

Xaman-Ha city, an answer to the poor growth and spread population

Global aspect

In The Mexican Republic we can find three zones with an important tourist movement; the metropolitan area of Mexico City, the Oaxaca area, and the Mayan area. This last one represents, in the Mayan Riviera including Cancun, twenty five thousand hotel rooms in these days, and in building process there are accepted and approved seventy thousand more hotel rooms. As a result the growth in working population increases every day, as well as the services and needs to attend.



Image 1. The Metropolitan area of Mexico City, the Oaxaca area, and the Mayan area location.

The state of Quintana Roo is one of the most important tourist development regions of Mexico, where is located Playa del Carmen, one of the fastest growing cities of the country (a 10.5%-14% annual rate) and with fastest growing tourist.

This brings specific issues to resolve: The highest percentage of floating population, the need of housing for workers in the area, strategic location for tourism development in the region and an economic growth for a regional autonomous center.

And in consequence brings a response: a satellite town, the first of others poly-centrally cities around Playa del Carmen, being healthy and controlled growth, contrary to a neglected spread.

Xaman-Ha City (Maya for North Water) will be developed 20kms inland from Playa del Carmen, as a response to the issues before treaties. This project is financed both with

private and government funds. Its purpose is to create a community that integrates the natural conditions of the place and that grants high living standards to its inhabitants, having a concept that encloses the sustainability idea.

In the social aspect considers the inclusion, health, form and space; in the economic aspect considers the feasibility and the employment opportunities, and in the environment aspect consider the air quality, zoning, construction, mobility and the use of eco-technologies. All these concepts are joined to generate an autonomous region, “a green, water and pedestrian city” economically accessible to the lower resources population.

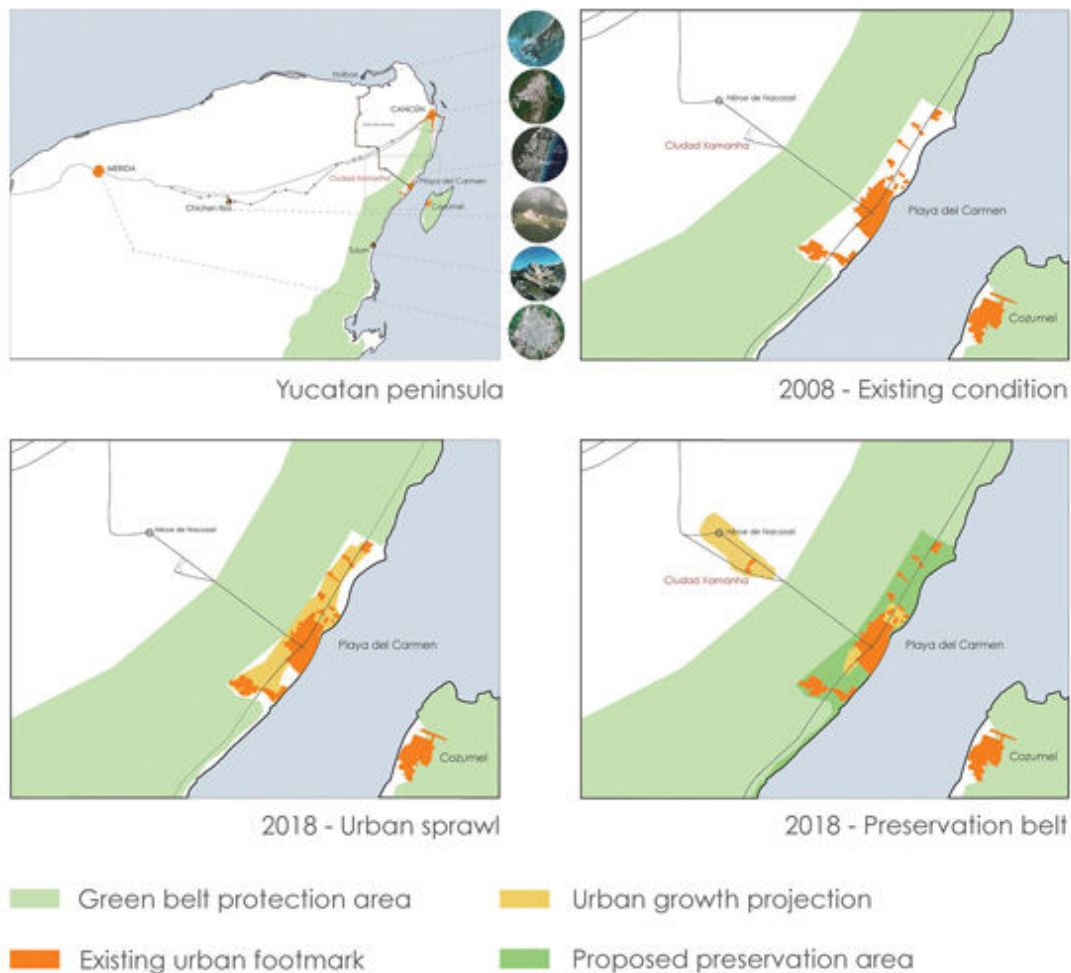


Image 2. Playa del Carmen urban sprawl and Xaman Ha city urban growth projection.

The sustainable and self-sufficiency city

The site of this new city is determined by three main factors:

- 1- The construction of a new highway that will connect Playa del Carmen with Merida, Chichen Itza and Holbox Island, creating a corridor with outstanding tourist potential.
- 2- To prevent that the urban sprawl of Playa del Carmen continues to invade the coast forcing its growth inland.
- 3- This growth will be controlled by a green belt between Playa del Carmen and Xaman-Ha City.

The community will cover the present housing demand and in a near future will transform in a regional autonomous center offering a controlled Playa del Carmen expansion with accessible services, providing sustainable and flexible progressive housing for workers and being an economical self sufficient city.

Xaman-Ha City is expected to accommodate 30,000 inhabitants in 120 hectares in an initial phase. It is limited in its growth by the surrounding rainforest and it forms part of the water-bearing system of the Yucatan Peninsula: the *cenotes*. This is why the development is based in 3 premises: Green City, Water City and Pedestrian City.

Financing will be made through Federal Government housing credits controlled by a private trusteeship. The city's progressive scheme will generate resources administrated by its inhabitants even during construction; water will be sold to neighboring productive lots. Xaman-Ha's strategic location makes it an important connection point in the regional tourist route.

There will be an important economic flow which will make Xaman-Ha City an autonomous regional center with a close collaboration between municipality and community. Building a city means creating a community.

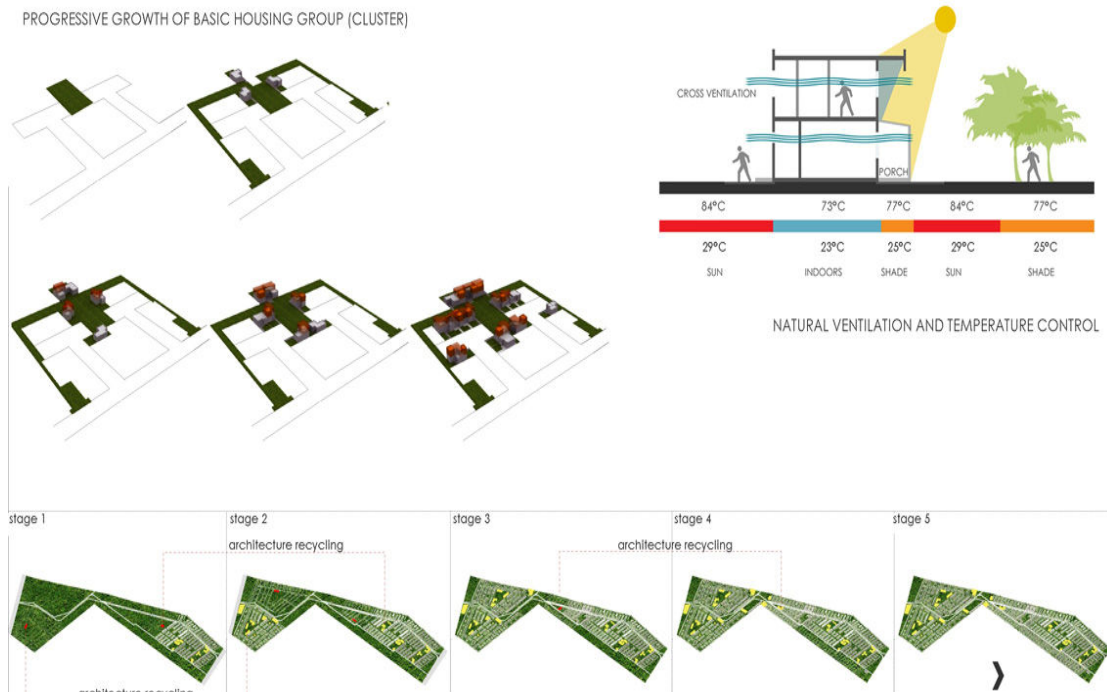


Image 3. The sustainable and self-sufficiency city build progress

The city will be inserted in the territory respecting the natural characteristics. Rainwater will run through the surface and will replenish the aquifers in different parks forming artificial lakes when there is a water surplus.

Schools, clinics, sports facilities, markets, social centers, will be located at the same parks, some of which will serve as camps during the construction phase.

This services, as well as commerce will be accessible to everyone within walking distance.

A series of towers will serve as water wells, water pumps, water deposits, solar energy generators, telecommunication antennae as well as urban references.

All of these urban spaces reinterpret the insertion of Mayan cities in the jungle with a contemporary language.

Xaman-Ha City proposes to create a sustainable community with a strong identity. There will be a combination of local materials with new eco-technologies in the construction of both, housing and city: use of local stone (*sascab*), progressive growth housing with palm porches, water treatment plants, biogas plants, solar energy and passive architecture.

Identity +Technology will create long-term administration and maintenance.

The primary aim of the city is to generate a community identity at different scales; the neighborhood, the park and the city, with simple and low-cost solutions: the use of local materials, workforce and construction procedures, the progressive growth of house and city, the proliferation of shading and natural ventilation, pedestrian access to basic services, the use of eco-technologies, and the integration of the climatic and territorial context.

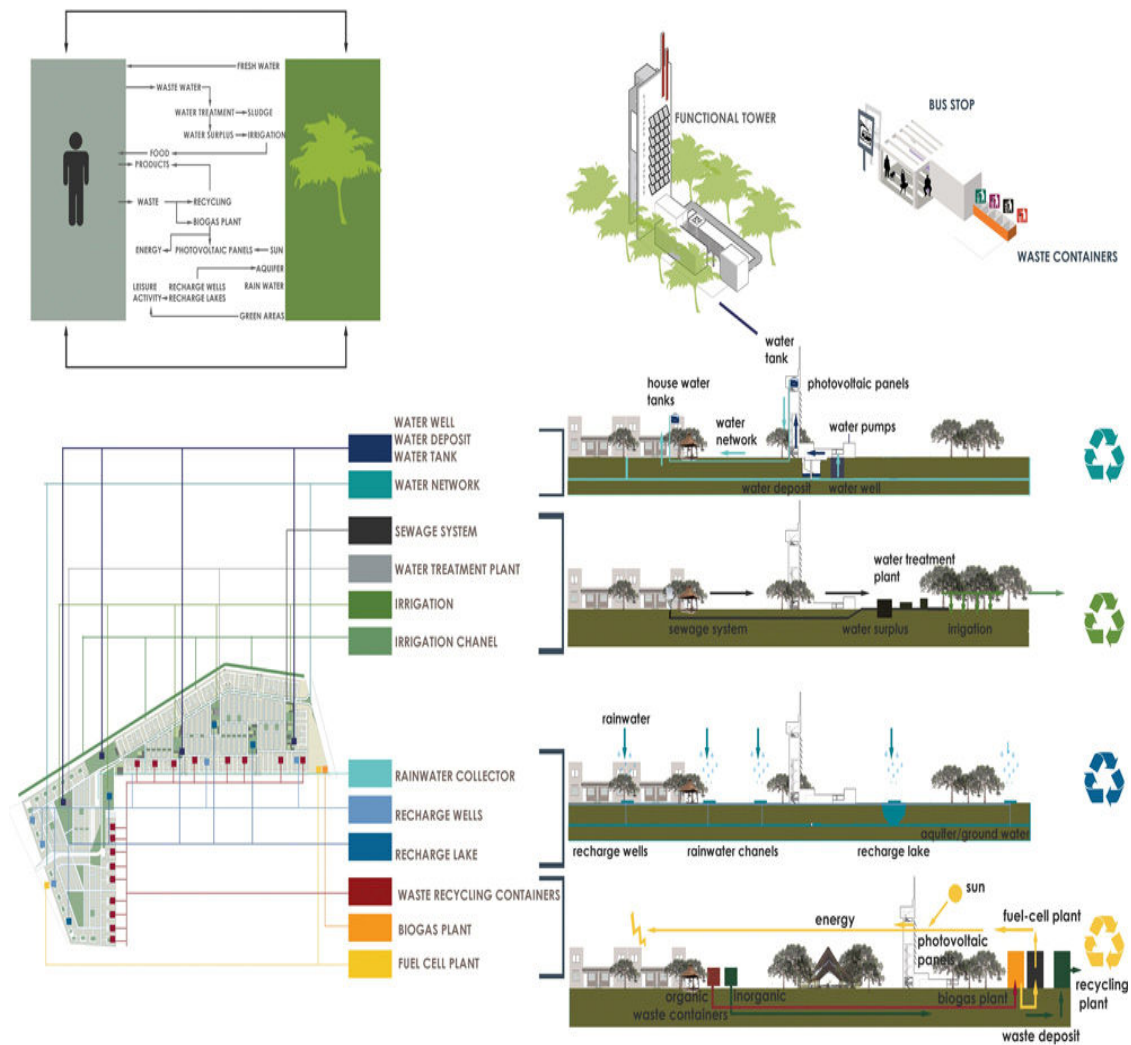


Image 4. The use of eco-technologies for the city function.

A very important point of the project is to integrate the city in an ecosystem, recycle and transform waste, replenish the aquifers and preserve the vegetation.



Image 5. Green mobility and activities.

The green city

Big on green- Xaman-Ha City will have a high percentage of pre-existent green areas that will serve public interaction spaces, linked with topography, vegetation and superficial and subterranean waters.

Green tech- The use of renewable energies and echo-technologies integrated into architecture and urban design.

Green structure and scale- The city is structured around green areas that grow fractally in scale: the neighborhood, the district and the city.

Housing and public buildings will have natural ventilation systems for temperature reduction using lattice work and porches. Camps and dining halls used during construction will be reused as communal centers in the parks.

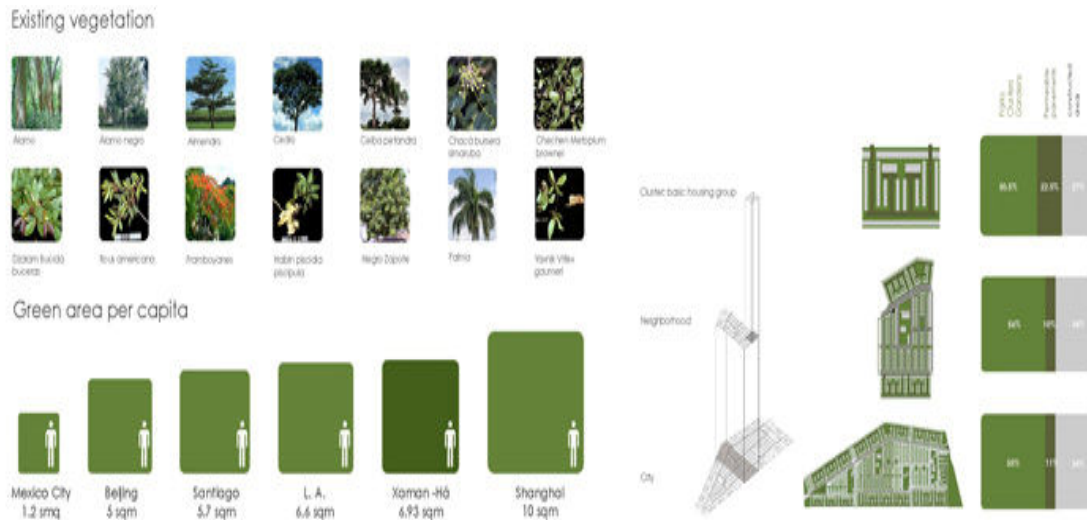


Image 6. The green city.

The water city

Watercourses- The terrain's natural topography will be used as watercourse for rainwater and to replenish water-bearing systems in order to preserve the regional ecosystem of *cenotes*.

Waste separation and recycling will be fundamental and the city will produce the necessary energy with a fuel cell plant, solar technology and later with biogas product of waste.

Water treatment plants will be used for irrigation, recharge and sale of water to neighboring lots.

Flooding- Public space is transformed by rainfall flooding according with the season, and flooding spaces will house different activities throughout the year according to weather.

Porosity- The city conducts and injects rainwater into the subterranean system of rivers and avoids breaking the balance between fresh and salt water and assuring water supply.

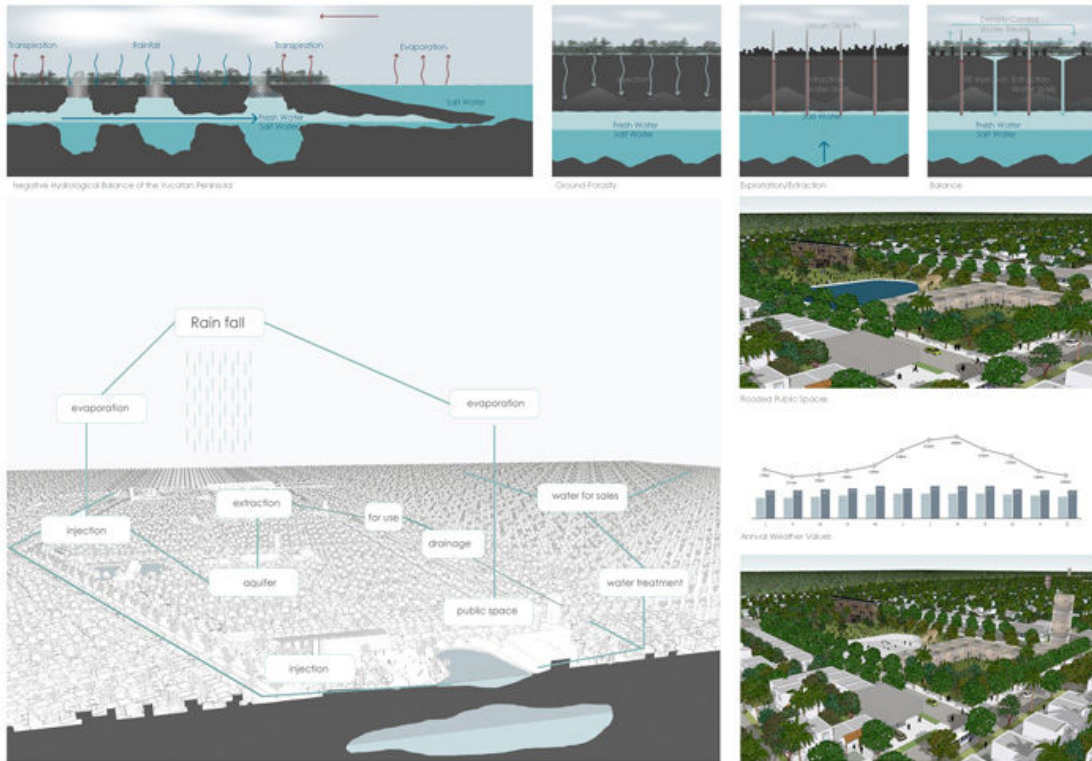


Image 7. The water city.

The pedestrian city

The project's principal objective is to resolve the regional housing deficit emphasizing quality of life.

The project integrates the community by using public space within three different scales: neighborhood, park and city as it was mention before. Most of the workers that participate in the construction will live there and will participate in the progressive growth of their houses and on the construction of further public services. This sense of belonging will be built since the construction phase.

Public space will be emphasized by the use of local construction materials and passive systems in schools, markets, churches, sports facilities and an urban design focused on the pedestrian and social interaction.

Concentration- Public space compensates social housing integrating commerce and services in large urban scale parks. The whole system is based in comfortable walking distances: 100 meters -one minute walking, 200 meters – two minutes walking, and 500 meters, five minutes walking.

Mayan city- This city is an island integrated with its natural surroundings. High towers provide easy visual positioning, while open platforms concentrate social interaction in an integration with nature.

Mobility- Pedestrian, bicycle and public transport structures link the whole public space system. Other important aspect that the project proposes in the mobility aspect, is that will be a mass transportation system between Xaman Ha and Playa del Carmen, having a group of buses constantly moving over the 20 km between the two localities.

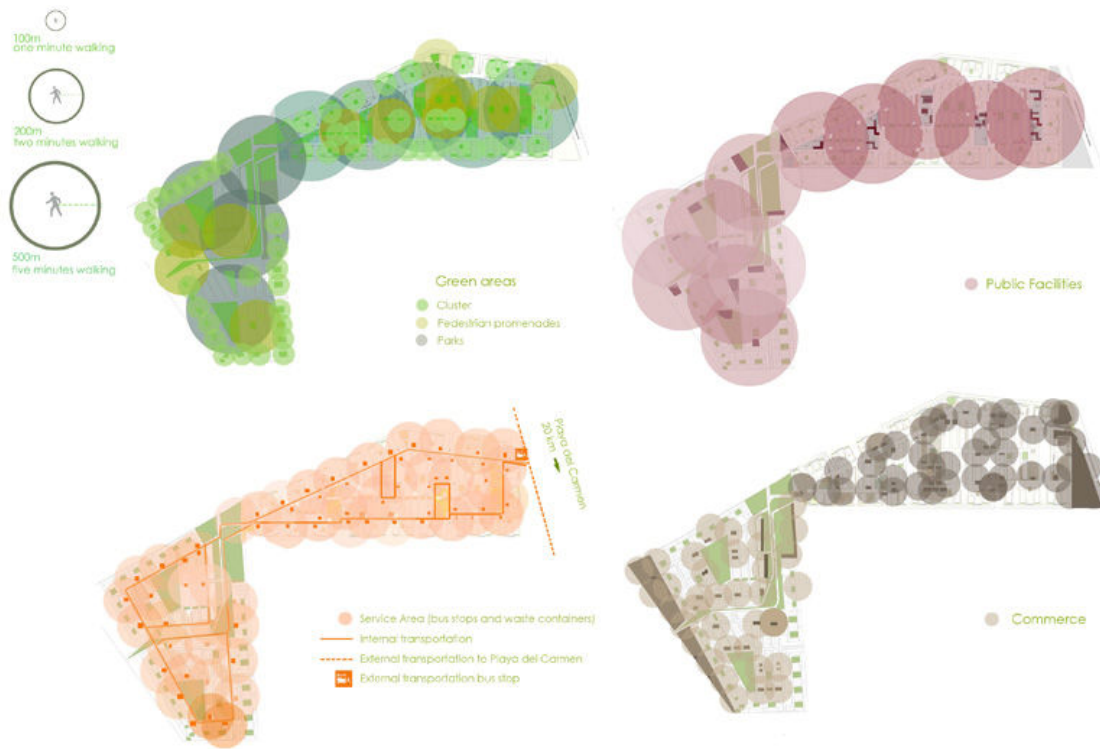


Image 8. The pedestrian concept city.



Image 9. The pedestrian city.

Housing

The concept of housing is enhance the interior space integrating it into outer space and achieves a sense of greater breadth and freshness through a portico palm. This space will be one of the hallmarks of the set on urban image, since it takes up one of the traditional elements of local architecture, is a fresh space overlooking the street to relax and have a link with public space, is also an element that creates shade and help keep the interior cool. All houses have cross-ventilation to improve temperature and selection of materials is essential to generate comfort.

There will be single – family houses as well as apartment buildings, with different sizes and also having the progressive housing concept.

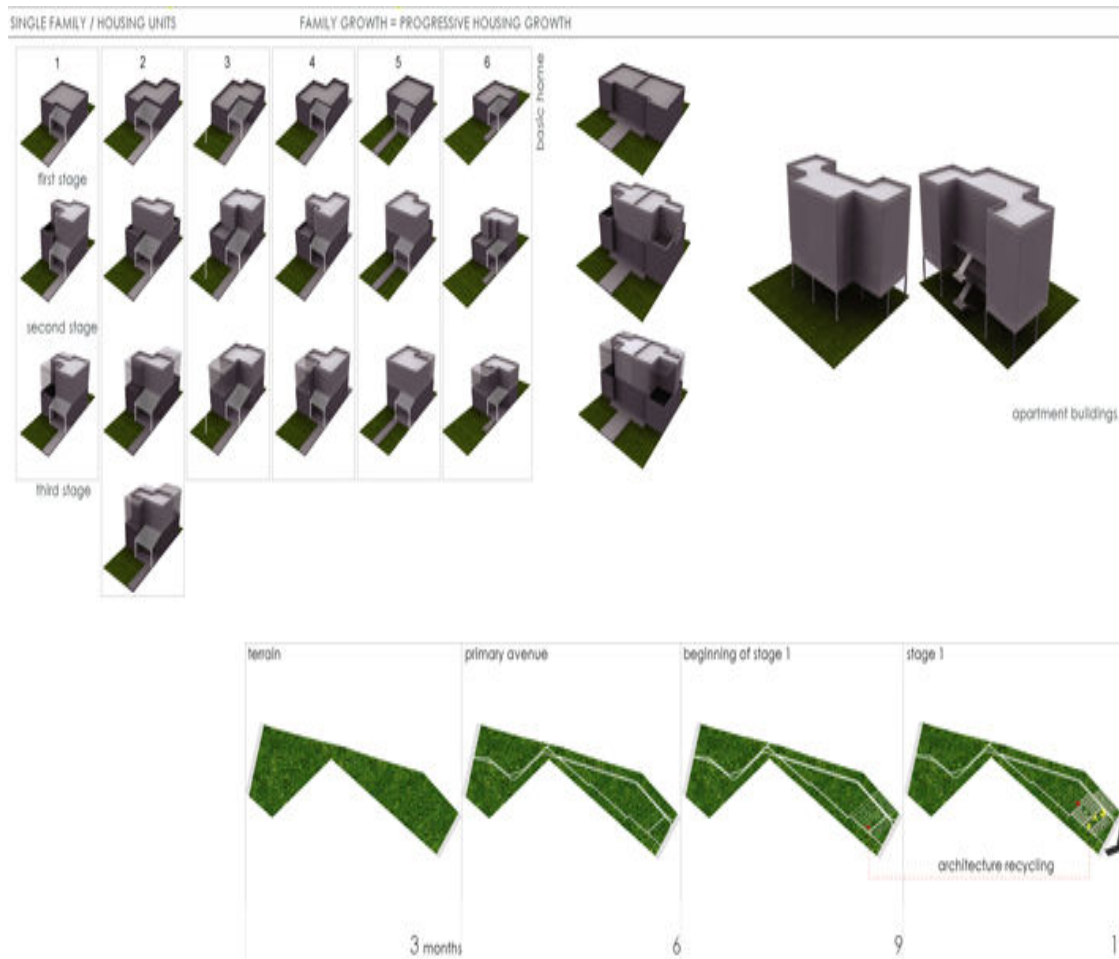


Image 10. The progressive housing.

Juan Felipe Ordóñez, Juan Carlos Cano, Paloma Vera, Hessner Sánchez, Fermin Andrade
Xaman Ha City, an answer to the poor growth and spread population. 44th ISOCARP Congress 2008

As a conclusion the project will generate a balance between environment and human habitat reinterpreting the Mayan idea of building city as an island integrated with the natural surroundings.

Creating a poly-centrally city model that have to be sustainable as well as having a mass transportation efficient system as an obligatory condition.

Always consider the human in relation with the environment as the most important city issue.



Image 11.Xaman Ha City.