusivity. GCs impose restrictions on access to private roads and other facilities that have discouraged the outsiders to freely encroach in their area. Most often, GCs in the case study area

⁴ The main data set is found in Appendix 4-3

authorized certain mode of transportation, called “tricycle⁵,” to operate in the private roads. This type of transport has certain limitations in terms of comfort, operating time, space/capacity, and mobility since they have to follow their assigned routes.

Table 4-1. Opinions of Residents on their Living Condition

ATTRIBUTES	TYPE OF COMMUNITY	PERCENTAGE OF RESIDENTS					AVERAGE SCORE	Difference (GC-OC)
		Very Good	Good	Satisfactory	Poor	Very Poor		
1. Water supply system	Gated	23.32%	57.64%	16.09%	2.41%	0.54%	4.0	0.1
	Ordinary	5.13%	65.50%	16.75%	3.25%	1.00%	3.9	
2. Electricity	Gated	37.00%	57.10%	5.09%	0.80%	0.00%	4.3	0.1
	Ordinary	20.50%	75.00%	4.00%	0.50%	0.00%	4.2	
3. Roads (carriage way)	Gated	14.75%	65.15%	16.89%	3.22%	0.00%	3.9	0.4
	Ordinary	5.75%	49.50%	34.75%	8.00%	2.00%	3.5	
4. Side walks	Gated	10.19%	52.55%	29.76%	6.70%	0.80%	3.6	0.6
	Ordinary	4.00%	22.75%	45.75%	24.00%	3.50%	3.0	
5. Drainage system	Gated	11.53%	69.71%	15.55%	3.22%	0.00%	3.9	0.9
	Ordinary	2.75%	23.50%	48.50%	21.25%	4.00%	3.0	
6. Waste and garbage mgnt.	Gated	16.35%	63.00%	17.43%	2.14%	1.07%	3.9	0.4
	Ordinary	3.00%	57.25%	28.75%	7.75%	3.25%	3.5	
7. Community playground	Gated	6.97%	59.25%	23.59%	9.38%	0.80%	3.6	1.0
	Ordinary	2.25%	10.25%	43.75%	37.25%	6.50%	2.6	
8. Sports facilities	Gated	9.38%	50.67%	27.88%	10.72%	1.34%	3.6	0.4
	Ordinary	1.75%	41.25%	39.25%	16.00%	1.75%	3.2	
9. Street lights	Gated	7.51%	59.52%	26.27%	5.36%	1.34%	3.7	0.6
	Ordinary	3.25%	33.00%	41.00%	19.25%	3.50%	3.1	
10. Physical layout	Gated	8.04%	67.29%	21.45%	3.22%	0.00%	3.8	0.5
	Ordinary	1.50%	43.00%	43.25%	11.75%	0.50%	3.3	
11. Community maintenance	Gated	8.58%	63.54%	22.79%	4.56%	0.54%	3.8	0.6
	Ordinary	1.75%	33.25%	49.00%	13.00%	3.00%	3.2	
12. Cleanliness	Gated	23.06%	54.42%	20.38%	1.61%	0.54%	4.0	0.7
	Ordinary	3.00%	38.25%	43.50%	11.25%	4.00%	3.3	
13. Quietness	Gated	31.10%	58.98%	8.58%	1.34%	0.00%	4.2	0.8
	Ordinary	3.75%	44.00%	40.50%	9.75%	2.00%	3.4	
14. Security or safety	Gated	18.50%	60.86%	18.50%	2.14%	0.00%	4.0	1.0
	Ordinary	2.50%	29.00%	41.75%	24.75%	2.00%	3.0	
15. Public transport	Gated	5.63%	43.70%	32.71%	15.55%	2.41%	3.3	-0.4
	Ordinary	10.75%	59.00%	23.25%	6.00%	1.00%	3.7	
OVERALL AVERAGE	Gated	15.46%	58.89%	20.20%	4.83%	0.63%	3.8	0.5
	Ordinary	5.33%	41.63%	36.25%	14.25%	2.53%	3.3	

Survey: Respondents involved 373 residents under Gated and 400 residents under Ordinary (December 2003)

Score Legend: 1.0 to 1.4=Very poor; 1.5 to 2.4=Poor; 2.5 to 3.4=Satisfactory; 3.5 to 4.4 =Good; 4.5 to 5=Very Good

The set of restrictions for exclusivity also explains the high scores earned by GCs on *quietness* and *cleanliness* – naturally, as being an enclave with strong sense of privacy.

The overall average ratings yield ‘good’ for GCs and ‘satisfactory’ for OCs with score of 3.8 and 3.3, respectively. This result qualitatively explains the proliferation of GCs in Metro Manila as having a more desirable living environment than OCs.

⁵ Tricycle is a three-wheeled public transport, which is basically an assembly of motorcycle with sidecar.

4.3.2 Perceptions on the Essence of Gated Communities

The information in Table 4-2 is among the results of the questionnaire survey, which shows that both the GC and OC residents perceived gated communities as an ideal place to live in. This further supports the finding in Chapter 3 that many people want to live in GCs. Likewise, the gates, perimeter fences and 24-hour guards are believed to be important in installing and preserving peace and order in the community.

Table 4-2. Perceptions of Residents on Gated Communities

ISSUES/CONCERN	SCORE		SCALE	
	GC	OC	GC	OC
1. Gated communities (GCs)/private subdivisions are <i>ideal</i> place to live in.	4.3	3.8	True	True
2. GF&S of GCs are <i>important</i> safety measures for the insiders.	4.4	4.0	True	True
3. GF&S <i>help</i> maintain clean and peaceful community environment.	4.1	3.9	True	True
4. GF&S can <i>enhance</i> interactions & friendships among GC residents.	3.9	3.4	True	Undecided
5. GF&S can <i>lessen</i> interactions between the insiders and the outsiders.	3.3	3.9	Undecided	True
6. GF&S are necessary for better management of the community.	4.2	3.9	True	True
7. Outsiders should have valid purpose when entering GCs.	4.2	3.3	True	Undecided
8. People here favor opening-up of the private subdivision's major roads.	2.8	3.8	Undecided	True
9. Opening of major private roads can greatly improve accessibility.	3.3	4.1	Undecided	True
10. Opening-up of major private roads can affect peace & order in GCs.	3.9	3.1	True	Undecided
11. Opening-up of private roads will increase the maintenance cost of GCs.	3.9	3.2	True	Undecided
12. Gated community is a display of elitism in society.	2.8	3.7	Undecided	True

Note: GF&S = Gates, Fences, and Security guards of GC.

Survey: Respondents involved 373 residents under Gated and 400 residents under Ordinary. December 2003

Score Legend: 1.0-1.4 = Definitely Untrue; 1.5-2.4 = Untrue; 2.5-3.4 = Undecided; 3.5-4.4 = True; 4.5-5.0 = Very True

However in other issues/concern, the average perception yields 'true' if the situation favors them and 'undecided' if the situation appears unfair for them. For example, the OC residents favor opening-up of private roads as this could improve their accessibility. But most GC residents are against such plan because of the belief that it will degrade their community and increase the maintenance cost of roads due to the influx of vehicular traffic, causing disutility in the form of noise, dust and smoke pollution (Diaz, 1995). This result corroborates the conflict between the metropolitan government and the homeowners' associations of GCs regarding access- related matters.

Moreover, on the issue of elitism, most residents in OCs perceived the GCs as a form of elitism. Hence, despite a wide favorable perception on the essence of GCs, there are negative consequences or implications attached to it.

4.4 RESULT OF MULTIPLE LINEAR REGRESSION MODEL ESTIMATION

This estimation presents the comparison between GCs and OCs in general, and between different types of GCs. Other independent variables were dealt as a whole without any classification of either GCs or OCs.

4.4.1 General Perceptions on Living Conditions between GCs and OCs

The regression estimation results using Model-1 is shown in Table 4-3⁶. Although the R-squared⁷ does not show enough strength of the model, the coefficients show logical meanings. The significant independent variables are the following: type of *Community* (GCs or OCs), level of *Education*, and gross household *Income of 20,000 to 39,999 (INC2)* and *40,000 to 59,999 (INC3)*. Among these variables, *Community* and *Education* are positively associated with higher LC.

Recall that the primary objective in this analysis is to test the significance of *Community* variable. It is the main variable that determines the significant differences between the living conditions of GCs and OCs, setting the socio-economic information of the respondents as control variables. Estimation under Model 1 shows that parameter estimate for *community* is fairly strong among other variables and statistically significant at 1%. It implies that the perceived living conditions in GCs would be higher

⁶ Regression diagnostics have been conducted to determine if there are violations of Gauss-Markov assumptions.

⁷ Other published studies involving people's perceptions and including the socio-economic variables in the regression model have normally lower R-squared (e.g., Adjusted R-squared ranges from 5% to 8% from the study of Ryff, C.D., et al, 2003).

by 0.46 than OCs. This empirical result validates the above qualitative LC rating results of ‘good’ for GCs and ‘satisfactory’ for OCs.

Table 4-3. Estimation by Linear Regression Model-1

Independent Variable	Dependent Variable = Living Condition (LC)	
	Coefficient	t-statistic
Constant (Bo)	2.86	17.71*
Community (COM): GC=1, OC=0	0.46	12.54*
Education (EDU)	0.04	3.19*
Land Ownership (LAN): owned=1, otherwise=0	-0.04	-0.08
Income (in Pesos):		
a) 19,999 and less (INC1)	0.04	0.57
b) 20,000 to 39,999 (INC2)	-0.16	-3.36*
c) 40,000 to 59,999 (INC3)	-0.13	-2.66*
Age:		
a) 20 to 39 years old (AGE1)	0.02	0.32
b) 40 to 59 years old (AGE2)	0.01	0.15
Civil Status (CIV): single=1, zero otherwise	0.02	0.35
R-squared	Adjusted R-squared	27.30% 26.44%

Note: *, **, & *** denote coefficients significant at 1%, 5%, and 10% level of significance, respectively.

The level of *education* is significant at 1% and positive, implying that higher education is associated with higher perception on LC. Note that human capital refers to the bundle of skills and abilities that a person carries with him into the labor market (Schiller, 1976). In general, the less human capital a worker possesses, the lower is his potential productivity on a job. Hence, employers will be less willing to pay them high wages. However, a person can increase his human capital by learning new skills through education and trainings, which typically results to better jobs and higher pay. Thus with sufficient income, a person could aspire for a relatively comfortable living environment that he/she perceived to be desirable. This view finds support from the result of the survey that approximately 99% of GC respondents are college graduate compared to OCs with 85% (Figure 4-1). Since there is better perception on the living conditions of GCs as pointed out earlier, it shows that higher educated people find comfortable living in GCs.

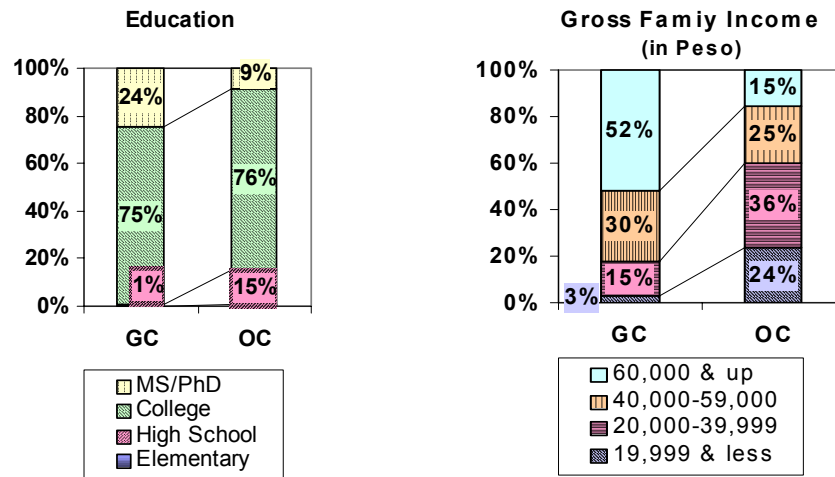


Figure 4-1. Gross Family Income (in Peso) and Educational Attainment of Residents in GCs and OCs

Income consists of four income categories: “less than 20,000”(INC1); “20,000 to 39,000”(INC2); “40,000 to 59,000”(INC3); and “60,000 & up”(INC4). INC2 and INC3 have significant effect on LC at 1 % level of significance. The estimated coefficients for these categories are -0.16 and -0.13 , respectively. Since these are dummy coefficients (as explained in Section 4.2.2), they are to be interpreted with respect to the base income category INC4 that takes on the value of a constant term (2.86 in this case) assuming all other variables constant. Doing a comparative static by allowing the effect of income as captured by its estimated coefficients, the perceived LC is lower by 0.16 relative to the base category for income bracket INC2 and by 0.13 for income category INC3. To illustrate, consider the following comparative static equation on the effects of all income categories.

$$\text{INC1: } LC = B_0 + \text{INC1} = 2.86 + 0 = 2.86$$

$$\text{INC2: } LC = B_0 + \text{INC2} = 2.86 + (-0.16) = 2.70$$

$$\text{INC3: } LC = B_0 + \text{INC3} = 2.86 + (-0.13) = 2.73$$

$$\text{INC4: } LC = B_0 = 2.86$$

Looking at the pattern of INC2, INC3, and INC4, it suggests that as income increases, the level of perceptions on LC also increases towards a larger positive value.

However, there is an exception in the case of INC1 whose value equals to INC4. This result confirms the findings in other studies that lower income people have lower level of satisfaction than the higher income⁸. Hence, the poor households tend to be more satisfied than the rich given the same living conditions. It must be noted that the above scenario considers the totality of respondents without any specification on the type of community. In this regard, it cannot be ascertained at this stage if this case is true to both GCs and OCs. Therefore, to clearly demonstrate the situation, the respondents from GCs and OCs need to be separated, and consequently determine the level of perceptions on their respective living conditions by different income categories.

As shown in Figure 4-2, the perceptions on living conditions by the GC residents improve as income level increases. The High-end GCs that cater to the higher income people have adequate facilities compared to the lower-end GCs; hence, the level of perceptions on LC seems to follow the ranking of GC types.

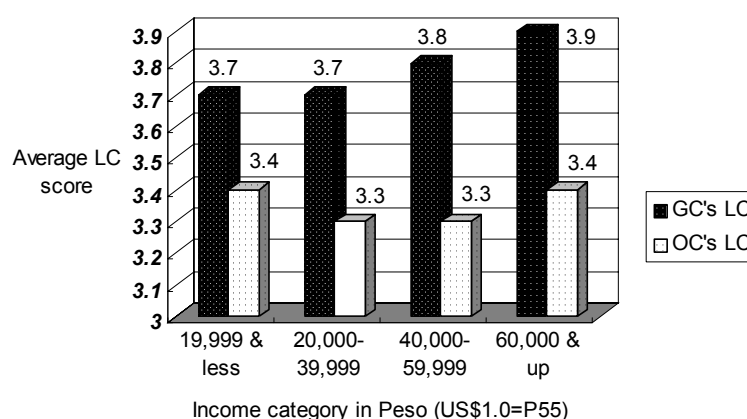


Figure 4-2. Respondents' LC Score by Income Category
Source: Author's survey of 773 residents

⁸ US Census Bureau study (2002), Peck (2001), Clark and Oswald (1996)

The percentage of GC households belonging to the lowest income category is just three percent as presented in Figure 4-3.

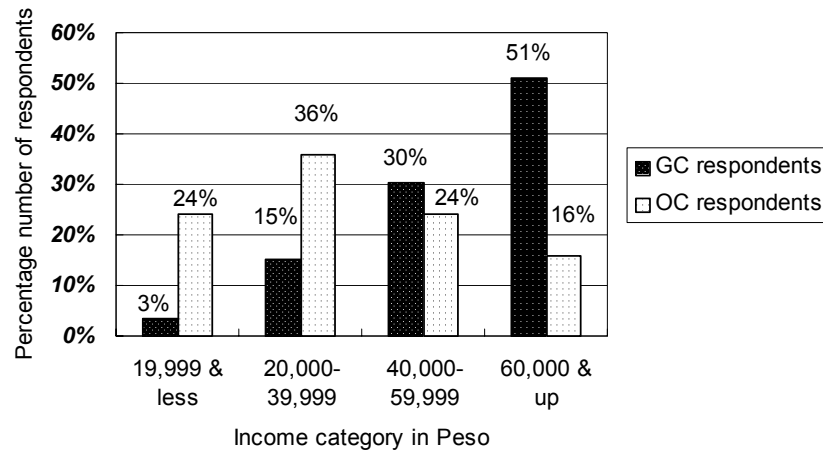


Figure 4-3. Number of Respondents by Income Category
Source: Author's survey of 773 residents

On the other hand, the level of perceptions in OCs does not follow the rising pattern of income. The households in the lower-income category (19,999 & less) have relatively higher LC score compared to the middle-income categories (20,000-59,999), and equal to the higher-income category (60,000 & up). It suggests that families with lower income (INC1) have lower level of aspiration that possibly made the coefficient positive, but not significant (zero). Some information gathered from the survey reveals that most of them are squatters or informal settlers whose main concern is only to have a place to live in the metropolis. With their plight they are readily satisfied when they find a vacant area to build their own small makeshifts. This is consistent with the observation of Peck (2001) that people who belong to the lower socio-economic status have lower level of aspiration. Meanwhile, the OC residents from the middle-income category shows a higher level of aspiration for better LC, as demonstrated by their judgments that the existing facilities and environment are insufficient. The higher

income in OCs is slightly higher than the middle-income, but considerably lower compared to the higher income of GCs. These rich families in OCs usually fortify their own residence with higher walls.

4.4.2 Perceptions on Living Conditions by Type of Community

The three categories of GCs in Table 4-4 show positive and significant associations with LC, which further confirms that GCs are better compared to OCs. Based on the pattern of coefficients of the three GC categories, there is an increasing LC from affordable to high-end GCs. Comparing their results with OCs, the Affordable GCs is 0.32 points greater than OCs. This gap widens when OCs is being compared with Moderate and High-end GCs. Meanwhile, the explanations for other independent variables are basically the same as in Section 4.4.1.

Table 4-4. Living Conditions by Type of Community

Independent Variable	Dependent Variable = Living Condition (LC)	
	Coefficient	t-statistic
Constant (Bo)	2.62	13.59*
Type of Community:		
a) OC = 1 (base category)	0.00	
b) GC = Affordable = 1	0.32	7.99*
c) GC = Moderate = 1	0.54	10.57*
d) GC = High-end = 1	0.86	14.05*
Education (EDU)	0.05	3.62*
Land Ownership (LAN): owned=1, otherwise=0	-0.02	-0.48
Income (in Pesos):		
a) 19,999 and less (INC1)	0.19	2.90*
b) 20,000 to 39,999 (INC2)	-0.01	-0.19
c) 40,000 to 59,999 (INC3)	0.01	0.09
d) 60,000 and up (INC4) = base category	0.00	
Age:		
a) 20 to 39 years old (AGE1)	0.04	0.66
b) 40 to 59 years old (AGE2)	0.01	0.28
c) 60 years old and up (AGE3) = base category	0.00	
Civil Status (CIV): single=1, married=0	0.04	1.02
R-squared	Adjusted R-squared	
		34.25% 33.30%

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

4.5 LOGIT MODEL ESTIMATION

In Logit estimations, all independent variables can be clearly referred as either gated or ordinary communities.

4.5.1 Distinct Variables in GCs

The logit model estimates the probability of the type of Community (COM) that takes on two unique values, 0 and 1. The value 0 denotes an OCs and 1 denotes a GCs. The goal of this analysis is to determine the significant variable(s) that most likely characterizes the GCs.

Table 4-5 shows the estimation result of the logit Model-2. The coefficient signs of independent variables suggest that the respondents possessing higher education, owned a residential lot, higher income level, and younger citizens are likely GC residents, at least holding other variables constant; and that, single-family households may be lesser in GCs. However, considering the significance of independent variables, it was found that a respondent who owned a residential lot (LAN) and belong to income categories INC2, INC3 and INC4 are most likely the common characteristics of the residents in GCs.

Table 4-5. Distinct Variables in GCs (Estimation by Logit Model-2)

Independent Variable	Dependent variable = Community (COM) GC = 1; OC = 0	
	Coefficient	t-statistic
Constant (Bo)	-12.34	-8.56*
Index of Living Condition (LC)	2.29	9.96*
Education (EDU)	0.14	1.59
Land Ownership (LAN): owned=1	1.13	5.15*
Income (in Pesos):		
b) 20,000 to 39,999 (INC2)	0.67	1.69***
c) 40,000 to 59,999 (INC3)	1.47	3.72*
d) 60,000 & up (INC4)	2.07	5.10*
Age:		
a) 20 to 39 years old (AGE1)	0.10	0.29
b) 20 to 39 years old (AGE1)	-0.01	-0.04
Civil Status (CIV): single=1	-0.08	-0.29
Pseudo R-squared	34.12%	

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

4.5.2 Distinct Variables by Type of Community

Table 4-6 is the results of several estimations where each type of community was separately applied in a given model. It shows that residents from each type of community have certain degree of appreciation to their living conditions, as demonstrated by the positive and significant results of their corresponding *LC* variable.

With regard to *Income*⁹ variable, the results show significant income range(s) of households for every type of community, such as in: High-end GCs = 60,000 & up (INC4); Moderate GCs = 40,000 to 59,999 and 60,000 & up (INC3 and INC4); Affordable GCs = 40,000 to 59,999 (INC3); and OCs = all income categories (INC1 to INC4). These outcomes suggest an indicative range of income that the households should earn in order to live affordably in certain type of community. Somehow, it indicates how much income increase is required for households to move from, say, OCs to GCs or Affordable GC to High-end GC.

Furthermore, it is noteworthy that the choice of community depends on the preferences of households, and not necessarily dictated by income. As the results in Table 4-6 show, there are several households in OCs that belong to INC3 and INC4, but still opted to remain in their present community. (Also see the graph in Figure 3-26, page 71.)

⁹ The data set for *Income* and *Type of Community* are in binary form, hence, elasticity computation using the regression models cannot be undertaken. *Income* variable is composed of several income categories, where each category represents one range of income (e.g., 20,000 to 30,999). Gathering this type of income information was desirable approach during the final survey because people were hesitant to disclose their exact income, as experienced during the preliminary survey. These income categories, however, do not provide the exact amount of income of the respondents. Since these are categorical data, they were applied in binary form in the statistical models. On the other hand, the *Type of Community* variable is also a binary data because it presents whether a community is GCs or OCs, wherein GCs equals 1 and OCs equals 0.

Table 4-6. Distinct Variables by Type of Community

Independent Variable	Dependent Variable			
	GC=High-end	GC=Moderate	GC=Affordable	OC
Constant (Bo)	-20.57* (-5.95)	-9.17* (-4.86)	-6.14* (-4.69)	-12.34* (-8.56)
Index of Living Condition (LC)	3.57* (7.19)	0.99* (4.10)	0.42** (2.23)	2.29* (9.96)
Education (EDU)	0.13 (0.68)	0.08 (0.68)	0.17*** (1.86)	0.14 (1.59)
Land Ownership (LAN): owned=1	1.51** (2.32)	1.28* (3.35)	0.75* (3.32)	1.13* (5.15)
Income (in Pesos):				
a) 19,000 and less (INC1) = base				
b) 20,000 to 39,999 (INC2)	-	-0.43 (-0.54)	0.58 (1.59)	0.67*** (1.69)
c) 40,000 to 59,999 (INC3)	-0.21 (-0.19)	1.61** (2.55)	0.72** (1.99)	1.47* (3.72)
d) 60,000 & up (INC4)	2.95* (2.84)	1.95* (3.12)	-0.32 (-0.85)	2.07* (5.10)
Age:				
a) 20 to 39 years old (AGE1)	-0.63 (-1.09)	0.22 (0.56)	0.31 (1.01)	0.10 (0.29)
b) 40 to 59 years old (AGE2)	-0.19 (-0.37)	0.21 (0.21)	0.13 (0.43)	-0.01 (-0.04)
c) 60 years old & up (AGE3) = base				
Civil Status (CIV): single=1	-0.71 (-1.54)	0.16 (0.54)	0.16 (0.70)	-0.08 (-0.29)
Pseudo R-squared	45.05%	19.82%	6.61%	34.12%

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

Figures in parentheses are t-values.

Caution: The magnitude of coefficient in particular independent variable cannot be compared with the results of the same variable in other columns since they are the results of different models. The purpose here is to determine the significant variables that are specific in each type of community.

4.5.3 Distinct LC Attributes in GCs

The result of logit Model-3 in Table 4-7 reveals that the significant attributes among other attributes of LC are: drainage system (DRA), community playground (PLA), sports facilities (SPT), quietness (QUI), security/safety (SAF), and public transport (TRA). These attributes indicate as the most likely characteristics of the living conditions in GCs.

Assuming all other things equal, it can be noted that the four outstanding qualities of GCs are drainage system, community playground, cleanliness, and quietness since their coefficient signs are positive and highly significant.

Table 4-7. Distinct LC Attributes in GCs (Estimation by Logit Model-3)

Independent Variable	Dependent variable = Community (COM) GC = 1; OC = 0	
	Coef.	t-statistic
Constant (Bo)	-6.18	-5.86*
Attributes of Living Condition:		
1. Water supply system (WAT)	-0.14	-0.80
2. Electricity (ELE)	-0.23	-1.03
3. Roads (RDS)	-0.34	-1.61
4. Side walks (WLK)	-0.02	-0.12
5. Drainage system (DRA)	1.29	6.28*
6. Waste & garbage (GAR)	-0.21	-1.25
7. Community playground (PLA)	1.03	5.98*
8. Sports facilities (SPT)	-0.58	-3.58*
9. Street lights (LIT)	0.25	1.50
10. Physical layout (LAY)	-0.14	-0.67
11. Community maintenance (MNT)	-0.07	-0.32
12. Cleanliness (CLN)	0.15	0.65
13. Quietness (QUI)	1.06	5.32*
14. Security or safety (SAF)	0.69	3.87*
15. Public transport (TRA)	-0.88	-6.23*
Pseudo R-square	44.93%	

Note: * denote coefficients significant at 1% level

On the other hand, the coefficient sign of sports facilities implies that it is not likely a determinant quality of gated communities. In Chapter 3, the three types of GCs were discussed wherein each type has relatively different provisions of facilities. Also, it was shown that some GCs were originally OCs and has evolved gradually into GCs by retrofitting the entire neighborhood with perimeter fences and the roads with gates. They do not necessarily have better sports facilities since most sports facilities in medium cost and affordable GCs are just basketball court, which is also the usual project of the politicians in OCs.

As for the availability of public transportation, GCs do not characterize the adequacy of public transport, simply because GCs imposed access restrictions and they only authorized certain mode of transport with limited access routes.

4.5.4 Distinct LC Attributes by Type of Community

The results in Table 4-8 (simplified in Table 4-9) show that in High-end GC the *water supply, community playground, sport facilities, streetlights, cleanliness and quietness* are expected to be adequate. However, it appears that the service on *waste and garbage* is below the expectation of the residents. A twice per week garbage collections provided by the LGUs in every community seemed not enough for the residents in the High-end GCs. Also, it shows poor *public transportation* in High-end GCs, as the community is highly exclusive. Interestingly, the *security variable* is not significant, suggesting neither poor nor good condition. In this case, despite the security measures, the rich households still do not feel fully secured.

In Moderate GCs, the residents are most satisfied in terms of their community *drainage system, physical layout, and security*. However, they judged their *sports facilities* and the availability of *public transport* as poorly provided.

For Affordable GCs, they perceived that the *drainage system, community playground, quietness, and security* are better provided in their neighborhood. However, they considered their *water supply system, roads, sport facilities, physical layout, and cleanliness* as poor.

On the other hand, OC residents acknowledged their *sports facilities* and *availability of public transport* as considerably better compared to other attributes. Sports facilities (i.e., basketball/volley ball court) are the usual projects of the politicians in the municipal districts. Another, the non-exclusivity of OCs has exhibited better availability of public transportations. However, the residents considered *drainage system, community playground, quietness, and security/safety* of their neighborhoods as insufficient; and these are the attributes distinctly better in GCs in general.

Meanwhile, it can be observed in Table 4-9 that there is no significant difference among the different types of communities in terms of *electricity*, *sidewalks*, and *community maintenance*.

Table 4-8. Distinct LC Attributes by Type of Community

Independent Variable	Dependent Variable							
	GC=High-end		GC=Moderate		GC=Affordable		OC	
	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic
Constant (Bo)	-15.85	-8.47*	-5.73	-5.06*	0.08	0.09	6.18	-5.86*
Attributes of Living Condition:								
1. Water supply system (WAT)	1.00	2.71*	-0.20	-1.02	-0.35	-2.28**	0.14	0.80
2. Electricity (ELE)	-0.23	-0.63	-0.33	-1.35	-0.22	-1.15	0.23	1.03
3. Roads (RDS)	-0.42	-1.06	0.05	0.19	-0.33	-1.71***	0.34	1.61
4. Side walks (WLK)	0.11	0.27	0.06	0.30	-0.14	-0.80	0.02	0.12
5. Drainage system (DRA)	-0.33	-0.92	0.96	4.03*	0.84	4.48*	-1.29	-6.28*
6. Waste & garbage (GAR)	-0.56	-1.72***	-0.11	-0.54	-0.16	-1.05	0.21	1.25
7. Community playground (PLA)	1.19	3.39*	0.16	0.78	0.72	4.49*	-1.03	-5.98*
8. Sports facilities (SPT)	0.56	1.83**	-0.65	-3.41*	-0.45	-3.05*	0.58	3.58*
9. Street lights (LIT)	0.58	1.70**	0.06	0.35	0.01	0.08	-0.25	-1.50
10. Physical layout (LAY)	0.31	0.82	0.50	2.02**	-0.62	-3.41*	0.14	0.67
11. Community maintenance (MNT)	-0.27	-0.75	-0.07	-0.30	0.11	0.55	0.07	0.32
12. Cleanliness (CLN)	1.58	4.4*	-0.01	-0.02	-0.34	-1.82***	-0.15	-0.65
13. Quietness (QUI)	0.60	1.78***	0.24	1.10	0.47	2.76*	-1.06	-5.32*
14. Security or safety (SAF)	-0.26	-1.07	0.67	3.13*	0.35	2.13**	-0.69	-3.87*
15. Public transport (TRA)	-0.46	-2.67*	-0.30	-2.35**	-0.15	-1.34	0.88	6.23*
Pseudo R-squared	42.54%		18.61%		13.69%		44.93%	

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

Table 4-9. Simplified Results of Table 4-8

Independent Variable (Living Condition Attributes)	Dependent Variable			
	GC			OC
	High-end	Moderate	Affordable	
1. Water supply system (WAT)	+	n.s.	-	n.s.
2. Electricity (ELE)	n.s.	n.s.	n.s.	n.s.
3. Roads (RDS)	n.s.	n.s.	-	n.s.
4. Side walks (WLK)	n.s.	n.s.	n.s.	n.s.
5. Drainage system (DRA)	n.s.	+	+	-
6. Waste & garbage (GAR)	-	n.s.	n.s.	n.s.
7. Community playground (PLA)	+	n.s.	+	-
8. Sports facilities (SPT)	+	-	-	+
9. Street lights (LIT)	+	n.s.	n.s.	n.s.
10. Physical layout (LAY)	n.s.	+	-	n.s.
11. Community maintenance (MNT)	n.s.	n.s.	n.s.	n.s.
12. Cleanliness (CLN)	+	n.s.	-	n.s.
13. Quietness (QUI)	+	n.s.	+	-
14. Security or safety (SAF)	n.s.	+	+	-
15. Public transport (TRA)	-	-	n.s.	+

Legend: + = significant and positive association
 - = significant but negative association
 n.s. = not significant variable

4.6 SUMMARY AND CONCLUSION

The results of the analysis show that the living conditions in GCs are relatively better compared to OCs. The result of Multiple Linear Regression (MLR) model implies that GCs is significantly associated with better LC. Also, it reveals certain levels of LC in different types of GCs, which shows an increasing quality of LC from Affordable GCs to High-end GCs. Moreover, the result of the Logit model suggests in general a higher probability that GCs have better living conditions.

The socio-economic characteristics of the respondents that illustrate significant effects for better perceptions on LC are educational level, land ownership, and level of income. The result of the MLR model suggests in general that better education would lead a person to enjoy proprietary rights for better LC. Since GC residents have better level of education, it may be inferred that most highly educated people find better living quality in GCs. Meanwhile, for the land ownership variable, the Logit model indicates that most residents in GCs owned their home-lot. And with regard to the level of income, the pattern based on the result of MLR model implies that as income increases the perceptions on LC also increases. As discussed in Chapter 3 Section 3.4.5 pages 64-73, the affordability of housing packages depends on prices, which have corresponding design qualities. This means that those people with higher income who can afford to invest in a more desirable neighborhood have higher aspiration for LC in general. Those who have already obtained their desired community express higher satisfactions, hence, higher perceptions on LC; and those who have not, express lower perceptions on LC. The result of the Logit model also exhibits the same pattern. Thus, higher income families will most likely invest for better living conditions in GCs.

The Logit model further suggests that quietness, better security/safety, good drainage system, and adequate playground are likely the expected qualities of neighborhood in GCs. While, the availability of better public transportations and adequacy of sport facilities are less notable in GCs.

Generally, the above findings manifest the characteristics of a quality living environment that the residents of Metro Manila perceived to be desirable. Apparently, long-term and broad policy implication should be towards the improvement of the living environment in OCs comparative to the qualities of GCs. Seemingly, the affluent people just want to escape from the ills of the mainstream society by choosing to live inside the GCs. This argument may be supported by the emphasis of better security/safety, quietness, and relatively better community neighborhoods facilities in GCs. In this regard, it may be surmised that outside the GCs is unsafe, noisy, and lack of community facilities.

Moreover, it was shown in Section 4.3.2 that the existence of GCs has some negative consequences in the mainstream society. Despite these consequences, however, GCs is gaining wider acceptance as an ideal community. This illustrates the challenges that are vital for policy-making. It generally calls for appropriate rules and standards regarding the extent of GC development while preserving its development merits.

Social Functions

Why so many people want to live in the gated communities? Do gated communities provide better or lesser degree of Social Functions? What specific social functions are explicit in the gated communities?

5.1 INTRODUCTION

The actual physical structure of community design is to help accomplish some purpose. It could be aimed to improve political, social, economic, and environmental functioning of neighborhood. This is essential because neighborhood normally offers the most logical and convenient place for many daily and regular activities. In this chapter, the central focus of discussions is the internal social functioning of gated communities as exclusive neighborhoods in comparison with the external ordinary communities. Social Functions (SF) is a summed-up term of the six social functions that the urban neighborhood would ideally serve to the residents. Hence, with strong level of SF, the neighborhood allows life to proceed on a comfortable scale among residents.

5.1.1 Rationale of the Study

In early twentieth century, planners in Europe and America had executed the actual developments of suburban neighborhood designs (i.e., garden city and neighborhood unit) as solution to unhealthy and crowded dwellings in the industrialized cities. These utopian communities did not only aim to provide political, economic and

environmental improvements, but also to enhance meaningful interpersonal relationships in the neighborhood (Kanter, 1972). It was not confirmed, however, whether the utopian communities (i.e., Letchworth and Welwyn Garden City in Britain; Sunnyside Garden and Radburn in America) have attained the objective of strong social community relations or social solidarity/homogeneity among its residents. Nevertheless, Krupat (1985) has pointed out that homogeneous community is typically found within ethnic neighborhood, such as in the residents of Boston's Italian North End in America, where community of interest and community of residence coincide.

In relation to the proliferations of GCs, it is crucial to understand the social functions of this new form of neighborhood, which is designed to accommodate certain socio-economic groups and walled-off the others. The increasing trend of GC developments suggests that gated communities are becoming more established and more preferred form of housing in the Philippines. In terms of physical aspect, people seem to believe that life within an enclosed neighborhood is more secured and comfortable. Its social functioning, however, are normally not recognized.

The study of Nishioka (1994) on exclusive villages in Metro Manila has proposed that, "If it is correct that the existence of the exclusive village is proof of strong relationships among the residents, it is necessary to consider the preservation of these relationships..." It was indicated in Chapter 3 that the homeowner's associations have expressed concern about the low sense of community in GCs due to lack of involvement of the members in community activities. Blakely and Snyder (1999, p.133) have observed the same situation in American GCs. However, conclusive evidence in the Philippine context is still lacking. The extent level of social functions needs to be determined from the perceptions of residents by considering certain baseline for

comparison. Thus, comparing the SF of GCs with that of Ordinary Communities (OCs) would make the results meaningful.

5.1.2 Objective of the Study

The main focus is not about analyzing the actual gates and walls, but to gather a broad spectrum of perceived feelings of the residents from both GCs and OCs ranging from social interaction to overall satisfaction with the community. Hence, the general objective of the study is to investigate the level of SF in an exclusive community. The scope of investigation aims to conduct the following specific objectives:

1. To find out whether there is better or lesser level of SF in the gated communities;
2. To determine any significant effect of socio-economic characteristics of the respondents to their perception on SF; and
3. To identify the most explicit SF of the gated communities.

The SF of OCs serves as baseline in assessing the extent level of GCs' SF. The analysis is basically a differentiation of what goes on inside the GCs from what goes on outside, which may help clarify the proliferation of GCs in Metro Manila.

5.2 ANALYTICAL MODEL

5.2.1 Social Functions Index

As discussed in Chapter 2, the SF index¹ is computed using the Likert's scale technique as the average of scores of the six (6) social functions², herein referred also as

¹ Similar in Chapter 4, we attempted to assign weight to each factor using the Principal Component Analysis (PCA). However, the resulting aggregated index of SF does not coincide with the evaluation scale of the research. Hence, it is meaningless without further mathematical transformation. A test of correlation between the summed-up SF index derived from Likert and PCA shows 99.7% correlations, which technically are similar indexes. Likewise, the correlations on individual social function also show higher correlations that ranges from 96.5% to 99.6% (refer to Appendix-1, Section 2 Table A1-1)

² The basis of six social functions is explained in Chapter 2, Section 2.6.1

social factors, namely: Community spirit (SPI), Security (SEC), Interaction (INT), Family responsibility (FAM), Social control (CON), and Satisfaction (SAT). The score of individual factor was likewise computed using the Likert's technique, through which the scores on five questions³ of each factor were aggregated.

5.2.2 Application of Multiple Linear Regression Model

The application of Multiple Linear Regression (MLR) model aims to determine if the two forms of communities (COM: GC=1 or OC=0) differ significantly in terms of their SF; and whether the socio-economic variables (SEV) of the respondents have significant effects on the perceived SF. This is expressed by outlining the SF index as dependent variable, and COM and SEV⁴ as independent variables.

$$SF \text{ index} = f(SEV, COM)$$

$$SF_r = \beta_0 + \beta_i X_{ir} + \beta_{kj} D_{kj,r} + u_r$$

The SF_r is the social functions index for respondent r , B_0 is the constant and B_i is the parameter estimate associated with continuous independent variables X_i that include *Education*. The B_{kj} are dummy coefficients of category j under qualitative variables k where k consists of *Land Ownership*, *Income*, *Age*, and *Civil Status*. These dummy coefficients are considered differential intercept coefficients because it tells by how much the value of the intercept term of the category that receives the value of 1 differs from the intercept of the base category, which receives the value of zero. To avoid the problem of multicollinearity, some of the categories were dropped during estimation

³ Questionnaire on SF is shown in Appendix 3-2, items 35 to 64.

⁴ Not all the SEV were considered due to multicollinearity problem, after undertaking some procedures in Appendix-1 Section 1.

such that the number of dummies for each qualitative variable is one less than the number of categories of that variable. (Gujarati, 1992)

Specific empirical model can be expressed in Model-1, which considers the type of community (COM) as the main independent variable and the socio-economic characteristics (SEV) as control variables.

Model-1: $SF\ index = f\ (COM, SEV)$

$$SF_r = \beta_0 + \beta_1 COM_{jr} + \beta_2 EDU_r + \beta_3 LAN_{jr} + \beta_4 INC_{jr} + \beta_5 AGE_{jr} + \beta_6 CIV_{jr} + u_r$$

where:

SF_r = Social functions index or the average score of six social factors

COM_{jr} = Type of community, whether GCs (1) or OCs (0)

EDU_r = Educational attainment by number of schooling years

LAN_{jr} = Land ownership, whether owned or not

INC_{jr} = Gross household income by different income categories

AGE_{jr} = Respondent's age by different age categories

CIV_{jr} = Civil status, whether single (1) or not (0)

u_r = Error term

5.2.3 Application of Logit Model

In this analysis, the goal is to determine the following:

- a. The socio-economic variables (SEV) of the respondents that has significant effects on being residents of GCs or $COM = GC = 1$;

- b. Whether the two forms of community significantly differs in terms of SF index, at least setting the SEV as control factors; and
- c. The significant SF attributes that are distinct in GCs.

For this regression, the type of community (COM) is the dependent variable, where GC assumes the value of one (1) and OC the value zero (0), and SF and SEV as independent variables.

$$COM = f(SF, SEV)$$

This can be outlined in the formal Logit model equation as follows:

$$\ln \left[\frac{P_r}{1 - P_r} \right] = \beta_0 + \beta_i X_{ir} + \beta_{kj} D_{kj,r} + u_r$$

where P_r is the probability per respondent r that a given event will occur. Fitting the general equation to analyze the three mentioned objectives, two specific Logit models are outlined below.

Model-2: $COM = f(SF \text{ index}, SEV)$

$$\ln \left[\frac{P[COM_r = 1]}{1 - P[COM_r = 1]} \right] = \beta_0 + \beta_1 SF_r + \beta_2 EDU_r + \beta_3 LAN_{jr} + \beta_4 INC_{jr} + \beta_5 AGE_{jr} + \beta_6 CIV_{jr} + u_r$$

Model-3: $COM = f(\text{Social functions or social factors})$

$$\ln \left[\frac{P[COM_r = 1]}{1 - P[COM_r = 1]} \right] = \beta_0 + \beta_1 SF_{ir} + u_r$$

$$\ln \left[\frac{P[COM_r = 1]}{1 - P[COM_r = 1]} \right] = \beta_0 + \beta_1 SPI_r + \beta_2 SEC_r + \beta_3 INT_r + \beta_4 FAM_r + \beta_5 CON_r + \beta_6 SAT_r + u_r$$

where:

SF_{ir} = Refers to the six social factors

SPI_r = Sense of community spirit

SEC_r = Sense of security

INT_r = Sense of interaction or interpersonal relations

FAM_r = Sense of family responsibility or socialization

CON_r = Sense of social control

SAT_r = Sense of satisfaction or attachment

5.3 SURVEY RESULTS

The results of the survey are summarized in Table 5-1⁵. The first column is the list of factors that constitute the SF. Second column is the type of community whether the respondent is a resident of gated or ordinary community. Third column is the percentages of the respondents classified according to the rating scales. Fourth column is the average rating scores. The fifth column is the differences in scores between GCs and OCs that indicate which factors the gaps between the two forms of communities are wider.

As shown in Figure 5-1, the strong dominance of GCs over OCs can be observed on the aspect of *Security* and *Satisfaction* with 0.6 and 0.8 gaps, respectively. Overall, the average score yields GCs with 3.9 points compared to OCs with 3.4 points, which generally implies a stronger SF in GCs compared to OCs.

⁵ The differences in the average scores of individual social function were tested using a two-sample t-test approach. The null hypothesis is $H_0: GCs' \text{ expected } SF = OCs' \text{ expected } SF$. This null hypothesis was applied on the six factors and the overall SF. The observed t statistics are all greater than the critical value of 3.090 wherein the null hypothesis is conveniently rejected at the 1% level of significance. Overall, this implies that the social functions of GCs are significantly different from OCs. Refer to Appendix-1 Section 4 for the result of computations.

Table 5-1. Opinions of Residents on their Social Condition

SF FACTORS	TYPE OF COMMUNITY	PERCENTAGE OF RESIDENTS					AVERAGE RESULTS		DIFFERENCE IN SCORE (GC-OC)
		Very True	True	Not Decided	Untrue	Definitely Untrue	SCORE	SCALE	
1. Community spirit	Gated	1.88%	65.95%	31.37%	0.80%	0.00%	3.7	True	0.1
	Ordinary	3.75%	55.75%	33.75%	6.75%	0.00%	3.6	True	
2. Security	Gated	10.19%	72.65%	16.89%	0.27%	0.00%	3.9	True	0.6
	Ordinary	0.25%	40.25%	52.25%	7.25%	0.00%	3.3	Not Decided	
3. Interaction	Gated	4.83%	83.65%	11.53%	0.00%	0.00%	3.9	True	0.3
	Ordinary	0.50%	69.50%	27.25%	2.75%	0.00%	3.6	True	
4. Family responsibility	Gated	9.38%	77.21%	13.14%	0.27%	0.00%	4.0	True	0.5
	Ordinary	1.25%	51.25%	42.00%	5.50%	0.00%	3.5	True	
5. Social control	Gated	3.22%	66.22%	30.03%	0.54%	0.00%	3.7	True	0.4
	Ordinary	2.75%	45.50%	28.00%	23.75%	0.00%	3.3	Not Decided	
6. Satisfaction	Gated	32.17%	61.39%	6.17%	0.27%	0.00%	4.2	True	0.8
	Ordinary	1.25%	47.75%	40.25%	10.50%	0.25%	3.4	Not Decided	
Overall Average	Gated	10.28%	71.18%	18.19%	0.36%	0.00%	3.9	True	0.5
	Ordinary	1.62%	51.67%	37.25%	9.42%	0.04%	3.4	Not Decided	

Survey: Respondents involved 373 residents under Gated and 400 residents under Ordinary. December 2003

Score Legend: 1.0 to 1.4 = Definitely Untrue; 1.5 to 2.4 = Untrue; 2.5 to 3.4 = Not Decided;

3.5 to 4.4 = True; 4.5 to 5.0 = Very True.

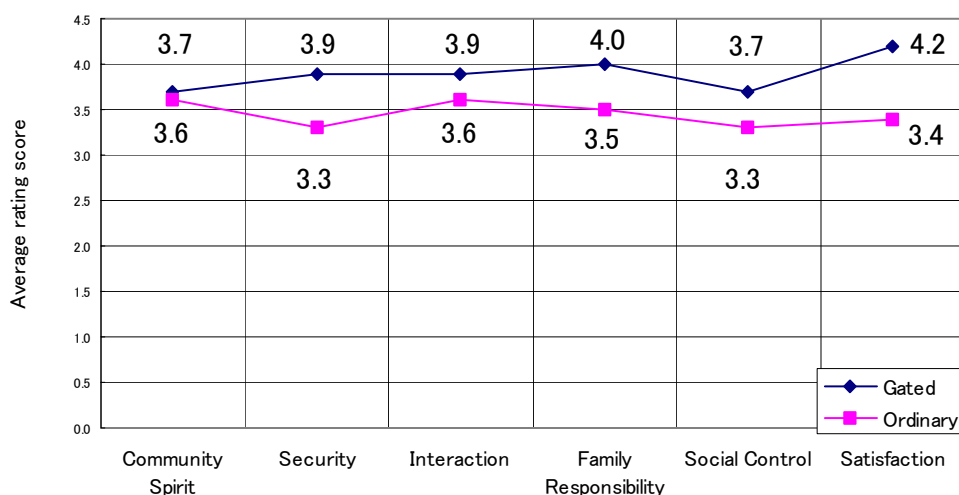


Figure 5-1. Average Score per Social Function of GCs and OCs

Based on the differences in scores of social factors between GCs and OCs, one can only illustrate tentative qualifying discussions whether GCs are better than OCs. The discussions below merely attempt to compare GCs and OCs by their scores and justifying them based on the observed information in Chapter 3. From these results, one should not make a definite conclusion that GCs provide favorable performance in all the social factors.

To begin with, the survey result on *Community spirit* shows minimal difference between GCs and OCs with an average score of 3.7 for GCs and 3.6 for OCs. Although the difference in score is relatively small, it is significant from the two-sample t-test. This implies in general that GC residents have commitments to the appearance of their neighborhoods.

The result on *Interactions* shows an average score of 3.9 for GCs and 3.6 for OCs. It implies a relatively better social interaction among the residents in GCs than in OCs. Justifications for this result relates to the physical characteristics of neighborhood and the socio-economic class of people. Firstly, there is a mandatory requirement in the development of residential subdivisions to allocate a minimum of 30% of the total area as open space for sports/recreations, clubhouse, roads, and other facilities. This allocation assures the residents with a common gathering area that would allow them a better opportunity for interactions. In contrast, OCs are mostly unplanned and without readily accessible gathering area for interactions. Secondly, the quality of social facilities in GCs is generally of great interest, enough to lead the residents into active involvement compared to OCs. Thirdly, residents in GCs have distinct commonalities in terms of income level and educational attainment, implying some sense of homogeneity.

It is interesting that despite a dense population in OCs compared to GCs, the GCs still has better outcome in community spirit and interaction. As noted, housing conditions in OCs have smaller lot sizes (see Figure 5-2) that is often associated with crowding and hence, families are very near each other. Supposedly, this situation provides the opportunity for social enrichment, a positive aspect of urban life. However, the outcome seems to resemble the consequence of large numbers that Wirth (1938, in Krupat 1985) describes it as the segmentalization of human relationships. This is

because OCs as an open community and with so many diverse people living together characterizes the impossibility of knowing the true image of others. Thus, relationship becomes superficial and transitory. Wirth sees density as intensifying this effect: “Close proximity, coupled with great social distance, gives rise to a sense of loneliness, nervous tension, and mutual irritation.” In some parts of OCs, privacy may be a key issue for people who live in crowded poverty, where irritations often caused by noisy neighbors.

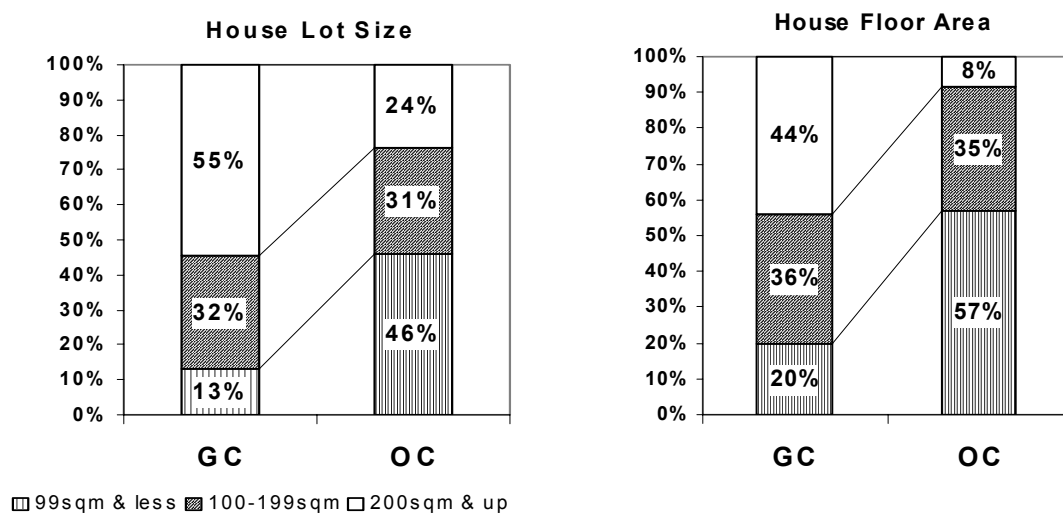


Figure 5-2. House Lot Size and Floor Area in GC and OC

On *Social control*, GCs got an average score of 3.7, while OCs got 3.3. This result might have some relationship with the so-called “private governance” in a well-defined area of GCs. Notably, the GCs separated itself physically from the main public community by walls and gates with their own bylaws and homeowners’ association, while still adhering to the regulations of the local government in dealing with outside matters. This set-up enables the association to immediately address the concerns and problems of their community. Unlike in OCs, they are directly part of the wider society

where their concerns for community may not be given immediate action. Nevertheless, it is difficult to derive an explicit conclusion for this result even though the gap in score is 0.4, since the level of scores are relatively lower compared to that of other social factors. Thus, it cannot be strongly argued that GCs have better *social control* at this stage of analysis.

For *Family responsibility*, GCs' average score is 4.0 and OCs' is 3.5. This implies stronger structure of shared family support in GCs because of its homeowners' association that promotes various social activities for both the young and adults, utilizing their readily accessible common gathering area, recreational facilities, and church. Also, the characteristic of households in GCs who are affluent in general, were able to send their children to prestigious schools for better education and discipline that most likely made the GC youths a more responsible citizens.

On sense of social *Security*, the result shows an average score of 3.9 for GCs and 3.3 for OCs. The dominance of GCs may be founded on two reasons. Firstly, as discussed in Chapter 3, the sales of different types of GCs are based on certain level of prices that could establish some degree of similarities of residents through their income level – implying some sense of homogeneity. Secondly, almost all homeowners in GCs are people of integrity and decency who are mostly successful career professionals. Therefore, trusts among residents could be easily achieved. Most presidents of the homeowners' associations had shared this view.

Lastly, the gap between GCs and OCs on *Satisfaction* is the widest, where GCs got 4.2 against OCs with only 3.4. The result implies that GC residents are more satisfied with the overall social relations of their community.

5.4 MULTIPLE LINEAR REGRESSION MODEL ESTIMATION

5.4.1 General Perceptions on Social Functions between GCs and OCs

Recall that the primary aim of this analysis is to test the significance of *Community* (COM) variable. In Model-1, *SF index* (SF) is the dependent variable and the type of *Community* (COM) as independent variable, setting the selected socio-economic characteristics (SEV) of the respondents as control variables.

Estimation result in Table 5-2⁶ shows significant outcomes in the following independent variables: Community (COM); Land Ownership (LAN); Household Income of 60,000 pesos and up (INC4); and Age between 20 to 39 years old (AGE1). Among these variables, COM, LAN, and INC4 are associated with higher SF. While AGE1 category is associated with lower SF.

The result shows that parameter estimate for *community* (COM) is fairly strong among other variables and statistically significant at 1% level. It suggests that the perceived SF in GCs would be higher by 0.36 than OCs. This result is consistent with the qualitative findings in Section 5.3.

Table 5-2. Estimation by Linear Regression Model -1

Independent Variable	Dependent Variable = Social Function (SF)	
	Coefficient	t-statistic
Constant (Bo)	3.20	21.42*
Community (COM): GC=1, OC=0	0.36	10.59*
Education (EDU)	0.02	1.61
Land Ownership (LAN): owned=1, otherwise=0	0.06	1.84***
Income (in Pesos):		
b) 20,000 to 39,999 (INC2)	0.05	0.88
c) 40,000 to 59,999 (INC3)	0.04	0.65
c) 60,000 & up (INC4)	0.11	1.77***
Age:		
a) 20 to 39 years old (AGE1)	-0.13	-2.59*
b) 40 to 59 years old (AGE2)	-0.07	-1.47
Civil Status (CIV): single=1, zero otherwise	-0.03	-0.62
R-squared	Adjusted R-squared	24.68% 23.80%

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

⁶ Regression diagnostics have been conducted to determine if there are violations of Gauss-Markov assumptions.

Home-lot (or Land) Ownership is significant at 10% and has positive relation with SF. It implies that the residents with clear permanent status of residency compared to those with unclear ownership have expressed favorable judgment on their SF. Hence lot ownership suggests permanency of residence that made a person becomes more attached with his/her community.

Income INC4 has significant effect on SF at 1% level of significance. The estimated coefficient for this category is positive 0.11. This dummy coefficient should be interpreted with respect to the base income category INC1 (19,000 pesos and below) that takes on the value of a constant term, assuming all other variables equal. By comparative static, the perceived SF of the respondents from INC4 is higher by 0.11 relative to the base INC1 category. This result suggests that higher income residents have better level of social relations. This can be confirmed by graphing the income categories against SF scores. As presented in Figure 5-3, it clearly shows an increasing pattern of perceived SF as income increases.

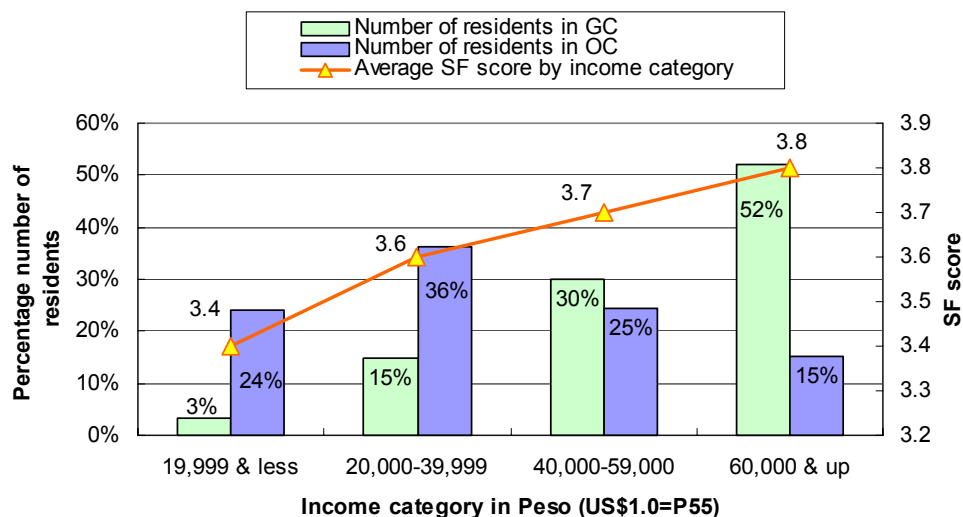


Figure 5-3. Gross Family Income per Month by SF Score and Number of Residents in GC and OC

With regard to the age variable, category AGE1 has negative coefficient and significant at 1%. Since AGE1 is the lowest age category with negative relation to SF, it implies that younger citizens are indifferent on the social quality of their community.

5.4.2 Perceptions on Social Functions by Types of Communities

For this estimation, the three types of GCs were considered instead of just the category of GCs as a whole. In Table 5-3, the three types of GCs show positive and significant coefficients. Since OCs is the base category, this result implies that all the three types of GCs have better SF compared to OCs. Meanwhile, within the types of GCs, there is an increasing pattern of SF from Affordable GCs to High-end GCs as shown by their increasing coefficients.

Table 5-3. Social Functions by Types of Communities

Independent Variable	Dependent Variable = Social Function (SF)	
	Coefficient	t-statistic
Constant (Bo)	3.19	17.71*
Type of Community:		
a) OC = 1 (base category)	0.00	
b) GC = Affordable = 1	0.29	7.76*
c) GC = Moderate = 1	0.43	8.94*
d) GC = High-end = 1	0.75	13.10*
Education (EDU)	0.02	1.58
Land Ownership (LAN): owned=1, otherwise=0	0.08	2.13**
Income (in Pesos):		
a) 19,999 and less (INC1)	0.00	-0.03
b) 20,000 to 39,999 (INC2)	0.05	1.20
c) 40,000 to 59,999 (INC3)	0.03	0.69
d) 60,000 and up (INC4) = base category	0.00	
Age:		
a) 20 to 39 years old (AGE1)	-0.12	-2.33**
b) 40 to 59 years old (AGE2)	-0.06	-1.25
c) 60 years old and up (AGE3) = base category	0.00	
Civil Status (CIV): single=1, married=0	0.00	0.00
R-squared	Adjusted R-squared	
		32.91% 31.94%

Note: * & ** denote coefficients significant at 1% & 5% level of significance.

5.5 LOGIT MODEL ESTIMATION

5.5.1 Distinct Variables in GCs

The difference of Logit estimation from Linear Regression Model is the setting of COM (*type of community*) as dependent variable. Again, the variable COM takes on two unique values, 0 and 1. The value 0 denotes an OC and 1 denotes a GC. This estimation directly differentiates all significant independent variables as either positively related to GCs or not. The aim is to determine what attributes of SF that most likely characterizes the GCs. The results of estimation using logit Model-2 is presented in Table 5-4 below.

Table 5-4. Distinct Variables in GCs (Estimation by Logit Model-2)

Independent Variable	Dependent variable = Community (COM) GC = 1; OC = 0	
	Coef.	t-stat
Constant (Bo)	-13.36	-8.88*
Index of Social Function (SF)	2.32	9.08*
Education (EDU)	0.20	2.31**
Land Ownership (LAN): owned=1	1.01	4.81*
Income (in Pesos):		
b) 20,000 to 39,999 (INC2)	0.19	0.51
c) 40,000 to 59,999 (INC3)	1.06	2.77*
d) 60,000 & up (INC4)	1.79	4.56*
Age:		
a) 20 to 39 years old (AGE1)	0.51	1.58
b) 20 to 39 years old (AGE1)	0.14	0.48
Civil Status (CIV): single=1	-0.02	-0.08
Pseudo R-squared	31.68%	

Note: * and ** denote coefficients significant at 1% and 5% level of significance, respectively.

It reveals that the coefficient of SF index is positive and significant at 1% level, which implies a higher probability that GCs have better social functions. Other positive and significant variables are EDU, LAN, INC3, and INC4. These suggest that a person with higher education, owned a residential lot, and has higher income (INC3 or INC4) is most likely a GC resident, at least holding other variables constant.

4.5.2 Distinct Variables by Type of Community

Table 5-5 shows the estimations of individual type of community. In this table, the magnitude of coefficients from one community cannot be compared against the other communities (e.g., OC vs. Affordable GC) since they are the results of different models. What can be determined from these results are the significant variables specific to each type of community.

It reveals that the SF variable in each type of community is positive and significant, which implies that different groups of residents have certain level of accepted norms for SF in their community.

Another interesting result is on the income variable, which shows the following: the views from OCs is strongly represented by the households with income of 40,000 and up (INC3 & INC4); Affordable GCs is strongly represented by the households that belong to income category of 40,000 to 59,999 (INC3); Moderate GCs by the households with income range of 40,000 and up (INC3 & INC4); and High-end GCs by the households with income of 60,000 and up (INC4).

Table 5-5. Distinct Variables by Type of Community

Independent Variable	Dependent Variable			
	GC=High-end	GC=Moderate	GC=Affordable	OC
Constant (Bo)	-33.6* (-7.45)	-8.73* (-4.58)	-6.99* (-4.99)	-13.36* (-8.88)
Index of Social Function (SF)	7.16* (7.89)	0.82* (2.81)	0.63* (2.82)	2.32* (9.08)
Education (EDU)	0.14 (0.80)	0.11 (0.95)	0.18** (1.98)	0.20** (2.31)
Land Ownership (LAN): owned=1	0.13 (0.23)	1.14* (3.02)	0.70* (3.05)	1.01* (4.81)
Income (in Pesos):				
a) 19,000 and less (INC1) = base				
b) 20,000 to 39,999 (INC2)	-	-0.72 (-0.92)	0.46 (1.27)	0.19 (0.51)
c) 40,000 to 59,999 (INC3)	-1.08 (-0.92)	1.37** (2.23)	0.61*** (1.68)	1.06* (2.77)
d) 60,000 & up (INC4)	2.15* (1.99)	1.76* (2.87)	-0.46 (-1.21)	1.79* (4.56)
Age:				
a) 20 to 39 years old (AGE1)	-0.65 (-1.04)	0.27 (0.71)	0.38 (1.22)	0.51 (1.58)
b) 40 to 59 years old (AGE2)	-0.42 (-0.74)	0.05 (0.15)	0.15 (0.49)	0.14 (0.48)
c) 60 years old & up (AGE3) = base				
Civil Status (CIV): single=1	-0.54 (-1.00)	0.19 (0.63)	0.19 (0.80)	-0.02 (-0.08)
Pseudo R-squared	53.64%	18.37%	7.01%	31.68%

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

Figures in parentheses are t-values.

Caution: The magnitude of coefficients in particular independent variable cannot be compared with the results of the same variable in other columns since they are the results of different models. Our purpose here is to determine the significant variables that are specific in each type of community.

5.5.3 Distinct SF Attributes in GCs

The result of logit Model-3 in Table 5-6 implies that the most explicit social factors characterizing GCs are Security (SEC), Family Responsibility (FAM), and Satisfaction (SAT). Hence, there is high probability that GCs can provide better sense of security, sense of satisfaction, and sense of family responsibility.

The coefficient for the *Security* variable is 1.95, which means that for every unit increase in the community's security/safety, other things being equal, the predicted log odds of being a GC increases by 1.95. The coefficient is significant at 1% level of significance.

The *Family Responsibility* variable has positive coefficient of 1.40 and significant at 1% level, which suggests that residents in GCs have higher level of family responsibility, assuming other things constant.

The coefficient of the *Satisfaction* variable is 2.71 and significant at 1% level by t-test, which means that for every unit increase in the satisfaction of community, the predicted log odds of being a GC increases by 2.71

Table 5-6. Distinct Social Factors in GCs (Estimation by Logit Model-3)

Independent Variable	Dependent Variable = GC	
	Coef.	t-statistic
Constant (Bo)	10.57	8.85*
Attributes of Social Function:		
1. Community Spirit (SPI)	-1.61	5.28*
2. Security (SEC)	1.95	-5.82*
3. Interaction (INT)	-0.83	2.22**
4. Family Responsibility (FAM)	1.40	-3.88*
5. Social Control (CON)	-0.86	3.13*
6. Satisfaction (SAT)	2.71	-8.89*
Pseudo R-squared	42.25%	

Note: * and ** denote coefficients significant at 1% and 5% level of significance, respectively.

On the other hand, the significant negative coefficients are Community Spirit (SPI), Interaction (INT), and Social Control (CON), suggesting the less likely notable

factors in GCs as perceived by the residents. Hence, one cannot expect much improvement about SPI, INT and CON in the gated communities.

It must be noted that SEC, FAM, and SAT signifies self-interest or direct family benefits such as, security of own family, better up-bringing of children, comfortable life, etc., which should rightly take a positive signs. While SPI, INT, and CON encompass the benefits for the whole community. In this view, it is highly probable that SEC, FAM, and SAT are the main pulling factors that would encourage people to live inside the gated communities.

4.5.4 Distinct SF Attributes by Type of Community

The results in Table 5-7 and Table 5-8 show better *sense of satisfaction* in the three types of GCs. However, the *community spirit* variable in High-end GC is negative while it is not significant in Moderate and Affordable GCs. This implies that rich GCs merely relied to their associations with regard to community maintenance, wherein their direct participations in community governance are lesser. High-end GC residents, however, express better *sense of security*, which means there is enough trust among members of the community. Whereas the Moderate GCs shows its moderation with no significant results in most social factors except for the *sense of satisfaction*.

Meanwhile, the residents in Affordable GCs who belong mostly to the middle-income group yielded better community perceptions on the social factors that are of self-interests such as, *sense of security*, *sense of family responsibility*, and *sense of satisfaction*. In contrast, these social factors were poorly evaluated in OCs.

However, OC residents have at least express better perceptions on the sense of *community spirit*, *interaction*, and *social control*. Interpreting these results must proceed with caution. As noted earlier, these positive factors refer to provide benefits for the

whole community, and results for OCs should not be interpreted as necessarily better compared to GCs noting that GCs are leading in scores in all social factors. In this regard, the results simply show the most distinct social functions in OCs, among other social factors in their community. One reason for the positive result on *community spirit* in OCs is the absence of established homeowners association for the management/development of their community, where they simply rely to the projects/programs of the local government; through which they often participated in the activities of the local government such as, improving the drainage system in their respective front yards. With regard to the positive result on *interaction*, it shows that high-density housing and non-exclusivity have some degree of beneficial effect to the community and not totally a disadvantage. For the *social control*, the result suggests that OC residents acknowledged the importance and accomplishments of the local government.

Table 5-7. Logit Estimation of SF Factors by Type of Community

Independent Variable	Dependent Variable							
	GC=High-end		GC=Moderate		GC=Affordable		OC	
	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic
Constant (Bo)	-26.04	-8.00*	-6.21	-5.06*	-2.73	-3.01*	10.57	8.85*
Attributes of Social Function:								
1. Community Spirit (SPI)	-0.79	-1.86***	-0.29	-1.08	-0.10	-0.44	1.61	5.28*
2. Security (SEC)	1.60	2.86*	0.44	1.32	0.85	2.94*	-1.95	-5.82*
3. Interaction (INT)	-0.34	-0.47	-0.08	-0.20	-1.13	-3.53*	0.83	2.22**
4. Family Responsibility (FAM)	0.27	0.41	0.00	0.01	1.09	3.43*	-1.40	-3.88*
5. Social Control (CON)	0.75	1.62	0.20	0.73	-0.95	-4.24*	0.86	3.13*
6. Satisfaction (SAT)	4.09	6.66*	0.87	3.08*	0.60	2.70*	-2.71	-8.89*
Pseudo R-squared	54.16%		8.26%		7.69%		42.25%	

Note: *, **, & *** denote coefficients significant at 1%, 5%, & 10% level of significance, respectively.

Table 5-8. Simplified Presentation of Table 5-7

Independent Variable (Social Functions)	Dependent Variable			
	GC			OC
	High-end	Moderate	Affordable	
1. Community Spirit (SPI)	-	n.s.	n.s.	+
2. Security (SEC)	+	n.s.	+	-
3. Interaction (INT)	n.s.	n.s.	-	+
4. Family Responsibility (FAM)	n.s.	n.s.	+	-
5. Social Control (CON)	n.s.	n.s.	-	+
6. Satisfaction (SAT)	+	+	+	-

Legend:

- + = significant and positive association
- = significant but negative association
- n.s. = not significant variable

5.6 SUMMARY AND CONCLUSION

Basically, the walls that separated GCs and OCs have established two distinct forms of communities, wherein the nature of these arrangements makes a great deal of differences in the social functions. Three questions were posted earlier in this Chapter and below are the corresponding implications derived from the analyses.

1. *On whether the SF level of GCs is better or lesser.*

The Multiple Linear Regression (MLR) model reveals a positive coefficient and significant association of GCs with SF. Similar result was obtained from the Logit model estimation that suggests a better SF in GCs. Furthermore, through the MLR, different levels of SF were identified among different types of communities. It reveals an increasing SF level from Affordable GCs to High-end GCs. In general, the results show better SF in GCs compared to OCs.

2. *On the significant effects of socio-economic characteristics of the respondents to the perceived SF.*

From the result of MLR model, *land ownership* variable is positively and significantly associated with SF level. And from the result of the Logit model, greater *land ownership* is likely the situation in GC. This result suggests that SF in GC is better compared to OCs because land ownership, which refers to the permanent nature of residency, made people become more attached with the community.

With regard to the level of income, the result of MLR model shows an increasing pattern of SF relative to income. Likewise, the result of the Logit model shows the same pattern of coefficients that suggests an increasing probability that the financially well-off families tend to live in GCs. Moreover, the results are

strongly represented by the views of certain groups of households in different types of communities, such as: Affordable GCs by the households with income range from 40,000 to 59,999 (INC3); Moderate GCs by the households with income of 40,000 and up (INC3 & INC4); High-end GCs by the households with income of 60,000 and up (INC4); and OCs by the households with income of 40,000 and up (INC3 & INC4).

3. *On the most explicit social functions of GCs.*

The Logit model suggests that the most notable social functions characterizing the GCs are *sense of security*, *sense of family responsibility*, and *sense of satisfaction*. These positive social factors, which are of direct self-benefits, are inferred as the pulling factors that attract people to live in GCs.

In view of the above, the study reveals a distinctive way of social life between GCs and OCs, wherein the results imply a relatively comfortable life in GCs. Therefore GCs in Metro Manila are generally better than the mainstream OCs. It implies that with better SF in GCs, considering other variable constant, it will attract more people to live in GCs. This will result in further proliferation of GC developments, which means an aggravation of the issues/problems evolving from its existence.

Conclusion and Recommendation

The emerging phenomenon of gated communities is a serious concern. This study helps explain why people in Metro Manila prefer to live in GCs. It also provides several interesting findings that are vital for policy-making.

6.1 PRINCIPAL FINDINGS

In the initial research stage, the characteristics of gated communities (GCs) in Metro Manila have been studied and discussed based on the exploratory research. This approach has allowed the exploration of various information and ideas, through which, the findings served as the fundamental basis for the analysis of living conditions and social functions of communities. These two areas of studies dealt on the perceptions of residents regarding the conditions of their living environment and social relations. Range of opinions was gathered from both the GCs and ordinary communities (OCs) that clarify the proliferation of GCs in Metro Manila.

One of the findings in Chapter 3 reveal that the primary concern of the homeowners' associations in GCs is to establish the sense of security in the neighborhood through the establishment of gates, perimeter walls, and security guards. As a result, exclusive types of neighborhoods were established. Such form of community has attained its main goal in some extent. For this reason, it creates favorable perceptions towards GCs. However, there are also several issues/problems

that had been observed evolving from the establishment of exclusive communities. The most prevalent problem is the conflict regarding road access among different communities inasmuch as road restrictions are imposed by GCs.

Nevertheless, the statistical analyses in Chapter 4 and Chapter 5 showed that GCs offer better living conditions (LC) and social functions (SF), respectively, compared to the OCs.

Based on the results of model estimations, the socio-economic variable that showed interesting result is the level of income. A general pattern demonstrates an increasing LC as income increases. This pattern reflects the situation in GCs, wherein there is an increasing quality of LC from Affordable GCs to High-end GCs. However, considering the whole respondents without specifying the type of community, the residents in the lowest income category showed a higher perception on LC compared to the higher income residents. This confirms the findings in other studies that lower income people have lower level of satisfaction than the higher income; hence, the poor households are more satisfied than the rich given the same living conditions.

With regard to the perceptions on SF, there is an indication of higher perceived SF level from the higher income residents, in general. This situation can be clearly observed in GCs, wherein, as household income increases the level of SF also increases. This was demonstrated by the perceptions of residents from Affordable GCs to High-end GCs.

Moreover, the LC attributes that are most likely better in GCs are drainage system, playground, quietness of neighborhood, and security/safety of community. And the attributes that are less likely better in GCs are sport facilities and availability of

public transport¹. On the other hand, the social functions that are highly expected in GCs are the sense of security, family responsibility, and satisfaction. And those that are less likely remarkable functions in GCs are the sense of community spirit, interaction, and social control. This can be inferred as not necessarily different from OCs².

6.2 IMPLICATIONS AND POLICY RECOMMENDATIONS

6.2.1 Implications

The results of the analyses are fairly conclusive. They have illustrated the positive and negative characteristics of GCs that are vital for policy-making. The findings emphasized the merits of GCs over the conditions in OCs. It suggests some logical reasons why many people want to live in GCs.

In a broader perspective, considering all other things equal, an inferential implications of the study results can be illustrated in Figure 6-1. It shows that GCs will continue to proliferate in Metro Manila, either through retrofitting of existing communities in the metropolis or through new projects in the fringe area. This implies the aggravation of issues/problems evolving from the development of GCs.

Moreover, it was noted that exclusivity of GCs strongly suggests a solidifying urban space that affects the accessibility of the urban population. Since it spatially separates certain classes of population, there also exist an inevitable segregation of society. Such scenario is depicted in Figure 6-2.

¹ In Chapter 3 the three types of GCs were discussed, which have relatively different provisions of facilities. Also, it was shown that some GCs were originally an ordinary community and has evolved gradually into a GC by retrofitting the roads with gates and enclosing the entire neighborhood with perimeter fences. But they do not necessarily have better provisions of sports facilities. On public transport, GCs authorized certain mode of transport with limited routes.

² Graph of the survey result is presented in Figure 5-1.

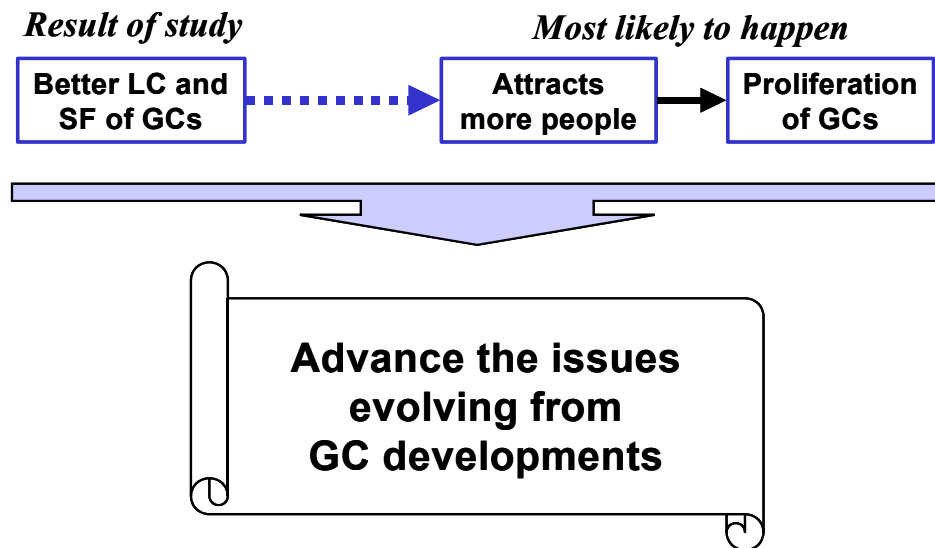


Figure 6-1. Implications of the Study Results on the Proliferation of GCs in Metro Manila

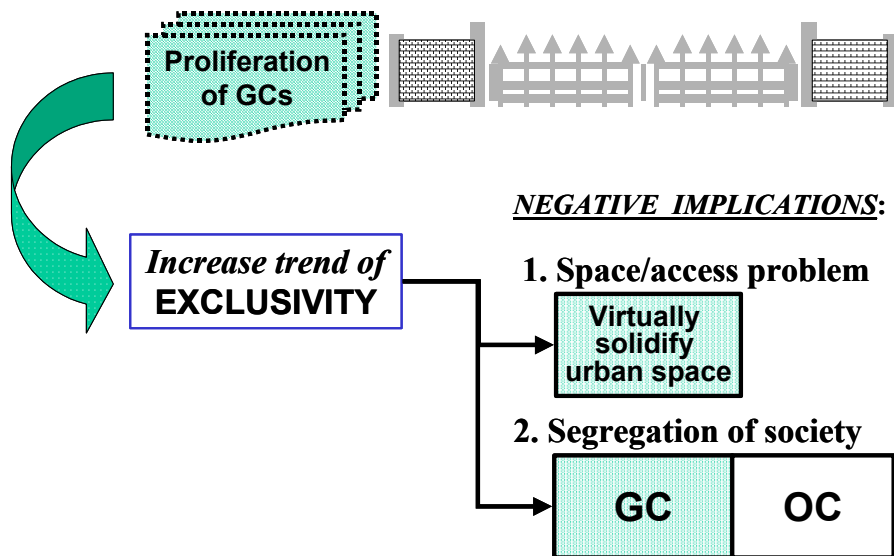


Figure 6-2. Implications of Exclusivity

Moreover, given the likelihood trend of the proliferation of GCs, there can be a greater possibility of increasing demand for the lower-income type of GCs. As illustrated in Figure 6-3, this demand will tend to encourage the developers to

supply more affordable GCs. As shown in Chapter 3, the Affordable GCs have smaller lot size compared to High-end and Moderate GCs. Hence, affordability could be achieved towards offering smaller and smaller homelots. This type of situation is often associated with crowding and hence, families are very near each other. Also, this high-density housing coupled with great social distance, gives rise to a sense of loneliness, nervous tension, and mutual irritation. Therefore, privacy may be a key issue for people who live in crowded neighborhood, where irritations often caused by noisy neighbors. This scenario implies lower SF and LC that would make life uncomfortable. Therefore, it will magnify the issues on GCs considering the problem of exclusivity coupled with uncomfortable life situation.

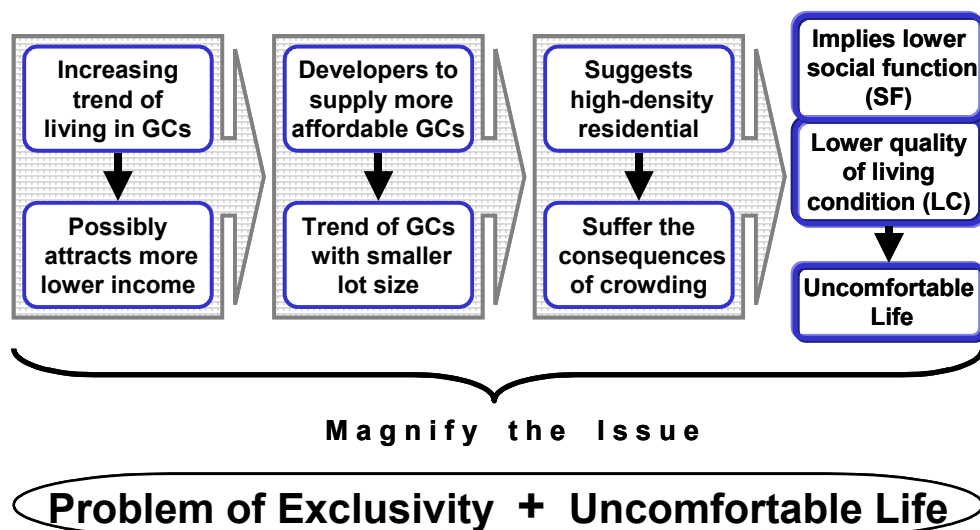


Figure 6-3. Implication on the Quality of Life

Recalling the concern for the sustainability of cities as mentioned in Chapter 1, the whole logic of the implications could be outlined in Figure 6-4. The whole points of the arguments emphasize the seriousness of the GC phenomenon. The physical features of GCs were shown to contradict the efforts towards the sustainability of cities.

In light of the above implications, this paper supports a call for policies that would regulate the exclusivity of GCs. The key policies, however, must consider the preservation of LC and SF attributes that were found distinct in GCs. The fact that many people needs a more secured and healthy environment, the developers and homeowners associations must be guided accordingly on matters related to exclusivity.

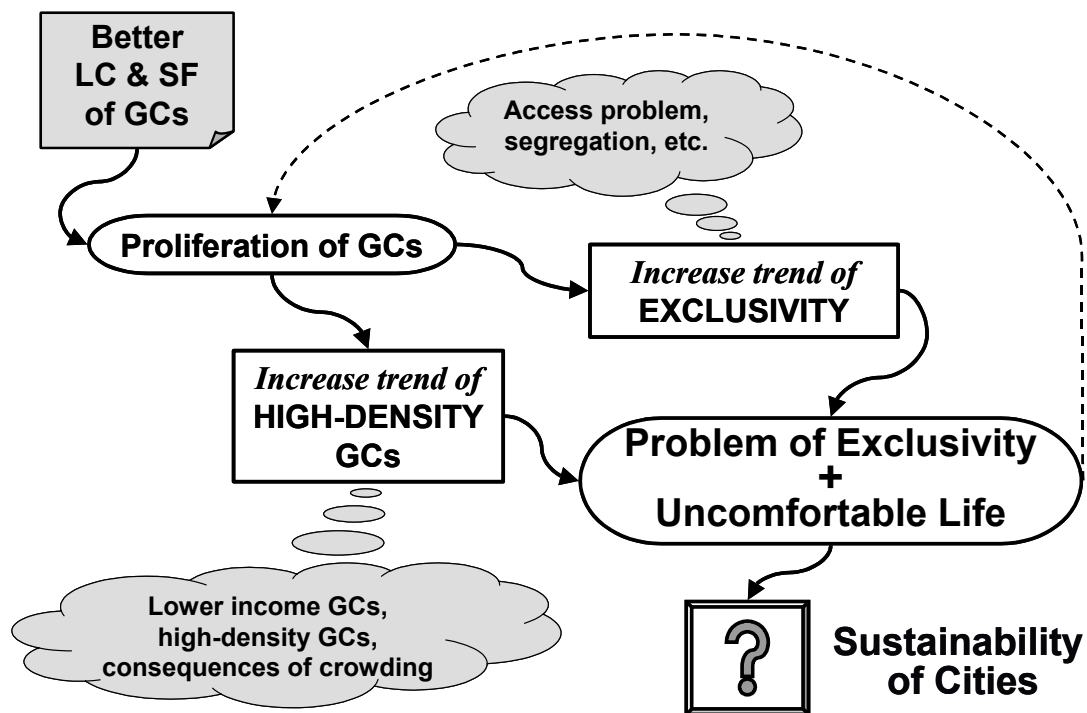


Figure 6-4. Overall Logic of the Implications

6.2.2 Policy Recommendations

After reviewing the relevant laws and cases affecting the GCs as listed in Appendix 2, the following are some specific areas of policy improvements.

a) *The need for regulation on the constructions of perimeter walls and gates.*

At present, there are no specific provisions that regulate the gating and fencing of community boundaries. Major conflicts related to this matter were normally

resolved through court hearings. Thus, there should be a proactive stance by setting policies that would guide the developers and homeowners from the start of community development. In this way, any unavoidable/unintentional conflicts of interests, the issue may be resolved promptly without undergoing lengthy and expensive court hearings.

It must be clear that this policy will not deprive a community of constructing gates and walls, but rather it will provide design standards that would guide in the construction of appropriate structure, materials (e.g., the use of “see-through” fencing concept as suggested by MMDA), and height of walls. Most importantly, this policy will specify the areas that can be and cannot be gated/fenced.

b) Clarify ownership and control of major GC roads.

While there exist a provision that major private roads shall be designated as interconnecting road right of way, it lacks definite content in terms of road control and management. Clear policy on this matter would minimize misunderstandings between government and homeowners associations, and between inter-neighborhoods. The regulation however, must consider very carefully the preservation of factors and attributes that the residents valued in GCs, such as found in LC analysis (e.g., quietness of neighborhood, and security/safety of community) and in SF analysis (e.g., sense of security, family responsibility, and sense of satisfaction).

c) Impose desirable layout of development that will minimize problem on access.

As discussed in Chapter 3, a “stand-alone” GC has lesser spatial impact, but the clustering of several GCs makes a greater impact (Nishioka, 1996). The standards for desirable layout of development may follow the concept of the

subdivision “blocks” standards. In applying this concept, one GC shall be considered as one block. Hence, the concept of setback space, provision of alleys, desirable buffers, etc. are essential aspects in this regard.

d) Impose limitations on the size of GCs taking into account the lot size and allowable density.

This recommendation had been pointed in the studies of Nishioka (1994) and Diaz (1995). Such recommendation is reiterated here to emphasize its importance because as of this writing, the author is not aware of any policies on this aspect. Nishioka in particular, had indicated the concept of GCs as promising approach in Japan as long as desirable area size (among other factors) is determined. The desirable area size may be determined by first analyzing the spatial impact of GCs (e.g., detour distances of the urban population) using a quantitative method such as the integral geometry.

6.2.3 Schematic of the Policy Recommendations

The benefits of the recommendations are intended to address the inconveniences of the residents from both GCs and OCs. As depicted in Figure 6-5, the formulation of policies must take careful consideration on how to preserve the positive qualities of GCs while solving to prevent or minimize its negative impacts.

The applications of these policy recommendations can be classified into “present situation of clustered GCs” and “future application of desirable layout of development.” In the present situation of clustered GCs, recommendations 6.2.2.a) and 6.2.2.b) are applicable for the retrofitted GCs and open neighborhoods that plan to retrofit their boundaries with walls and gates. For future GC developments, the four recommended

policies, which are complementary with each other in attaining a desirable layout of development, must be imposed.

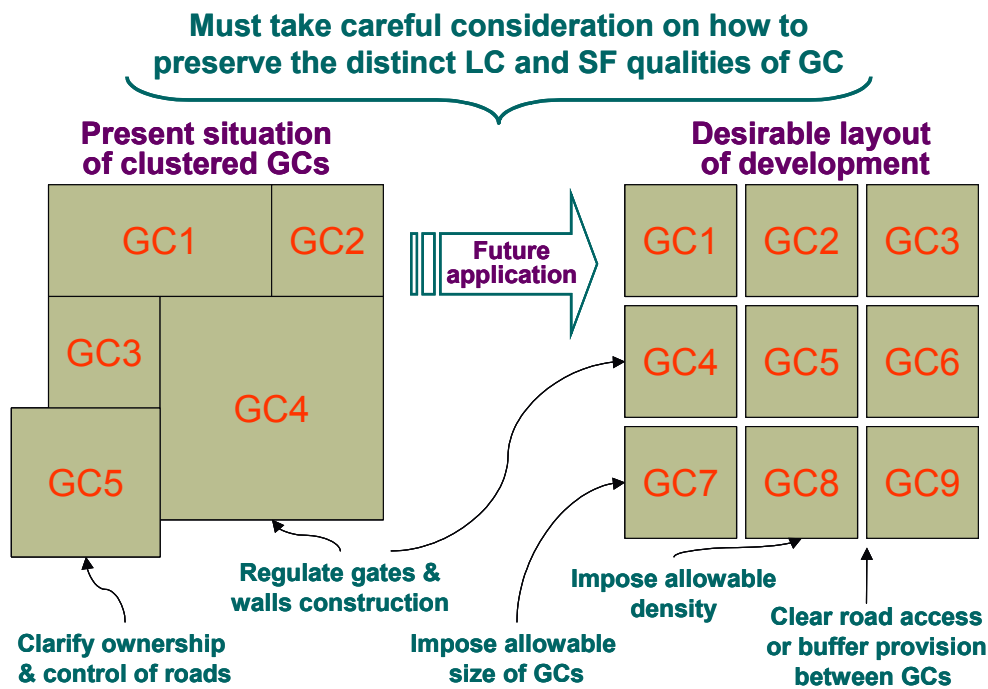


Figure 6-5. Schematic Diagram of Policy Recommendations

Simply viewing the diagram in Figure 6-5 with the thought that all GCs have high solid walls creates a perception of more dangerous roads. To avoid this perception, an appropriate crime prevention tactics is included to complement the recommended desirable layout. There are several choices of establishing security and crime prevention other than the gates, perimeter walls, and security guards. Table 6-1 shows a list of tactics, known as *Crime Prevention Through Environmental Design* (CPTED). It was formulated in the U.S. to help reduce and control crimes in the neighborhoods (Blakely and Snyder, 1999). A number of options are purely physical changes, some rely on the organization of residents, and others depend on law enforcement agencies. These can be

a good basis in detailing the policy recommendations and crime prevention programs of the local governments in the Philippines.

Table 6-1. Crime Prevention Tactics for Neighborhoods

Tactic	Physical	Managerial	Police	Social
Surveillance				
Increase outdoor lighting	O			
Reduce blind spots	O			
Install guard booths	O			
Install surveillance cameras	O			
Hire security guards		O		
Form block watches				O
Form resident patrols				O
Arrange for police patrols			O	
Create territorial space	O			
Start house-sitting programs				O
Start safe-home programs				O
Create community policing			O	
Movement control				
Close or gate streets	O			
Build fences and walls	O			
Provide escort services		O		
Get to know neighbors				O
Motivation reinforcement				
Improve appearance	O			
Personalize the environment	O			
Use minimum security codes		O		
Provide education programs				O
Get residents involved				O
Improve police-community relations			O	

Source: "Crime Prevention through Environmental Design (Washington, DC.: National Institute of Justice, U.S. Department of Justice, 1981)." Lifted from Blakely & Snyder (1999).

As suggested by Blakely and Snyder, the central idea is to create "defensible space." It is a physical environment in which the neighborhood's social organization deters crime, and the physical design must be intended to promote social defense, not to act merely against crime.

Therefore, GC development must consider the construction of appropriate physical design. For example, adopting lower fence or "see-through fence" in parts of the perimeter fronting other GCs. This approach coupled with residents' involvement to

fight crime and reduce fear will result to safer community. On the other hand, OCs may consider adopting the tactics under the **Police** and **Social** columns of Table 6-1.

6.2.4 Other Essential Recommendation

It appears that failure on the efforts of the government to provide adequate facilities and amenities, better peace and order situation, healthy urban environment, and desirable land use planning and management has prompted the proliferation of GC developments. Therefore, strengthening the role of the local government units in providing quality living environment is the most basic recommendation. The local governments must take decisive efforts to improve their performance in addressing the basic urban issues.

Furthermore, the security problem in one city cannot be addressed by means of physical structure alone as in the case of GC development, but also through socio-economic improvements and political means. To attain a more successful solution for security problem in a broader sense, the government must first address the basic problem of poverty through improvements of the education system, level of unemployment, and food sustainability. With improved education, people can find better job that will enable them to earn better income. If people earn enough income then it addresses the poverty issue; and with reduced poverty, it may reduce crimes. This is a long-term undertaking, but it will substantially help improve security in the urban areas. Also, it is important that the local government must have enough political will to carry out any improvements for the community.

6.3 FUTURE RESEARCH

As mentioned earlier, few studies have been conducted so far on the issues of GCs. Nonetheless, the following topics are recommended for further research.

- a) The research revealed that the lowest income people has higher perception on their LC compared to the higher income group. It may be interesting to conduct a research on the level of satisfactions of different income groups relative to the facilities of a neighborhood. The topic could aim about translating the satisfaction level into equivalent list of facilities/amenities, and finding out a more balance level of satisfaction that would serve as the minimum goal for the local government to improve the OCs.
- b) The assessment of living conditions and social functions in this study were based on people's perceptions. In relation to topic a), it is recommended that a detailed accounting of the actual physical facilities and amenities be considered to provide more meaningful arguments on LC and SF.
- c) The study can be improved further by using additional variables for LC and SF. The attributes may be weighted to capture the importance of each independent variable.
- d) For detailed study on the spatial impact of GCs and in determining the appropriate size of GCs, a method using integral geometry may be used to explain the impact of the coverage area of GCs on urban space particularly the detour distances of the population.
- e) A study on the cost involve in implementing the recommended layout of GC development can be useful for the decision makers.

- f) Future research may also choose from several issues outlined in Chapter 1. In particular, the issue on private governance has important policy implications. It had been observed that the role of homeowner's associations replicates the role of local government in some extent. Hence, it will have serious impact on the traditional responsibilities of the local government.

Estimation Supplements

1. Procedures in improving the validity of the model

We run the following regression diagnostics to determine if independent variables we used in the regression are collinear.

- a) Specifically, we used the Variance Inflation Factor (VIF) to determine the severity of multicollinearity. VIF can be computed as follows:

$$VIF = \frac{1}{1 - R_j^2}$$

where R_j^2 is the square of the multiple correlation coefficient that results when X_j , the independent variable is regressed against all other explanatory variables. Most of the econometricians rely on informal rules of thumb applied to the VIF. According to these rules, there is evidence of multicollinearity if the largest VIF is greater than 10 (some choose a conservative threshold value of 30) and the mean of all the VIFs is considerably larger than 1.(Chatterjee, etal., 2000)

We computed the VIFs and we found out that the highest is 4.43 and the mean is 2.16 indicating that our independent variables are not collinear or there is no evidence of multicollinearity. We did not immediately stop here since the approach is based on informal rule of thumb.

- b) We also tried re-estimating the model by considering different combinations of independent variables. One indication of multicollinearity can be the significant change in the regression coefficients if one adds or deletes an independent variable that is collinear with other independent variables. Example, we run an estimation using income dummies as proxy for income variable and exclude education and number of working household members. Then, we run another regression using education as proxy for income and exclude other suspected collinear variables, so on and so forth.

From the set of regression estimations, we found out that deleting the floor area and lot size variable one at a time resulted in a significant change in regression coefficients. The coefficients are unstable, there was sign reversal, and the statistical significance of each estimated parameters did change. After deleting completely the floor area and lot size, our estimation becomes robust.

- c) We have also simplified some variables such as civil status, house type construction, and home ownership by reducing the number of categories to avoid overspecification of the model. Overspecification of the model does not affect the unbiasedness of the OLS estimators (the coefficients), but it has undesirable effects on its variance. Thus, t-statistic may not be reliable.

2. Some Correlation Test Results

Table A1-1. Correlation Between Principal Component Index and Likert's Index on Social Function

Principal Component's Weighted Method	Likert's Mean Score Method						
	SPI	SEC	INT	FAM	SOC	SAT	SF
Community Spirit (SPI)	0.977						
Security (SEC)		0.973					
Interaction (INT)			0.965				
Family Responsibility (FAM)				0.981			
Social Control (CON)					0.993		
Satisfaction (SAT)						0.996	
Social Function (SF)							0.997

Table A1-2. Correlation Between Independent Variables in SF Analysis

	SPI	SEC	INT	FAM	SOC	SAT
SPI	1.00					
SEC	0.35	1.00				
INT	0.35	0.72	1.00			
FAM	0.41	0.75	0.76	1.00		
SOC	0.53	0.66	0.63	0.70	1.00	
SAT	0.29	0.79	0.64	0.72	0.63	1.00

Table A1-3. Spearman's Correlation Between PCA and Likert on LC Index

	Likert
PCA	0.9872

3. Average Income and Living Conditions in Different Type of GCs

Table A1-4. Gated Communities (GCs)

Type of GC	Name of Community	Number of Respondents	Average Income	Average LC Score	Average SF Score	Area (hectare)
1. High-end	Ferndale Homes	12	9.50	4.89	4.29	14.66
	BF Homes	53	8.79	4.08	4.27	48.8
	Don Enrique Heights	15	7.80	4.08	4.05	29.55
	Total	80	8.70	4.35	4.20	93.01
2. Moderate	Dona Petronas	11	6.64	4.01	4.03	7.5
	Metrogate	6	7.50	3.96	4.15	1.5
	Don Antonio Heights	14	7.93	3.84	3.95	23.53
	Mapayapa Village 1	19	6.84	4.15	4.04	13.87
	Mapayapa Village 2	14	7.36	4.10	4.10	18.38
	Mapayapa Village 3	11	7.36	3.83	3.97	19.83
	Dona Ana Village	18	6.06	3.50	3.64	9.5
	Filinvest Homes	20	7.60	3.73	3.71	82.38
	Total	113	7.16	3.89	3.95	176.49
3. Affordable	CBE Townhomes	49	5.16	3.65	3.65	4.8
	Silverland Subdivision	37	5.30	2.77	3.84	3.13
	Fern Village	14	5.21	3.83	4.15	5.26
	Ramax Subdivision	12	5.92	3.23	3.75	4.6
	Hobart Subdivision	7	6.57	3.44	3.81	3.5
	Sugartown	49	5.41	3.75	3.71	2.4
	Sunnyside Heights	12	4.58	3.57	3.80	6.48
	Total	180	5.45	3.46	3.82	30.17

Table A1-5. Ordinary Communities (OCs)

Type of OC	Name of Community	Number of Respondents	Average Income	Average LC Score	Average SF Score	Area (hectare)
1. Planned	Fairview (Dalia-Lilac)	37	5.51	3.23	3.50	30
	Pingkian Village	81	3.75	3.18	3.49	34
	Veterans Village	40	4.88	3.33	3.55	35
	Total	158	4.71	3.25	3.51	99
2. Unplanned	Sauyo Area	29	4.55	3.39	3.51	28
	Sito Tibagan	39	3.77	3.34	3.45	24
	Nawasa Area	33	3.24	3.32	3.39	26
	Talipapa Area	39	3.72	3.20	3.51	20
	Batasan Hills	102	4.35	3.52	3.35	150
	Total	242	3.93	3.35	3.44	248

4. Two-samples t-test on Social Function

Table A1-6. Two-samples t-test Between the SF of GCs and OCs

	Spirit		Security		Interaction		Family		Control		Satisfaction		OVERALL	
	GC	OC	GC	OC	GC	OC	GC	OC	GC	OC	GC	OC	GC	OC
Samples	373	400	373	400	373	400	373	400	373	400	373	400	373	400
Mean	3.68	3.57	3.93	3.31	3.94	3.63	3.96	3.46	3.75	3.31	4.21	3.38	3.91	3.44
Variance	0.18	0.35	0.21	0.27	0.14	0.19	0.17	0.27	0.25	0.56	0.25	0.36	0.11	0.22
Standard deviation (s.d.)	0.42	0.59	0.45	0.52	0.37	0.44	0.41	0.52	0.50	0.75	0.50	0.60	0.34	0.47
Pooled variance (GC&OC)	0.27		0.24		0.17		0.22		0.41		0.31		0.17	
Pooled s.d. (GC&OC)	0.52		0.49		0.41		0.47		0.64		0.56		0.41	
Observed <i>t</i> -statistic	2.962*		17.755*		10.543*		14.755*		9.558*		20.699*		15.778*	

* significant at 1% level of significance

Appendix 2

List of Relevant Laws and Cases¹

¹ Sources: Magno (2000) and Professor Barlongay (unpublished document); Quezon City Government Office; Daily Inquirer Newspaper (2001), Author's personal interview (2002)

List of Relevant Laws Affecting GCs

1. Statutes

Republic Act No. 6541 – An Act to Ordain and Institute a National Building Code of the Philippines. (1972)

Batas Pambansa Blg. 220 – An Act Authorizing the Ministry of Human Settlements to Establish and Promulgate Different Levels of Standards and Technical Requirements for Economic and Socialized Housing Projects in Urban and Rural Areas from those Provided under Presidential Decree 957, 1216, 1096, 1185. (1982)

Republic Act No. 7160 – An Act Providing for a Local Government Code of 1991 (Section 20, 215, 306 447). (1991)

Republic Act No. 7279 – An Act to Provide for a Comprehensive and Continuing Urban Development and Housing Program, Establish the Mechanism for its Implementation, and for other Purposes. (1992)

2. Presidential Issuances

Presidential Decree 957 (PD 957) – Regulating the sale of Subdivision Lots and Condominiums, Providing Penalties for Violations Thereof. (1976)

Presidential Decree No. 1216 – Defining “Open Space” in Residential Subdivisions and Amending Section 31 of Presidential Decree No. 957 Requiring Subdivision Owners to Provide Roads, Alleys, Sidewalk and Reserve Open Space for Parks or Recreational Use. (1977)

Executive Order No. 90 – Identifying the Government Agencies Essential for the National Shelter Program and Defining their Mandates, Creating the Housing and Urban Development Coordinating Council, Rationalizing Funding Sources and Lending Mechanism for Home Mortgage and for Other Purposes. (1986)

Executive Order No. 143 – Directing the Housing and Urban Development Coordinating Council to Oversee the Implementation of a Local Government Pabahay Program, and Defining the Responsibilities of Certain Agencies which will be Involved Therein. (1993)

Executive Order No. 71 – Devolving the Powers of the Housing and Land Use Regulatory Board to Approve Subdivision Plans to Cities and Municipalities Pursuant to R.A. 7160 Otherwise Known as the Local Government Code of 1991. (1993)

Executive Order No. 72 – Providing for the Preparation and Implementation of the Comprehensive Land Use Plans of Local Government Units Pursuant to the Local Government Code of 1991 and other Pertinent Laws. (1993)

Executive Order No. 184 – Creating Socialized Housing One-stop Processing Centers to Facilitate the Processing and Issuance of Permits, Clearances, Certifications and Licenses Appropriate and Necessary for the Implementation of Socialized Housing Projects, and Directing all Government Agencies Concerned to Support the Operation of the Said Centers. (1994)

3. Rules And Regulations

Implementing Rules and Regulations to Govern Section 18 of Republic Act No. 7279 Otherwise Known as the Urban Development and Housing Act of 1992. (1992)

Rule and Standards for Economic and Socialized Housing Projects to Implement Batas Pambansa 220. (1982)

4. Ordinances Of Local Government Units

Quezon City Government Ordinance No. 86633, S-71 – “prohibiting the closing, obstructing, preventing or otherwise refusing to the public of vehicular traffic, the use of or free access to any subdivision or community street within the jurisdiction of Quezon City, so as to include in such prohibition the exaction of fees in any form for the use thereof.” (July 7, 1971)

List of Relevant Cases Involving GCs

1. Open Spaces

SPOUSES CALUDIO M. ANONUEVO, and CARMELITA ANOUEVO vs. COURT OF APPEALS. G.R. No. 113739 (1995)

An open space inside a subdivision is owned by the Quezon City government and/or Republic of the Philippines, while its enjoyment, possession and management pertains to that of the homeowners. Hence, a lot designated as an open space in a subdivision cannot be the subject of a sale made by the subdivision developer.

THE CITY OF ANGELES, Hon. ANTONIO ABAD SANTOS, in his capacity as MAYOR of Angeles City vs. COURT OF APPEALS and TIMOG SILANGAN DEVELOPMENT CORPORATION. G.R. No. 97882 (1996)

The subdivision developer is obliged to donate the open spaces to the local government unit or to the homeowners association with the consent of the city or municipality concerned; the developer/owner may impose reasonable conditions on the local government on the use thereof.

2. Roads

WENCESLAO PASCUAL vs. THE SECRETARY OF PUBLIC WORKS AND COMMUNICATIONS, ET AL. G.R. No. L-10405 (1960)

Governor may bring action to question an appropriation of public funds for the construction of subdivision roads.

ROSELLER T. LIM, ET AL. vs. PACITA DE LOS SANTOS, ET AL. G.R. No. L-18137 (1963)

Subdivision developers have the obligation to construct roads to provide residents and homeowners access to their lots and homes.

RODRIGO ENRIQUES vs. SOCORO A. RAMOS. G.R. No. L-23616 (1976)

The purchaser may withhold payment or rescind the contract if developer fails to construct roads.

JOSE D. SANGALANG ET AL. vs. INTERMEDIATE APPELATE COURT, and AYALA CORPORATION. G.R. No. 71169 (1988)

A city or municipality can open roads leading to subdivisions in the exercise of police power.

BEL-AIR VILLAGE ASSOCIATION, INC vs. COURT OF APPEALS, VIOLETA MONCAL, and MAJAL DEVELOPMENT CORPORATION. G.R. No. 82281 (1989)

Mayor can vividly open street leading to subdivisions in the interest of public welfare.

ATTY. CORNELIO T. RIVERA vs. THE HONORABLE INTERMEDIATE APPELLATE COURT. G.R. No. 74249 (1989)

An outsider entity cannot compel the owner of a subdivision or a homeowner association to allow him access over a road co-owned by the latter, in the absence of a road right of way.

LA VISTA ASSOCIATION INC. vs. COURT OF APPEALS. G.R. No. 95252 (September 5, 1997).

The free ingress and egress along Mangyan Road created by the voluntary agreement between Ateneo and Solid Homes, Inc. is legally demandable (Article 619 and 625, New Civil Code) with the corresponding duty of the servient estate not to obstruct the same. The opening of an adequate outlet to a highway can extinguish only legal or compulsory easements like in the case at bar.

BEL-AIR VILLAGE ASSOCIATION, INC. vs. COURT OF APPEALS. G.R. No. 82281, August 30, 1989; 177 SCRA 87).

The Municipal Mayor of Makati has validly opened Jupiter Street at Bel-Air Village to vehicular traffic; that is a boundary, not part of either the residential or commercial zones of Ayala Corporation's real estate development projects; Orbit Street was also validly opened ; and in both cases, it was a valid exercise of police power.

WHITE PLAINS ASSOCIATION, INC. vs. HON. GODOFREDO L. LEGASPI. G.R. No. 95522 (1991)

Widening or improvement of White Plains Subdivision's "Road Lot 1" (that become a thoroughfare) cannot be done by Quezon City Government or the Department of Public Works and Highways because it is still a private property and has not yet been donated or turned over to the Quezon City Government. The subdivision developer has the obligation to construct the roads after which it shall turn over the same to the government.

CONCORDIO ABELLANA, SR., ET AL. vs. HON. COURT OF APPEALS, ORLANDO P. NAYA, ET AL. G.R. No. 97039 (1992)

Outsider may use subdivision roads when they are inside the subdivision but they cannot open subdivision walls to allow them entrance from outside.

METROPOLITAN MANILA DEVELOPMENT AUTHORITY vs. BEL-AIR VILLAGE ASSOCIATION, INC. G.R. No. 135962 (2000)

The good intentions of MMDA cannot justify the opening for public use of a private street in a private subdivision without any legal warrant. It cannot be opened by just an order of the Chairman of the MMDA. Since the Government of Makati City did

not pass any ordinance or resolution ordering the opening of Neptune Street, hence, its proposed opening by MMDA is illegal.

MAYOR MARQUEZ vs. PRIVATE HOMEOWNERS ASSOCIATIONS.²

The Mayor of Paranaque criticized Homeowners Associations for using the subdivision's entry points as "toll gates" collecting "exorbitant" entry fees from passing motorists without stickers. Also, due to several complaints from both residents and non-residents of GCs, the City Government proposed an ordinance to open up the subdivisions' private roads to the public as alternative routes in order to ease congestion in the city's main roads. (2001)

CONFLICTS AMONG HOMEOWNERS ASSOCIATIONS.³

Sometime in late 1980s and in 1990s, the HOAs of several GCs started to close their roads citing the problem of maintenance, safety and health of their residents, and that alternative public road was already constructed and passable. The closures had resulted to a chain reaction among GCs causing widespread tension in the area. The conflict was resolved through a series of dialogues among the affected GCs. The agreement was to make their respective "sticker pass", which will be honored in passing the GC major roads. Later, the purchase of "sticker pass" has been extended to non-GC residents who want to pass the GC roads regularly. Non-residents, however, purchase these stickers at a premium price. (2002)

² Published in the Philippine Daily Inquirer, 25 Oct. 2001

³ Informal interview with the HOAs and residents in the case study area in Quezon City, December 2002.

Survey Questionnaires¹

1. April to May 2003 Survey

1.1 Interview Guide Questions for Homeowners Association President

ID No.: _____

1. Historical development of GC

Date of construction: _____

Developer: _____

Financing: _____

Buyer: _____

Mode of acquisition: _____

Open market/housing project?: _____

2. Characteristic (ask for community layout map if available)

Area of GC: _____

Number of lots: _____ Lot size: _____

House floor area: _____ H&L Package: P _____

Number of household: _____

Population: _____

3. Is it originally exclusive? () YES () NO

4. Who manage the GCs? _____

5. How is GC being managed? _____

6. What is the process of electing the HOA officers? (ask about the organizational structure, responsibilities, tenure, etc.)

7. Is there any laws or regulations imposed in the community residents? _____

8. What are the facilities/amenities being maintained? _____

9. What are the sources of income for the maintenance of facilities and financing of community projects?

10. What are the social activities of the community? _____

11. What are the major concerns of HOA for the community members?

12. Do you favor opening-up of major subdivision roads for public use? () YES () NO

If no, why? _____

13. Do you participate in the planning activities of LGUs or barangay? () YES () NO

14. Is there any concern/projects/activities that were conducted in partnership with LGUs?

15. How do you resolve conflicts with other GCs, if any?

16. Is there any assembly meeting being conducted your community? () YES () NO

Frequency of meeting: _____

17. What percentage are the attendances? _____

18. What is your opinion about gates, booms, perimeter, fences and security?

19. Do you agree that GCs provide total security? () YES () NO

20. What are the main advantages of GC over the non-GC?

21. What are the main disadvantages of GC over the non-GC?

¹ Questionnaires are reduced version of the actual size

1.2 Questionnaire for Residents²

Questionnaire for Gated Community (Private Subdivision) and Ordinary Community Residents

No. _____

Name of Community: _____

I. Dwelling Characteristics

1. Gated Community? 1) Yes, 2) No
2. When did you move to the present community? _____ (Year)
3. Lot size (in square meters): 1) Less than 50, 2) 50-99, 3) 100-149, 4) 150-199,
5) 200-249, 6) 250-299, 7) 300-500, 8) over 500
4. House floor area (in square meters): 1) Less than 50, 2) 50-99, 3) 100-149, 4) 150-199,
5) 200-249, 6) 250-299, 7) 300-500, 8) over 500
5. Type of housing construction: 1) Single-detached, 2) Duplex, 3) Multi-unit
6. Housing unit status: 1) Owned, 2) Rent, 3) Amortize, 4) Rights
7. Land tenure status: 1) Owned, 2) Rent, 3) Amortize, 4) Rights
8. Please mark the positive characteristic(s) of community environment (pls. rank choices 1-5, 1 is first choice):
() Safe, () Clean, () Good facilities, () Exclusive, () Family relation, () None of the above
9. Please mark the positive characteristics of community location (pls. rank choices 1 to 3; 1 is the most positive and 3 the least): () Affordable, () Accessibility to work, () Near public transport
10. How satisfied are you with your present neighborhood: 1) Very satisfied, 2) Moderately Satisfied, 3) Dissatisfied
11. How many families in your community are you friends with? ()
12. Previous housing unit: 1) Single-detached, 2) Duplex, 3) Multi-unit
13. Previous tenure of residence: 1) Owned, 2) Rent, 3) Amortized, 4) Lived with parents/relatives
14. Previous place of residence: 1) Metro Manila (city/municipality: _____),
2) Outside Metro Manila (province: _____)
15. Previous Community: 1) Gated or Private Subdivision, 2) Ordinary or non-gated community
16. Own a vehicle? 1) Yes (how many: _____), 2) No
17. Distance from house to work place: 1) 1-3 kilometers (very near), 2) 4-6 kilometers (near),
3) 7-9 kilometers (far), 4) over 9 kilometers (very far)
18. Mode of transport going to work place (please rank applicable choices): () Private, () Public, () Walking
19. Distance of house to main thoroughfare or highway: 1) 100-499 m, 2) 500m-1km, 3) over 1km
20. Mode of transport to reach thoroughfare: () Private car, () Public transport, () walking
21. Do you plan to move out in the near future (within one year): 1) Yes, 2) No
22. What type of community you prefer: 1) Gated or Private subdivision, 2) Ordinary or non-gated community
23. Do you use (other) private subdivision roads as short-cut route?
1) No, 2) Yes (Time saved in minutes: _____, Distance saved in kilometers: _____)
24. Did you experience any problem for using (other) private subdivision roads as short-cut route? 1) Yes, 2) No
If Yes, what type of problem? _____
25. How much are you willing to pay for using (other) private subdivision roads as short-cut route? (P _____)
26. Do you favor opening-up of subdivision roads or private roads for public use? 1) Yes, 2) No
If Yes, what type of vehicle(s) will be allowed (please rank choices)?
() Tricycle, () Taxi, () Private cars, () School bus, () Jeepney, () Bus, () Trucks
27. Please give any suggestions to improve the following:
1) Road accessibility: _____
2) Community development: _____

II. Household Characteristics

28. Name (optional): _____; Household head: 1) Yes, 2) No
29. Age: 1) 20-29yrs, 2) 30-39yrs, 3) 40-49yrs, 4) 50-59yrs, 5) 60yrs & over
30. Sex: 1) Male, 2) Female
31. Marital Status: 1) Single, 2) Married (household size: _____ persons)
32. Educational Background: 1) Elementary, 2) High school, 3) College, 4) Masters/PhD, 5) Non-formal education
33. Occupation: 1) Private firm employee, 2) Public employee, 3) Own business, 4) Retired 5) Others _____
34. Household monthly income: 1) under P10,000, 2) P10,000-14,999, 3) P15,000-19,999, 4) P20,000-29,999,
5) P30,000-39,999, 6) P40,000-59,999, 7) P60,000 & over

² Questionnaire for residents used during the exploratory research

Appendix 3-2

2. December 2003 to January 2004 Survey

University of Tsukuba
Graduate School of Systems and Information Engineering
Doctoral Program in Policy and Planning Science
Tsukuba City, Tennodai 1-1-1, JAPAN 305-8573, (Tel/fax: 8129-853-5227)

ID #: _____

To the respondents: 1. This survey questionnaire will be used for the **Doctorate Degree dissertation**.
2. Your **sincere participation** is very important for the success of this research.
3. All the information you provide is **confidential** and will be published only in statistical form.
Your name will not appear in the report and you will not be identified in any way.

Objective: To gather opinions regarding your living environment, social aspects of community, and your general perception about the Gated Communities/Private Subdivisions.

Instruction: 1. This questionnaire will take approximately 10 minutes to accomplish.
2. Please answer **all** the questions to the best of your ability. Simply check/write the appropriate answer.
3. For any clarifications, please call: **Kenneth Verzosa Tanate** (Student ID: 200205629)
Tel.nos.: 932-5421, 631-3724, 0916-2416762
#1 Franc St, CB Townhomes, Capitol District, Pasong Tamo, Q.C.

A. Household Characteristics

- 1 Name (optional): _____; Household head?: 1) Yes, 2) No
- 2 Age (range in years): 1) 20-29, 2) 30-39, 3) 40-49, 4) 50-59, 5) 60-69, 6) 70 & up.
- 3 Sex: 1) Male, 2) Female. Religion: _____ Nationality: _____
- 4 Civil Status: 1) Single, 2) Married, 3) Widow/Widower.
- 5 Educational attainment: 1) Elementary, 2) High School, 3) College, 4) Masters Degree, 5) Doctorate Degree.
- 6 Household size (no. of family members): _____ No. of working household member(s): _____
- 7 Occupation: 1) Private firm employee, 2) Government employee, 3) Own business, 4) Retired, 5) Self-employed.
- 8 Household monthly income: 1) less than P10,000; 2) P10,000-19,999; 3) P20,000-29,999; 4) P30,000-39,999;
5) P40,000-49,999; 6) P50,000-59,999; 7) P60,000-69,999; 8) P70,000-79,999; 9) P80,000-89,999; 10) P90,000 & up.

B. Dwelling Characteristics

- 9 Type of the present community you live in: 1) Gated Community/Private Subdivision, 2) Ordinary/Public Community
- 10 Where did you live prior to moving here? 1) Gated Community/Private Subdivision, 2) Ordinary/Public Community
- 11 Year moved in the present community: _____
- 12 Lot size (in square meters): 1) less than 50, 2) 50-99, 3) 100-149, 4) 150-199, 5) 200-249, 6) 250-299, 7) 300 & up
- 13 House floor area (sqm.): 1) less than 50, 2) 50-99, 3) 100-149, 4) 150-199, 5) 200-249, 6) 250-299, 7) 300 & up
- 14 Type of housing construction: 1) Single-detached, 2) Duplex, 3) Apartment/Condominium
- 15 Housing unit status: 1) Owned, 2) Rent, 3) Amortize, 4) Rights
- 16 Land tenure status: 1) Owned, 2) Rent, 3) Amortize, 4) Rights

Your opinion on facilities & environment	VERY GOOD	GOOD	SATISFACTORY	POOR	VERY POOR
17 Water supply system					
18 Electricity					
19 Roads (carriage way)					
20 Side walks					
21 Drainage system					
22 Waste and garbage management					
23 Community playground					
24 Community sports facilities					
25 Street lights					
26 Community physical layout or design					
27 Community maintenance					
28 Cleanliness					
29 Quietness					
30 Security/safety					
31 Accessibility by public transportation					

--- Please continue at the back ---

Your general perception of Metro Manila		VERY GOOD	GOOD	SATISFACTORY	POOR	VERY POOR
32	Overall impression of your community					
33	Peace & order in Metro Manila					
34	Overall living environment of Metro Manila					

C. Your opinion on social aspects of community		VERY TRUE	TRUE	NOT DECIDED	UNTRUE	DEFINITELY UNTRUE
35	What is good for the community is good for me.					
36	Residents here are not getting enough support from neighbors.					
37	Almost everyone is polite and courteous to you.					
38	Many young people in the community are irresponsible.					
39	Homeowners Association/Barangay Officials have little accomplishment.					
40	I consider this community a good place to live in.					
41	People here value the essence of peace and order.					
42	People here are active in community activities.					
43	You don't need to spend lots of money to be socially accepted here.					
44	The community provides the opportunity for closer family relation.					
45	Our leaders run the community to suit themselves.					
46	I don't want to recommend this community to my relatives and friends.					
47	Residents here are afforded enough security to feel comfortable.					
48	People here are active in making the community a better place to live in.					
49	People give you bad name for any little misdeed or for just being different.					
50	Most people get their families to church on Sunday.					
51	The community has been managed by good leaders.					
52	I intend to remain in this community permanently.					
53	Children are safe to play outside the house.					
54	No one seems to care much how the community looks.					
55	Everyone here tries to take advantage of you.					
56	People here don't show good judgment.					
57	Local concerns of everyone are being dealt fairly and squarely.					
58	I feel very much that I belong here.					
59	Residents here don't trust other members in the community.					
60	The people here as a whole mind their own business.					
61	Real friends are easy to find in this community.					
62	The community tries hard to help its young people become good citizens.					
63	The community rules and norms are acceptable.					
64	I'm not proud to belong in this community.					

D. Your general opinion about Gated Communities or Private Subdivisions		VERY TRUE	TRUE	NOT DECIDED	UNTRUE	DEFINITELY UNTRUE
<i>Note: GF&S = Gates, Fences & Security guards of private subdivisions.</i>						
65	Gated communities/private subdivisions are ideal place to live in.					
66	GF&S of private subdivisions are important safety measures for the insiders.					
67	GF&S are effective security measures for lives & properties of the insiders.					
68	GF&S can minimize fear of the insider residents.					
69	GF&S provide 100% crime free community.					
70	GF&S help maintain clean and peaceful community environment.					
71	GF&S can enhance interactions & friendships among the insider residents.					
72	GF&S can lessen interactions between the insiders and the outsiders.					
73	GF&S are necessary for better control and/or management of the community.					
74	Outsiders should have a valid purpose when entering the private subdivisions.					
75	People here favor opening-up of the private subdivision's major roads.					
76	I believe opening of major private roads can greatly improve accessibility.					
77	Opening-up of major private roads can affect the peace & order of the insiders.					
78	Opening-up of private roads will increase the maintenance cost of the insiders.					
79	Major private roads should be opened free of charge or with no restrictions.					
80	I believe that private subdivision is a display of elitism in society.					

Other issues or concerns you want to emphasize: _____

THANK YOU VERY MUCH FOR YOUR KIND COOPERATION

Survey Results

Result of the Interviews with the Homeowners Association Presidents (April-May 2003)

Questions	BF Homes	Mapayapa I,II,III	Ramax	Dona Petrona	CB Townhomes	Fern Village	Silverland	Ferndale
Date Established	Early 70s	Late 70s	Late 70s	1982	1982	1985	1987	1999
Developer	BF Homes	CCC Realty	Ramax Realty	Private developer	Union Builders	Fern Realty	CCC Realty	Ayala Land, Inc.
Buyer	Open market	Open market	Open Market	Open Market	CB Employees	FEU teachers	Open Market	Open Market
Area	45 ha.	MVI = 20ha. MVII = 18.38 ha. MVIII = 19.83 ha.	5 ha.	7.5 ha.	4.8ha.	6.2ha.	3.13ha.	14 ha.
Number of Lots	750	227, 243, 297	129	300	240	225	223	352
Lot Size (Ave.)	400	400,240,400	400sqm-1ha.	480-600sqm	150	160	80	235-296
H&L Package	P100000 (1972)	lot only	lot only	lot only	P112,000		Lot only	(P6M-P15M)
House Floor Area	100-200 sqm		120 minimum	100-200	42sqm			149-200sqm
No. of Households	500	140,160, 145	54	70	240	140	223	109
Population	2,500	700, 900, 800	270	350	1195	700	1115	545
GC	Yes	Yes	Yes 1994 (originally not)	Yes (originally not)	Yes	Yes	Yes	Yes
Management	HOA	HOA	HOA	Dev-HOA	HOA	HOA	HOA	HOA
HOA Election	Annual	Annual	Annual	Not Formal	Annual	Annual	Every 2 years	Annual
Completed	1973	1981	1990	1985	1982	1985	1991	2000
Internal By-laws	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Facilities	club house, church, recreational (children playground, swimming pool, 2 basketball court, tennis court, skating area, 16 security guards	water system, street lights, security, playground and basketball court, vacant lots clearing	water system, street lights, roads	Security, grounds, waterysupply system	Water system, play ground, security, street lights.	electricity, basketball court, multi-purpose hall, administrative office, open space, street lights, roads, water system, security.	Water system, roads, playground, security.	Clubhouse, 2 swimming pools, basketball court, 2 children's playground, tennis court, gazebo, roads, fountain, security.
Sources of Income	monthly dues (P350), community facilities, s pass, donations	monthly dues (P600), (P250-300), permits for construction/renovation (P3000), donations.	monthly dues (P300 plus 150 q permits, donations, penalties, actual metering.	monthly dues	monthly dues (P150), maintenance (P50), garbage (P15), donations, sticker pass (P200,P250).	monthly dues (P150 plus garbage fee), water system commission, sticker pass, donations.	Monthly dues, one time fee of ROW, sticker pass, donations.	monthly dues (P600 basic plus other services)
Social Activities	fiesta, sports, christmas party	sports, christmas party, valentines party, exercise	annual social party, christmas, board meetings.	christmas party	Sportsfest, mas party, fiesta, mass, christ, social game (bingo).	sports, religious activities, fiesta.	Summer sportsfest, family day, santa crosan, christmas party, carolling, religious activities.	Religious gathering
Major Concern	security	Water system maintenance, security	community problem, intra-neighborhood, inter-neighborhood, maintenance of roads	Access	Water system, security.	Member participation or sense of community.	Water system	safe and clean community
Favor Opening of Major Roads	Yes (limitation) subject to HOA by-laws, Supreme Court ruling	No (protect and maintain facilities properly, preserve roads, avoid noise pollution.	No	No	Yes	Yes but regulated.	Yes	No, to maintain exclusivity
Planning w/ LGU	Yes	Yes	Yes	Yes occasionally	No	No	Yes occasionally	No
Partnership w/ LGU	Various activities	local election	Dialogue		fumigation, seminar		fumigation	
Common Conflicts	Road access with non-residents, monthly dues collection.	Road access	Access	Access	gating and access	Access	neighbor problems, irresponsible member, road access.	Road access
Resolving Conflicts	Dialogue (with City HOA)	Meetings and exchange of ideas	informal negotiation, dialogue	Negotiation	through a third party.	Communications	series of meetings	Dialogue
Assembly Meeting	Annual (>50%)	semi-annual (50%)	Annual (90-100%)	Annual (circular)	Annual	Semi-annual	annual (10%)	Annual
Special Meeting	As the need arises (100% officers)	monthly (80-90% board members)	Need arises	(100% officers)	occasionally (100% officers)	Monthly brd. meeting. (89% officer)	as the need arises	
Purpose of Gates,Fences, Security	security problem, burglar, beside informal communities	community protection, prevent squatters, minimize the commission of crimes.	deter lawliness, deterring untoward incidents, peace keeping, exclusivity.	safety and security	more secured community.	peace and order, protect and secure lives and property.	security, value of property.	security.

Appendix 4-1

Continuation

Questions	BF Homes	Mapayapa I,II,III	Ramax	Dona Petrona	CB Townhomes	Fern Village	Silverland	Ferndale
GC provide total security?	No	No	No	No	No	Yes unless entruded	Yes	Yes, better perimeter fences and tight security practices.
Advantages of GC over non-GC	more secured, amenities and facilities are high end	minimize crimes, good community control, guard concentration at the gate only.	Peaceful, less vehicule traffic	Peaceful, no traffic, clean	Peaceful and secured.	Secured, Cleaner, Members are professional.	Safe, value of real properties are high.	Secured, Clean, High-facilities, beatiful environment
Disadvantages of GC over non-GC	expenses for maintenance, difficulty of collecting unpaid bills (non-compliance of members' obligations) ID system?		If HOA not performaing well, inter-neihborhood conflict	Monthly dues	Low sense of community.	lack of sense of community.	none	Expensive maintenance, strict building regulations, lack sense of neighborhood.

Appendix 4-2

Questionnaire for Residents (April-May 2003)

Respondent	Q?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	ID	GC	YEAR	LSIZ	HFLR	HTYP	HSTA	LSTA	ENV	LOC	SATI	FAMI	PHOU	PTEN	PPLA	PCOM	VEHI	DISW	MOD1	DISH	MOD2	MOV	COMP	ORD	PROB	
Residents of GCs																										
CB	1	1	1996	4	3	1	1	1	1	1	2	15	1	1	2	2	0	3	2	2	2	2	1	2	2	
	2	1	1990	4	3	1	1	1	1	1	2	20	2	2	1	1	1	3	1	3	1	2	1	2	2	
	3	1	1983	4	3	1	1	3	5	1	1	50	3	2	1	2	2	4	1	3	1	2	1	2	1	
	4	1	1983	4	3	1	1	1	1	1	2	many					3	1	1	2	3	2	1	1	1	
	5	1	1983	4	3	1	1	1	5	3	1	many	1	2	1	2	4	4	1	3	1	2	1	2	2	
	6	1	1983	4	3	1	1	1	1	1	2	2	1	1	1	1	2	3	1	3	1	2	1	2	1	
	7	1	1984	4	2	1	3	3	1	2	1	30	3	2	1	2	1	3	2	3	2	2	1	2	2	
	8	1	2000	2	2	2	2	2	1	1	2	5	3	2	1	2	1	2	1	3	1	2	1	2	1	
	9	1	1999	4	3	1	1	1	5	1	2	20	3	2	1	2	1	4	2	3	1	2	1	2	1	
	10	1	1983	4	4	1	3	1	1	1	1	20	1	3	1	1	1	3	1	3	1	2	1	2	2	
	11	1	1983	4	3	1	1	1	1	1	1	50%	3	2	1	1	2	4	1	3	1	2	1	2	1	
	12	1	1994	4	3	1	1	1	1	1	2	6	3	2	2	2	2	1	3	1	3	2	2	1	2	1
	13	1	1990	4	3	1	1	1	5	1	2	2	3	2	1	2	0	2	2	3	2	2	1	2	1	
	14	1	1998	4	3	1	2	2	2	1	2	1	1	1	2	1	2	0	1	3	3	2	2	1	1	2
	15	1	1983	4	3	1	1	1	5	1	1	30	3	2	1	2	1	3	1	3	2	2	1	2	1	
	16	1	1984	4	4	1	3	1	5	1	1	25	3	1	1	2	2	4	1	3	1	2	1	2	1	
	17	1	1983	4	3	1	1	1	1	1	2	2	3	2	1	2	2	3	1	3	1	2	1	2	1	
	18	1	2003	4	3	1	2	2	4	1	2	0	2	2	1	2	1	4	1	3	2	2	1	2	2	
	19	1	2000	4	3	1	1	1	2	1	2	1	3	2	1	2	1	3	1	3	1	2	1	2	1	
	20	1	1992	4	3	1	3	3	5	1	2	10	3	2	1	2	0	4	2	3	2	2	1	2	1	
	21	1	1995	4	5	1	1	1	4	2	2	4	2	2	1	2	3	2	1	3	1	2	1	2	1	
	22	1	2002	4	5	1	1	1	1	2	2	1	1	1	2	2	2	2	1	3	1	2	1	2	2	
	23	1	1998	4	3	1	2	2	5	2	1	6	3	2	1	2	0	1	2	3	2	2	1	2	1	
	24	1	1986	4	3	1	1	1	5	1	1	40	3	2	1	2	2	3	1	3	2	2	1	2	1	
	25	1	1999	4	3	1	1	1	4	1	1	2	3	2	1	2	0	4	2	3	2	2	1	2	1	
	26	1	1983	4	4	1	1	1	1	1	2	10	1	2	1	2	3	3	1	3	1	2	1	2	1	
	27	1	1993	4	2	3	2	2	1	1	2	4	3	2	1	2	1	2	1	3	2	2	1	2	1	
MP1	28	1	1980	7	3	1	1	1	5	2	1	16	1	P	2	2	2	2	1	3	1	2	1	2	1	
	29	1	1984	7	5	1	1	1	1	1	1	10	1	1	2	2	3	4	1	2	1	2	1	2	2	
	30	1	1981	7	4	1	1	1	1	1	1	13	3	2	1	2	2	3	1	2	1	2	1	2	2	
	31	1	1979	7	4	1	1	1	5	2	2	25	3	2	1	2	2	3	1	2	1	2	1	2	2	
32	1	1985	7	3	1	1	1	5	1	1	7	2	1	2	2	1	3	1	2	1	2	1	2	2		
33	1	1988	7	4	1	1	1	5	1	1	18	1	2	1	1	2	4	1	2	1	2	1	2	2		
34	1	1983	7	3	1	1	1	5	1	1	20	3	2	1	2	2	4	1	2	1	2	1	2	2		
35	1	1990	7	3	1	1	1	1	2	2	6	1	1	1	2	2	4	1	2	1	2	1	2	2		
36	1	1983	7	3	1	1	1	1	1	1	10	3	2	1	1	2	2	1	2	1	2	1	2	2		
37	1	1989	7	3	1	1	1	1	1	1	10	3	2	1	2	1	3	1	2	1	2	1	2	2		
38	1	1995	7	5	1	1	1	2	2	1	5	3	2	1	2	3	4	1	2	1	2	1	2	1		
39	1	1981	7	5	1	1	1	1	1	1	20	3	2	1	2	2	4	1	2	1	2	1	2	2		
MP2	31	1	1983	7	4	1	1	1	4	1	2	15	1	P	2	2	2	3	1	2	1	2	1	1	2	
	32	1	1987	6	5	2	2	2	4	1	2	20	1	1	1	2	2	3	1	2	1	2	1	1	2	
	33	1	1996	7	5	1	1	1	5	2	1	8	2	2	1	2	3	4	1	2	1	2	1	1	2	
34	1	1982	6	3	1	1	1	4	2	1	30	3	2	1	1	1	3	2	2	2	2	1	1	2		
35	1	1991	6	5	1	1	1	1	1	1	10	3	1	1	2	2	2	1	2	2	2	1	1	2		
MP3	45	1	1994	7	5	1	1	1	5	1	1	5	1	2	1	2	2	4	1	3	1	2	1	2	1	
	46	1	1991	7	5	1	1	1	5	1	2	15	3	2	1	2	2	4	1	3	1	2	1	2	1	
	47	1	1983	7	6	1	1	1	1	1	2	20	1	2	2	2	3	4	1	3	1	2	1	2	1	
	48	1	1983	7	6	1	1	1	5	1	2	18	3	2	1	2	2	4	1	3	1	2	1	2	1	
49	1	1987	7	6	1	1	1	5	1	2	10	3	2	1	2	4	4	1	3	1	2	1	2	1		
50	1	1989	7	4	1	1	1	5	2	2	25	3	2	1	2	2	4	1	3	2	2	1	2	1		
BF	51	1	1977	7	5	1	1	1	1	1	1	30	1	2	2	2	3	4	1	2	1	2	1	1	2	
	52	1	1979	7	4	1	1	1	1	1	1	30	3	2	1	2	1	4	1	2	1	2	1	1	2	
53	1	1975	7	4	1	1	1	1	3	1	20	3	2	1	1	2	3	1	2	2	2	1	1	2		
54	1	1993	7	5	1	1	1	1	3	1	5	3	2	1	2	2	4	1	2	1	2	1	1	2		
55	1	1986	7	5	1	1	1	1	3	2	1	50	3	2	1	2	2	3	1	2	1	2	1	1	2	
56	1	1978	7	4	1	1	1	1	1	1	1	60	1	P	2	2	2	3	1	2	1	2	1	1	2	
57	1	2000	7	4	1	1	1	4	2	2	2	1	1	1	1	2	2	1	2	1	2	1	1	1	2	
58	1	1998	7	3	1	2	2	4	3	1	3	3	2	1	2	3	4	1	2	2	2	1	1	1	2	
59	1	1973	7	5	1	1	1	5	3	1	30	3	2	1	2	3	1	1	2	1	2	1	1	1	2	
60	1	1972	7	4	1	1	1	1	3	1	40	1	P	2	2	2	1	1	2	1	2	1	1	1	2	
61	1	1975	7	4	1	1	1	4	2	1	30	1	P	2	2	2	1	3	1	2	1	2	1	1	2	
62	1	1982	7	5	1	1	1	1	3	1	1	40	3	2	1	2	3	4	1	2	1	2	1	1	2	
63	1	1994	7	5	1	1	1	1	4	1	1	15	3	2	1	2	2	4	1	2	1	2	1	1	2	
64	1	1983	7	6	1	1	1	1	5	1	1	10	3	2	1	2	4	4	1	2	1	2	1	1	2	
65	1	1977	7	5	1	1	1	5	3	1	50	1	1	2	2	2	2	3	1	2	1	2	1	1	2	

Appendix 4-2

Respondent	Q?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	ID	GC	YEAR	LSIZ	HFLR	HTYP	HSTA	LSTA	ENV	LOC	SATI	FAMI	PHOU	PTEN	PPLA	PCOM	VEHI	DISW	MOD1	DISH	MOD2	MOV	COMP	ORD	PROB
Silverland	66	1	1990	2	3	1	1	1	1	1	1	10	1	2	1	1	1	4	1	3	1	2	1	2	1
	67	1	1987	2	2	1	1	1	1	1	1	20	1	1	2	2	0	3	2	3	2	2	1	2	2
	68	1	1994	2	4	1	1	1	2	2	2	6	2	2	1	1	2	3	1	3	1	2	1	2	1
	69	1	1989	2	3	1	1	1	5	1	2	10	3	2	1	2	2	3	1	3	1	2	1	2	1
	70	1	1994	3	3	1	1	1	5	1	2	5	3	2	2	2	1	4	1	3	1	2	1	2	1
	71	1	1989	2	3	1	1	1	1	1	2	20	3	2	1	2	1	4	1	3	1	2	1	2	1
	72	1	1993	3	2	1	1	1	1	1	1	30	2	2	1	1	1	3	1	3	2	2	1	2	1
	73	1	1999	2	5	1	3	1	5	2	2	60	3	2	1	2	1	4	1	3	1	2	1	2	1
	74	1	1997	2	3	1	1	1	5	2	1	4	3	2	1	2	0	4	2	3	2	2	1	2	2
	75	1	1993	3	3	1	1	1	1	1	1	12	3	2	1	2	1	4	1	3	1	2	1	2	1
	76	1	1996	3	3	1	1	1	1	2	2	10	1	2	1	1	1	4	1	3	1	2	1	2	1
	77	1	1991	2	3	1	1	1	1	1	2	5	3	2	1	2	2	3	1	3	2	2	1	2	1
	78	1	1991	2	3	1	1	1	5	1	1	10	3	2	2	2	1	4	1	3	1	2	1	2	1
Ramax	79	1	1994	6	4	1	1	1	5	1	2	16	1	1	2	2	2	4	1	3	1	2	1	2	1
	80	1	1983	7	3	1	1	1	5	1	2	30	3	2	1	2	0	3	2	3	2	2	1	2	2
	81	1	1986	7	3	1	1	1	5	2	2	25	1	1	1	2	2	4	1	3	1	2	1	2	1
	82	1	1982	6	4	1	1	1	5	1	2	28	2	2	1	2	1	4	1	3	1	2	1	2	1
	83	1	1988	7	4	1	1	1	1	1	1	16	3	2	1	2	1	3	1	3	1	2	1	2	1
	84	1	1982	6	4	1	1	1	5	1	1	20	3	2	1	2	1	4	1	3	1	2	1	2	1
	85	1	1983	6	4	1	1	1	5	1	1	50%	3	2	1	2	3	4	1	3	1	2	1	2	1
	86	1	1986	6	4	1	1	1	5	3	2	10%	3	2	1	2	2	4	1	3	1	2	1	2	1
	87	1	1984	7	4	1	1	1	5	2	1	6	1	2	1	2	2	3	1	3	1	2	1	2	1
	88	1	1983	7	3	1	1	1	5	1	1	25%	1	1	1	2	1	4	2	3	2	2	1	2	1
D.Petrona	89	1	1983	7	5	1	1	1	5	1	1	90%	3	2	1	2	2	4	1	3	1	2	1	2	1
	90	1	1983	7	4	1	1	1	5	1	1	20	3	2	1	2	2	3	1	3	1	2	1	2	1
	91	1	1983	7	4	1	1	1	5	1	2	25	1	P	1	2	2	3	1	3	1	2	1	1	1
	92	1	1991	7	5	1	1	1	5	1	1	4	1	1	1	1	2	3	1	3	1	2	1	2	1
	93	1	1988	7	4	1	1	1	5	1	1	22	1	1	2	2	1	3	1	3	1	2	1	2	1
Ferndale	94	1	1998	6	5	1	3	1	4	2	1	8	1	P	1	1	1	4	1	3	1	2	1	2	1
	95	1	1998	6	5	1	1	1	3	2	1	2	1	1	1	2	2	3	1	3	1	2	1	2	1
	96	1	2000	6	4	1	3	3	3	2	1	1	2	2	1	1	1	4	1	3	1	2	1	2	1
	97	1	2001	6	4	1	3	3	3	3	1	4	1	2	1	2	2	4	1	3	1	2	1	2	1
	98	1	1999	6	5	1	1	1	5	2	1	5	1	2	1	1	3	3	1	3	1	2	1	2	1
Fern Vill.	99	1	1990	4	5	1	1	1	5	1	1	10	3	2	1	2	2	3	1	3	1	2	1	2	1
	100	1	1997	4	4	1	1	1	5	1	1	30%	2	2	1	1	2	2	1	3	1	2	1	2	1
	101	1	1986	4	4	1	1	1	1	1	2	20	3	2	1	2	2	3	1	3	1	2	1	2	1
	102	1	1989	4	3	1	1	1	1	1	1	12	1	P	2	2	1	2	1	3	1	2	1	2	1
	103	1	1986	4	2	1	1	1	1	1	1	10	1	1	1	2	0	4	2	3	2	2	1	2	2
	104	1	1985	4	3	1	1	1	1	1	1	6	3	2	1	2	2	1	1	3	1	2	1	2	1
	105	1	1988	4	3	1	1	1	1	1	1	10	3	2	1	1	2	2	1	3	1	2	1	2	1
	106	1	1985	4	3	1	1	1	5	1	1	20	1	2	2	2	2	3	1	3	1	2	1	2	1
Hobart	107	1	1989	6	5	1	1	1	5	3	2	10	1	1	1	1	4	2	1	3	1	2	1	2	1
	108	1	1985	6	3	1	1	1	5	2	1	15	3	2	1	1	1	1	2	3	2	2	1	2	1
	109	1	1996	5	4	1	1	1	5	1	2	4	2	2	1	1	2	2	1	3	1	2	1	2	1
Residents of OCs																									
Pingkian	1	0	1989	7	5	1	1	1	6	1	1	60	3	2	2	2	3	4	1	3	1	2	2	2	1
	2	0	1989	6	3	1	1	1	6	1	1	40	1	1	2	2	0	0	0	3	2	2	2	2	1
	3	0	1989	3	2	1	2	2	6	1	2	35	3	2	1	2	1	4	1	3	1	2	2	2	1
	4	0	2003	2	2	1	1	4	6	1	2	4	1	1	2	2	0	0	0	3	2	2	1	2	2
	5	0	1994	2	1	1	1	1	2	3	1	30	3	2	2	2	2	4	1	3	1	2	1	2	1
	6	0	1986	4	2	1	1	1	2	3	1	5	3	2	1	2	0	4	2	3	2	2	1	2	2
	7	0	1996	6	1	1	1	3	1	1	2	25	1	1	1	1	1	3	1	3	1	1	2	2	1
	8	0	1993	5	2	1	1	1	5	1	2	20	1	1	1	2	1	2	1	3	1	2	1	2	1
	9	0	1989	7	5	1	1	1	3	1	2	19	1	P	2	2	2	1		3	1	2	2	2	2
	10	0	1986	6	5	1	1	1	6	1	2	16	1	1	2	2	0	3	2	3	2	2	2	2	1
	11	0	1990	5	3	1	1	3	6	1	2	10	3	2	1	2	1	0	0	3	2	2	1	2	1
	12	0	1988	3	2	1	1	1	3	1	2	31	1	1	1	2	0	3	1	3	2	2	1	2	2
	13	0	1989	4	3	1	1	1	5	1	2	20	3	2	1	2	1	2	1	3	1	2	1	2	1
	14	0	1990	2	2	1	1	4	6	1	3	15	3	2	1	2	0	3	2	3	2	2	1	2	2
	15	0	1985	5	4	1	1	1	5	2	2	100+	1	1	1	2	2	1	3	3	2	2	2	2	1
	16	0	1999	2	2	2	2	2	2	1	2	10	3	2	1	2	1	4	1	3	1	1	1	2	1
	17	0	1992	5	4	1	1	4	6	1	2	6	1	2	2	2	1	1	1	3	2	2	1	1	1
	18	0	1987	4	2	1	1	4	6	1	2	19	3	2	1	2	1	3	1	3	1	2	2	2	1
	19	0	1980	1	1	1	1	4	2	1	2	26	1	1	1	2	0	1	2	2	2	2	1	2	1
	20	0	1995	1	1	3	2	2	6	1	3	21	1	1	2	2	0	2	3	2	2	1	1	2	1
	21	0	1989	8	3	1	1	1	6	1	2	6	2	2	1	2	1	4	2	3	1	2	1	2	1
	22	0	1986	4	4	1	1	1	6	1	2	20	3	2	1	2	1	3	1	3	1	2	1	2	1
	23	0	1989	4	3	1	1	1	6	1	2	15	1	P	2	2	1	2	1	3	1	2	1	2	1
	24	0	1990	3	2	1	2	2	6	1	2	39	3	2	2	2	1	4	1	3	1	2	2	2	1
	25	0	2001	2	2	1	1	4	6	1	2	10	1	P	2	2	0	0	0	3	2	2	1	2	2
	26	0	1993	2	1	1	1	1	2	3	1	26	3	2	2	2	2	4	1	3	1	2	1	2	1
	27	0	1987	4	2	3	2	2	2	3	1	5	3	2	1	2	0	4	2	3	2	2	1	1	2
	28	0	1994	6	1	1	1	3	1	1	2	25	3	2	1	2	1								

Appendix 4-2

Respondent	Q?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	ID	GC	YEAR	LSIZ	HFLR	HTYP	HSTA	LSTA	ENV	LOC	SATI	FAMI	PHOU	PTEN	PPLA	PCOM	VEHI	DISW	MOD1	DISH	MOD2	MOV	COMP	ORD	PROB
	33	0	1988	3	2	1	1	1	1	1	2	35	1	1	2	2	0	3	1	3	2	2	1	1	2
	34	0	1991	4	3	1	1	1	5	1	2	20	3	2	1	2	1	2	1	3	1	2	1	2	1
	35	0	1987	2	2	3	2	2	6	1	3	10	3	2	1	2	0	3	2	3	2	2	1	2	2
	36	0	1989	4	3	1	1	1	5	1	2	20	3	2	1	2	1	4	2	3	1	2	1	2	1
	37	0	1994	4	2	1	1	1	2	3	1	10	3	2	1	2	0	4	2	3	2	2	1	2	2
	38	0	1993	6	3	1	1	3	1	1	2	30	1	P	1	2	1	3	1	3	1	2	2	2	1
	39	0	1989	5	2	1	1	1	6	1	2	15	1	P	2	2	0	2	2	3	2	2	1	1	1
	40	0	1990	6	4	1	1	1	2	1	2	20	3	P	2	2	0	3	2	3	2	2	1	2	2
	41	0	1989	6	3	1	1	1	6	1	2	15	1	P	2	2	0	3	2	3	2	2	1	2	2
	42	0	1990	5	2	1	1	3	6	1	2	10	3	2	1	2	1	1	3	3	2	2	1	2	1
	43	0	1991	3	2	1	1	1	2	1	2	30	1	P	2	2	0	3	2	3	2	2	1	2	2
	44	0	1989	4	3	1	1	1	6	1	2	20	3	2	2	2	1	2	1	3	2	2	1	2	1
	45	0	1989	2	2	3	2	2	6	1	3	15	3	2	1	2	0	3	2	3	2	2	1	2	2
	46	0	1986	5	3	1	1	1	6	1	2	50	1	P	2	2	1	1	3	3	2	2	2	2	1
	47	0	1988	5	3	1	1	1	6	3	2	5	3	2	1	2	1	4	1	1	2	2	2	2	1
	48	0	1988	2	2	3	2	2	2	2	2	10	1	1	2	2	1	1	1	3	2	2	1	1	2
	49	0	2001	2	2	3	2	2	6	1	2	5	1	P	2	2	0	4	2	3	2	2	1	2	2
	50	0	1977	4	3	1	1	4	5	2	2	5	1	P	1	2	1	3	2	3	2	2	2	1	2
	51	0	1988	4	4	1	1	4	5	1	2	20	1	2	2	2	1	2	1	3	2	2	1	1	2
	52	0	1998	5	3	1	1	1	6	1	2	10	1	P	2	2	1	4	1	3	2	2	1	2	1
	53	0	2000	4	6	1	3	3	6	1	2	5	3	2	2	2	0	4	2	3	2	2	1	1	2
	54	0	1988	6	5	1	1	1	6	2	1	2	1	1	1	2	2	3	1	3	1	2	2	2	1
	55	0	1989	6	4	1	3	3	6	2	1	10	3	2	1	1	1	2	1	3	1	2	1	2	1
	56	0	1999	1	2	3	2	2	6	2	2	5	1	P	2	2	0	4	2	2	2	2	1	1	2
	57	0	1981	4	2	1	1	1	6	1	2	20	1	1	2	2	1	1	2	3	2	2	2	2	1
	58	0	1986	2	2	1	1	1	6	1	3	15	1	1	2	2	0	2	2	3	2	2	2	2	2
	59	0	1989	5	3	1	1	1	6	2	2	10	3	2	1	2	0	1	2	3	2	2	2	2	2
	60	0	1986	4	2	1	1	1	6	1	2	20	3	2	1	2	0	3	2	3	2	2	2	2	2
	61	0	1979	5	3	1	1	1	6	1	2	15	1	P	2	2	1	2	1	3	1	2	2	2	1
	62	0	1990	3	2	1	2	2	6	1	2	12	3	2	2	2	1	4	1	3	1	2	2	2	1
	63	0	2002	2	2	1	2	2	6	2	2	10	1	P	2	2	0	2	2	3	2	2	1	2	2
	64	0	1984	3	1	1	1	1	2	3	2	10	3	2	2	2	1	4	1	3	1	2	2	2	1
	65	0	1987	4	2	1	3	4	2	3	2	10	3	2	1	2	0	4	2	3	2	2	1	1	2
	66	0	1993	6	3	1	1	3	1	1	2	8	3	2	1	2	1	3	1	3	2	2	2	2	1
	67	0	1992	4	2	1	1	1	5	1	2	20	3	2	1	2	1	2	1	3	1	2	1	2	1
	68	0	1988	6	4	1	1	4	3	2	2	25	1	P	2	2	0	2	2	3	2	2	2	2	2
	69	0	1985	4	4	1	1	4	6	1	2	20	1	P	2	2	0	3	2	3	2	2	2	2	2
	70	0	1981	5	3	1	1	1	2	1	2	30	3	2	1	2	1	4	1	3	1	2	2	2	1
	71	0	1985	5	3	1	1	4	1	3	1	20	1	1	2	2	0	3	2	3	2	2	2	1	2
	72	0	1991	4	3	1	1	4	6	1	2	20	3	2	1	2	0	2	2	3	2	2	1	2	2
	73	0	1989	6	4	1	2	2	6	1	2	40	1	1	2	2	0	3	2	3	2	2	1	2	2
	74	0	1987	6	3	1	1	1	6	1	2	35	3	2	1	2	1	4	2	3	1	2	2	2	1
	75	0	1992	4	2	1	1	4	2	1	1	16	3	2	1	2	0	4	2	3	2	2	1	2	2
	76	0	1980	4	3	1	1	1	6	1	2	15	3	2	1	2	1	3	1	3	1	2	2	2	1
	77	0	1986	3	2	1	1	1	6	1	2	10	3	2	1	2	0	2	2	3	2	2	2	2	2
Holy Spirit	78	0	1999	2	2	1	1	1	6	1	2	8	1	P	1	1	1	3	1	2	2	2	1	1	2
/Veterans	79	0	1991	4	3	1	1	1	6	1	2	20	3	2	1	2	0	2	2	2	2	2	1	1	2
	80	0	1994	2	2	1	1	1	6	1	2	15	1	P	2	2	0	2	2	2	2	2	1	1	2
	81	0	1986	4	3	1	1	1	6	1	2	10	3	2	1	2	1	4	2	2	2	2	1	2	1
	82	0	1992	3	4	1	1	1	6	1	2	15	3	2	2	2	0	3	2	2	2	2	1	1	2
	83	0	2000	3	3	1	1	1	5	1	2	30	3	2	2	2	1	3	1	2	2	2	1	1	2
	84	0	1981	5	4	1	1	1	6	3	2	12	1	1	2	2	1	4	1	2	2	2	2	1	2
	85	0	1982	5	5	1	1	1	2	3	1	15	3	2	1	2	1	4	1	2	2	2	2	1	2
	86	0	1979	5	2	1	1	1	5	3	2	30	1	1	2	2	1	3	1	2	2	2	1	1	1
	87	0	1992	5	1	1	3	3	5	1	2	20	3	2	1	2	0	3	2	2	3	2	1	1	2
	88	0	1989	5	4	1	1	1	1	1	2	15	3	2	2	2	2	1	1	2	1	2	2	1	1
	89	0	1983	4	4	1	3	1	1	1	1	20	1	3	2	2	1	3	1	2	2	2	1	1	2
	90	0	1989	2	2	1	2	2	6	1	2	15	3	2	1	2	1	4	2	2	3	2	2	1	1
	91	0	1988	2	2	1	1	1	1	1	2	12	3	2	1	2	0	2	2	2	2	2	1	1	2
	92	0	1998	5	3	1	1	1	1	1	2	4	1	1	2	2	1	4	1	2	2	2	1	1	2
	93	0	1994	4	5	1	2	2	6	2	2	10	3	2	1	2	0	2	2	2	2	2	2	1	2
	94	0	1983	6	5	1	1	1	6	3	2	12	1	1	2	2	0	3	2	2	2	2	1	1	1
	95	0	1999	1	1	2	2	1	6	2	2	2	1	P	2	2	0	4	2	2	2	2	1	1	2
	96	0	1988	5	4	1	1	1	1	3	1	8	3	2	1	2	1	3	1	2	2	2	2	1	1
	97	0	1997	5	4	1	1	1	5	1	1	10	3	2	1	2	1	2	1	2	2	2	2	1	1
	98	0	2003	2	2	1	1	4	6	2	2	5	3	2	2	2	0	1	3	2	3	2	1	1	2
	99	0	1999	4	3	1	2	2	6	2	1	10	3	2	1	2	0	1	3	2	3	2	2	1	2
	100	0	1996	1	2	3	2	2	6	1	2	25	1	P	2	2	0	2	2	2	2	1	2	1	2
	101	0	1983	4	3	1	1	1	6	1	1	10	3	2	1	2	1	4	2	2	2	2	1	1	1
	102	0	1994	3	3	1	1	1	1	1	2	15	3	2	2	2	0	3	2	2	2	2	1	1	2
	103	0	1985	6	3	1	1	1	5	1	2	20	3	2	2	2	1	3	1	2	2	2	2	1	1
	104	0	1981	6	5	1	3	1	5	1	2	20	1	P	2	2	2	1	4	1	2	2	2	1	1
	105	1	1980	6	4	1	1	1	2	2	2	20	3	2	2	2	2	1	1	2	1	2	1	1	1

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Q?	24-1	25	26	26a	16b	26c	26d	26e	26f	26g	27a	27b	28	29	30	31	32	33	34
ID	WHY	WPAY	OPEN	TRIC	TAXI	PCAR	SBUS	JEEP	PBUS	TRUC	Road Access	Community Development	HH	AGE	SEX	MAR	EDU	OCC	INC
1		5	1	1	1	1	1	0	0	0	one authorize sticker for all access	good facilities and amenities	1	4	2	2	3	4	5
2		50	1	1	1	1	1	0	0	0	reduction of traffic congestion	road improvement	2	3	1	2	4	2	4
3	requirement of a sticker		2	0	0	0	0	0	0	0			1	4	1	2	3	2	6
4	for not buying their subd sticker	100	2	0	0	0	0	0	0	0	remove obstructions, no parking	safe and clean environment	1	3	1	2	3	3	7
5			2	0	0	0	0	0	0	0	open major subd. Rds. & remove humps	safe and peaceful env't.	1	4	1	2	3	2	6
6	Homeowner sticker	100	1	0	1	1	1	1	0	0			2	4	2	2	3	3	6
7			1	1	1	1	1	0	0	0	LGU to provide & maintain street lights	LGU to shoulder cost of garbage collection	2	1	2	1	3	1	5
8	no sticker	200	1	0	0	1	1	0	0	0			1	3	1	2	3	1	6
9	no sticker	200	1	0	1	1	1	0	0	0			1	5	1	2	4	1	5
10			1	0	1	1	1	1	0	0			1	3	1	2	3	2	6
11	need subdivision sticker	any	1	1	1	1	1	0	0	0	clear squatters along road blocks	community participation in planning	1	5	2	2	3	2	5
12	open more subd roads		1	0	1	1	1	0	0	0			2	3	2	2	3	2	6
13	more alternative roads		1	1	0	1	1	0	0	0	open-up subdivision roads to improve traffic	improve provision of basic facilities/services	1	2	1	2	4	2	5
14			2	0	0	0	0	0	0	0	open major subd. rd connecting public rd.	improve waste & traffic mgmt., access rds.	2	1	2	1	3	1	6
15	sticker requirement	price	1	0	1	1	1	0	0	0			2	4	2	2	3	2	6
16	no sticker	250	2	0	0	0	0	0	0	0			1	4	1	2	4	3	7
17	no sticker/no entry policy	150	2	0	0	0	0	0	0	0			2	3	2	2	3	2	7
18			1	1	1	1	1	0	0	0			1	2	1	2	3	1	6
19	need sticker pass	250	1	0	1	1	1	0	0	0	open subd. rds. & provide pedicabs w/in	organize HOA	2	2	2	1	3	1	4
20	access restriction	100	1	1	1	1	1	1	0	0			1	4	2	2	3	2	6
21	need to buy sticker	250	1	0	0	1	1	0	0	0			2	3	2	2	4	3	7
22			2	0	0	0	0	0	0	0			1	3	1	2	4	2	7
23	limited public transport	0	1	1	1	1	1	0	0	0	remove all road obstructions	enforce-/develop community plans	2	2	2	2	3	1	6
24	sticker policy	200	2	0	0	0	0	0	0	0			1	4	1	2	3	2	6
25	no sticker	0	1	1	0	1	1	0	0	0	road repairs and remove humps	provide street lights	2	1	1	1	4	3	4
26	sticker-pass requirement	0	1	0	0	1	0	0	0	0			2	5	2	2	3	4	6
27	no sticker	600	1	0	1	1	1	0	0	0	open major rds during peak traffic hrs	repair roads --- (lower sticker price)	1	2	2	2	3	1	4
28	Valid sticker pass	200	1	1	0	1	1	0	0	0	open subd. Rds. To ease traffic prob.	widening of roads	2	5	2	2	3	2	6
29			1	0	0	1	1	0	0	0			1	5	1	2	4	1	7
30			2	1	0	0	0	0	0	0	open subd. Rd. as short-cut to save time	garbage collection, street lights	1	5	1	2	3	1	6
31			2	0	0	0	0	0	0	0	main rd by LGU	Sanitation	1	5	1	2	3	1	7
32			1	0	0	1	1	1	0	0	construct more public roads		1	4	2	1	4	3	5
33			1	1	0	1	1	0	0	0	more public roads	amenities	2	4	2	2	3	2	6
34			1	1	0	1	1	0	0	0			1	5	1	2	4	1	5
35			2	0	0	0	0	0	0	0	improve traffic	improve provision of basic facilities/services	1	4	2	1	3	3	6
36			2	0	0	0	0	0	0	0	remove obstructions, no parking	safe and clean environment	2	5	2	2	3	2	6
37			1	1	0	1	1	0	0	0	open major rds during peak traffic hrs	repair roads --- (lower sticker price)	2	4	2	2	3	4	6
38	no homeowner sticker	200	1	0	1	1	1	0	0	0			2	2	2	2	3	3	7
39			1	0	1	1	1	0	0	0	street lights	sense of community	1	4	1	2	4	1	7
40			2	0	0	0	0	0	0	0	improve public roads	cooperation among community members	2	4	2	1	4	3	6
41			2	1	0	0	0	0	0	0	road construction	provide amenities	1	3	1	2	3	1	7
42			2	0	0	0	0	0	0	0			1	3	1	2	4	1	7
43			1	0	0	1	1	0	0	0			1	4	1	2	3	1	6
44			2	0	0	0	0	0	0	0	open subd. Rds but regulated	widening of roads	2	2	2	1	4	3	7
45	no sticker/no entry policy	200	2	0	0	0	0	0	0	0	open private roads	improve amenities/facilities	1	2	1	2	4	1	7
46	no sticker	200	1	0	0	1	1	0	0	0			2	3	1	1	3	3	7
47	no sticker/no entry policy	200	1	1	0	1	1	1	0	0	improve public road networks	cooperation among community members	2	3	2	2	3	1	7
48	no sticker/no entry policy	200	2	0	0	0	0	0	0	0	maintain roads properly	road connections	1	4	1	2	4	1	7
49	no sticker/no entry policy	200	1	1	1	1	1	0	0	0	minimize vehicular pollution	sense of community	1	5	1	2	4	4	6
50	no sticker/no entry policy	200	2	0	0	0	0	0	0	0	open subdivision roads	interactions among members	1	4	4	2	3	3	6
51			2	0	0	0	0	0	0	0	improve traffic	social activities	2	2	1	2	4	1	6
52			1	1	0	1	1	0	0	0	remove gated along IRRQWs	inter- & intra-neighborhood relations	2	2	2	1	3	1	6
53			2	0	0	0	0	0	0	0	construct more public roads	maintain pleasant community	1	5	1	2	3	2	6
54			1	1	0	1	1	0	0	0	improve public roads	cooperation among community members	1	3	1	2	3	3	7
55			1	1	0	1	1	0	0	0	improve sidewalks	improve playground	1	5	1	2	4	1	7
56			1	1	0	1	0	0	0	0	remove obstructions	amenities	2	4	2	2	4	3	6
57			1	1	0	1	1	0	0	0	more secure roads	improve facilities & amenities	1	5	1	2	3	2	6
58			1	1	0	1	1	0	0	0	implement government proposed roads	maintenance of facilities	2	1	1	1	4	3	5
59			2	0	0	0	0	0	0	0	open more major subd. Roads	improve circulation	1	5	1	2	4	2	6
60			1	1	0	1	1	0	0	0	sidewalks and street lights	street lights	2	5	2	2	3	4	7
61			1	1	1	1	1	0	0	0			2	3	1	2	4	2	7
62			1	0	0	1	1	0	0	0	no restrictions to private subdivision	drainage	1	4	1	2	3	2	6
63			1	1	0	1	1	0	0	0	open more major subd. Roads	improve circulation	1	3	1	2	3	3	7
64			2	0	0	0	0	0	0	0			1	4	1	2	3	2	7
65			2	0	0	0	0	0	0	0	remove humpas	improve safety, curfew for minors	2	5	2	2	3	3	7

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Q2	24-1	25	26	26a	16b	26c	26d	26e	26f	26g	27a	27b	28	29	30	31	32	33	34
ID	WHY	WPAY	OPEN	TRIC	TAXI	PCAR	SBUS	JEEP	PBUS	TRUC	Road Access	Community Development	HH	AGE	SEX	MAR	EDU	OCC	INC
66	no MP3 sticker	150	1	1	0	1	1	1	0	0	develop propose govt rd.	security	1	4	1	2	3	3	6
67			1	1	1	1	1	0	0	0	wider roads	more amenities	2	4	2	2	3	4	5
68	no MP3 sticker	250	1	1	0	1	1	0	0	0	open major subd. Rds.	provide multi-purpose hall	1	3	1	2	3	1	6
69	no MP3 sticker	100	1	1	0	1	1	0	0	0	remove obstructions, no parking	safe and clean environment	1	3	1	2	4	1	5
70	need to buy MP3 sticker	250	1	1	1	1	1	1	0	0	minimize vehicular pollution	sense of community	2	2	1	2	4	2	6
71	no sticker	150	1	1	0	1	1	0	0	0	remove restrictions	amenities	2	2	2	1	3	1	6
72	sticker requirement	250	2	0	0	0	0	0	0	0	sidewalks and street lights	street lights	1	3	1	2	4	1	4
73	no MP3 sticker	200	2	0	0	0	0	0	0	0	street lights	drainage system	1	5	1	2	4	4	7
74			1	1	1	1	1	1	0	0	improve traffic	provide more amenities	1	5	1	2	3	2	6
75	no sticker/no entry policy	250	1	1	0	1	1	0	0	0	more public roads	security	1	3	2	2	4	2	6
76	no sticker	250	1	1	1	1	1	0	0	0	remove squatters along public roads	amenities	2	3	1	2	4	3	5
77	no MP3 sticker	0	1	1	1	1	1	1	0	0	improve roads & street lights	amenities	1	4	1	2	3	2	4
78	no MP3 sticker	250	2	0	0	0	0	0	0	0			1	5	1	2	3	1	5
79	no homeowner sticker	200	1	1	1	1	1	0	0	0	more public roads	infra & amenities	1	3	2	2	4	2	6
80			1	1	0	1	1	0	0	0	improve public roads	improve public roads	1	3	1	2	3	1	6
81	no homeowner sticker	200	1	1	0	1	1	0	0	0	remove gates on sub-division roads	improve infrastructure facilities	1	3	1	2	4	1	5
82	need to buy homeowner sticker	200	1	1	0	1	1	0	0	0	remove humps, more secured roads	street lights	2	2	1	1	3	2	6
83	no homeowner sticker	price	1	1	0	1	1	0	0	0	construct sidewalks	more amenities	1	4	2	2	3	1	6
84	no sticker/no entry policy	price	1	1	0	1	1	0	0	0	improve roads & drainage	improve drainage system	2	1	1	1	4	2	5
85	no homeowner sticker	150	2	0	0	0	0	0	0	0	repair dilapidated roads	improve basic facilities & amenities	1	5	1	2	3	3	6
86	need homeowner sticker	150	1	1	0	1	1	0	0	0	open subd. Rds. during peak traffic hrs	provide better amenities	1	4	2	1	4	2	5
87	no homeowner sticker	100	1	1	1	1	1	0	0	0	improve drainage and provide street lights	improve safety, curfew for minors	1	5	1	2	3	1	6
88	no homeowner sticker	200	1	1	0	1	1	0	0	0	improve connection of public roads	inter-neighborhood relations	1	4	1	2	4	1	6
89	no sticker	200	2	0	0	0	0	0	0	0	cement/asphalt rough roads	improve neighborhood relations	1	4	1	2	3	3	6
90	no Ramax sticker	price	1	0	1	1	1	0	0	0	open major subdivision roads	sense of community	2	4	2	2	3	4	5
91	no sticker/no entry policy	150	1	1	0	1	1	0	0	0	widen roads & improve traffic	maintain cleanliness of community	2	2	2	1	4	3	5
92	no Ramax sticker	200	1	0	0	1	1	0	0	0	improve traffic problem	address pollution problem	1	2	1	2	4	1	7
93	no sticker/no entry policy	200	1	1	1	1	0	0	0	0	open more major subd. Roads	community relations	1	4	1	2	3	2	5
94	need sticker pass	price	1	0	0	1	1	0	0	0			1	1	1	2	3	1	7
95	access restriction	250	1	0	0	1	0	0	0	0			2	3	2	2	3	3	7
96	need to buy sticker	price	1	0	0	1	1	0	0	0			1	2	1	2	3	2	7
97	no sticker/no entry policy	price	2	0	0	0	0	0	0	0			1	2	1	2	3	2	7
98	limited public transport	250	1	0	1	1	1	0	0	0			2	1	2	1	3	2	7
99	sticker policy	price	2	0	0	0	0	0	0	0			2	1	1	1	3	2	6
100	no sticker/no entry policy	250	1	1	1	1	1	1	0	0			2	1	2	1	3	1	7
101	no sticker/no entry policy	price	1	0	1	1	1	1	0	0			1	5	1	2	3	1	6
102	no sticker/no entry policy	250	1	0	0	1	1	0	0	0			1	4	1	2	4	1	5
103			1	1	1	1	1	0	0	0			1	4	1	2	3	1	6
104	need subdivision sticker	200	2	0	0	0	0	0	0	0			1	6	2	2	3	1	5
105	open more subd roads	150	1	1	0	1	1	0	0	0			2	4	2	2	3	1	6
106	more alternative roads	price	2	0	0	0	0	0	0	0			2	3	2	2	3	2	6
107	no authorize sticker	150	1	0	0	1	1	1	0	0			1	4	1	2	4	1	7
108	no MP2 sticker	100	1	1	0	1	1	1	0	0			2	4	2	2	3	3	6
109	no Ramax sticker	200	1	0	1	1	1	0	0	0			1	2	1	2	4	1	6
1	no sticker	300	1	1	1	1	1	1	0	0			2	3	2	2	3	2	5
2	limited access time	0	1	1	1	1	1	1	0	0			2	3	2	2	3	4	5
3	no sticker	300	1	1	1	1	1	1	0	0			1	2	1	2	3	1	5
4		0	1	1	1	1	1	1	0	0			1	4	1	2	2	3	3
5	humps, sticker pass	250	1	1	1	1	1	1	0	0			1	3	1	2	3	1	4
6			1	1	1	1	1	1	0	0			1	3	1	2	3	1	3
7	no sticker	price	1	1	0	1	1	0	0	0			1	2	1	2	3	3	3
8	no sticker	300	1	1	1	1	1	1	0	0			1	3	1	2	3	1	3
9			1	1	1	1	1	1	0	0			2	3	2	2	2	3	2
10	no entry to non-residents	250	1	1	1	1	1	0	0	0			2	4	2	2	3	1	2
11	no entry policy of GC	price	1	1	1	1	1	1	1	1			1	5	1	1	2	3	1
12			1	1	1	1	1	0	0	0			1	4	1	2	2	2	1
13	no access	100	1	1	1	1	1	0	0	0			1	3	2	2	3	1	5
14			1	1	1	1	1	0	0	0			2	2	2	2	3	1	4
15	no sticker		1	1	1	1	1	1	0	0			1	4	1	2	3	2	5
16	no sticker	250	1	0	1	1	1	0	0	0			1	1	1	2	3	1	5
17		0	1	1	0	1	1	0	0	0			2	3	2	2	3	3	4
18	no sticker	price	1	1	1	1	1	1	0	0			1	4	1	2	3	1	5
19			1	1	0	1	0	0	0	0			1	3	1	2	2	3	2
20			1	1	1	1	1	1	0	0			2	4	2	1	1	3	1
21	security check	price	1	0	0	1	0	0	0	0			2	2	1	2	3	1	5
22	no sticker/no entry policy	price	1	1	1	1	1	1	0	0			1	5	1	2	3	1	4
23	no sticker/no entry policy	300	1	1	1	1	1	0	0	0			1	4	1	2	4	1	3
24	no sticker	250	1	1	1	1	1	0	0	0			1	4	1	2	3	3	5
25		0	1	1	1	1	1	0	0	0			2	4	2	2	2	3	3
26	require sticker pass	250	1	1	1	1	1	0	0	0			1	3	1	2	3	1	4
27			1	1	1	1	1	1	0	0			1	4	1	2	3	1	3
28	no sticker	price	1	1	1	1	1	0	0	0			1	2	1	2	3	3	3
29	no sticker	250	1	1	0	1	1	0	0	0			1	3	1	2	3	1	3
30	restricted access to GC	price	1	1	0	1	1	1	0	0			2	3	2	2	2	3	3
31	no entry to non-residents	250	1	1	1	1	1	0	0	0			2	4	2	2	3	1	2
32	restricted access to GC	250	1	1	1	1	1	1	0	0			1	5	1	2	2	3	2

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Q7	24-1	25	26	26a	16b	26c	26d	26e	26f	26g	27a	27b	28	29	30	31	32	33	34
ID	WHY	WPAY	OPEN	TRIC	TAXI	PCAR	SBUS	JEEP	PBUS	TRUC	Road Access	Community Development	HH	AGE	SEX	MAR	EDU	OCC	INC
33			1	1	1	1	1	0	0	0			1	4	1	2	3	2	2
34	restricted access to GC	250	1	1	1	1	1	1	0	0			1	3	2	2	3	2	5
35			1	1	1	1	1	1	0	0			2	3	2	2	3	1	4
36	no sticker	price	1	1	1	1	1	0	0	0			1	5	1	2	4	1	5
37			1	1	1	1	1	1	0	0			2	3	1	2	3	1	3
38	no authorized sticker	250	1	1	0	1	1	0	0	0			2	2	1	2	3	3	3
39			1	1	1	1	1	1	0	0			1	3	1	2	3	1	2
40			1	1	1	1	1	1	0	0			2	3	2	1	2	3	1
41			1	1	0	1	1	0	0	0			2	4	2	2	2	1	2
42	no sticker/no entry policy	price	1	1	1	1	1	1	0	0			1	5	1	2	3	3	4
43			1	1	1	1	1	1	0	0			1	4	1	2	2	1	1
44	no subdivision sticker	300	1	1	1	1	1	0	0	0			1	3	2	2	3	1	5
45			1	1	1	1	1	0	0	0			2	2	2	2	3	1	4
46	no sticker	price	1	1	1	1	1	1	0	0			1	4	1	2	3	2	4
47	no sticker-no entry	300	1	1	1	1	1	0	0	0			1	2	2	2	3	2	5
48			1	1	1	1	1	1	0	0			1	2	1	2	3	1	5
49			1	1	0	1	1	0	0	0			2	1	2	2	3	2	3
50			1	1	0	1	1	0	0	0			1	4	2	2	3	3	5
51			1	1	1	1	1	1	0	0			1	4	2	2	3	2	5
52	need to buy sticker pass	price	1	1	1	1	1	1	0	0			2	1	1	2	2	3	3
53			1	1	1	1	1	0	0	0			1	2	1	2	3	1	5
54	access restriction		1	0	0	1	0	0	0	0			2	3	2	2	3	1	7
55	no subdivision sticker	250	1	1	0	1	1	0	0	0			1	2	1	2	3	1	5
56			1	1	0	1	1	0	0	0			2	1	2	1	4	1	3
57	no sticker/no entry policy	200	1	1	1	1	1	1	1	1			1	5	1	2	3	3	4
58			1	1	1	1	1	1	0	0			1	4	1	2	2	1	4
59			1	1	1	1	1	1	0	0			2	4	2	2	3	3	5
60			1	1	1	1	1	0	0	0			1	5	1	2	3	1	4
61	no sticker/no entry policy	300	1	1	0	1	1	0	0	0			1	5	1	2	3	1	6
62	no sticker	250	1	1	1	1	1	0	0	0			1	3	1	2	3	2	5
63			1	1	1	1	1	1	0	0			1	2	1	2	3	3	3
64	require sticker pass	250	1	1	0	1	1	0	0	0			1	3	1	2	3	1	5
65			1	1	1	1	1	1	0	0			1	4	1	2	3	1	3
66	need to buy sticker pass	price	1	1	1	1	1	0	0	0			1	4	1	2	3	3	4
67	require subdivision sticker	250	1	1	1	1	1	0	0	0			1	3	1	2	3	1	3
68			1	1	0	1	1	1	0	0			2	3	2	2	3	3	3
69			1	1	1	1	1	0	0	0			2	4	2	2	3	1	5
70	no entry to GC	250	1	1	1	1	1	1	0	0			1	5	1	2	2	1	4
71			1	1	0	1	1	0	0	0			1	4	1	2	3	2	3
72			1	1	1	1	1	1	0	0			1	3	1	2	3	1	4
73			1	1	1	1	1	1	0	0			2	4	2	2	3	1	3
74	no sticker	price	1	1	1	1	1	0	0	0			1	5	1	2	3	1	5
75			1	1	1	1	1	0	0	0			1	3	1	2	3	1	3
76	no sticker/no entry policy	250	1	1	0	1	1	0	0	0			1	3	1	2	3	1	5
77			1	1	1	1	1	1	0	0			2	4	2	2	3	2	5
78			1	1	1	1	1	0	0	0			1	3	1	2	2	1	5
79			1	1	1	1	1	0	0	0			1	2	2	2	3	1	4
80			1	1	0	1	1	0	0	0			2	2	2	1	3	1	3
81	need subdivision sticker	250	1	1	1	1	1	0	0	0			1	5	2	2	3	1	5
82			1	1	1	1	1	0	0	0			1	3	2	2	3	1	4
83			1	1	0	1	1	0	0	0			2	1	2	2	2	1	3
84			1	1	0	1	1	0	0	0			2	2	2	2	3	1	5
85			1	1	1	1	1	0	0	0			1	5	2	2	3	2	4
86	no sticker no entry	price	1	1	0	1	1	1	0	0			1	4	1	2	3	1	6
87			2	0	0	0	0	0	0	0			2	4	2	2	3	1	5
88	authorized sticker pass	price	1	1	1	1	1	0	0	0			2	3	2	2	4	3	5
89			1	1	1	1	1	0	0	0			1	3	1	2	3	3	6
90	no sticker	price	1	1	1	1	1	0	0	0			1	2	1	2	3	3	5
91			1	1	1	1	1	0	0	0			2	1	1	1	3	2	4
92			1	1	1	1	1	1	0	0			2	2	2	1	4	1	3
93			1	1	0	1	1	0	0	0			2	1	1	1	3	2	4
94	no entry for non-residents		1	1	0	1	1	0	0	0			2	2	2	2	3	1	5
95			1	1	0	1	1	0	0	0			2	1	2	1	4	1	3
96	no homeowner sticker	price	1	1	0	1	1	0	0	0			1	4	2	2	3	3	6
97	no sticker/no entry policy	price	1	1	1	1	1	0	0	0			2	1	2	1	3	3	5
98			1	1	1	1	1	0	0	0			1	3	1	2	2	1	3
99			1	1	1	1	1	0	0	0			2	1	2	1	3	1	3
100			1	1	0	1	1	0	0	0			2	2	2	1	3	1	4
101	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	5	2	2	3	3	5
102			1	1	1	1	1	0	0	0			2	3	2	2	3	2	4
103	no sticker/no entry policy	price	1	1	1	1	1	1	0	0			1	4	2	2	4	1	5
104	no sticker/no entry policy	price	1	1	1	1	1	0	0	0			1	4	1	2	3	1	6
105	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	4	1	2	4	1	5
106	need subdivision sticker	price	1	1	1	1	1	0	0	0			2	5	2	1	3	1	5
107	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	5	1	2	3	2	6
108			1	1	1	1	1	1	0	0			1	3	1	2	3	3	5
109	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	5	1	2	3	1	6
110	need subdivision sticker	price	1	1	1	1	1	0	0	0			2	4	2	2	4	3	6
111			1	1	1	1	1	1	0	0			1	5	1	2	3	2	5
112	need subdivision sticker	price	1	1	1	1	1	0	0	0			2	2	1	2	3	3	5
113	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	5	1	2	4	2	6
114	need subdivision sticker	price	1	1	1	1	1	0	0	0			2	5	2	2	3	4	5
115			1	1	1	1	1	0	0	0			1	3	1	2	3	2	5
116	need subdivision sticker	price	1	1	1	1	1	0	0	0			1	4	1	2	3	2	7

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December 2003 to January 2004 Survey

Area	ID	Name	Socio-demographic Characteristics																Facilities & Environment														Metro				Community Spirit											
			1b	2	3a	3b	3c	4	5	6a	6b	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	42	48	54	60				
GB Townhomes	1	2	1	1	Cat	Fl	1	3	6	4		4	1	2	1983	4	3	1	1	1	4	4	3	4	3	4	4	4	3	4	4	3	3	4	4	3	2	4	3	2	2	2	2	2				
	2	2	1	2	Cat	Fl	1	3	8	6	3	8	1	1	1995	1	1	1	2	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2				
	3	2	1	1	Cat	Fl	1	3	4	2	2	4	1	2	2003	2	2	2	2	2	3	3	4	3	4	3	2	4	4	4	5	4	3	3	4	4	4	4	4	4	4	4	3	3				
	4	2	4	2	Cat	Fl	1	3	3	1	2	3	1	2	1983	4	1	1	1	1	2	2	2	2	2	2	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2			
	5	1	2	2	Cat	Fl	2	3	4	1	5	1	1	1	1991	4	2	1	1	1	2	4	3	4	3	3	2	3	3	4	3	3	4	4	4	4	4	4	4	4	5	3	4	2	4			
	6	2	1	2	Cat	Fl	2	3	7	2	5	3	1	1	2001	4	4	1	1	1	4	4	4	3	4	4	2	1	3	2	4	4	4	4	4	4	4	4	4	4	4	5	3	4	3	3		
	7	1	4	1	Cat	Fl	2	3	4	1	5	4	1	2	1985	4	2	1	3	3	3	4	4	4	3	4	3	2	3	3	3	3	3	3	3	3	2	4	2	2	4	4	4	3	3			
	8	2	1	2	Pro	Fl	1	3	6	1	5	1	1	2	2002	4	2	1	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	4		
	9	1	3	1	Cat	Fl	2	3	5	2	1	4	1	2	1990	4	3	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	5	3	4	3	2		
	10	1	2	1	Cat	Fl	2	3	3	2	1	5	1	1	1998	4	3	1	1	1	3	4	3	3	4	4	2	3	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	2		
	11	1	5	1	Kri	Fl	2	3	4	2	4	8	1	2	1984	4	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	
	12	1	3	1	Cat	Fl	2	3	6	2	5	4	1	1	2000	4	2	1	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	
	13	2	2	2	Cat	Fl	2	3	5	2	1	2	1	2	1998	4	3	1	1	1	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4	3	3	2		
	14	2	4	2	Cat	Fl	2	3	5	2	3	4	1	2	1983	7	3	1	1	1	3	5	2	2	3	4	4	2	3	3	2	3	2	3	2	4	2	2	3	3	2	2	4	4	2	2		
	15	2	1	1	Cat	Fl	1	3	5	1	2	4	1	2	1983	4	3	1	1	1	4	4	4	4	3	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	2	2	
	16	2	2	2	Cat	Fl	2	3	2	1	3	3	1	1	2002	4	2	1	2	2	5	5	4	4	5	5	5	5	5	5	5	5	4	4	3	4	4	4	4	2	2	4	5	4	2	1		
	17	2	1	2	Cat	Fl	1	3	6	2	3	8	1	1	1984	4	4	1	1	1	5	5	5	5	5	4	4	5	5	4	4	4	4	4	4	4	4	4	5	5	5	4	4	5	5	4	2	
	18	1	2	1	SK	Indi	2	2	4	1	3	3	1	1	2001	2	2	1	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	2	
	19	2	4	1	Cat	Fl	1	3	6	5	3	9	1	1	1984	4	5	1	1	1	3	3	2	2	4	4	2	3	4	3	3	4	4	4	4	4	4	4	4	5	4	2	3	5	4	3	5	5
	20	1	3	2	Cat	Fl	3	3	3	1	3	2	1	2	1987	4	2	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	4	
	21	1	5	1	Cat	Fl	2	3	3	1	4	1	1	2	1988	4	2	1	1	1	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	3	4	1	1	2	2	4	2	
	22	2	2	2	1	Cat	Fl	1	3	4	4	1	10	1	2	1997	4	4	1	1	1	4	4	3	3	3	4	2	2	3	3	3	3	3	4	4	4	3	3	1	1	2	2	2	4	2		
	23	2	2	2	2	Cat	Fl	2	4	5	3	1	5	1	2	1984	4	2	1	1	1	4	5	5	5	4	5	4	4	3	4	4	4	4	4	4	4	5	3	2	4	2	2	1	2	2	4	4
	24	2	6	2	Cat	Fl	2	3	14	2	5	8	1	2	1980	3	3	3	1	1	4	3	3	3	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	4	4	2	
	25	1	4	1	Cat	Fl	2	3	4	2	2	7	1	1	1983	4	1	1	3	3	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	4	4	3	3	4	3	3	3	3	3		
	26	1	4	1	Cat	Fl	2	3	4	1	5	4	1	2	1985	4	2	1	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	2	4	2	2	4	3	3	4	2		
	27	2	4	2	Cat	Fl	2	3	12	4	3	10	1	1	1991	4	7	1	1	1	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	4	2	
	28	2	2	2	Cat	Fl	2	3	4	2	2	4	1	1	2003	4	2	1	3	1	3	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3
	29	1	2	1	Cat	Fl	2	4	3	3	5	4	1	2	1999	3	3	2	2	2	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	
	30	1	2	1	Cat	Fl	1	3	4	2	5	6	1	2	1984	4	4	1	1	1	2	3	3	2	3	4	2	2	3	2	3	3	3	3	3	3	4	2	3	1	1	5	3	3	4	4		
	31	1	5	2	Cat	Fl	3	2	3	1	4	2	1	2	1990	3	2	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	4	4	4	4	2		
	32	2	6	2	Cat	Fl	2	3	4	2	4	6	1	2	1983	4	3	1	1	1	3	4	4	4	4	4	3	3	2	3	3	3	3	3	4	4	3	3	3	2	2	4	4	4	3	2		
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	34	1	4	1	Cat	Fl	2	3	7	2	1	6	1	2	1984	4	3	1	1	1	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	4	4	4	4	3
	35	2	3	2	INC	Fl	2	4	4	3	2	6	1	2	1985	3	2	1	2	2	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	3	4	3	2	
	36	1	3	1	Cat	Fl	2	3	6	2	1	6	1	1	1992	4	5	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	2	4	3	3	4	2	
	37	1																																														

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MV1	111	2	1	1	Cris Kor	1	3	1	1	5	8	1	2	2000	7	5	1	3	3	5	5	4	4	4	4	4	4	4	4	5	5	5	2	2	5	2	4	4	4	4	4	4			
	112	2	2	1	Cris Kor	1	3	1	1	5	6	1	2	1998	6	5	1	3	1	4	4	4	4	4	4	4	4	4	4	4	5	5	4	2	2	2	2	4	4	4	4	4	4		
	113	2	6	2	Cat Fil	3	3	4	1	1	8	8	1	2	1977	6	6	1	1	1	4	4	4	4	4	5	4	5	4	4	4	4	4	4	2	2	2	2	4	3	4	4	2		
	114	1	4	1	Cat Fil	2	3	6	2	1	9	1	2	1981	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	2	2	2	4	3	3	4	4	2	
	115	1	5	1	Cat Fil	2	3	5	2	1	10	1	2	1983	7	6	1	1	1	4	4	4	4	4	4	4	4	5	4	4	4	4	4	4	2	2	2	2	4	4	4	4	4		
	116	2	4	2	Cat Fil	2	3	4	1	2	8	1	2	1978	7	5	1	1	1	5	5	4	4	4	4	4	4	4	4	4	5	5	4	2	2	2	2	2	4	2	4	4	2		
	117	2	2	2	Cat Fil	2	3	6	2	3	7	1	1	1992	7	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	5	4	4	4	2			
	118	1	2	1	Cat Fil	2	3	6	2	1	8	1	2	1996	5	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	2	4	4	4	3			
	119	2	2	1	Cat Fil	1	4	5	1	1	10	1	2	1993	7	7	1	1	1	5	5	5	4	4	4	4	4	4	4	4	4	4	3	4	2	2	2	5	4	3	4	4			
	120	1	5	2	Cat Fil	3	4	3	2	3	9	1	2	1985	7	6	1	1	1	5	5	4	3	4	4	4	4	4	4	4	4	4	4	3	4	1	2	2	4	4	4	2			
	121	2	6	2	Cat Fil	2	3	6	2	1	9	1	2	1983	7	6	1	1	1	5	5	5	4	4	5	4	5	4	4	4	5	4	4	3	4	2	2	4	4	4	4	2			
	122	2	1	2	Cat Fil	1	4	5	2	3	10	1	1	1999	7	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	5	4	3	5	4	2	2	4	2	4	5	4		
	123	1	4	1	Cat Fil	2	3	7	1	3	10	1	2	1988	6	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	4	3	4	2	2	5	3	5	4	2			
	124	2	3	2	JNC Fil	2	3	6	2	1	9	1	2	1990	6	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	2	2	2	5	2	4	4	4		
	125	1	3	1	Cat Fil	2	3	4	1	1	10	1	2	1986	7	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	5	3	3	4	2	2	5	2	4	4	3		
	126	1	4	1	Cat Fil	2	4	5	2	1	10	1	2	1987	7	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	4	3	4	4	3		
	127	2	1	1	Cat Fil	2	4	6	2	2	10	1	1	1980	7	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	2	4	3	5	4	4		
	128	2	4	2	Cat Fil	2	3	6	2	2	8	1	2	1979	5	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	4	3	4	3	2	2	5	2	4	4	2		
	129	1	3	1	Cat Fil	2	5	4	2	3	10	1	2	1983	5	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	4	4	2	2	2	5	3	4	4	4	3			
	130	1	2	1	Cat Fil	2	4	3	2	1	7	1	1	1984	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	2	4	4	4	2		
	131	2	4	2	Cat Fil	2	3	7	3	2	8	1	2	1987	7	5	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	1	2	5	4	4	4	4		
	132	1	2	1	Pro	2	3	6	2	2	8	1	2	1993	7	6	1	1	1	4	5	5	4	4	5	4	5	4	4	4	4	4	4	4	3	4	2	2	2	4	3	4	4	3	
	133	2	3	2	Cat Fil	2	3	5	3	2	9	1	2	1992	6	7	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	5	4	4	2		
	134	2	4	2	Cat Fil	2	3	4	3	3	9	1	2	1981	7	7	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	5	4	3	4	2	2	2	4	3	5	4	4	
	135	2	5	2	JNC Fil	2	4	5	2	1	8	1	2	1978	7	7	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	1	2	2	2	4	3	4	4	3
	136	2	3	2	Cat Fil	2	3	5	2	1	7	1	2	1981	7	7	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	5	4	4	5	2	2	2	4	2	4	4	3	
	137	1	2	1	Cat Fil	2	3	4	2	1	8	1	2	1979	7	7	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	2	4	3	4	4	4	
	138	1	3	1	Cat Fil	2	3	6	2	1	8	1	2	1983	7	6	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	5	4	4	3	4	2	2	2	4	3	4	4	4
	139	1	3	1	Cat Fil	2	4	7	4	1	10	1	2	1992	7	7	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	5	5	4	3	4	2	2	2	4	3	4	4	2	
	140	2	1	1	Cat Fil	1	3	1	1	5	2	1	1	1979	7	3	1	1	1	5	5	5	5	5	5	4	4	5	5	4	5	5	4	4	5	5	4	3	5	4	4	4	3		
	141	1	3	1	Cat Fil	2	4	7	4	1	10	1	2	2000	7	4	1	1	1	3	4	4	3	4	3	2	2	3	4	3	3	4	3	4	2	3	4	2	3	4	4	4	2		
	142	2	3	2	Cat Fil	2	4	5	2	1	10	1	2	1997	7	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4	5	4	2	2	3	4	4	5	2		
	143	2	1	2	Cat Fil	1	3	10	6	3	9	1	1	1989	7	5	1	1	1	5	5	5	5	4	5	5	5	5	5	4	5	5	5	5	5	3	2	2	5	5	5	1	2		
144	2	3	2	Cat Fil	2	5	5	2	1	10	1	1	2000	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	4	2	2	4	4	4	5	4			
145	1	2	1	Cat Fil	2	3	3	2	2	6	1	2	2003	7	7	1	1	1	3	4	5	5	5	5	5	4	3	4	5	5	5	5	4	3	5	4	3	4	5	5	5	3			
146	1	3	1	Cat Fil	2	3	5	2	2	8	1	2	1983	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	3	3	5	3	4	4	4			
147	2	5	2	Cat Fil	2	3	2	2	2	6	1	2	1980	7	3	1	1	1	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	3	4	2	2	2	4	4	5	4	4		
148	1	5	1	Cat Fil	2	4	5	2	1	7	1	2	1984	7	5	1	1	1	5	4	4	3	4	4	4	4	4	4	4	5	5	4	5	2	2	2	3	5	4	4	4	2			
149	1	5	1	Cat Fil	2	3	7	3	1	6	1	2	1981	7	4	1	1	1	4	5	4	4	4	5	4	3	4	4	4	4	5	5	4	3	4	2	2	2	4	3	4	4	2		
150	1	5	1	Cat Fil	2	3	4	1	1	7	1	2	1979	7	4	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	4	4	4	4			
151	1	4	2	Cat Fil	2	4	3	2	3	5	1	2	1985	7	3	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	4	4			
152	2	4	2	Cat Fil	2	3	8	4	2	6	1	2	1988	7	4	1	1	1	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	5	3	5	4	4		
153	1	5	1	Cat Fil	2	4	5	2	1	5	1	2	1883	7	5	1	1	1	5	5	5	4	4	5	5	5	5	5	4	4	4	4	4	4	4	3	3	4	4	4	4	4	3		
154	1	4	2	Cat Fil	2	3	7	2	3	6	1	2	1990	7	3	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	5	4	5	4	4		
155	2	5	2	Cat Fil	2	3	4	1	2	6	1	2	1983	7	6	1	1	1	5	5	5	4	4	5	5	5	5	5	4	4	4	4	4	4	4	2	2	2	4	4	4	4	4		
156	2	4	2	Cat Fil	2	3	4	1	5	6	1	2	1989	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4					

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Metrogate	224	2	2	2	Cat	Fil	2	4	6	2	3	5	1	2	1993	7	4	1	1	1	5	5	5	5	4	4	4	4	4	4	4	2	2	2	2	3	4	4	4	2	3						
	225	1	2	1	Cri	Fil	2	4	3	2	1	7	1	2	1991	7	5	1	1	1	4	4	4	4	4	3	4	4	4	4	4	4	4	3	4	2	3	4	4	4	4	2	3				
	226	1	4	1	Cat	Fil	2	3	6	3	2	5	1	2	1988	7	4	1	1	1	4	5	5	4	4	4	3	3	4	3	4	5	4	3	4	2	2	5	4	4	4	4					
	227	1	1	1	Cat	Fil	2	3	5	2	2	8	1	1	1990	7	3	1	1	1	4	4	4	4	4	3	3	4	4	4	4	4	3	4	2	2	2	4	4	4	4	2					
	228	1	3	2	Cri	Fil	2	4	5	2	1	7	1	2	1989	6	5	1	1	1	4	5	4	4	4	5	4	4	4	4	4	4	4	5	5	4	3	4	2	2	3	4	4	2			
	229	2	5	2	Pro	Fil	2	3	7	3	3	6	1	2	1985	6	3	1	1	1	4	4	4	4	4	3	4	3	4	3	4	4	4	4	4	1	3	4	4	4	4	4					
	230	2	1	1	Cat	Fil	1	3	5	3	2	9	1	2	1997	7	6	1	1	1	4	4	4	4	4	4	3	3	4	4	4	5	4	3	4	2	3	4	4	5	2	4	4				
	231	1	2	1	Cat	Fil	2	4	3	1	1	6	1	1	1996	6	4	1	1	1	4	5	5	4	4	4	4	4	2	4	4	4	5	2	4	3	4	5	4	4	4	3					
	232	2	1	1	Cat	Fil	1	3	5	2	2	9	1	1	1989	7	5	1	1	1	4	5	5	4	4	4	4	4	3	4	3	4	4	5	4	4	2	2	4	2	3	4	4	4			
	233	1	2	1	Cat	Fil	2	4	4	2	1	6	1	2	1996	5	4	1	1	1	4	5	4	4	4	4	3	3	4	4	4	4	4	5	5	2	5	3	3	4	1	4	4	2			
Hobart Subdivision	234	2	4	2	Cat	Fil	2	3	6	2	1	7	1	2	1998	4	6	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	4	5	5	1	4	2	2	4	4	4	3	4			
	235	2	2	2	Cat	Fil	2	4	6	3	1	8	1	2	2001	4	6	1	1	1	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	2	4	1	1	4	4	4	3	4			
	236	2	3	2	Cat	Fil	2	4	5	2	1	6	1	2	1998	4	5	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	4	5	5	1	5	2	2	5	4	4	4	2		
	237	2	2	2	Cat	Fil	2	3	7	3	3	10	1	2	2002	4	6	1	1	1	4	4	4	4	4	4	3	3	4	4	4	4	4	5	3	4	2	2	2	4	4	3	4	4			
	238	2	2	2	Pro	Fil	2	3	4	1	5	8	1	2	2003	4	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	1	4	1	2	4	4	4	4	4			
	239	1	4	1	INC	Fil	2	4	5	2	1	7	1	2	1989	6	5	1	1	1	4	5	4	4	4	4	4	5	2	2	4	3	3	3	3	4	4	3	4	4	4	4	3				
	240	2	4	2	Mus	Fil	2	3	6	2	3	6	1	2	1982	4	3	1	1	1	5	5	5	3	3	4	1	1	2	3	4	1	1	5	2	4	3	2	2	5	2	2	2	4	4		
	241	1	4	1	Cat	Fil	2	3	7	2	1	6	1	2	1988	5	6	1	1	1	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	3	4	2	3	5	3	4	4	3			
	242	2	3	2	Cat	Fil	2	3	6	3	2	7	1	2	1988	5	6	1	1	1	5	5	5	3	3	4	4	4	4	4	4	4	4	3	4	4	4	3	3	5	4	5	4	4			
	243	2	3	2	Cat	Fil	2	4	6	2	1	6	1	2	1984	4	5	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	4	4	5	4	3	4	2	3	4	4	4	4			
Don Enrique Heights	244	1	3	1	Cat	Fil	2	3	6	3	3	9	1	2	1990	4	5	1	1	1	4	4	4	3	2	2	2	2	3	3	3	3	2	2	3	3	2	2	3	4	3	3	3	3			
	245	2	2	2	Cat	Fil	2	3	5	2	1	5	1	2	1987	4	3	1	1	1	4	4	3	2	3	2	2	2	2	2	2	2	2	2	3	4	4	2	2	4	4	4	3	4			
	246	2	4	2	Cat	Fil	1	3	6	3	2	10	1	2	1990	7	6	1	1	1	5	5	3	3	3	4	4	4	4	4	4	4	4	4	4	4	1	3	4	4	3	4	4	4			
	247	2	2	2	Cat	Fil	2	4	7	2	3	5	1	2	1983	7	7	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	4	4	2	2	4	4	4	4		
	248	2	3	2	Cat	Fil	2	3	3	3	1	8	1	2	1978	7	7	1	1	1	4	5	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5	4	3	3	4	4	3	4			
	249	2	3	2	Cat	Fil	2	3	5	3	1	9	1	2	1977	7	7	1	1	1	5	4	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	4	4	4	3			
	250	1	4	1	Cat	Fil	2	3	8	2	3	6	1	2	1983	7	5	1	1	1	4	5	4	4	4	4	4	3	4	4	4	4	4	5	5	3	4	2	2	2	5	3	4	5	2		
	251	2	6	2	Cat	Fil	2	3	5	2	4	5	1	2	1983	7	4	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	3	4	4	4	4	4			
	252	2	3	2	Cat	Fil	1	3	6	5	1	10	1	2	1981	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	5	3	3	4	2				
	253	1	2	1	Cat	Fil	2	4	3	2	2	7	1	1	1990	7	5	1	1	1	4	4	3	3	4	4	4	3	3	4	4	4	4	4	4	4	2	2	4	4	2	4	4	4			
Don Antonio Heights	254	1	4	1	Cat	Fil	2	3	5	2	1	5	1	2	1975	7	4	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	1	2	4	3	4	4	4	4
	255	2	3	2	Cat	Fil	2	3	7	3	2	10	1	2	1987	7	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	3	3	3	4	4	3		
	256	2	1	2	Cat	Fil	1	3	5	2	1	10	1	1	1986	7	6	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1	5	4	5	4	4	4		
	257	2	2	2	Cat	Fil	2	4	3	2	2	7	1	2	1971	7	5	1	1	1	5	5	3	3	3	4	4	4	4	4	4	4	4	3	4	5	5	5	5	5	2	2	5	4	2	3	2
	258	2	1	2	Cat	Fil	1	3	6	2	1	9	1	2	1985	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1	5	4	4	4	4		
	259	1	4	1	Cat	Fil	2	3	6	3	1	6	1	2	1981	7	5	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	2	3	3	4	4	2	
	260	2	3	2	Cat	Fil	2	3	5	2	1	10	1	2	1983	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	5	5	4	4	5	2	
	261	1	2	1	Cat	Fil	2	4	3	2	1	7	1	2	1994	7	6	1	1	1	4	5	4	4	4	4	5	4	3	4	4	4	4	4	5	5	3	4	2	2	4	4	3	4	4	4	
	262	2	3	1	Cat	Fil	2	3	6	3	3	8	1	2	1991	7	6	1	1	1	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	3	2	2	4	4	5	4	4	4		
	263	2	3	2	Cat	Fil	2	3	8	2	1	6	1	2	1983	7	7	1	1	1	5	4	4	4	3	4	4	4	4	4	4	4	4	4	5	5	5	5	2	4	2	3	5	4	4	4	2
GCs Area 2	264	1	4	1	Cat	Fil	2	4	6	2	1	5	1	2	1972	7	6	1	1	1	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	2	2	3	4	4	4	2	4	
	265	1	3	1	Cat	Fil	2	4	4	2	1	5	1	2	1989	6	5	1	1	1	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	1	5	5	2	4	4	4	
	266	4	1	1	Cri	Fil	2	4	3	1	3	6	1	2	1989	7	6	1	1	1	5	5	2	2	4	4	3	3	4	3	4	3	4	4	4	4	3	1	2	4	3	4	4	4	3		
	267	1	6	1	Cat	Fil	3	4	4	2	1	10	1	1	1975	7	6	1	1	1	4	4	3	3	3	4	2	2	2	2	4	4	4	4	4	4	4	4	4	2	2	4	4	4	4	4	
	268	2	3	2	Cat	Fil	2	3	6	4	3	10	1	1	1993	7	7	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4</													

Appendix 4-3

[illegible]

Appendix 4-3

Veterans Village	448	1	4	1	Cat	Fill	2	3	4	1	2	3	2	2	1985	5	3	1	1	1	4	5	5	4	3	3	4	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3</
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[illegible]

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[illegible]

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Area	ID	Security				Interaction				Family				Social Control				Satisfaction				GC				Purpose of Gates, Fence, & Security								Access to Private Roads													
		36	41	47	53	59	37	43	49	55	61	38	44	50	56	62	39	45	51	57	63	40	46	52	58	64	65	80	66	67	68	69	70	71	72	73	74	75	76	77	78	79					
GB Area 1	1	4	4	4	3	4	4	3	4	3	4	4	4	4	3	4	3	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2			
	2	3	3	4	3	3	3	3	3	3	3	3	4	4	3	2	3	2	3	3	4	4	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	4	4	3	4	4	3	4		
	3	3	4	4	4	3	4	4	4	4	4	4	3	3	4	4	3	4	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	3	4		
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
	5	2	3	4	5	3	3	3	2	2	4	2	4	2	4	2	4	2	2	3	3	4	5	3	5	4	3	4	4	5	5	5	4	4	4	4	4	4	4	4	4	2	3	5	3		
	6	2	4	4	4	3	4	4	4	4	4	4	3	4	4	3	4	2	4	4	4	4	4	4	4	4	4	4	5	2	5	5	5	4	4	4	4	4	4	5	4	4	4	4	2		
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Appendix 4-3

[illegible]

Appendix 4-3

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Appendix 5

Socio-economic Characteristics of Respondents

*Survey conducted in
December 2003 to January 2004*

Item		GC	OC	Total
No. of respondents		373	400	773
Age		373	400	773
	20-29 years old	49	43	92
	30-39 years old	79	91	170
	40-49 years old	114	126	240
	50-59 years old	88	95	183
	60-69 years old	36	40	76
	70 years old & up	7	5	12
Sex		373	400	773
	Male	192	152	344
	Female	181	248	429
Religion		373	400	773
	Cristian	363	392	755
	Muslim	5	8	13
	Others	5	0	5
Nationality		373	400	773
	Filipino	365	400	765
	Foreigner	8	0	8
Civil Status		373	400	773
	Single	65	72	137
	Married	298	323	621
	Widow/Widower	10	5	15
Education		373	400	773
	Elementary	0	3	3
	High School	4	58	62
	College	278	305	583
	MS/PhD	91	34	125
Household Size		373	400	773
	1-3 persons	63	70	133
	4-6 persons	251	274	525
	7 persons & up	59	56	115
Household Income (Pesos)		373	400	773
	<10,000	4	35	39
	10,000-19,999	8	61	69
	20,000-29,999	18	77	95
	30,000-39,000	37	68	105
	40,000-49,000	47	67	114
	50,000-59,000	65	31	96
	60,000-69,000	62	22	84
	70,000-79,000	55	18	73
	80,000-89,000	42	15	57
	90,000 & up	35	6	41
Lot Size (meters)		373	400	773
	< 50	8	84	92
	50-99	41	99	140
	100-149	36	50	86
	150-199	84	72	156
	200-249	31	61	92
	250-299	46	22	68
	300 & up	127	12	139
House Floor Area		373	400	773
	< 50	14	55	69
	50-99	60	172	232
	100-149	70	89	159
	150-199	65	51	116
	200-249	70	21	91
	250-299	48	10	58
	300 & up	46	2	48
Housing Unit Status		373	400	773
	Owned	319	296	615
	Rent	21	64	85
	Amortize	33	26	59
	Rights	0	14	14
Land Tenure Status		373	400	773
	Owned	322	195	517
	Rent	21	62	83
	Amortize	30	29	59
	Rights	0	114	114

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