

# RESIDENTIAL SATISFACTION IN LA PERLA INFORMAL NEIGHBORHOOD, SAN JUAN, PUERTO RICO

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**Abstract:** Residential satisfaction is an important element measuring the quality of life of individuals. This paper reports on the findings of residential satisfaction in the self-built informal neighborhood of La Perla. The settlement is located adjacent to the colonial center in the city of San Juan, Puerto Rico. Separated by a defensive colonial wall, La Perla is not only physically isolated but also socially segregated from the city of San Juan despite more than 90 years of co-existence. Although urban decay has contributed to La Perla's reputation, future development plans and a recent drug bust are affecting the future of the community. However, the strong emotional links between the residents and their neighborhood may preserve La Perla as an integral part of San Juan. For this research, more than 100 householder surveys were held in the neighborhood analyzing the conditions of the dwellings, the housing typology, and the householders' satisfaction. Even though La Perla is a shantytown with strong economic and social problems, the surveys found a very high level of residential satisfaction within the community. This paper is part of a more extensive study of the neighborhood. The final objective is to help organize a basis of knowledge for the formulation of social programs that will complement proposed urban design interventions. The research is a collaboration of Florida Atlantic University, the community of La Perla, and the local government of the city of San Juan. This research has been funded with the help of Florida Atlantic University and the Architectural Research Consortium grant.

**Keywords:** Informal urban settlements, neighborhood satisfaction, quality of self-built dwellings, residential satisfaction, shantytowns.

## I. INTRODUCTION

Old San Juan is strategically located in a small islet that protects San Juan Bay, one of the best natural ports of the Caribbean. During the colonial times, San Juan was an important exchange center for the Spanish crown. Many of old San Juan's monuments and buildings resemble typical Spanish Colonial architectural styles. Nowadays, the forts and ramparts of San Juan are designated UNESCO patrimony areas. The typology of the structures in this part of the city is similar to other Latin American colonial cities. One of the most intriguing facts of Old San Juan is how La Perla, an informal shantytown, occupies one of the most valuable pieces of land on the island. For many years, land speculators and developers have been interested in La Perla. The location is ideal for commercial, touristic and residential purposes providing the property with ocean front terrain. La Perla's determined inhabitants are known to defend their neighborhood regardless of semi-legal tenure and ignored building restrictions and laws. Currently, the possibilities of La Perla to be expropriated or bulldozed are growing. There is already a government plan in the works called "San Juan Walkable City" in which La Perla will be an area subject to redevelopment. The area of La Perla is an informal settlement with only two formal streets, several narrow alleyways, and stairways which lead up to the private entrances. The original colonial ramparts are the barriers that restrain and isolate La Perla from San Juan. Politically, the separation of La Perla from San Juan also isolates involvement from the city's fire department although on occasions, the Department of Drug Enforcement is known to



**Figure 1:** View of La Perla in the superior part of the figure, note the colonial ramparts separating the neighborhood from colonial San Juan.



**Figure 2:** A colonial rampart and steep topography separates La Perla at the left from San Juan.

intervene within La Perla's limits.

Physically, the city walls also separate a change in topography. San Juan is more than twelve meters higher than the highest altitude of La Perla's terrain. A clear neighborhood divide showing differences of street patterns and urban morphology of La Perla and San Juan can be seen in Fig. 1 and Fig. 2.

The hypothesis of this paper shall be: Even if inhabitants are not in a formal neighborhood, and despite their isolation, they feel satisfied with their informal quarters and their dwellings. Residential satisfaction is a topic of built environments that has been studied by many researchers. Studies can be

divided in two main categories: First, residential satisfaction as a measure of housing and neighborhood quality, and, second, Residential satisfaction can also measure the householder's behavior. In most cases, the measure of housing quality is the just the opinion of the householder. In the case of Ghani (2006), for example the householders evaluate each one of the dwelling spaces and services of the area. Location is an important issue when researching about residential satisfaction Cook and Armerigo (1997) have studied the relation with the neighbors and urban safety. Several studies are related with

**Table 1:** Condition of the dwellings according to dwelling analysis

Condition of the Dwellings	Good	Average	Poor	No Response
Percentage of householders	42	28	30	0

satisfaction in subsidized housing. However, there are no studies related with satisfaction as a tool to self-improve informal settlements. This paper wants to open future discussions about the subject.

In the specific case of La Perla, few researchers in the areas such as music or natural hazards have studied the neighborhood. (Dinzey-Flores, (2008), Duani, (1984), Azar, (2007). There is no research related to residential satisfaction of its inhabitants.

## II. MATERIALS AND METHODS

This study was conducted by employing a combination of methods: Observations, drawings, householder's surveys, and conversations with urban professionals, community volunteers, and researchers. Data was collected between 2010 and 2011. During the beginning of the survey process, the public and residents were among the individuals selected. Once the neighbors were exposed to this study, researchers were able to conduct door-to-door surveying, documenting all the information. The survey was composed of more than 40 questions related to social and urban architectural aspects. Photos, drawings, personal interviews, aerial plans and other resources were used.

## III. RESULTS

From the surveys, aerial maps and bibliography, it was possible to identified 320 plots of land in the area; about 35% of these are abandoned. Many of the dwellings have no legal documentation. From the 200 occupied structures about 80 are in relatively good shape.

Only 12% on the householders are renters, the rest are owners. Some of the dwellings are larger in dimension compared to homes located in high-class neighborhoods and often times finishes are as good any medium-class neighborhood. The conditions of the dwellings are presented in Table 1. Less than half of the occupied dwellings that participate in this survey are in good conditions.

La Perla is a relatively old neighborhood and after four generations of inhabitants living in the shantytown, many residents have been able to improve the quality of their house. However, there are 28% of dwellings in average condition and 30%

that were considered to be of poor conditions. Information about the parameters used for the classification of the dwelling conditions is discussed in the methodology section.

Direct observation inside the dwellings, photographic surveys and inspection of several dwellings produced the following findings related with the dwelling conditions:

**Dwelling quality and location:** The location of the dwelling in the neighborhood is an important factor that affects its improvement and quality. Many of the dwellings on the oceanfront are abandoned or vacant. Some of these waterfront dwellings are in bad condition due to the erosion of non-permanent materials from high levels of salinity in the air and direct ocean water contact. It is unfortunate that these abandoned structures are considered to be located in the best part of La Perla. Another problem are the tropical storms. Puerto Rico is part of the Caribbean hurricane belt and many dwellings near the beach have been destroyed.

Dwellings located in the superior part of the shantytown, relatively separated and protected from the ocean; are in better condition. The largest and most improved dwellings of the neighborhood are located on the main street, the commercial area of the sector. The vehicular and pedestrian access from the Old San Juan City to this area is easier than in the rest of the neighborhood. The area fronting the main avenue has several stores and businesses on the street level, which provides additional income for the householders. Proximity to the main street is a suitable condition and usually dwellings near the main vehicular access are more improved. There are less vacant lotson the main street than in the rest of the neighborhood.

**Dwelling materials:** In La Perla, 70% of the dwellings have a reinforced concrete frame structure. The walls are usually fabricated from concrete masonry units or large hollow clay blocks. Old photographs of La Perla, dating 30-50 years ago, prove that most of the dwellings used to be made out of wood. Currently, there are few wood structures. When wood is used as a main building material, it is usually restricted to the second floor height limit, keeping the first floor built out of concrete.

**Table 2:** Householder level of satisfaction with La Perla neighborhood

Do you like La Perla neighborhood?	Very much	Yes	Not much	so	No
(Percentage of Householders)	100	0	0		0

**Structural Problems:** Many dwellings present critical structural problems. The excess of salinity is a main contributor to the problem. Many dwellings have cracks in beams and columns resulting from the penetration of salt into the structural steel. Other problems include inadequate structural dimensioning, waste of material, and other errors resulting from a lack of structural knowledge from the builders. Most of the dwellings in the neighborhood are self-built, but subsequent modifications tend to be realized by semi-professionals. Often, the unions between structural elements are not adequate, and garbage and other foreigner materials are present in the concrete mix. The percentage of cement in the concrete mixture, the distribution of the steel, and the inadequate proportion and quality of aggregates is also a concern. The poor condition of the sewage system is also a structural concern because it can create problems in the foundation of the dwellings. Although the use of wood as a building material is more adequate than concrete, the traditional wood construction is synonymous with poverty in some developing countries. This leads to concrete as the preferred material.

**Householder satisfaction with La Perla neighborhood:** While conducting surveys and collecting data, many Puerto Ricans residing outside La Perla commented about the dangers beyond the city walls. Fortunately, this judgment is not cohesive with the attitude of La Perla's residents who express that the area is calm and quiet. While the rest of the inhabitants of San Juan avoid the area, 100% of the householders interviewed in this survey expressed their satisfaction with La Perla, as shown on Table 2.

There are several reasons to explain why inhabitants of La Perla like this neighborhood. For example, in many cases, inhabitants have been living in La Perla their whole life and they feel that this is their home. An important factor is the network of support among La Perla's inhabitants, and in fact, that is typical in shantytowns of many developing countries. From the simple fact of sharing food with your neighbors, to

babysitting the neighbor's children, this network of support is fundamental for the survival of the shantytown. Inhabitants of La Perla share the bad and good moments and communal leaders are actively helping to improve the way of life within the community.

The relationship between neighbors is not perfect. Like a family, the community has good moments, difficult conflicts, and struggles. Some householders said during the surveys that La Perla is great and there is nothing they would like to change, despite several social and infrastructural issues within La Perla.

La Perla is different to other shantytowns in Puerto Rico. The government has less influence here than in any other neighborhood. La Perla is like a semi-independent area in San Juan, inhabitants have their own informal laws. This, together with the rebellious character of some of their neighborhoods and the fact that the police usually never visit the shantytown, allows more legal freedom than in other neighborhoods. Inhabitants have built dwellings without respecting codes and permits. Excessive freedom in developing countries can produce issues such as criminality, violence, and safety concerns.

However in June 2011, hundreds of federal agents flooded La Perla in a massive drug crackdown resulting in the arrest of 100 residents, including the main community leader. The neighbors believe this is a plan to intimidate La Perla inhabitants and facilitate the redevelopment of the city. Since then, the economy of the shantytown has decreased and neighborhood structures have deteriorated.

**Householder satisfaction with the dwelling:** Even though many of La Perla householders live in dwellings that are not adequate to Puerto Rican standards and building laws, inhabitants are satisfied with their dwellings. Table 3 shows the percentage of La Perla householders satisfied with their dwelling. While 92% of the householders are very satisfied, and 8% are satisfied, no one was unsatisfied with their dwelling.

**Table 3:** Householder level of satisfaction with the dwelling

Are you satisfied with your dwelling?	Very Satisfied	Satisfied	Unsatisfied	No Answer
Percentage of Householders	92	8	0	0

**Table 4:** Householder level of satisfaction with the dwelling related with the quality of the dwelling

Dwelling condition	quality			
	Are you satisfied with your dwelling? (%)			
	Very Satisfied	Satisfied	Unsatisfied	No response
Good	40	2	2	2
Average	28	0	0	0
Poor	28	2	2	2
No Answer	0	0	0	0

**Table 5:** Householder intention to move out of La Perla. (Authors data, 2009)

Would you like to move out of "La Perla"?	No	Depends	Yes	No Answer
Percentage of Householders	94	6	0	0

The first reason for such high level of satisfaction is because they like their neighborhood independently to the quality of their dwelling. (Caldieron 2000) Some habitants expressed how proud they are to be parts of the community. Living in a dwelling in La Perla allows the inhabitants to improve, modify, and expand a dwelling without government permission, as previously explained. Additionally, the inhabitants in accordance with their own ideals and family needs usually design the dwellings. Architects and professionals are not the people taking design decisions; it is the own householder who decides how the dwelling is built depending on available resources and preferences. Finally, many of the dwellings have ocean views. Who would deny living in the city center between two beautiful colonial forts on the edge of a tropical beach?

#### **Householder satisfaction related with dwelling quality conditions.**

Inhabitants of La Perla like their dwellings independently to the level of improvement of the

original shack and the actual conditions of the dwelling. Table 4 shows clearly how the inhabitants are satisfied with their dwellings. In la Perla, 94% of the inhabitants are satisfied with the dwelling independently of the dwelling quality condition.

Inhabitants of La Perla do not have the desire to move to other neighborhoods. Table 5 shows that only 6% of the householders answering the survey would like to move out from the neighborhood, the other 6% will move depending on the conditions. No one in the neighborhood expressed clearly that they would like to move. When householders were asked if they would move to a government subsidized housing, 94% of them denied (Table 6). As many researchers have noted, living in the shantytown has its advantages. A network of support will not appear in a government house. The inhabitants of government housing comes from different places; they do not share all the same experiences of the people living for years in places like La Perla.

**Table 6:** Householder likeness to move out to a government house.

Would you like to move to government housing	No	Depends	Yes	No Answer
Percentage of Householders	94	4	0	2

**Table 7:** Householder opinions about housing improvement in the future

Do you think you will have a Better dwelling in the future?	Yes	Maybe	No	No Answer
Percentage of Householders	16	74	10	2%

People in La Perla are relatively optimistic. Even when they feel satisfied with their neighborhood and their own dwellings, they feel that their housing conditions will improve, as shown in Table 7. Only 10% of the householders answering this survey believe that their housing conditions will not improve in the future. Most of them were elderly people that have been living in the same dwelling for many years and have neither intention nor resources to improve their dwelling. However 74% of the householders feel their housing conditions may improve in the future.

#### IV. CONCLUSIONS

Shantytowns in informal settlements exist for a number of reasons, primarily due to the reality that some people cannot afford formal market housing. Self-building in developing countries has been the most important mechanism to confront the continual lack of housing. It is obvious that living in a shantytown can have advantages for the settlers such as minimal investment required to create a community. The dwelling will improve according with the family needs and economic possibilities. Unfortunately improvements and enlargements of the dwellings notoriously ignore governmental laws and regulation. However this fact allows more freedom to illegally improve the dwellings. Finally, in some traditional shantytowns such as La Perla, self-help is key, but there is also a network of support and unity among the inhabitants.

The results of this survey are clear; La Perla inhabitants are satisfied with the dwellings and they support their neighborhood. Inhabitants of consolidated shantytowns like La Perla have been living in the place for several generations; the shantytown is part of their life. The notion of

community is very important and strong. Even though La Perla's inhabitants are not racially or ethnically different to Puerto Ricans, they share some cultural background that makes them unique.

The level of satisfaction with the neighborhood of La Perla inhabitants is so positive that some even go to the extent to compare La Perla with paradise. The author of this research questions whether or not these feelings are exaggerated. La Perla is not a paradise, as proven by the abandonment and vacancy of 30% of the lots. There are social problems such as poverty, alcoholism, drug consumption, and isolation from the rest of the city. However, it is a neighborhood that offers to their inhabitants the opportunity to be part of a network of self-help independent of the rest of the city. The neighborhood is well located and from the urban point of view has a unique quality of beauty not present in many low-income formal neighborhoods. As explained, many found that the inhabitants of self-built neighborhoods are in the position to decide and plan their dwellings and neighborhood according with their own needs. They can understand their own needs better than professionals. When a dwelling is built according with the owner's decisions, the owner feels more satisfied with their own creation. This paper is the first approach to La Perla householders' satisfaction. Future research will analyze the factors in the neighborhood that allows the inhabitants to feel such high levels of satisfaction. Future questionnaires will further analyze spaces, services, and dwelling improvements that are more important to define residential satisfaction.

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