



**EXPLORING  
INCREMENTAL  
HOUSING  
PROCESS  
COMPARING A  
FORMAL AND  
INFORMAL  
COMMUNITY  
IN QUITO**

EXPLORACIÓN  
DEL PROCESO  
de vivienda  
incremental  
COMPARCIÓN  
DE UNA  
COMUNIDAD  
formal e informal  
EN QUITO



SPECIAL INTEREST  
GROUP IN URBAN  
SETTLEMENT

AFFILIATED WITH  
THE MIT CENTER  
FOR ADVANCED  
URBANISM

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# Abstract

## THE HABITAT III QUITO WORKSHOP - FORMAL VS INFORMAL ~ WHAT IS OUR ROLE?

### *In the beginning*

A simple visit to Quito before Habitat III conference, with a look at housing.

Our goal: **VISIT HOUSING - EXHIBIT AT HABITAT III CONFERENCE**

We undertook background research, and came across report on an innovative DIY incremental multi-story housing development by USAID and which included reference to a parallel former squatter settlement started around the same time 1980.

**NOTED THAT BOTH FORMAL AND INFORMAL HOUSING KEY PROVIDERS  
THE NEW GOAL= COMPARISON TO SEE DIFFERENCE TODAY**

### *We expanded goal to include a range of perspectives*

Students were sent to Quito to survey, compare and see what happened.

But housing is not in isolation! Housing is the community, and community is the housing!

Undertook multi-pronged capture of local perspective of both settlements:

- solicited children's views in both settlement schools with individual camera for students - had mini 'show and tell' explaining their photos
- used drones to comprehend larger scale differences
- undertook detailed family interviews
- prepared photo essays -

**DIFFERENT PERSPECTIVES CONTACTED FORMAL AND INFORMAL  
HOW TO TELL THE DIFFERENCE AFTER 37 YEARS?  
= ASKED EXHIBIT VIEWERS FROM QUITO TO HELP**

### *Concluded that both formal formal and informal housing a success today!*

**WHAT CAN WE CONCLUDE? \$20 MILLION LOAN vs INFORMAL SQUATTER?**

**= REFLECT: SO WHAT IS OUR PROFESSIONAL ROLE?**

### *Prepared strategy with settler strengths + professional input - A partnership of strength*

A 5-pronged strategy was developed drawn from past work and Quito realities.

- 1: Provide Preplanned Growth Frame: 'Supermanzanas' with varied degrees of participation
- 2: Welcome all Groups in Co-op Family Custers as planning and living frame
- 3: Assist development in Community Action Planning
- 4: Provide resilient design and construction support. "There is an APP for that"
- 5: Provide self-assessment guide for earthquake risk



# SUMMARY NARRATIVE

Hola Quito!

## TWO COMMUNITIES BUILT BY THEIR OWN EFFORTS

Learning about the incremental self-build construction process comparing formal and informal communities.

### *Looking back, learning for the future!*

Two communities in Quito were targeted; one started as a squatter invasion and the other a formal gov/USAID; both started in the 1980s, both incrementally self-help built, both today successful.

Can you tell the difference? Full services, legal, both expanded to multi-story housing providing needed affordable units.

What does this suggest for policy initiatives?

How did the communities achieve this standard? What was the process?

Students went to find out during the summer of 2016. Partnering with local Quito Universities and with the assistance of the communities, a multi-pronged methodology for understanding was used:

- House-to-house survey, using a diagrammatic graphing summary to capture and clarify the process. Not *“just a survey”* but a celebration of the success of the community. Included interviews of original stakeholders from the 1980s!
- Innovative children’s perspective in each community: they

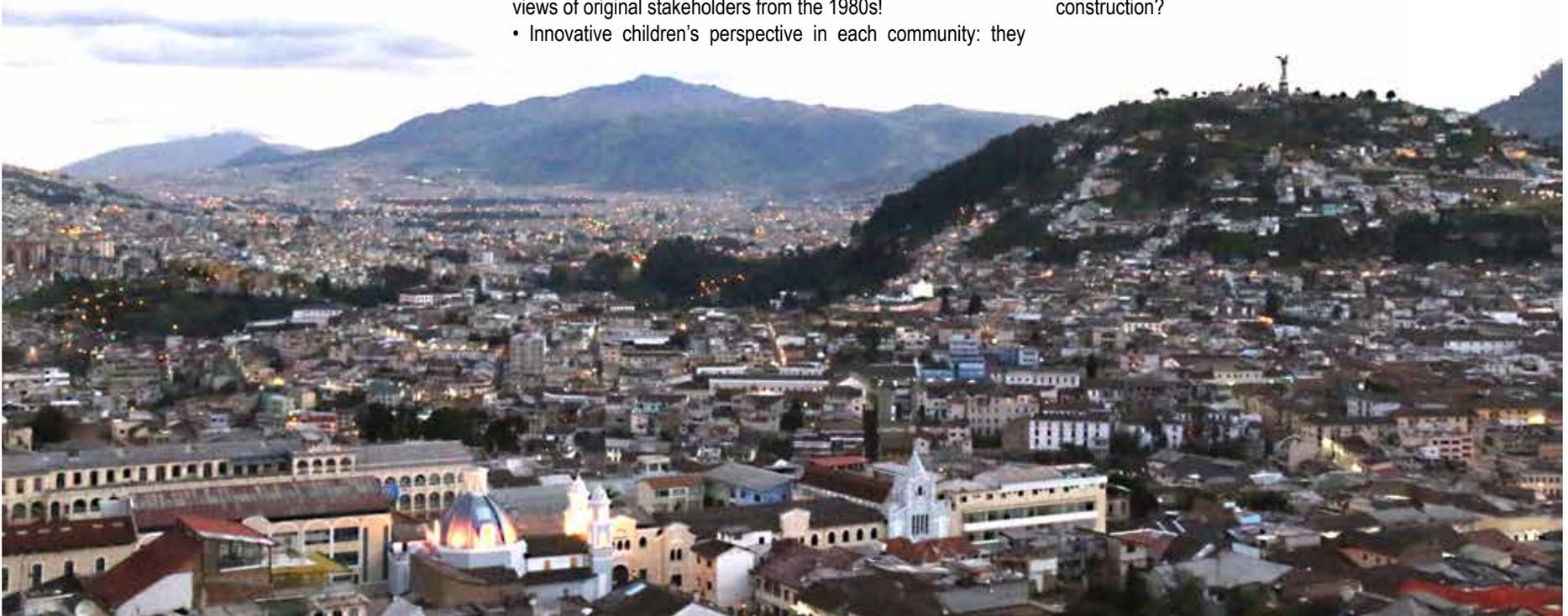
were given cameras and asked to photograph things that are ‘good’ and ‘bad’ about their community. A way to capture their valuable unique views.

- High-tech drone flyover, with manipulation of the images with software into a 3D rendering. Experimentation with determining degree/quantity of buildout (height mainly) and other aspects which this approach offers.

- Extensive photographic documentation, with collection of historical images to capture the development process.

The energy, power, and creativity found in both the informal community and the formal community was clear. We should congratulate and celebrate with the communities in their success! What can we learn from this incremental process in housing initiatives? Perhaps the incremental approach could equally be a key actor in the reconstruction after the earthquake?

In short: should we **Partner** with the incremental process as a demonstrated successful means for addressing housing and reconstruction?





**Looking back,  
learning for the future!**

**Mirando hacia atrás,  
aprendiendo para el futuro!**

2

Two communities in Quito were targeted; one started as a squatter invasion and the other a formal govt/US-AID project; both started in the 1980s, **both incrementally self-built**, both today successful.

Dos comunidades en Quito fueron investigadas, una comenzó como una invasión ilegal y la otra como un proyecto formal entre el gobierno ecuatoriano y USAID; ambos se iniciaron en la década de 1980, los dos **fueron construidos incrementalmente**, y hoy los dos son exitosos.

**Can you tell the difference?**

Full services, legal, both expanded to multi-story housing providing needed affordable units.

**What does this suggest for policy initiatives?**

**Puede usted notar la diferencia?**

Con servicios básicos completos, legalizados, las dos comunidades tienen viviendas ampliadas con múltiples pisos ofreciendo unidades económicas necesitadas en la ciudad.

**¿Qué sugiere esto para iniciativas de políticas públicas?**

*From 1-Room/1-Story Starter Core to this!  
Can you find the original starter core?  
How did they do this?*

INFORMAL? FORMAL?

*Should/could we partner with this energy, creativity and power?  
What policies would HELP?  
What policies would HINDER?*

**How did the communities achieve this standard? What was the process?**

Students went to find out during the summer 2016. Partnering with local Quito Universities and with the assistance of the communities, a multi-pronged methodology was used:

**¿Cómo lograron las comunidades alcanzar este estándar? ¿Cuál fue el proceso?** Estudiantes fueron a averiguar estas preguntas durante el verano del 2016. Asociándose con universidades locales de Quito y con la ayuda de las comunidades, se utilizó una metodología multidimensional:

• **House-to-house traditional survey, using a diagrammatic graphing summary** to capture and clarify the process.



• **Una encuesta tradicional casa por casa**, con un resumen gráfico que captura y aclara el proceso de expansión.

• **Innovative children's perspective in each community.** They were given cameras and asked to photograph things that are 'good' and 'bad' about their community.



• **Una perspectiva innovadora de los niños en cada comunidad.** Cámaras fueron entregadas a niños y se pidió de ellos fotografiar cosas que son 'buenas' y 'malas' en su comunidad.

• **High-tech drone fly-over, with manipulation of the images with software into a 3D rendering.** Experimentation with determining degree/quantity of buildout (height mainly) and other aspects which this approach offers.



• **Un sobrevuelo con la alta tecnología de un drone**, con la manipulación de las imágenes con el software para convertirlo en un dibujo de 3D. Experimentación con la determinación de construcción (altura principalmente) y otros aspectos que este enfoque ofrece.

• **Extensive photographic documentation**, with collection of historical images to capture the development process. 'Photo Voice' videos and camera images.



• **Amplia documentación fotográfica**, con una colección de imágenes históricas para capturar el proceso de desarrollo. Video de "Photo voice" e imágenes de cámaras.

# VIEWERS WERE CHALLENGED TO EXPERIENCE INFORMAL DYNAMICS!



# TWO QUITO COMMUNITIES BUILT BY THEIR OWN EFFORTS

CONGRATULATE THEIR EFFORTS!



CELEBRATE THEIR SUCCESS!



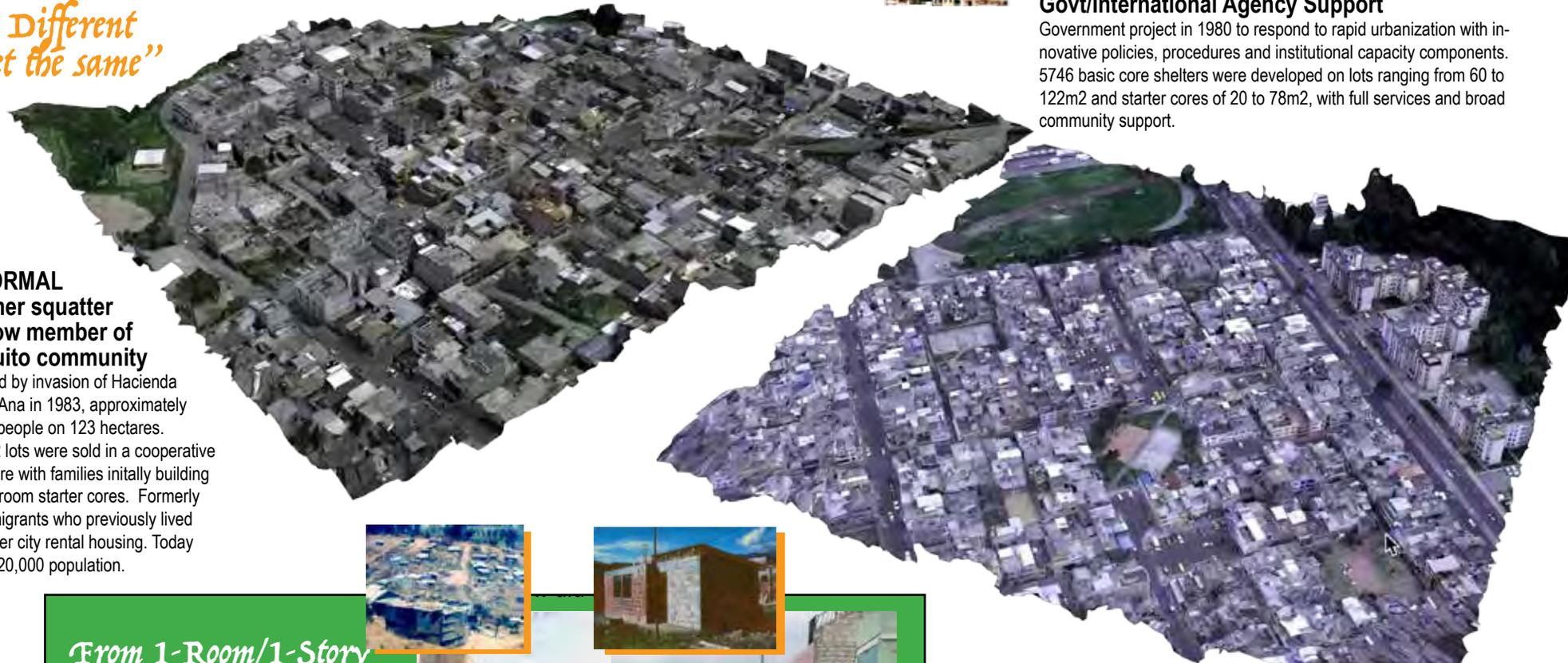
*"Both Different yet the same"*

## FORMAL Govt/International Agency Support

Government project in 1980 to respond to rapid urbanization with innovative policies, procedures and institutional capacity components. 5746 basic core shelters were developed on lots ranging from 60 to 122m2 and starter cores of 20 to 78m2, with full services and broad community support.

## INFORMAL Former squatter Now member of Quito community

Formed by invasion of Hacienda Santa Ana in 1983, approximately 5,000 people on 123 hectares. 180m2 lots were sold in a cooperative structure with families initially building single room starter cores. Formerly rural migrants who previously lived in center city rental housing. Today about 20,000 population.



*From 1-Room/1-Story Starter Core to this!*

Can you find the original starter core? How did they do this?

Should we partner with this energy, creativity and power? What policies would HELP? What policies may HINDER?



INFORMAL?



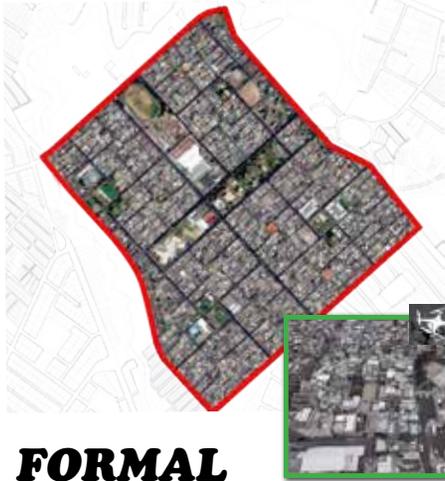
FORMAL?

## PARTNER in Rebuilding and Housing Programs?

The incremental self-build character could be enlisted in the reconstruction after the earthquake on the coast. Particularly appropriate for houses, as demonstrated in other earthquake and disaster situations internationally.



Earthquake!



4

## FORMAL - Government w/Int'l Agency Support

Government project in 1980 **Proyecto del gobierno en 1980 para responder a la rápida urbanización con políticas innovadoras, procedimientos innovadores y componentes de capacidad básica.** cores/shelters were on lots ranging from 60 to 122m<sup>2</sup> and starter cores of 20 to 78m<sup>2</sup>, with full services and broad community support.

### TYPICAL PROFILES ~ PERFIL TIPICOS 1-Story House 5-Story House

Cristina Granja came to Solanda from the neighborhood of La Mueca, near the center of Quito. She remembers her brother had told her of the new government affordable housing project. As she had never been a homeowner, she applied and was selected to become one of the new residents. She says Solanda has completely changed in the last 30 years. When she first arrived, all the houses were as small as hers continues to be, there were no cars, no markets, and no parks or green areas. Cristina never married or had a family, thus, she says, there was no need for her to expand her house like everyone else did - her only addition was a small covered laundry space in the back. She would like to add a room to her house, so that when family or friends visit they can have a place to sleep. Although she's now retired, Cristina worked as a domestic employee and then as a receptionist in the Marriott hotel. She has no intention of moving from Solanda - she says it's still a very good neighborhood to live in.

Katerine Moposta remembers being a young girl when she moved into Solanda with her parents and two brothers in 1990. The family had previously rented a room in the city center, and now they were finally homeowners, even though their home was not much larger than where they had previously lived. By lottery, the Moposta's had been awarded the 'bridge house', which consisted of a 3m by 6m studio apartment with a bathroom and a kitchenette. Not much later after they moved in, her father extended the house by building out 3 meters, making it a larger, 600-space where bedrooms could comfortably fit. Eight years later, Katerine's father, with the help of relatives and local builders, built a second story so that the family could live more comfortably now that the three children were becoming adults. The newly built floor had two bedrooms, a living room, kitchen, and a bathroom (a design that would be used for the preceding floors). They lived in their two-story house for eleven years, until in 2009 a third floor was built so that her brother could have a private apartment with his wife and child. Four years later, the first floor was built (this time using a metallic frame to lower the weight) so her other brother could have some privacy with his wife and two children. Katerine stayed on the second floor, eventually getting married and having a small boy of her own. Her parents still live in the first floor of their house. Katerine is quite happy in Solanda, she says she has everything she needs right here in her neighborhood. She has no plans of moving out, and her and her family are in the process of legalizing the additions to the house so her and her brothers can get the legal title for each of their floors.

CASE STUDY



5

## Formal or Informal?

**Vistas**

**Construction**

**Recreation**

**Commercial**

**Streetscapes**

**WHOOPS!**

**Which is which? Solanda or Lucha?**

The communities look too similar for us to tell the difference. Can you guess which sets of pictures correspond to Lucha? Put a star ★ on the pictures you think are from Lucha.

Ponga una estrella en las fotos de Lucha.



6

## INFORMAL - Former Squatter Settlement

Formed by invasion in 1983, approximately 5,000 people on 123 hectares. 180m<sup>2</sup> lots were sold in a cooperative structure with families initially building single room starter cores. Formerly rural migrants who previously lived in center city rental housing. Today about 20,000 population in a fully serviced community.

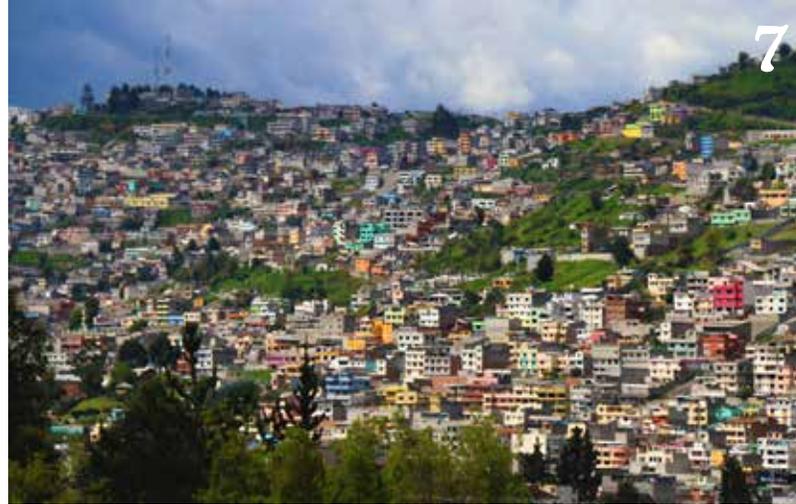
Formado por una invasión en 1983 de 5.000 personas en 123 hectáreas aproximadamente. Lotes de 180m<sup>2</sup> fueron vendidos en una estructura de cooperación. Inicialmente las familias construyeron cuartos individuales como núcleos iniciadores. Anteriormente los migrantes rurales vivían en alquileres en el centro de ciudad. Hoy cerca de 20.000 habitantes viven en la comunidad con todos los servicios básicos.

### TYPICAL PROFILES ~ PERFIL TIPICOS 1-Story House 5-Story House

Hugo is from the city of Loja in Ecuador. In 1981, Hugo was a married man and he used to work at a juice company. One day, while reading the newspaper, he found out about an invasion of land that was happening in the outskirts of the city of Quito. Hugo, who was currently renting a place to live with his wife, decided to take the chance and try to get a part of land for his family as well. Hugo narrated to us the story of a coordinated cooperative that was formed during the invasion in which people had to pay a small fee for the price of the land. He also remembers a colony of people from Loja that settled together in a specific block of the neighborhood. Hugo built his house with the help of some neighbors. It included one bedroom, one bathroom and a living room. Until now Hugo has a lot of space around his house, as he likes to use it to grow plants and vegetables. Unfortunately, Hugo became a widower and did not have a family therefore did not see a need to expand his house. Hugo lived and worked in Madrid from 2002-2004 in a private manufacturing company. When he came back to Quito, Hugo invested in creating his own juice company and is currently very successful. Hugo loves his home, has become good at savings and is a proud entrepreneur.

Oscar has been living in his house 33 years. He has a wife and she has been living in Spain for the past 19 years. They have three kids together and they all live at home with their father. Oscar funded the building of his four-story house solely from his savings. He is the owner of a mechanic shop in the north side of Quito. While he only had one floor when he arrived in 1983, he built the second and third floor during 2000 and the fourth floor in 2005. He currently rents the first two floors and lives on the third and on the fourth with his kids. The first floor is subdivided into two spaces for small businesses and a family rents the second floor. Oscar's house is located in the corner of one of the biggest avenues in the neighborhood, a prime location for any kind of rental purpose. Oscar is quite active in the neighborhood, he heads one of the "senior" soccer teams, and they play every Sunday in a soccer field close by. Oscar is the owner of three cars but wishes there was more public transportation offered.

CASE STUDY



***Proud to Partner  
with Success!***

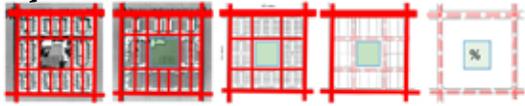


*(Is all this informal?  
What is informal? ? ?)*

# Partners Not Projects

Harness the vitality, energy, power, and creativity of the demonstrated INFORMAL SUCCESS

## URBAN FRAME 1 PROVIDE PREPLANNED GROWTH FRAME Lay out "Supermanzanas"



## COMMUNITY FRAME

### 2 WELCOME ALL GROUPS IN CO-OP CLUSTERS Offer tenure, provide plans and support



Self-selected co-op 'clusters' form basic spatial element guiding development

### 3 ASSIST IN COMMUNITY ACTION PLANNING



## FAMILY HOMES

### 4 PROVIDE RESILIENT DESIGN/CONSTRUCTION SUPPORT "There's an APP for that"



### 5 PROVIDE SELF-ASSESSMENT GUIDE FOR EARTHQUAKE RISK Identify, Evaluate, Rebuild "Tu vida, Tu vivienda, Tu decision"



Different but the same?  
Which is informal? ?



What is informal incremental?

STRATEGY

# **PARTNERS NOT PROJECTS!!!**

Harness the vitality, energy, power, creativity  
of the DEMONSTRATED INFORMAL SUCCESS

## *What*

Proposed is a synergy of coordinated programs. No one intervention approach is sufficient: a range of programs provides a comprehensive, effective and sustainable way forward. We do not propose a specific plan to be repeatedly duplicated endlessly and blindly, but we offer a service-oriented strategy, building on the inherent strengths in the Ecuadorian culture, and providing support when needed. *Three principles drive our proposal: confidence in the demonstrated success of the informal builders, self-organization of small groups to initiate intervention and action, and accessing 'high-tech' communications for outreach support.*

## *Projects have failed*

Typical' housing projects are not sustainable, and have too often failed and continue to fail to meet the key challenges of speed and scale for rapidly growing urban areas. Formal projects siphon off considerable resources and energy to develop and execute, and the involvement of foreign support often results in a 'hard currency' debt, an unsustainable intervention.

Why impose projects, when one sees vast successful areas of housing built informally by families, fitting their needs and resources? How can we mesh the energy and success of the informal incremental builders and the demands of the city? How does a city become a 'Smart City' which builds on its inherent strengths?

## *Tools and Techniques Strategy*

The proposal is for the design of a fundamental strategy – not a typical design of a house and layout, but the design of TOOLS and TECHNIQUES for housing and community development, bringing in spatial and design knowledge as a support mechanism.

## *Basis of Proposal*

We base our proposal on observations and recent surveys of two communities in Quito: one built independently by former squatters and another in an officially supported formal project. Overtime, they appear to be identical, and both the formal and informal are developed incrementally by the families and became fully functioning and contributing to society. The success of this informal incremental process has been recognized globally. We strongly judge that keying off real-life experiences offers better solutions than abstract impositions.

We also have learned from the tremendous experiences worldwide, and bring in experiences that have proven to be successful. We have combined the local experience, our previous research and the international successes into a coordinated, reinforcing package for widespread application.

## *3 Levels of Support*

Three levels of support are envisioned: (i) the urban scale, providing a frame around which orderly, cost sensitive development can grow, (ii) the community support level, which offers the initiative to the communities to self-form, organizing themselves through 'community action planning' in setting their own agenda, and (iii) the family level, where guidance is provided for the design and construction of their incrementally self-built homes, and for existing housing a self-assessment guide for identifying, evaluating and taking action to address earthquake risk.

*Urban  
Guiding Frame*

At the urban scale, a large ordering grid is envisioned, drawing on experimentation with ‘supermanzanas’ in Latin America in the 70s. Cost-effective infrastructure grids parallel community neighborhood principles. Different variations would be offered, all within the large ordering grid of streets as frame.

*Self-Selected  
Co-op Clusters*

The interior development of the supermanzanas is encouraged through self-selected ‘co-op’ clusters of 15-25 families, an effective way of reinforcing communities, encouraging mutual help in construction, allowing phased infrastructure levels – from low-cost shared facilities to eventually individual servicing - and supported by legal tenure forms. The cluster form minimizes streets and infrastructure, lowering the burden on governments.

Families are encouraged to form ‘cluster groups’ which take the initiative and contact the authorities, eliminating a tremendous amount of upfront vetting and selection – the decisions are made by the communities, with considerable benefit to the government. Governments provide the frame for development to occur and the protocol for development.

*Community  
Action Planning*

The cluster groups would be encouraged in their own decision making initiatives. ‘Community Action Planning’ would be encouraged to strengthen communities, and to cooperatively decide and initiate actions.

*Family ‘App’  
Support*

At the family level, particularly focused on the informal incremental self-builders, technology becomes the mechanism to provide assistance. The saying: “Everyone has a cell phone, but not everyone has a house.” Would be expanded to: “.....but with this they can learn good practices.” Designing a phone ‘app’ or texting service for use by families provides a ready way to pass on information offering inherent credibility.

*Rapid Risk  
Self-Assessment*

The recurring earthquakes undoubtedly cause much concern from the many families that have informally built their homes. “Will our houses collapse? Did we build them strong enough?” Professional engineer review would be too expensive and a self-assessment approach is advocated with a rapid test for vulnerability.

*“Tu vida, Tu vivienda, Tu decision”*

The informal has power, and is a vital partner for successful action in housing and urban development.



COULD WE PARTNER  
TO REBUILD  
AFTER EARTHQUAKES?

¿Podríamos asociarnos  
para la reconstrucción  
después de terremotos?



**T**he *vitality, energy, power, and creativity* found in **BOTH** *informal and formal communities* is clear.

We **Congratulate**

We **Celebrate**



We **Partner**  
with the incremental process as a  
demonstrated successful means  
for addressing housing and reconstruction.