





**SUPER ADOBE**  
Scale: Single-family residential  
Participation: Adaptable design constructed by occupants  
Location: Baninajar Refugee Camp, Khuzestan, Iran, 1995  
Architect: Nader Khalili  
Materials: Sandbags, barbed wire, earth

Khalili adapted a NASA competition entry to design a system for the construction of temporary, earth single-family residential units for refugees from the Persian Gulf War. Sand-filled tubes are stacked to create a dome and are fastened with barbed wire and finished with earth. Refugees take part in the construction of the domes under the supervision of an architect.



**PALLET HOUSE**  
Scale: Single-family residential  
Participation: Units constructed/modified by occupants  
Location: Bronx, NYC/Sri Lanka, 1999-  
Architect: I-Beam Design  
Materials: Wooden shipping pallets

The firm designed a modular system using shipping pallets to create temporary residences in disaster situations, where pallets are readily available due to the high amount of aid. The system can be implemented by the future occupants of the units and can be insulated with local materials such as rubble, straw or earth.



COMMUNITY PARTICIPATION


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CONSTRUCTION

ADDITION/INFILL









The project creates a vertical barrio in a sense by providing a structure and basic utilities for the future inhabitants to build within. As a basis for this project, Urban Think Tank looked at Torre David, an unfinished housing tower that has been illegally occupied and infilled since 1994. Inhabitants use the unfinished apartments as a framework for their own interventions.

HOUSING INFRASTRUCTURE AND TORRE DAVID  
Scale: Housing  
Participation (amount): Design/ infill  
Location: Caracas, Venezuela  
Year: 1994-present  
Architect: Urban Think Tank  
Materials: CMU, recycled materials, etc.



Reurbanization of Diadema, one of the most dangerous cities in Brazil. "The community helped determine priorities for the annual budget, "distributing resources in a democratic way," notes Filippi [the former mayor]. The community also had a voice in reurbanization meetings with architects, engineers, and social workers from the Housing Secretariat, suggesting upgrades and approving projects on work, part of which was performed by community members themselves." Residents were involved in planning, design and construction. The project included healthcare facilities, roads, as well as improved housing.

DIADEMA, BRAZIL  
Scale: Urban redevelopment  
Participation (amount): Planning, volunteer construction  
Location: Diadema, Brazil  
Year: 1983-present  
Architect: Various, government and community designed  
Materials: Concrete





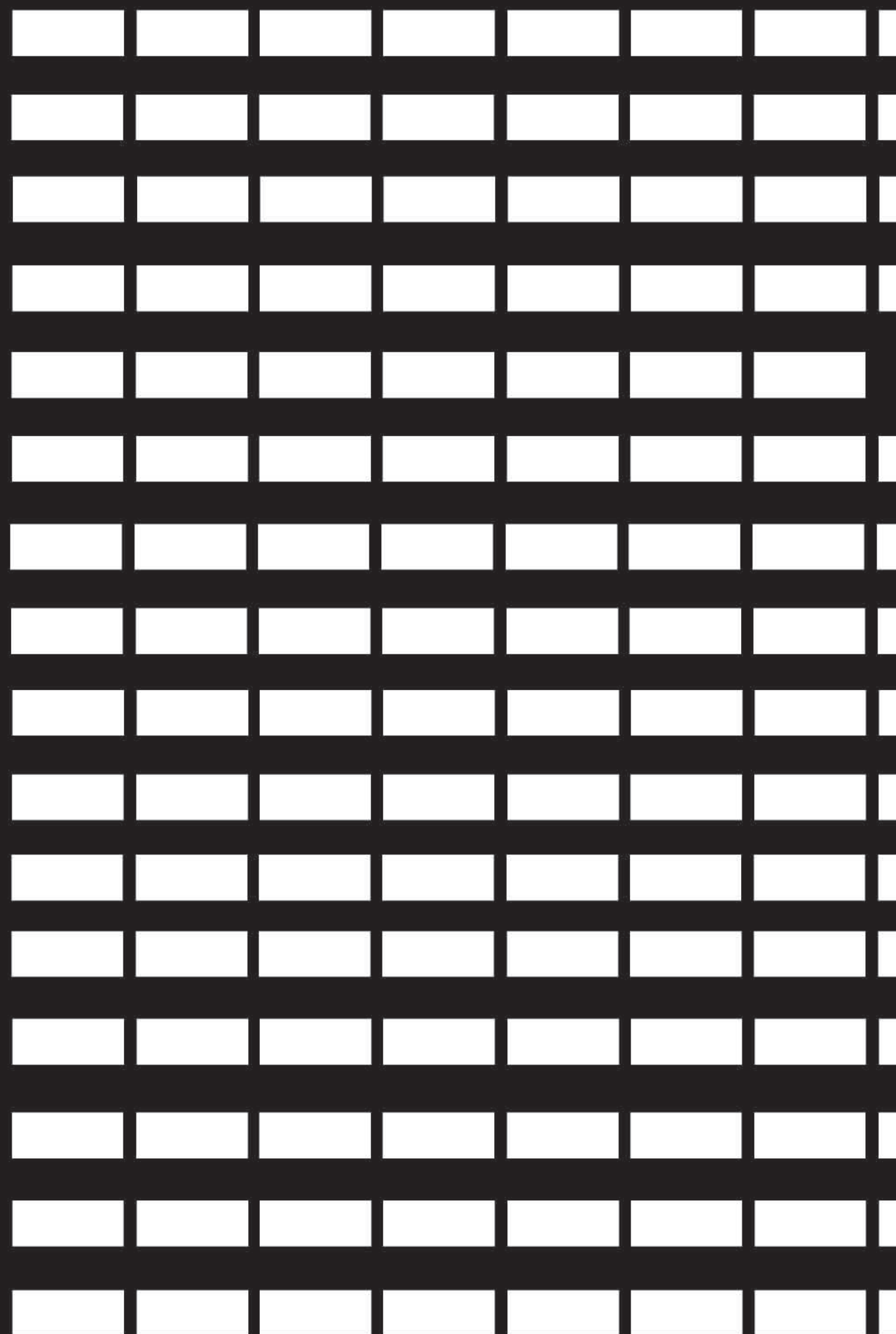



ARCHITECT PARTICIPATION

CONSTRUCTION

ADDITION/INFILL





DESIGN



Action  
 Deliberation  
 Awareness  
 Knowledge

Action  
 Deliberation  
 Awareness  
 Knowledge







# SCALE



KIT OF PARTS

THINK TANK

# PARTIC



The design features three modular concrete frames to be deployed by the community in cases of empty lots or when buildings were in need of improvement. The modular units are left deliberately open for modification by the residents themselves.

## INCREMENTAL HOUSING

Scale: Urban residences  
Location: Pune, India, 2008-2011  
Architect: Urban Nouveau  
Participation: Structural modules developed for phased deployment within the community when needed.



Kere's design dismissed conventional concrete construction and favored natural mud brick to improve energy efficiency, respond to local context and avoid the waste associated with concrete production. To offset the potential dangers of the rainy season to mud brick construction, Kere covered the project in a large tin roof to cover the building from rain, provide shade and increase natural ventilation.

## PRIMARY SCHOOL

Scale: Public building (school)  
Participation: (Mostly-illiterate) community members were present for design meetings to alter Kere's initial design to conform to community needs and the entire community was present to voluntarily construct the school  
Location: Gando, Burkina Faso, 2001  
Architect: Diebedo Francis Kere  
Materials: Mud brick, tin







## HOPI NATION ELDER HOME

Scale: Single-family residences/Educational community centers  
 Participation: Constructed by the community using local materials and able to be adapted without the presence of an architect  
 Location: Hopi Nation, 2005  
 Architect: Nathaniel Corum  
 Materials: Hay blocks, wood, adobe

Construction-grade straw bale blocks serve as the main structure and insulator in an adaptable system that is finally plastered with adobe. Intending specifically for use on Native American reservations, the system can be constructed by the community and in some instances, homes were designed and constructed without the aid of an architect.

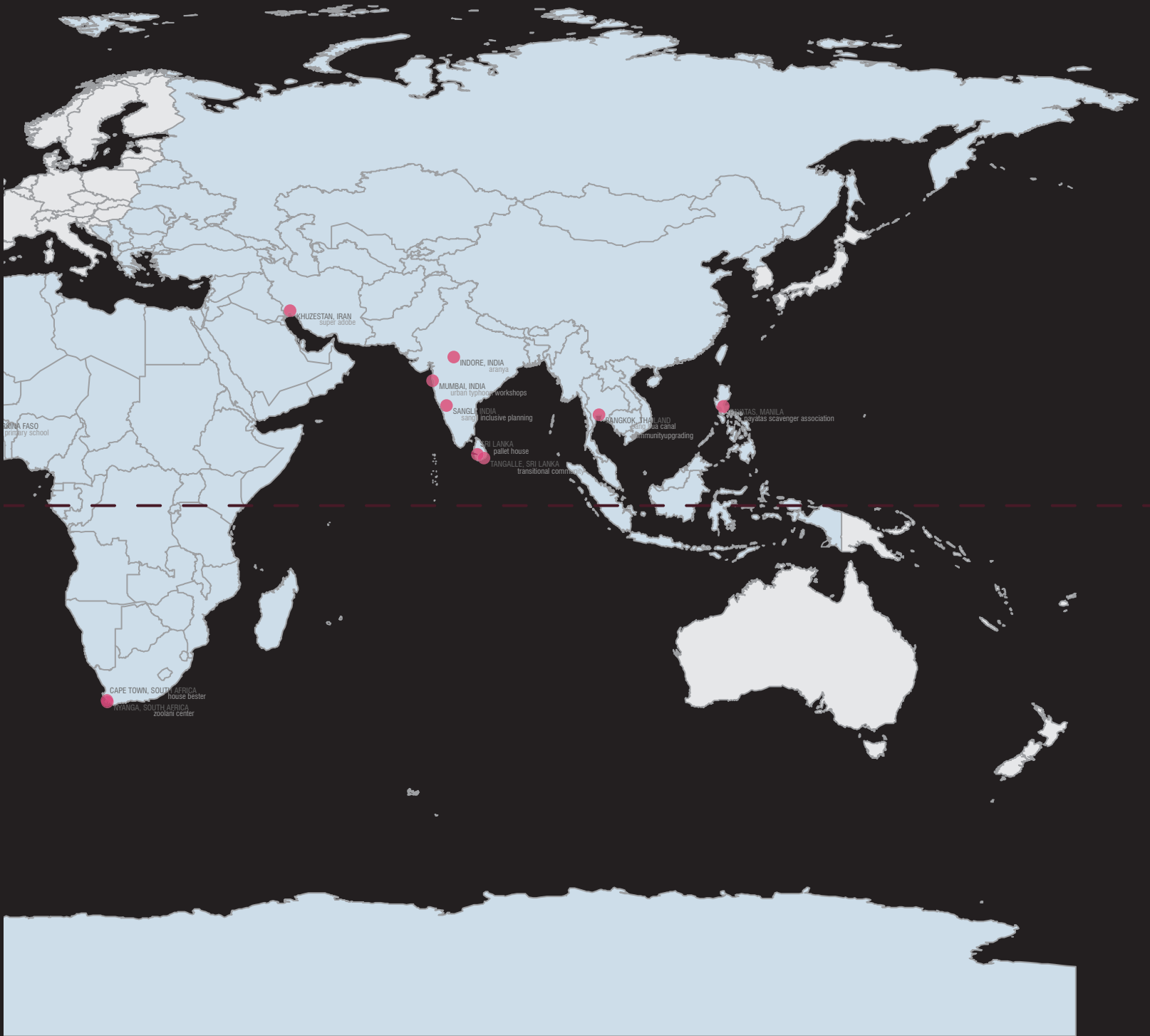


## THE BAREFOOT ARCHITECT

Scale: Single-family housing, community buildings, community planning  
 Participation: Community members decide which design features to use according to their needs and means.  
 Location: International;  
 The Mexican government bought 40,000 copies and distributed them nationally, hundreds of thousands of copies have been sold in Latin America.  
 Architect: Johan von Lengen  
 Materials: Local materials (earth, wood, recycled metal, etc.)



The book outlines basic methods for sustainable design using local materials and labor, explaining labor processes and basic design principles. The book outlines general strategies for home construction, energy production, efficient energy use, community planning and building structure.





equator

SAULSIDRO, USA  
casa familiar

HOPIN NATION  
hope nation elder home

QUINANA, MEXICO  
recycled housing

MEXICO CITY  
the barefoot architect

BROOKLYN, NYC, USA  
pallet house

CARACAS, VENEZUELA  
housing infrastructure

LIMA, PERU  
premi

LIMA, PERU  
shim i.c. tuner  
low income housing

VALPARAISO, CHILE  
the open city

SAO PAULO, BRAZIL  
diadema

VALDIVIA, CHILE  
liquique housing

BUENOS AIRES, ARGENTINA  
movimiento territorial de liberacion

BUENOS AIRES, ARGENTINA  
movimiento territorial de liberacion



Scale: Single-family housing  
Participation: Community members employ design suggestions according to available resources and need  
Location: U.S./Mexico border  
Architect: Teddy Cruz  
Materials: Wood pallets, tin, recycled tires

Casa Familiar is a community-based NGO that strives to promote civic engagement and economic growth through the treatment of single parcels of land as pieces of infrastructural and economic work. The land is subdivided to facilitate a multitude of program and circulation to allow for the construction of tight-knit communities and economic enterprises.







The Open City is conceived of as an inter-disciplinary learning environment that takes advantage of the local natural context to generate form. Students design and build the campus facilities and there is not a formal classroom environment in many cases. The school favors open discussion and embraces the poetic qualities of architecture.

## THE OPEN CITY

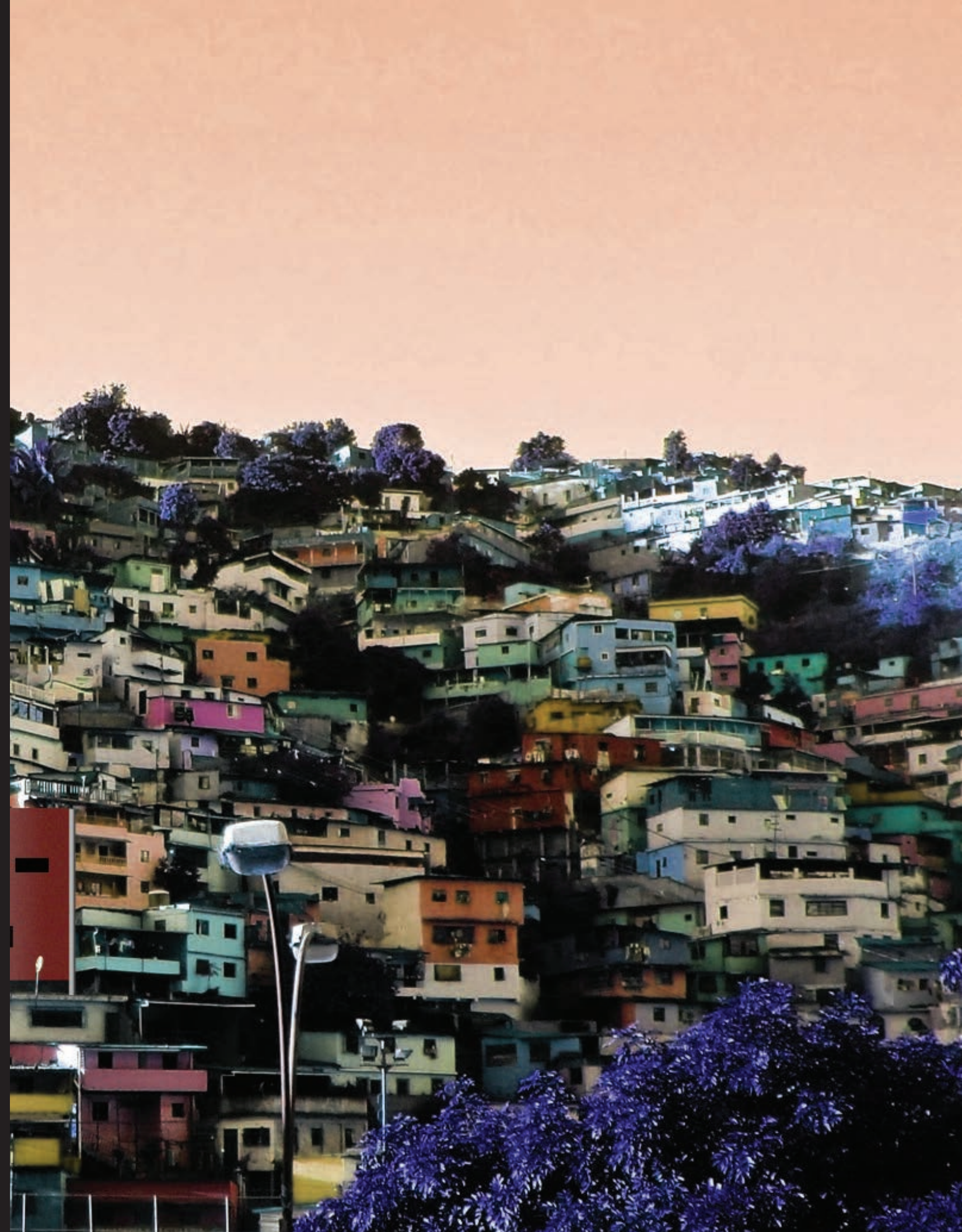
Scale: Student-designed and constructed campus of classrooms (indoor and outdoor) and residences  
Participation: Students are taught an inter-disciplinary design curriculum and participate in design-build projects that generate the built spaces of the campus  
Location: Valparaiso, Chile,  
Architect: Multiple  
Materials: Varied



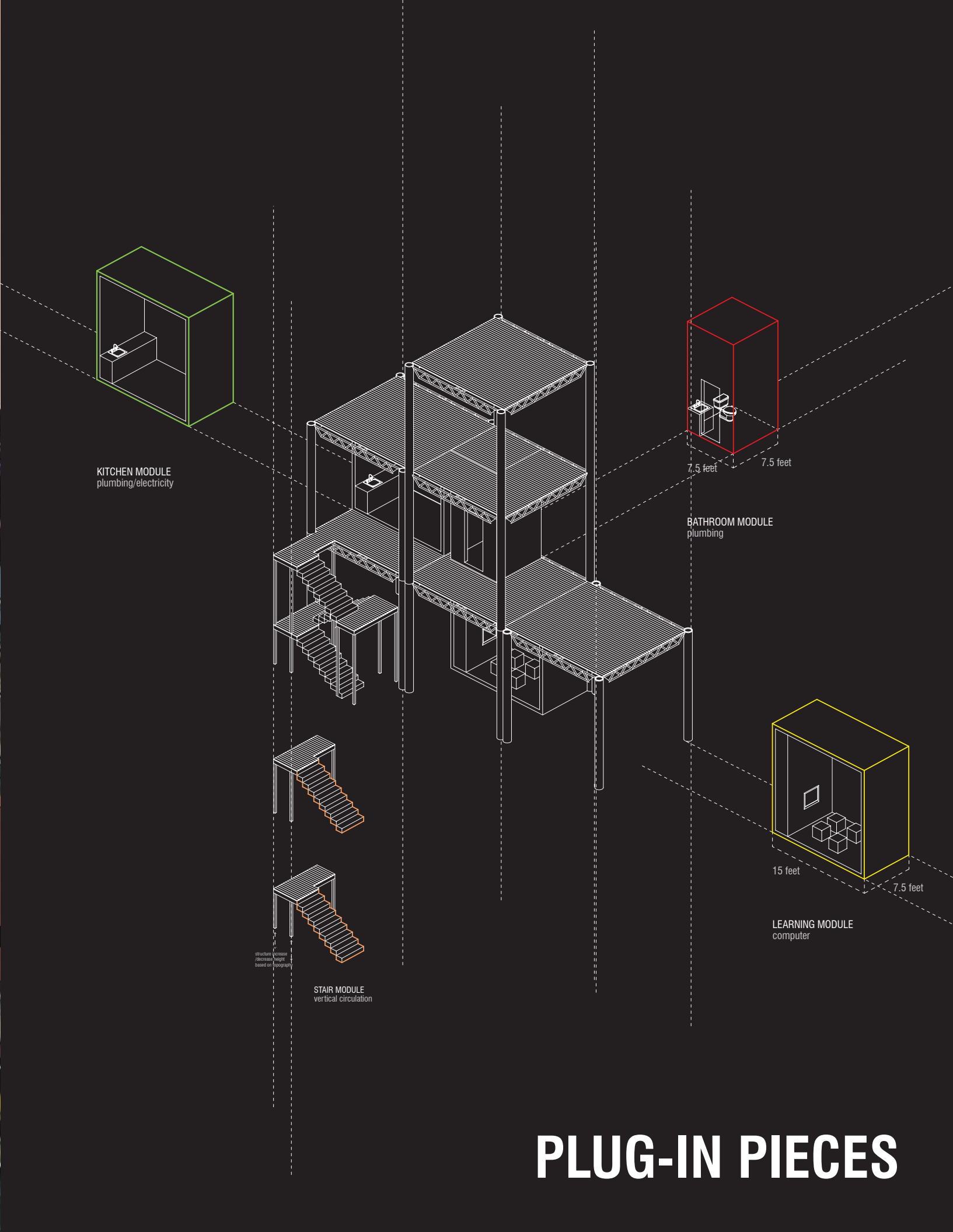
This housing project was designed to shelter 100 families legally on the same site which previously held that many illegally. The design was such that a bare bones structure was to be created and then filled in by those how call it home however the see fit.

## IQUIQUE HOUSING

Scale: Multi-Family Residential  
Participation: Architect, Community Infill, Adaptability  
Location: Iquique, Chile  
2004  
Architect: Alejandro Aravena  
Materials: Concrete Blocks







# PLUG-IN PIECES



COMMUNITY DESIGN/BUILD



A group of women banded together to move their community away from the area's pile of garbage that was a hazard to the community. They designed housing with an architect's help and gained the knowledge to purchase materials and construct homes themselves. Together they were able to create a new "eco-village" called Miraculous Hills, and they are now working to create a large number of completely sustainable homes and settlements.

MIRACULOUS HILLS  
Scale: Housing, urban development  
Participation (amount): Formation of idea, planning, design, construction  
Location: Payatas, Manila  
Year: 1999-present  
Architect: Various, community design  
Materials: CMU block

COMMUNITY AND ARCHITECT DESIGN/BUILD



Reurbanization of Diadema, one of the most dangerous cities in Brazil. "The community helped determine priorities for the annual budget, "distributing resources in a democratic way," notes Filipe (the former mayor). The community also had a voice in reurbanization meetings with architects, engineers, and social workers from the Housing Secretariat, suggesting upgrades and approving projects on work, part of which was performed by community members themselves." Residents were involved in planning, design and construction. The project included healthcare facilities, roads, as well as improved housing.

DIADEMA, BRAZIL  
Scale: Urban redevelopment  
Participation (amount): Planning, volunteer construction  
Location: Diadema, Brazil  
Year: 1983-present  
Architect: Various, government and community designed  
Materials: Concrete



Inhabitants of squatter settlements in Buenos Aires have created a cooperative in order to improve their neighborhood. 326 families designed and constructed their homes with the help of an architect. Now they build social housing around the world.

MOVIMIENTO TERRITORIAL DE LIBERACION  
Scale: Cooperative housing  
Participation (amount): Design, construction  
Location: Buenos Aires, Argentina  
Year: 2001  
Architect: Movimiento Territorial de Liberación  
Materials: Various



The Open City is conceived of as an inter-disciplinary learning environment that takes advantage of the local natural context to generate form. Students design and build the campus buildings and there is not a formal classroom environment in many cases. The school fosters open discourse and enhances the poetic qualities of architecture.

THE OPEN CITY  
Scale: Shelter-designed and constructed campus of classrooms (shower and outdoor) and residence  
Participation: Students are taught an inter-disciplinary design curriculum and participate in design-build projects that generate the built spaces of the campus  
Location: Valparaiso, Chile  
Architect: Multiple  
Materials: Varies

COMMUNITY



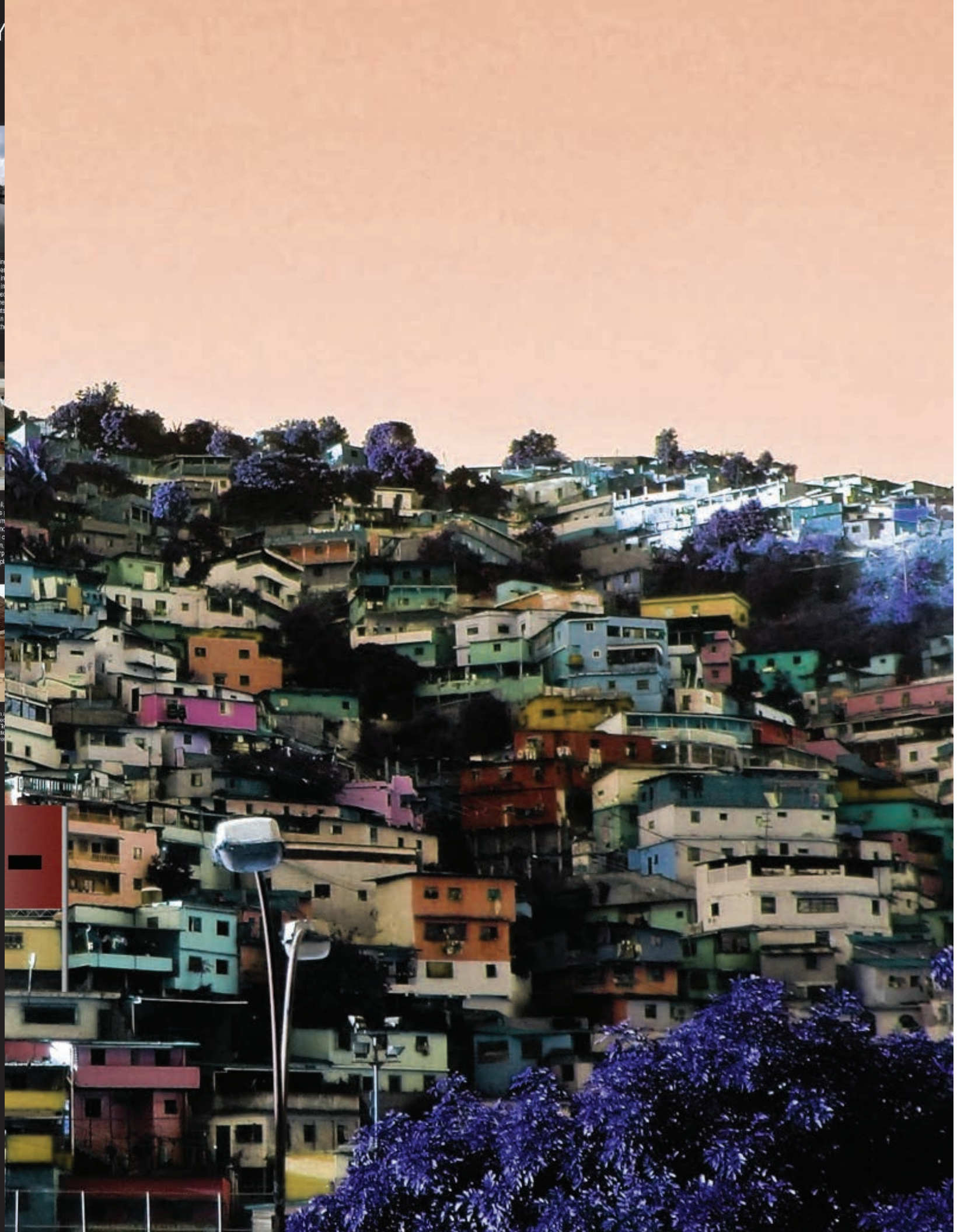
Thailand's Baan Mankong Community Upgrading improve housing, land tenure security, and urban informal settlements. The program subsidizes in upgrades, and works with the communities to in. They created three basic house types - detached (double), and row houses - and constructed the. This allowed for improved neighborhood layouts. The project also brought about social change in welfare homes, and welfare funds to improve the area's youth.



Shelter Associates collected data about Sangali, their own designs, as well as the government's government with vital information about the slum electricity connection, etc. they were able to use. Shelter Associates then worked with the c an informal federation of poor men and women, that would suit their specific needs. They incorp open and public spaces, with flexible housing pl transformable neighborhood.



Klein's design: distributed operational concrete construction natural materials to improve energy efficiency, respond to local and avoid the waste associated with concrete production. To potential dangers of the rainy season to mud bank concrete covered the project in a large the north cause the building to provide shade and increase natural ventilation.





## A photograph of a densely packed, colorful hillside community, likely a favela, with many small, multi-story buildings. The image is overlaid with several red rectangular boxes, each containing a black square, indicating areas of interest or damage. The buildings are painted in various colors like yellow, green, blue, and red. The hillside is steep, and the buildings are built closely together. There are some trees and plants scattered throughout the community. The sky is a pale, hazy blue. The overall scene depicts a vibrant yet crowded urban environment.

**BANG BUA CANAL COMMUNITY UPGRADE**  
 Scale: Housing, neighborhood, urban development  
 Participation (amount): Planning, design  
 Location: Bang Bua Canal Community, Bangkok, Thailand  
 Year: 2004  
 Architect: Community members and architects from Sripatum University  
 Materials: Recycled materials

The program is working to improve infrastructure for those in the neighborhood and environment to improve their living conditions. (single), semi-detached, and connection to the canal. The community, such as the lives of the elderly and the

**RECYCLED HOUSING**  
 Scale: Single-family housing  
 Participation: Community members simply design suggestions according to available resources and need  
 Location: U.S./Mexico border  
 Architect: Teddy Cruz  
 Materials: Wood pallets, tin, recycled tires

Teddy Cruz developed a system by which shanties can be added to or fully replaced by recycled materials which are abundant due to the United States' use of the U.S./Mexican border as a dumping ground for waste, specifically tires. The aggregation of these materials can serve as the basis for extended-pallets of land, in many ways similar to the treatment of landfill in the barrios of Caracas.

This UN sponsored housing project in Lima, Peru was an experiment in participatory design. The architects were asked to create designs for low income housing that the inhabitants could add on to over time. They created not only housing, but an overall urban scheme for the neighborhood.

**SANGALI INCLUSIVE PLANNING**  
 Scale: Housing, urban development  
 Participation (amount): Design  
 Location: Sangali, India  
 Year: 2009-present  
 Architect: Shelter Associates, Baandhani Federation  
 Materials: Concrete

India in order to inform others. By providing the infrastructure and environment to improve their living conditions. (single), semi-detached, and connection to the canal. The community, such as the lives of the elderly and the

**SUPER ADOBE**  
 Scale: Single-family residence  
 Participation: Adaptable design constructed by occupants  
 Location: Batagor, Batagor Camp, Khazretan, Iran, 1995  
 Architect: Nader Khalili  
 Materials: Sandbags, baked mud, cob

The project creates a vertical barrio in a sense by providing a structure and basic utilities for the future inhabitants to build within. As a basis for this project, Urban Think Tank looked at Torma David, an unfinished housing tower that has been illegally occupied and infilled since 1994. Inhabitants use the unfinished apartments as a framework for their own interventions.

**PRIMARY SCHOOL**  
 Scale: Public building (school)  
 Participation: (Mostly elderly) community members were present for design meetings in order to create a design to create a neighborhood that is active and passive to create a

**PALLET HOUSE**  
 Scale: Single-family residence  
 Participation: Units constructed/modified by occupants  
 Location: Borei, BVC/Sri Lanka, 1999  
 Architect: Aileen Design  
 Materials: Wooden shipping pallets

The firm designed a modular system using shipping pallets to create temporary residences in disaster situations, where public are mostly available due to the high amount of aid. The system can be implemented by the future occupants of the units and can be finished with local materials such as rubble, stone or earth.

**HORI NATION ELDER HOME**  
 Scale: Single-family residence/Educational community center  
 Participation: Constructed by the community, asking local materials and able to be adapted without the presence of an architect  
 Location: Horri Nation, 2005  
 Architect: Richard Curtis  
 Materials: Hay bales, wood, adobe

Construction-grade stone blocks serve as the main structure and finished in an adobe system that is locally plastered with adobe. Intending specifically for use as Native American reservations, the system can be constructed by the community and is some instances, been so were designed and constructed without the aid of an architect.

This housing project was designed to shelter 160 families legally on the same site which previously held that many illegally. The design was such that a bare bones structure was to be created and then filled in by those how call it home however the see fit.

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This housing project was designed to shelter 160 families legally on the same site which previously held that many illegally. The design was such that a bare bones structure was to be created and then filled in by those how call it home however the see fit.

program is working to improve infrastructure for those in need. Infrastructure and environment projects aim to improve their living conditions (single), semi-detached houses built from recycled materials and connection to the community, such as the lives of the elderly and the

India in order to inform plans. By providing the facts, such as location, caste, and so on, we can understand the problem at the community and Baandhan level. We can then create a neighborhood plan that incorporates active and passive measures to create a



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An aerial photograph showing a dense cluster of small, multi-story residential buildings. The buildings are painted in various bright colors like yellow, orange, red, and green, creating a vibrant mosaic. They are packed closely together on a hillside, with some greenery visible between the structures. The perspective is from directly above, looking down on the neighborhood.

Toddy Cruz designed a system by which shodens can be added to or totally comprised of recycled materials which are abundant due to the United States' use of the U.S./Mexican border as a dumping ground for waste, specifically tires. The aggregation of these materials can serve as the basis for extended plots of land, in some ways similar to the treatment of landfill in the barrios of Caracas.

W&A adapted a NASA competition entry to design a system for the construction of temporary, earth-sheltered, family residential units for refugees from the Persian Gulf War. Sand-filled tubes are stacked to create a dome and are fastened with barbed wire and finished with earth. Refugees take part in the construction of the domes under the supervision of an architect.

A small, rectangular wooden building, likely a shed or workshop, constructed from pallets. It features a gabled roof and a small entrance with a wooden door. The building is situated in an industrial setting, possibly a warehouse or factory floor, with other structures and equipment visible in the background.

The firm designed a modular system using shipping pallets to create temporary residences in disaster situations, where pallets are readily available due to the high amount of aid. The system can be implemented by the future occupants of the units and can be insulated with local materials such as rubble, straw or earth.



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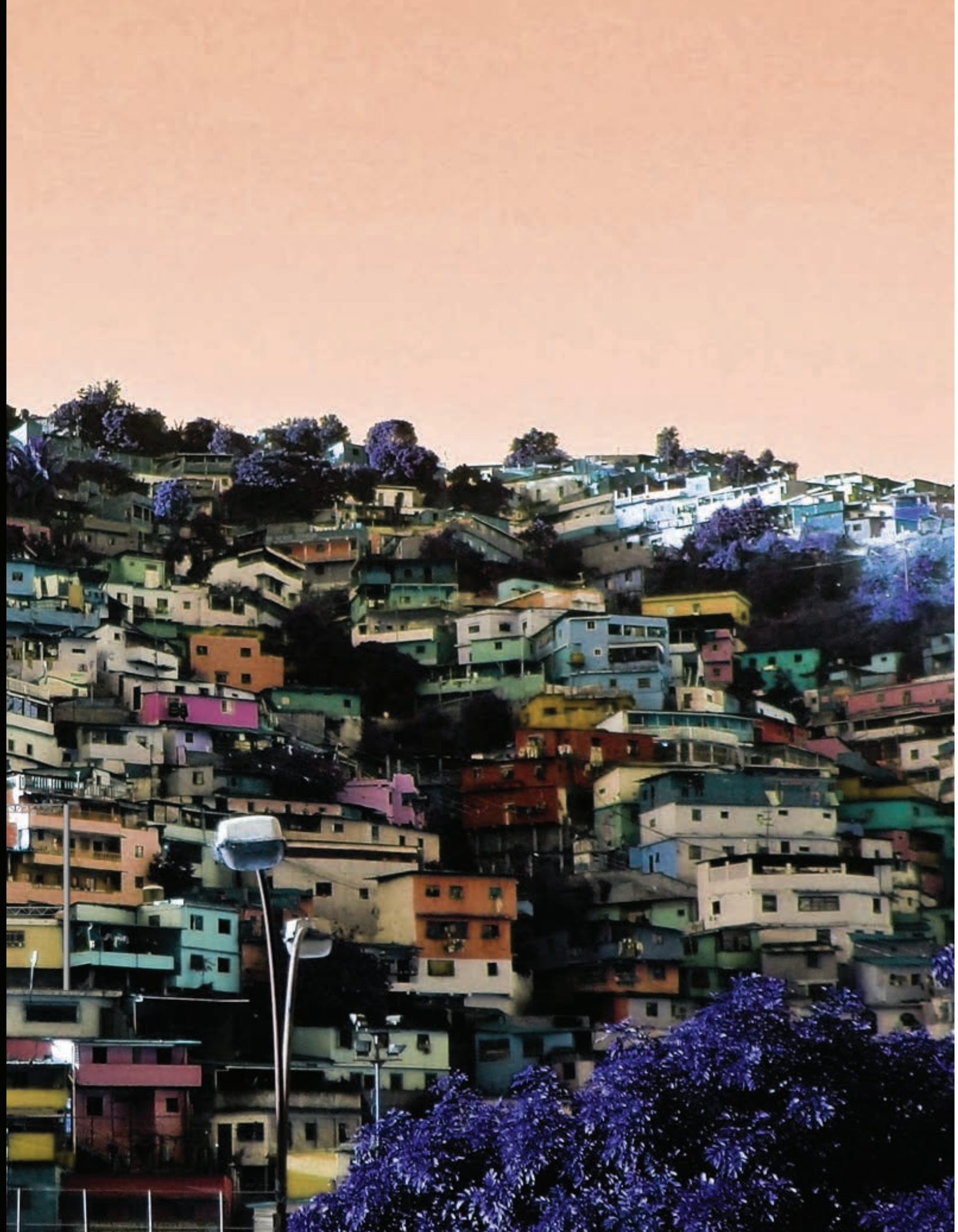
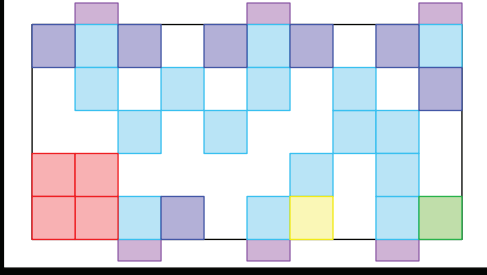
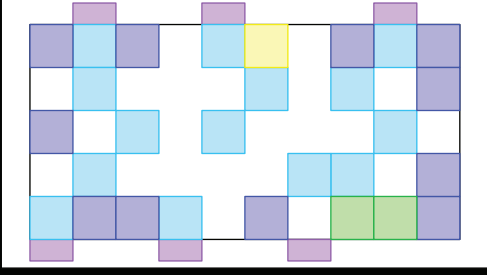
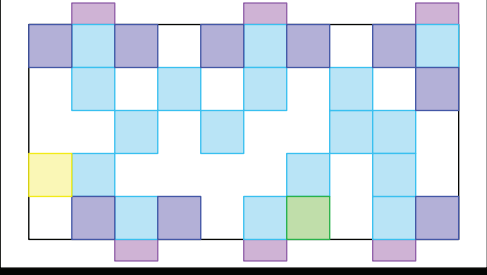
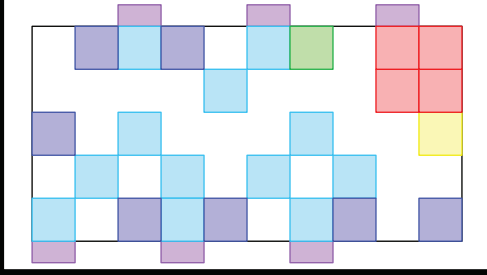
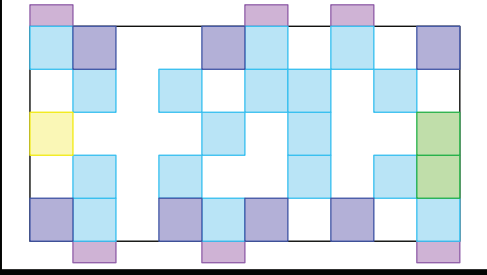
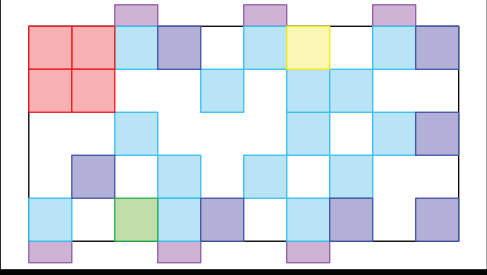
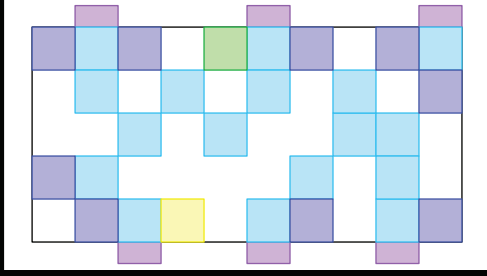
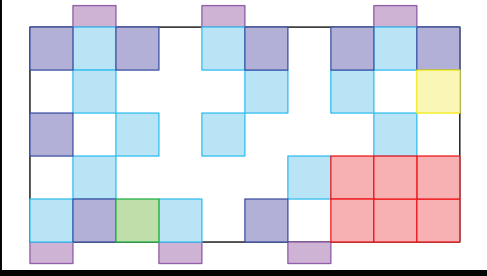
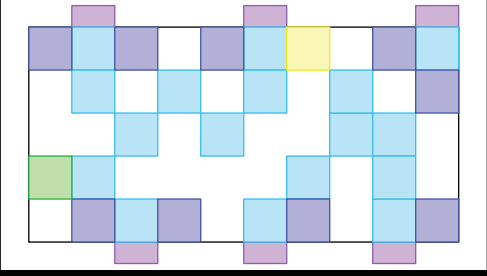
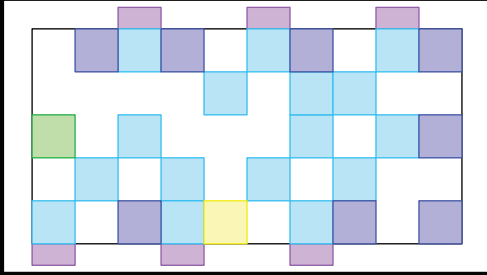
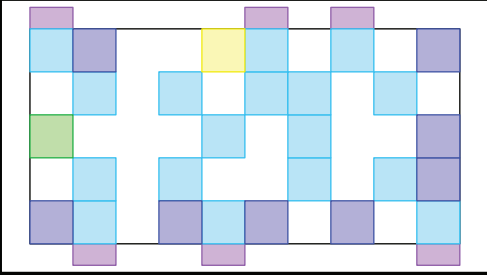
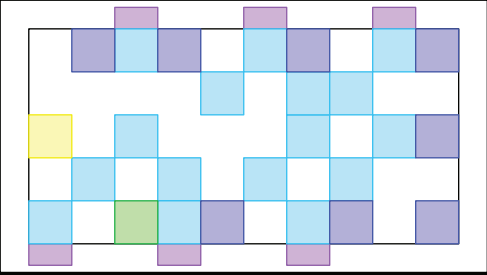
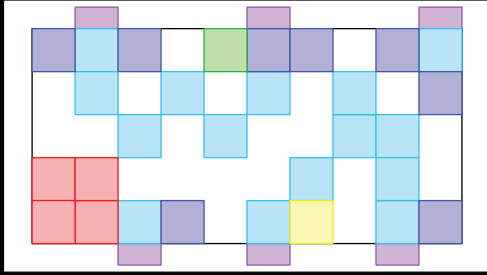
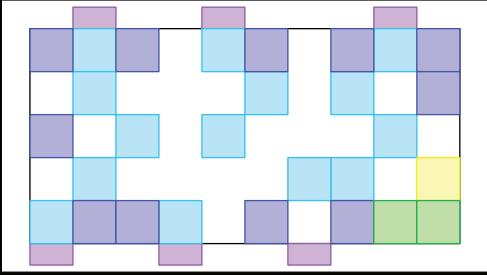
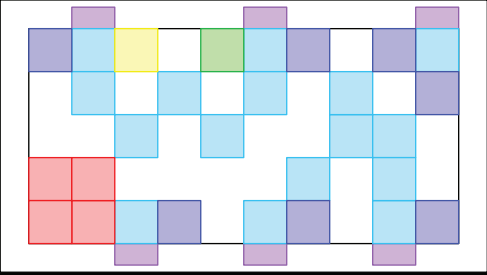
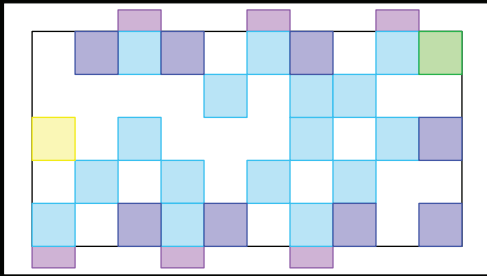
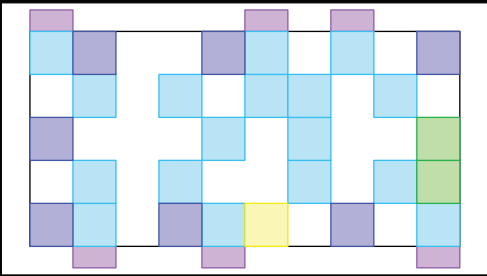
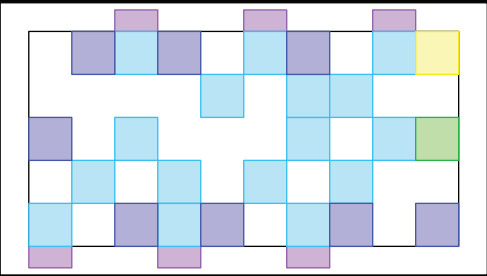
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The design improves and upgrades an already existing informal settlement, as well as provides serviced sites for future development of the area. It includes the base for 6,500 homes that residents are encouraged to build upon as needed.

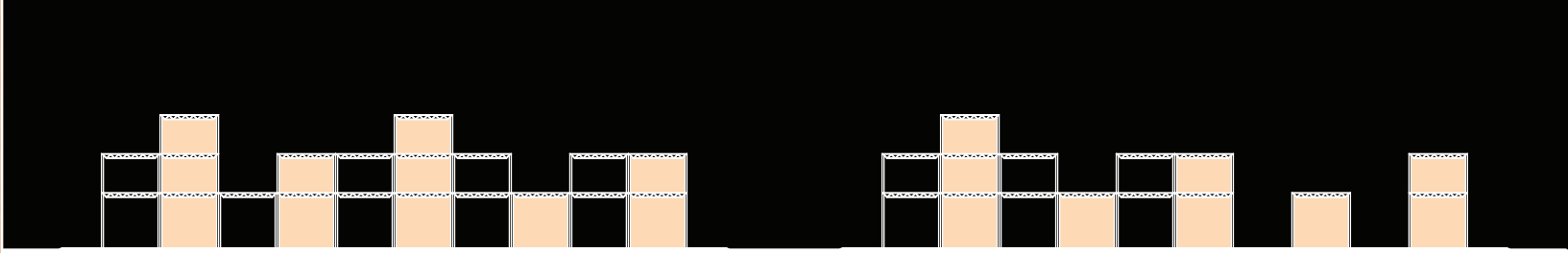
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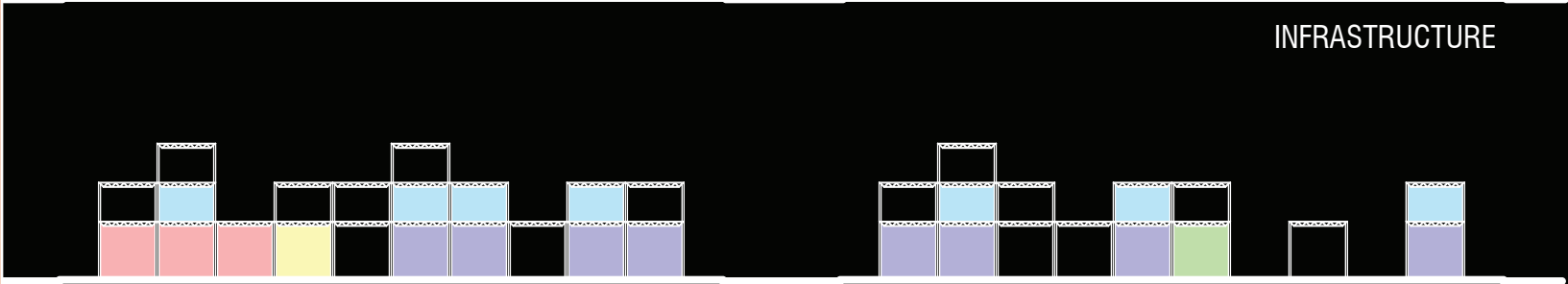








INFRASTRUCTURE



SECTION WITH PROGRAM



IMPLEMENTATION IN CARACAS, VENEZUELA



