



UN LAKOU PARA HAITI / A LAKOU FOR HAITI

CATEDRA HAITÍ - Estudiantes del / Students from AIAsPOLI con / with Andrés MIGNUCCI

UN LAKOU PARA HAITI / A LAKOU FOR HAITI

CATEDRA HAITÍ - Estudiantes del / Students from AIAsPOLI con / with Andrés MIGNUCCI



Haití está localizada en la isla caribeña de La Española, la cual comparte con la República Dominicana (18°32'N / 72°20'W). Esta forma parte, junto a Cuba, Puerto Rico y Jamaica, del archipiélago de las Antillas Mayores. Haití fue la primera nación independiente de América Latina liberándose de Francia en el 1804. Haití es también una de las naciones más pobres del Hemisferio Occidental.

El martes, 12 de enero del 2010, un terremoto con intensidad de 7.0 y a una profundidad de 8.1 millas sorprendió a la población haitiana. El epicentro fue identificado a unas 15 millas al sur-sur-oeste de la capital Puerto Príncipe. El terremoto fue seguido por 59 réplicas con intensidades de entre 4.2 a 5.9. La devastación en Haití es catastrófica - 230,000 muertos, 300,000 heridos, y 1,000,000 de personas sin hogar. El gobierno también ha estimado que 250,000 residencias y 30,000 edificios comerciales han colapsado o han sufrido daños severos.

Ante el terremoto ocurrido en Haití el 12 de enero del 2010, el taller de arquitectura CATEDRA HAITÍ se arma con miras a explorar el tema de la vivienda y esbozar posibles alternativas de reconstrucción a mediano y largo plazo. Mientras una gran parte de la ayuda internacional se enfoca en el problema del albergue temporero, nuestro interés principal centra en el problema de la vivienda permanente.



Puerto Príncipe después del terremoto / Port-au-Prince after the earthquake.

El grupo comenzó estableciendo un número de motores de diseño que servirían de guía para los trabajos.

- El diseño debe reflejar la condición isleña y tropical de Haití
- Debe integrarse a la cultura local.
- Debe tener capacidad de adaptación y transformación.
- Debe estar basado en la autoconstrucción y la mayor participación local.
- Debe poder conformar espacio público y sentido de comunidad.
- Debe poder adaptarse a diferentes usos.
- Debe reflejar intertextualidad y la participación de otras personas a través del tiempo.
- Debe ser inclusivo, no exclusivo.
- Deben haber gradientes de espacios de diferentes cualidades.
- El diseño debe ser sencillo y claro.
- Debe tener facilidad de transporte (peso / tamaño).
- No debe glorificar la pobreza en su imagen física.
- Debe tener capacidad de agregación / serialidad y crecimiento.
- Debe tener capacidad de permanencia.
- Debe facilitar la accesibilidad y el movimiento de diferentes edades y condiciones físicas.
- Debe promover el reciclaje y el reuso de recursos.

El proyecto propone el desarrollo de un módulo básico de 8' x 8' (240 x 240) con capacidad de agregarse serialmente para hacer unidades de tamaños variados según las necesidades y la composición familiar de los usuarios. A estos módulos se le incorporan una serie de piezas intercambiables que conforman un sistema de encerramiento bajo el control del residente. Una agrupación de 4 módulos sirve de base para generar la unidad de vivienda básica que se utilizará para armar conjuntos de mayor tamaño. La estructura del módulo y su agregación tiene tangencia con el desarrollo y evolución de la casa popular antillana según estudiado por Jack Berthelot y Martine Gaumé



Haití is located, along with the Dominican Republic, in the Caribbean island of Hispaniola, part of the Greater Antilles archipelago (18°32'N / 72°20'W). Haiti was the first independent nation in Latin America, gaining independence from France in 1804. It is also one of the poorest nations in the Western Hemisphere.

On Tuesday, January 12, 2010 at 21:53:10 UTC a 7.0 magnitude earthquake struck Haiti at a depth of 8.1 miles. The epicenter was located 15 miles WSW of the capital Port-Au-Prince. After the earthquake there have been 59 aftershocks ranging from 4.2 to 5.9 magnitude in strength. The devastation in Haiti is catastrophic - 230,000 people dead, 300,000 injured and 1,000,000 made homeless. The government has also estimated that 250,000 residences and 30,000 commercial buildings have collapsed or have been severely damaged.

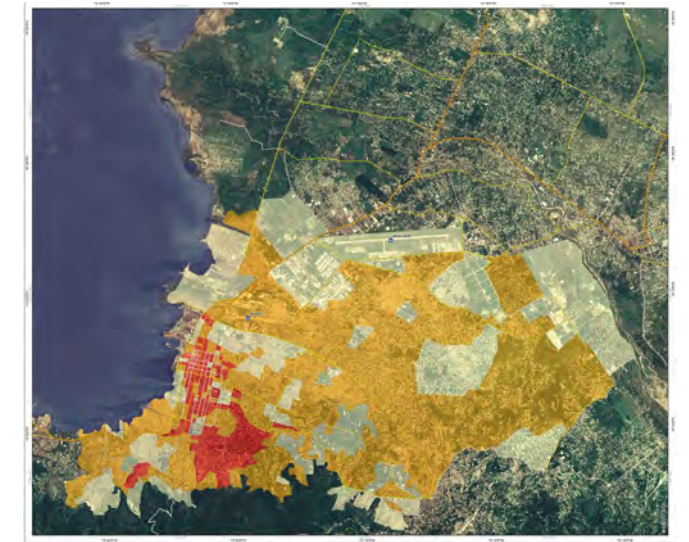
CATEDRA HAITÍ is founded as a multidisciplinary workshop seeking to explore housing related issues and to generate potential alternatives that may aid to Haiti's reconstruction. While much of the international aid regarding housing has concentrated on temporary shelter at the scale of the individual dwelling, we were interested in looking primarily at permanent initiatives within Haiti's reconstruction efforts. To this end, we emphasized on three primary general issues to be addressed:

The notion that the housing stock is the primary driver in the definition of the character and nature of a settlement's urban fabric and urban form. Therefore, the idea of the collective urban form is as important as that of the individual dwelling unit.

To look at what densities are appropriate to the different contexts being considered - city, town, village. This should be considered first, in terms of Haiti's own demographic conditions and growth tendencies and second, in light of the demographic changes resulting from the earthquake.

The inter-relation of a network of infrastructure and services to serve and connect to the different dwelling clusters as a seed for community building.

These general issues were accompanied with a set of drivers to serve as

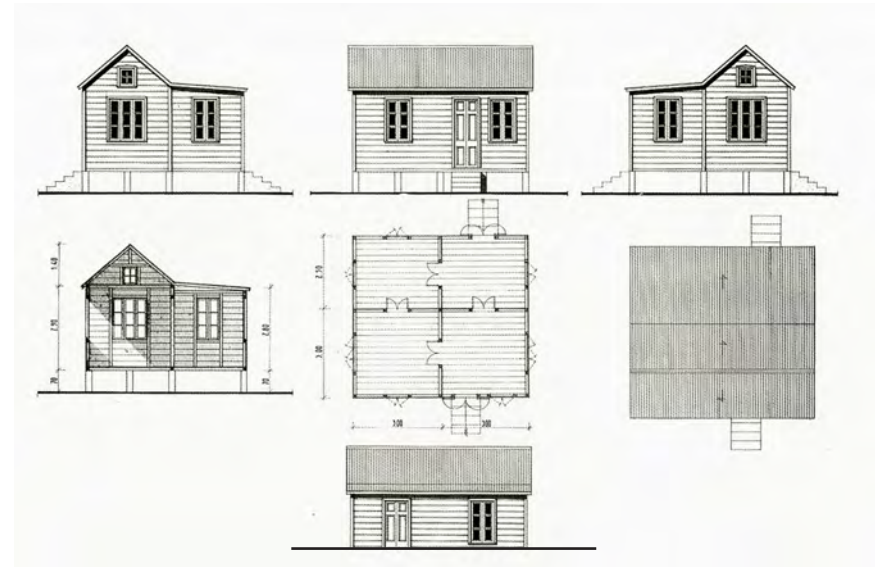


guides for the design explorations.

- The housing design should reflect Haiti's island and tropical condition.
- It should integrate with local culture and traditions.
- It should have the capacity for change and transformation.
- Its construction should be based on self-help with the greatest extent of local participation.
- It should define public open space and contribute to a sense of community.
- It should be able to adapt to different uses.
- It should reflect intertextuality and the participation of other people through time.
- It should be inclusive and promote diversity / it should not be singular and exclusive.
- There should be a range of spatial thresholds between inside and outside.
- The housing design should be simple and clear.
- Any pre-fabricated components should be easily transportable (size / weight).
- The housing design should not glorify poverty.
- It should have the capacity for additive growth (seriality).
- It should have a sense of permanency and security.
- It should be accessible, facilitating the movement of people of different ages and physical conditions.
- It should be based on passive sustainable design principles.
- It should promote the reuse of resources / recycling.
- Its design process should promote and facilitate user participation.

Initial studies developed a basic 8' x 8' (240 x 240) module that could be aggregated and assembled into larger territories according to family composition and needs. A unit size composed of four modules would constitute the basic dwelling unit. These studies share common ground with research done on the evolution of the traditional Caribbean house by Jack Berthelot and Martine

en Guadalupe, Carol Jopling en Puerto Rico, y posteriormente por Víctor Durán en la República Dominicana.



Documentación de casa antillana en Granada por Jack Berthelot y Martine Gaumé (2002). / Documentation of an antillean house in Granada by Jack Berthelot y Martine Gaumé (2002).

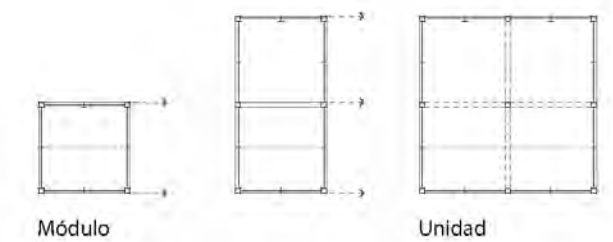
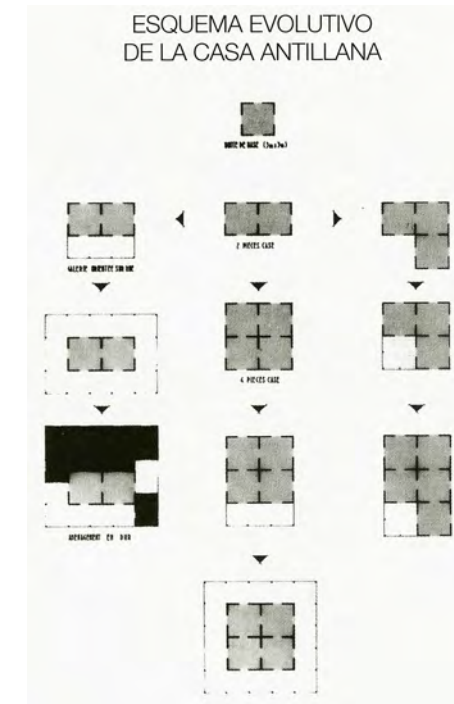


Modulo básico y sección / Basic module and section.

Inspirados por presentaciones y conversaciones con los arquitectos haitianos Leslie Voltaire, Olsen Jean, Paul Emile Simon y François Guignard, establecimos la idea del Lakou como punto de partida para el desarrollo de los conjuntos vecinales. El Lakou se refiere tradicionalmente al conjunto de viviendas donde residen miembros de una familia extendida y multi-generacional prevaeciente en la cultura haitiana. Inicialmente el Lakou operaba bajo un modelo cooperativo y de ayuda comunitaria. Desarrollamos el Lakou a dos escalas - un 'Lakou Familiar' consistente de unas 10 unidades (50 personas) agrupadas alrededor de un patio central y un 'Lakou Vecinal', un vecindario para una población de aproximadamente 500 residentes.

El Lakou Vecinal se desarrolla alrededor de un espacio público colectivo. Alrededor de este estructuras de dos plantas definen el perímetro, Estas tienen un soportal cubierto y comercios o servicios en primera planta, con unidades de vivienda en la planta superior. Un edificio cívico el cual combina iniciativas educativas, de servicios y culturales culmina el espacio público. Entre los Lakous Familiares se desarrollan huertos caseros. Se propone además una forestación agresiva utilizando principalmente árboles frutales.

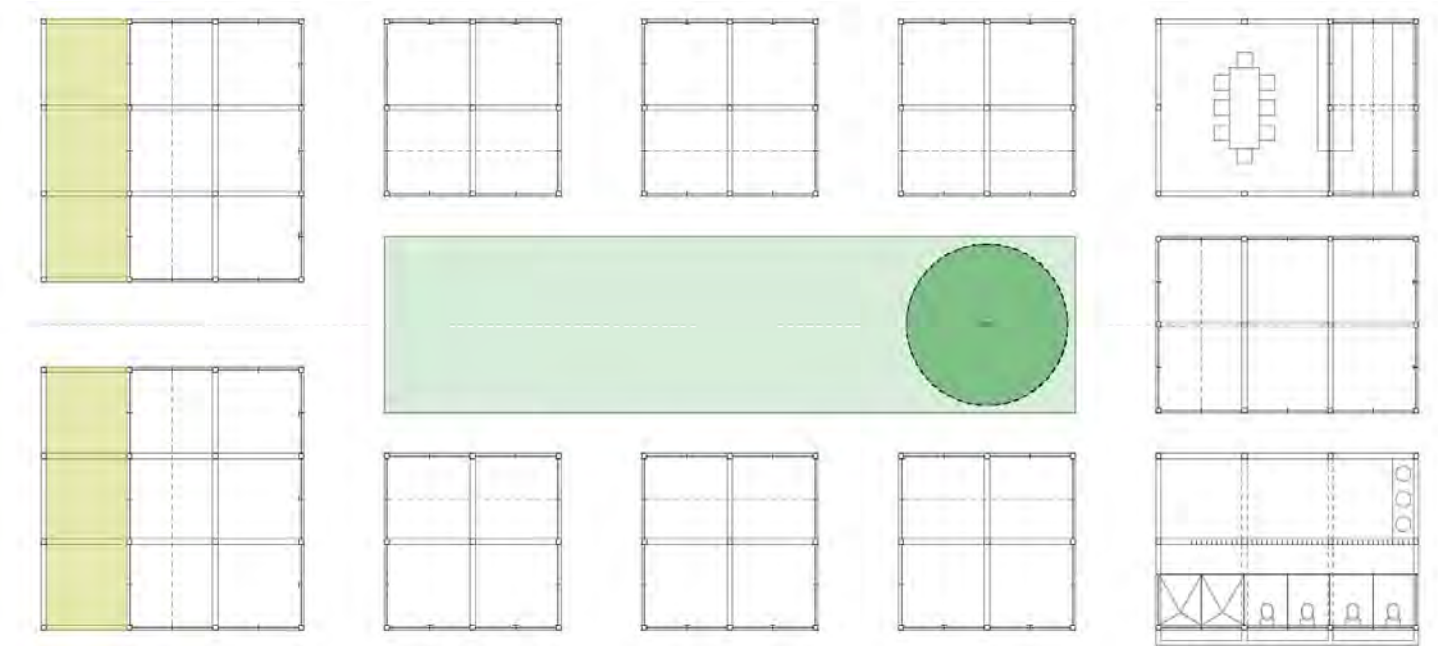
El proyecto tiene como meta el construir como proyecto experimental un Lakou para 500 personas en el área fronteriza entre Haití y la República Dominicana como modelo de un nuevo poblado rural.



Esquema evolutivo de la casa antillana según Jack Berthelot y Martine Gaumé (2002).

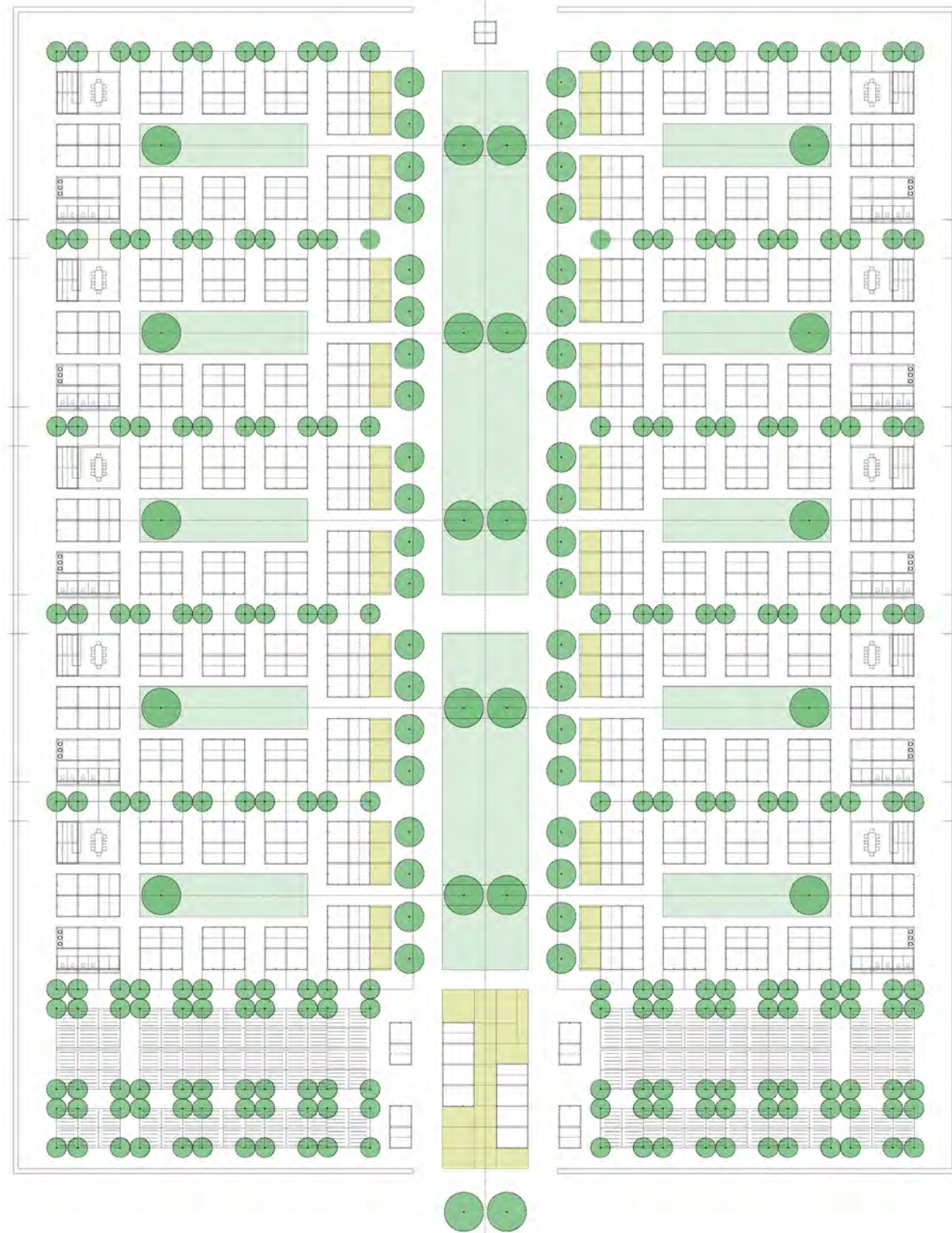
Modulo básico y unidad de vivienda / Basic module and aggregated dwelling unit.

Diagram of the evolution of the Antillean house by Jack Berthelot y Martine Gaumé (2002).



Lakou familiar para 50 personas / Family Lakou for an extended family of 50.





Gaumé in Guadeloupe, Carol Jopling in Puerto Rico, and Victor Durán in the Dominican Republic.

It was decided that bathroom and kitchen components would be centralized and shared by a number of families in order to have a more efficient use of water, sanitary, and power resources. Cisterns for water collection and gray water re-use for irrigation would be developed. Dry compost toilets would be used with a re-use of the compost as fertilizer. Collective gardens and fruit-tree planting should be considered as part of the design-building efforts.

At the level of the unit, a kit of parts was developed utilizing plywood panels and screens to conform the closure for the building skin. An additional kit was designed for interior 'usable partitions' that would accommodate storage components. User participation and decision-making should be based on a cooperative model. The design would be based in open-building principles with the module aggregation, kits of parts for exterior closure system as well as interior partition systems to be decided and controlled by individual users. Color and detailed expression of the building exterior should also be under the resident's control.

Inspired by presentations and conversations with Haitian architects Leslie Voltaire, Olsen Jean, Paul Emile Simon, and François Guinard, we decided to concentrate on housing outside the principal cities. We therefore looked at a rural context of the small town / village scale.

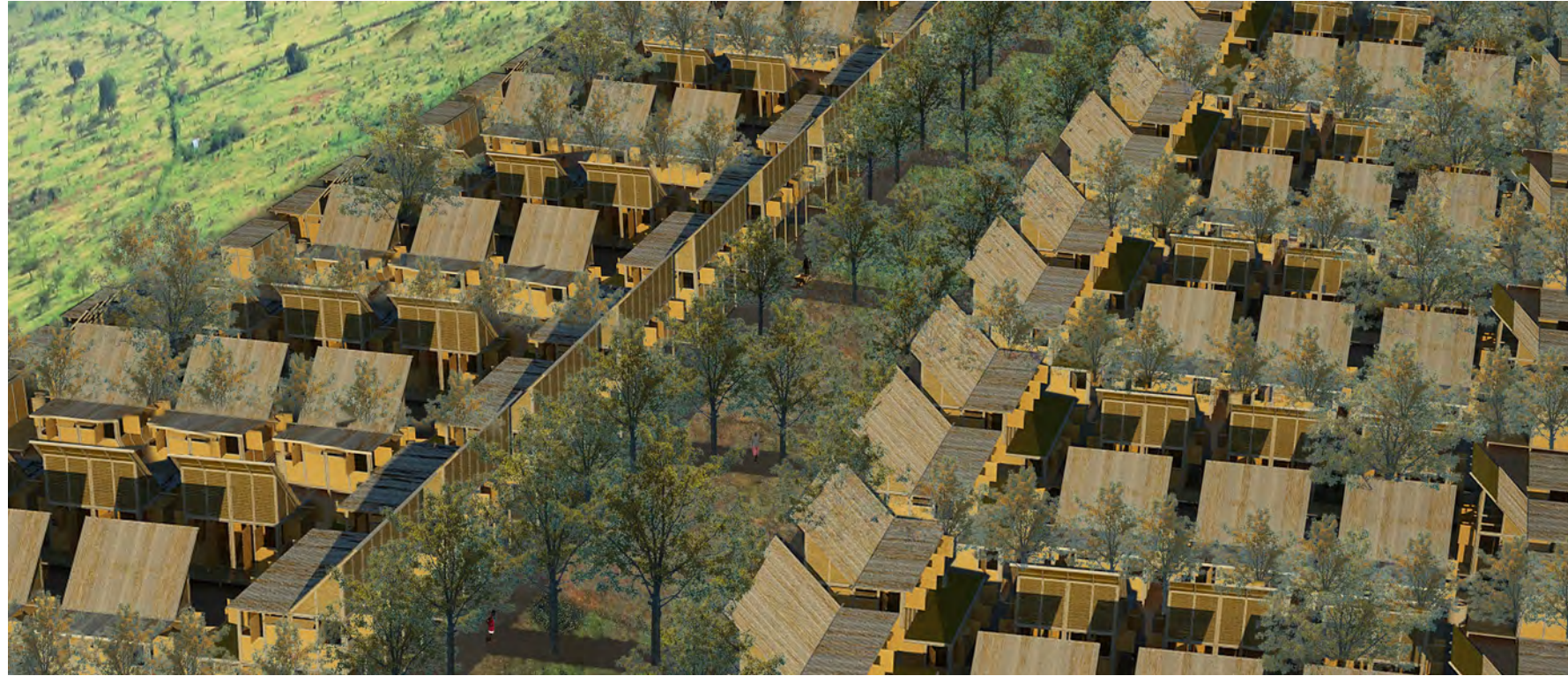
We concentrated on the idea of the LAKOU, as a spatial collective form type intricately associated to Haitian culture and tradition. During Haiti's colonial time, the traditional Lakou was the protected and auto-sufficient place where individuals, families and neighbors met for safety, education, care, advise, organization and productivity needed to create peaceful and prosperous communities. One of the strengths of the Haitian social system was the great interconnection of mutual responsibility among the members of extended and multigenerational families living in Lakou compound clusters under a coop-

erative model.

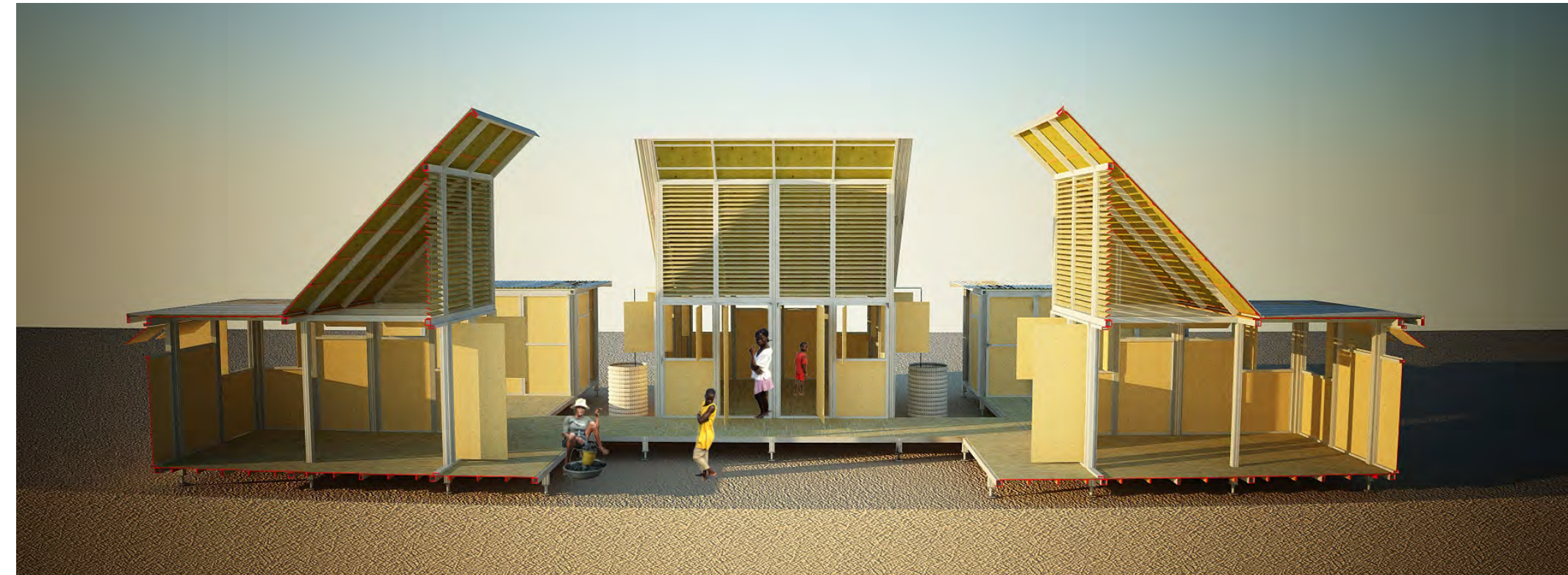
As a model for new village housing for the rural areas, we developed a contemporary version of the LAKOU urban form at two generative scales: the scale of the FAMILY LAKOU (Lakou Familiar) and its aggregation into a larger VILLAGE LAKOU (Lakou Vecinal). The Family Lakou is composed of members of an extended family of approximately 25 to 50 people. The Village Lakou would be the aggregation of the Family Lakou into villages of around 500 people. These Lakou's would be form part of agriculture based economic initiatives sponsored by the government or by international aid groups.

Both the Family Lakou and the Village Lakou would be organized around a common public space. Two story buildings would front the Neighborhood Lakou public space providing for commercial, communal, and educational uses at the ground floor. Housing units in the Family Lakou would be primarily single story. Electricity and infrastructure right of ways would be contemplated at the perimeter of the Village Lakou for future infrastructural connections and appurtenances.

As a goal, an experimental prototypical LAKOU collective would be built as a demonstrative project. The areas described as the BORDERLANDS in the frontier between Haiti and the Dominican Republic should be considered due to their access to materials, labor, and transportation networks.



Lakou vecinal y vistas generales. / Village Lakou and general views.



créditos / credits:

Esta propuesta tiene su origen como parte del proyecto educativo multidisciplinario CATEDRA HAITÍ, taller colaborativo entre los programas de Diseño Gráfico (Prof. María de Mater O'Neill) y Diseño Industrial (Prof. Tatiana Rosado y Prof. Carlos Góngora) de la Escuela Internacional de Diseño de la Universidad del Turabo y la organización de estudiantes de arquitectura AIAsPOLI de la Universidad Politécnica de Puerto Rico (Prof. Andrés Mignucci).

This proposal originated as part of the multidisciplinary educational project, CATEDRA HAITÍ, a collaborative workshop between the Graphic Design (Prof. María de Mater O'Neill) and Industrial Design (Prof. Tatiana Rosado y Prof. Carlos Góngora) programs at the Escuela Internacional de Diseño of the Universidad del Turabo, and AIAsPOLI, organization of architecture students at the School of Architecture of the Universidad Politécnica de Puerto Rico (Prof. Andrés Mignucci).

CATEDRA HAITÍ ARQUITECTURA: Andrés MIGNUCCI FAIA con estudiantes del AIAsPOLI de la Escuela de Arquitectura de la Universidad Politécnica de Puerto Rico: Estefanía ALEJANDRO, Lara BARREIRO, Hiram BERRIOS, Mariela BRAVO, Tyrene CALVESBERT, Dorcas CORCHADO, Alexander CUESTA, Luis LEBRÓN, Eduardo LLINAS y Luis MATTEI, presidente.

TALLER VIVIENDA - AIA CUMBRE RECONSTRUCCIÓN HAITÍ: Andrés MIGNUCCI FAIA y François GUIGNARD con Stacy BORNE AIA, Alexander CUESTA, Jaime FOURNIER, Oscar MARTI, Maribel ORTIZ, Raul PEREZ, Antonio ROVIRA, y Antonio SEGUNDO IMBERT.

dibujos / drawings: Alexander CUESTA, José Luis CAMACHO y / and Tyrene CALVESBERT.

referencias / references:

Berthelot, Jack & Gaumé, Martine, Kaz Antiyé: L'habitat populaire aux Antilles, Editions Perspectives Créoles, Guadalupe, 2002.

Durán, Víctor & Brea, Emilio José, Arquitectura Popular Dominicana, Popular, Santo Domingo, 2009.

Edmond, Yanique M. et al., The Lakou System: A Cultural, Ecological Analysis of Mothering in Rural Haiti, The Journal of Pan African Studies, vol.2, no.01, November 2007.

Gelabert-Navia, José, La Villa Antillana y los complejos vientos de la historia, Instituto de Arquitectura Tropical, San José, 1991.

Jopling, Carol F., Puerto Rican Houses, University of Tennessee Press, Knoxville, 1988.