

# Upgrading living standards in slums: Lessons from Venezuela

By Asitha Jayawardena

BSc Eng, MPhil

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Informal human settlements, better known as “slums”, within or adjacent to cities are fast becoming a problem to many countries, including Sri Lanka. With rapid urbanization, this problem will further worsen and there is an urgent need to find a lasting solution.

A project being implemented in Caracas, the capital of Venezuela, offers us some insight and lessons in this regard. “Upgrading San Rafael-Unido, Urban Integration Project” aims to integrate an informal settlement with the formal capital city next to it while upgrading the living conditions of the settlers.

At the Global Holcim Awards ceremony held in Bangkok, Thailand in April 2006, this project won the Gold award along with 300,000 US dollars as prize money. The competition is organized by the Holcim Foundation for Sustainable Construction ([www.holcimfoundation.org](http://www.holcimfoundation.org)) in order to promote sustainable construction efforts around the world. According to the Holcim Awards jury, this project can be viewed as a model of global importance for improving the living conditions of the informal urban settlements while advancing the community’s pride and resourcefulness through urban renewal.

The following article highlights the lessons we can learn from this project in order to upgrade the living conditions in the informal urban settlements in Sri Lanka.

## Two million in informal settlements

Located in a long valley, Caracas, the capital of Venezuela, comprises two sectors: the formal city and the informal settlements. The formal sector occupies the expensive flat land. This sector’s high land price has forced the urban poor onto the slopes of the surrounding mountains. Nearly half of the four million inhabitants in Caracas live in these informal settlements, known as “barrios”, encountering various social, ecological, political and structural chaos while suffering from extreme socio-economic hardships.

La Vega is one of the biggest informal settlements in Caracas, with a population of over 100,000 people. The settlement “San

Rafael-Unido” is La Vega’s smallest sector with an area of 26 hectares and a population of 5000 living in 1000 houses.

## Upgrading San Rafael-Unido, Urban Integration Project

It all began in October 1999. Under Venezuela’s National Program for the Upgrading of Informal Settlements, the National Council for Housing organized a competition to select architects for the informal settlements upgrading projects in Caracas. The firm Arqu5 won the project for upgrading the settlement San Rafael-Unido. The state institution “CAMEBA” leads the implementation of this program, financed by the National Government and the World Bank.

“Upgrading San Rafael-Unido, Urban Integration Project” aims to effectively integrate the informal settlements in San Rafael-Unido with the formal city Caracas, while upgrading the settlement in terms of accessibility, services, public spaces and urban equipment.

Authors of the project are Silvia Soonets, Maria Ines Pocaterra, Isabel Pocaterra and Victor Gastier (all architects). Advisors and collaborators are Ahmed Irazabal, Freddy Iriza, Jose Francisco Martinez, Jose Luis Garcia Conca (all civil engineers) and electrical engineer Pedro Luis Diaz.

The project skillfully integrates design, construction and social work through local institutional initiatives to counter extreme socio-economic hardships of the urban poor.

The project is progressing. In 2001 several staircases were built as pilot projects. In 2003 detailed project design began and a detailed design was done for each road, building and staircase to be built.

## Chaos on the slopes

Detailed preliminary studies revealed the physical and social facets of the San Rafael-Unido settlement. Its inhabitants face various difficulties such as inaccessibility, deficient sanitary infrastructure, high population density and lack of public spaces and identity.

The settlement's main road lies along the "border" with the formal city while two secondary roads run towards the settlement's center. However, these roads do not serve the houses on the high ground.

The slopes have made accessibility a major problem in the settlement. The staircases available are unsatisfactory due to various reasons such as inadequate width, lack of handrails, variable step size and high gradients. Towards the high ground, the situation is far worse as most of the areas have no stairs at all.

The services networks are unreliable, too. For example, structures have been built on the sanitation network's main lines, making repair and maintenance virtually impossible. And the water supply has a cycle of 8 days – 4 pumping and 4 resting to redirect water to other areas. So certain areas on high ground receive water only once a week!

Although the settlement is densely populated, there are no public spaces or urban equipment. The inhabitants have no place for social interaction or relaxation.

The settlement's front facing the formal city is a display of visual contamination, such as instability, garbage and deteriorating steps.

### **Slums: Accept, upgrade and integrate**

The conceptual change that supports this project is the emerging new philosophy as expressed by Professor Oriol Bohigas: "Accept slums as a new form of urban morphology that should not be destroyed but rather changed, improved and converted into a modest but livable neighborhood". While recognizing the rights of the underprivileged living in urban informal settlements, this concept replaces terms such as "eradication, segregation and mutilation of social ties" with "integration, strengthening, empowerment".

Building on this concept, the project aims to improve accessibility and services while providing the settlement with public spaces, urban equipment and an identity of pride.

The project has designed a new road to improve the accessibility to the high ground. Together with the existing roads that mainly serve the low ground and center of the settlement, this new road will form a road system for public transport. The staircases have been redesigned with improvements. For

example, a minimum width of 1 meter is provided for public stairs while limiting the maximum number of continuous steps to 20. And for all staircases, at least one handrail is provided.

The new staircase design is such that staircases will also perform as service containers, carrying drainage, gas, water, sewer and electricity lines, in a systematic way. The sanitation network has been designed to be "openable" for repairs and maintenance. The project plans water reserve tanks located at high ground, ensuring a more reliable water supply service.

This project will also provide several public buildings, including two schools, two community centers and sports facilities. Moreover, it will facilitate social interaction and relaxation through new public spaces complete with trees and urban furniture.

### **Focusing from all sides**

The project focuses from several relevant sides and this is the key reason behind its success. Instead of isolated interventions, the project adopts a comprehensive approach, taking social issues into account along with the physical issues. Integrating physical, social, economic, environmental, aesthetic aspects, the project supports the formation of a well-balanced habitat and the development of sound social values.

The project:

- Ensures active community participation in it
- Intervenes minimally to avoid disturbances to the existing urban tissue
- Promotes environmental quality, clean energy options and community safety
- Enhances aesthetics and identity of the settlement
- Provides means for its long term sustenance

### **Active community participation**

The project belongs to the community of this settlement, not to the project team. Obtaining their consent for the project is essential for its long-term sustainability. Therefore, instead of a "by force" approach, the project adopted an approach that encourages the community to plan and realize improvements to their own lives. The project is therefore a participatory exercise between the project team and the community, ensuring the latter's participation

in planning, design, construction and implementation.

From the very beginning, the community was invited to take part in the process and make decisions about their needs and priorities. Goals were set to fulfill their requirements. At sessions running for over three years, the project team listened to the community, exchanged ideas with them, prepared blueprints, explained them to the community, obtained their feedback and made improvements accordingly.

Communication with the community was however not that easy. Interpretation of their requirements was challenging. For example, initially, they were reluctant to approve public spaces and the team couldn't understand why. Then the team realized that the community feared that drug dealers would take over these spaces.

So the team worked on models with control possibilities and gained the community's consent for such spaces.

When each project is ready, it is presented to the community's direct users for approval. The project is considered as "approved" if at least 75% of them sign it.

Because of the continuous dialogue between the project team and the communities, the project gathers support as it moves forward.

### **Minimal intervention**

Like in any other informal settlement, different social, cultural and economic dynamics prevail within this settlement and they are subtly expressed by various elements such as informal economy, solidarity net and power structure. The community would resist any disturbances to such dynamics. For instance, at a recent session on social housing, a community member revealed: "I understand that you think our settlement has poor living conditions. But I don't want to live in your sector (i.e., the city's formal sector). You never talk to your neighbor and your house is like a cage you dare not come out of. On my way home, I drink beer with some friends, everybody knows me." And his comments received thundering applause. The entire community made a clear point there.

Such existing dynamics were recognized and efforts were taken to avoid disturbances to the existing urban tissue. The idea of the project team is not to enforce the project but to

consolidate community's activity and to help them realize their goals. Therefore, the project skillfully addresses this challenging range of environmental, cultural and communal issues.

The project design carefully combines renovation and new construction. Its intervention is mainly in the circulation areas, creating meaningful public spaces and urban equipment.

Demolition of houses was kept to a minimum. Out of the 1000 houses, only 41 were identified for demolition on a two-fold basis: either they were in the way of the new road, public spaces or urban equipment, or they were located on the unstable ground prone to landslides. Since the new road runs over the high ground, where most of the houses are of poor quality in construction, the new road and the accompanying structures "eliminated" mostly poor quality houses. This situation made it easier for the project to obtain the occupants' consent for relocation in substitution dwellings.

The better quality substitution dwellings will be housed in four storey buildings. As a compensation for relocation, these dwelling will enjoy additional facilities such as parking, daycare and recreation.

In order to ensure a smooth transfer, the project obtains the services of sociologists and social workers in this exercise.

### **Environment, energy and safety**

Had the city codes been properly applied, this informal settlement should never have been there in the first place. Problems such as congested living, inadequate services, and disorderly location of dwellings have over the years highly degraded the environment. The project aims to rehabilitate the services and connections in order to prevent health hazards and to improve the environmental conditions of the settlement.

A geological study identified an unstable and dangerous ground area prone to landslides. In fact, this eight-hectare risk area experienced landslides in 1983 and 2004. The project team created awareness among the community on the danger prior to relocating the scarce houses in this risk area.

Garbage collection is limited to the border area next to the city's formal sector, so a major area of the settlement is deprived of a garbage disposal service. As a result, garbage piles up

along streets, severely obstructing the limited space for vehicular traffic. For garbage disposal, the project will provide a small local collection spot, which is taken care of by the local residents. These garbage collection spots are located in such a way that all the relevant houses are within a distance of 100m. The local residents have agreed to a scheme in which they will transport their collected garbage to designated points reachable by garbage disposal trucks.

The project will establish a drainage network for rainwater in order to reduce the risk of rainwater running all over the place during the rainy season. This will prevent soil erosion and also health hazards due to stagnation of water in pools.

Plans are also underway to use solar power to pump water into water reserve tanks located on high ground. The team is in consultation with the city's water company, which has already approved the general proposal.

### **Aesthetics and identity**

The project takes efforts to preserve a strong sense of cultural identity respecting the community's lifestyle. For example, in substitution dwellings, the image of the unit respects the small grain of the existing construction.

Moreover, public spaces are conceived as focal points, providing a "sense of place" to the prevailing monotonous urban tissue. The focal points are of two kinds, namely voids and icons. Voids are public spaces. Attached to the streets, easing their continuous length, these spaces provide room for informal social interaction. Icons are public buildings, such as educational, sports and community buildings.

The settlement's "border of visual contamination" has been redesigned as an aesthetically pleasing single structure. This "Urban Façade" sans any internal spaces comprises a series of columns, and accommodates public services such as bus stations, market, phone booths and balconies connected by walkways. Providing a magnificent view to the formal sector, this portico-like structure provides ideal setting for the community's relaxation and social interrelation.

The Urban Façade is the main face of the settlement visible to the formal sector. This façade will bring order, beauty and dignity to

the settlement's once deteriorated "façade" and the community will be quite proud of their settlement. It is in fact widely considered as the visible flag of the entire project.

### **Sustenance**

Various efforts have been taken in order to ensure the project's long-term sustenance.

The key factor ensuring the project's long-term sustainability is the active community participation in it. This has generated a feeling among the community that the project is their own and they feel proud about their settlement. Consequently they are motivated to play their role in implementation and operation stages and will protect the public spaces and urban equipment.

Measures have also been taken to ensure security and maintenance. For example, the public spaces are linked to the streets and stairways to prevent drug dealers or thugs from occupying them. The social club protects the entrance to the recreational park. And the sports center is associated with a school so that the latter is in charge of the center's maintenance.

The project efficiently uses the limited funds and resources available. Each individual project has an estimated budget and is organized in the work plan in order to prevent double investment leading to waste. Moreover, public buildings are designed with rental areas for income generation for the Residents' Association.

The project took steps to ensure constructions of strength and durability. For instance, for staircase construction, whether contracted or self-built, the project proposed standard formwork and a systematic construction process.

The new road on the high ground, along with the accompanying public buildings such as schools and the sports facility, will define a border to prevent further expansion of the informal settlement, creating the previous problems yet again.

The community's excessive dependence on the governmental agencies is not desirable since it prevents a true empowerment status. So the project provides training for the community to promote self-construction, paving the way for capacity building. While creating new jobs, this initiative will transfer

skills to the community, improving their ability for income generation.

### **A better life, a stronger community**

Once integrated with the formal city, the inhabitants of San Rafael-Unido settlement will be proud of their “city”. With a new road system and improved stairs, the community will enjoy better accessibility and mobility within the settlement.

The upgraded services will help them enjoy a decent life somewhat equal to that of the inhabitants of the formal sector.

The healthy relationships developed among the community members as part of their

involvement in the project will strengthen the community as a whole. This bond will become stronger as the new public spaces will facilitate better social interaction among the community.

**Asitha Jayawardena**, BSc Eng (Hons) (Civil Engineering), MPhil, is reading for MSc in Education for Sustainability at London South Bank University UK. In Sri Lanka he has co-authored eight refereed research publications and published in the National press (English) 140 articles, 95 poems and a regular column. His interest is in knowledge dissemination on sustainable development.

[writer\\_asitha@yahoo.com](mailto:writer_asitha@yahoo.com)

[asitha3@hotmail.co.uk](mailto:asitha3@hotmail.co.uk)