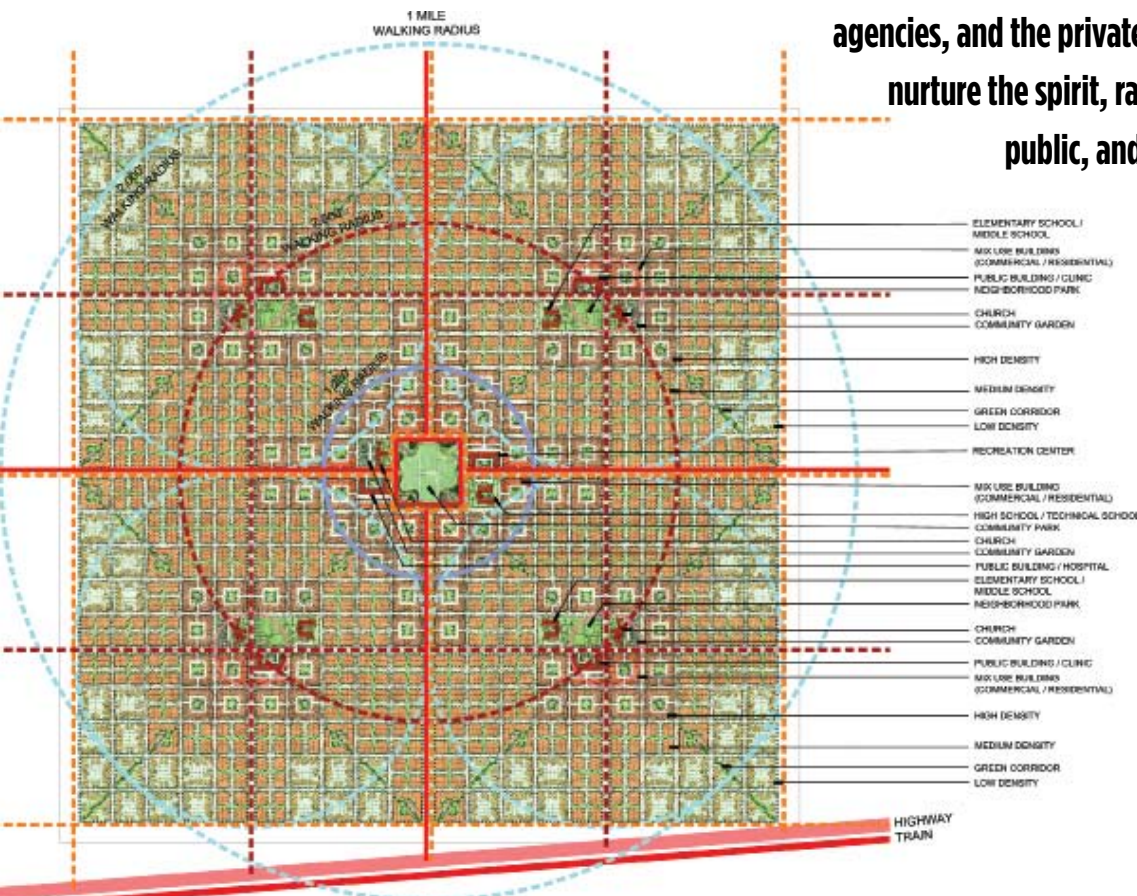


Building Better in LATIN AMERICA

JOHN SUAREZ

Synergy among developers, designers, governmental agencies, and the private sector can result in communities that nurture the spirit, raise the standard of living, educate the public, and stabilize the economy of the country.



Prototypical master plan by Dignitas for a sustainable social housing community. The plan calls for self-contained neighborhoods, or barrios, to be in walking distance of a shared village center.

ACCORDING TO THE UNITED NATIONS, 28 million housing units are urgently needed to relieve crowding and substandard conditions in Latin America. Approximately 128 million people live in slums without water, sewage facilities, or infrastructure. Environmental problems such as air and water pollution and open sewage are worsening. Existing low-income housing of the past was built of cinderblocks, a dirt floor, and a corrugated tin roof. In an attempt to create a holistic and integrated approach to the housing crisis in Latin America, a variety of forward-looking develop-

ers have built master-planned communities in Mexico, Bolivia, Colombia, and Chile that strive to merge the economic, environmental, community, and artistic needs of the people.

Historically, building master-planned communities in Latin America has been risky because of major fluctuations in the economy and shifting market conditions. Confidence in long-term planning and investment and experience in the concept of building communities have strengthened in recent years, and the tremendous demand for low-income housing, coupled with the rapid growth of the middle class, has created opportunities for developers to serve all economic ranges.

Nonetheless, developers in this part of the world still face the significant challenge of building the social infrastructure necessary to create community—including the formation of community associations to maintain the public realm. To this end, savvy developers are engaging potential residents to embrace their unique culture and family structure to forge successful and innovative public places—including schools, parks, and medical facilities—where previously none had existed. Attention to architectural design and the tendency for residents to add to structures in order to create small businesses on the lower levels or to meet the needs of growing families (for example, designing construction that anticipates the addition of a second story at a later date), can conflict with existing North American covenants and design guidelines. Meanwhile, the growing

emphasis on green building and sustainable development techniques in countries where the infrastructure is currently nonexistent offers an opportunity for a variety of innovative solutions in the form of green streets and bioswales, as well as constructed wetlands wastewater systems.

The unifying goals of the following projects are to foster social equity, alleviate urban poverty, enhance the quality of life and economic opportunities, improve and sustain the environment, and be fiscally responsible to investors. These projects can achieve a change in society that will return many-fold on the original investment, both in dollars and, more important, in human capital. Far from being social workers' dreams, they are income-producing ventures that are paying attention to previously untapped economic opportunities.

El Cotecito, Mexico

A mile and a half outside Atlacomulco, Mexico, a master-planned, low-income community called El Cotecito is being proposed by Dignitas (www.dignitasintl.com), a subsidiary of Unifi Capital Partners, based in Denver, Colorado. Atlacomulco is one of six cities celebrating Mexico's bicentennial independence from Spain. In 2010, the eyes of the country will be on Atlacomulco. The city lies adjacent to several manufacturing centers that will be supported because of the increase in population created by the newly available housing that is scheduled to begin construction this fall.

The 240-acre (97-ha) parcel of land on which El Cotecito is being developed was originally zoned for agricultural use as a private ranch and horse farm. It has been rezoned for low-income housing and has received government approval for 12,000 houses. Dignitas is creating a sustainable community that will provide 7,500 families (significantly lower density than the government approved) not just with homes that families can purchase, but with real neighborhoods and a modern infrastructure, a rarity in the low-income housing market. The Dignitas community will have paved streets, potable water, plumbing, sewage, electricity, and access to the Internet. Space has been provided for grocery stores, playgrounds, parks, health clinics, churches, and schools. Human services and educational programs will be provided by Monterrey Tech, one of the larg-

Base plan for El Cotecito, a low-income community proposed by Dignitas for Atlacomulco, Mexico. The base plan adapts the prototypical model to specific characteristics of the site.



est private university systems in Latin America, based in Monterrey, Mexico, so that the new homeowners can obtain the financial and social tools necessary to plan a positive future.

Constructed around a microplaza that will provide outdoor play areas that are safe and secure, each grouping of 25 homes will form a smaller self-contained neighborhood. The homes will contain approximately 500 to 600 square feet (46.45 to 55.74 sq m) and each will have a kitchen, bathroom, and bedroom. They will be equipped with electricity, running water, and waste disposal, and will include showers, sinks, ovens, and stoves—features that are taken for granted in more developed countries but not here. Each housing design offers the owner the opportunity to finish additional space, a custom widely available in Mexico, where people who buy a home will add to it as their incomes or families grow. For a nominal cost, owners may add from 33 to 50 percent more square footage to the home, increasing its value.

Plans call for a community vegetable garden and an orchard, providing food for residents and potential revenue for the community. The portion of the property that is within the floodplain will be further excavated to create a fish farm as a community cooperative. A metal workshop, an auto repair station, woodworking shops, and ceramic kilns will also be built to safety standards and will provide community space for trades that are often undertaken as home businesses. Parks dot the neighborhood and are situated within easy walking distance from each microplaza so that children will not have to cross streets to reach them. Accommodation will be provided for classes, activities, and human services that will be conducted by Monterrey Tech.

Dignitas embraces a series of social partnerships—with the family who will own the home, with the government who will

provide a mortgage with a low interest rate, with local contractors and global suppliers, with the university, and with Unifi Capital Partners' investors. The homes are purchased by low-income local workers who put aside 5 percent in savings from each paycheck for a downpayment. INFONAVIT, an organization that supplies credit to Mexican workers to help them buy homes, monitors the savings, and—depending on the wage level of the person applying, the amount saved, and the subsidies available—then informs the worker when his downpayment is sufficient to look for a home. For example, if a worker earns the equivalent of \$159.87 per month, he is able to purchase a 387- to 484-square-foot (36- to 45-sq-m) home. Higher incomes allow for larger square footage with a maximum of 650 square feet (60.38 sq m) for the homes in El Cotecito. The worker receives approximately one-half the cost of the home through federal, regional, and local subsidies and takes out a mortgage through INFONAVIT for the other half. It is the responsibility of the worker to pay off this mortgage over time from his salary. Ed Hoagland, senior partner of Unifi and cofounder of Dignitas, stated, "We build communities that allow people to own a house on a piece of land . . . it gives them ownership in their country. Communities like this will stabilize currency, banking, and the economy of a country, and will increase its gross national product. For every home built, it is estimated that four jobs will be created. But at the end of the day, it's all about respect and dignity."

Dignitas will develop from 30,000 to 40,000 homes per country per year over a ten-year period, starting in Mexico and Colombia, and moving on to projects in Brazil and Peru, making it one of the largest homebuilders in Latin America. It is anticipated that investors will receive a return of capital plus a predetermined profit margin of approximately 13 percent. Digni-

tas will hire architects and construction managers to oversee the work being done by the large local construction companies.

Valle Las Palmas, Mexico

URBI, one of the largest builders in Mexico and a leader in changing how communities are crafted and managed in 21st-century Mexico, is creating a mixed-use, master-planned community called Valle Las Palmas in a rural area east of Tijuana, near a chaotic layout of commercial strip developments and poorly laid-out residential suburbs. The community will encompass 13,000 acres (5,200 ha) of former agricultural land, follow smart growth principles, and serve a wide variety of economic levels. Mexico's President Felipe Calderon has earmarked the community as a model of future development in Mexico. Currently, 1,200 acres (485 ha) are under construction with infrastructure and road integration, a water treatment plant, and an above-ground stormwater management system. By the end of this year, construction will begin on 10,000 homes for low-income families. When completed in 2030, 1 million residents will live in the completely self-sufficient community.

Valle Las Palmas is destined to become the dominant urban center in the region, working to resolve Mexico's current housing, economic, and social needs in a manner that celebrates cultural, family, and aesthetic traditions of the country while defining the future of community development in Mexico. URBI is partnering with Conavi (Mexico's equivalent of the National Department of Housing), government agencies, businesses, nongovernmental institutions, and citizens who share and are committed to the traditions that reflect Mexican culture and values. The challenge is to create a cross-cultural experience that allows a free exchange of information, capitalizing on the best ideas from the North American and European models and markets, and applying them to Mexico. The goal is to celebrate the local culture while sensitively balancing development with conservation. Key to this is synthesizing the opportunities and limitations of the land with the socioeconomic realities of Mexico. The developers are working with national and international experts on integrating best practices in the areas of ecotechnology, community development, and

innovative financing methods and incentives. In that regard, they are promoting the creation of clusters of high-technology businesses and the possible addition of an industrial development to expand the potential for thousands of new jobs. In addition, the University of Baja, California, is partnering with the new community and will build a campus for 12,000 students, offering a wide variety of educational opportunities to the residents.

Iconic urban elements like "El Centro" and "La Plaza" create the heart of the new community in the tradition of Mexico's cities and towns. The location and design of the

buildings in these centers will shape public spaces, commerce, public institutions, and government offices, offering convenient access to residents. Barrios, located within easy walking distance, will provide the daily goods and services, creating a well-connected and more transportation-efficient community.

Homes and buildings are contemporary interpretations of traditional Mexican architecture with a great variety of styles created through color and form. The houses come with dual water lines (one for drinking, the other for watering lawns, washing laundry, or other activities) and sewage systems, and plans are



Located east of Tijuana, Mexico, the community of Valle Las Palmas (plan below) will be designed to incorporate sustainable principles. It will be socially, economically, and environmentally responsible to its residents while achieving a high level of aesthetic quality. The perspective above illustrates the community core for Phase 3 of Valle Las Palmas.



being studied to outfit homes with photovoltaic cells to generate their own electricity. The smallest home contains 350 square feet (32.5 sq m), with an opportunity to build a second story of the same size. It will cost \$22,000, putting it within reach of families with modest incomes. INFONAVIT regulates the cost of the home, guarantees the worker's loan, and pays one-quarter of the cost.

Outdoor living spaces around residential streets, paseos, and small parks will extend the home's livable space to outdoor areas and streets. A master-planned open-space system, unique to the Mexican culture, will offer residents full access to all the natural areas of the community and the surrounding areas. Parks are an important element of traditional Mexican life, providing places for children to play and picnic areas for families to use, bringing nature into barrios. All open space and parks will be linked to natural habitats, and environmental education will be an integral part of the community with a teaching laboratory for elementary and high school students.

Sanitary sewerage will be treated with a constructed wetlands system, which significantly reduces energy costs, thus minimizing operating costs for residents. The water will be pure enough to irrigate parks and street landscapes as well as to provide drip irrigation to drought-tolerant native plants. The urban pattern and infrastructure will capture the natural energy of the sun, and harvest rainwater to warm and cool buildings and public spaces. Several wind energy systems will also be incorporated into the community.

Valle Las Palmas is being designed as a sustainable mixed-use development that will be socially, economically, environmentally, and aesthetically good for its residents while remaining fiscally sound for its developers. Carlos Peraza, business development director for URBI, noted, "Our mission is to stimulate, protect, and reward every action and thought that develops the human spirit."

Campos Del Este, Bolivia

In Bolivia, South America's poorest and least-developed country, 70 percent of the population lives below the poverty line. A similar proportion of the population is made up of indigenous people, the great majority of whom are poor and cannot read or write. Through

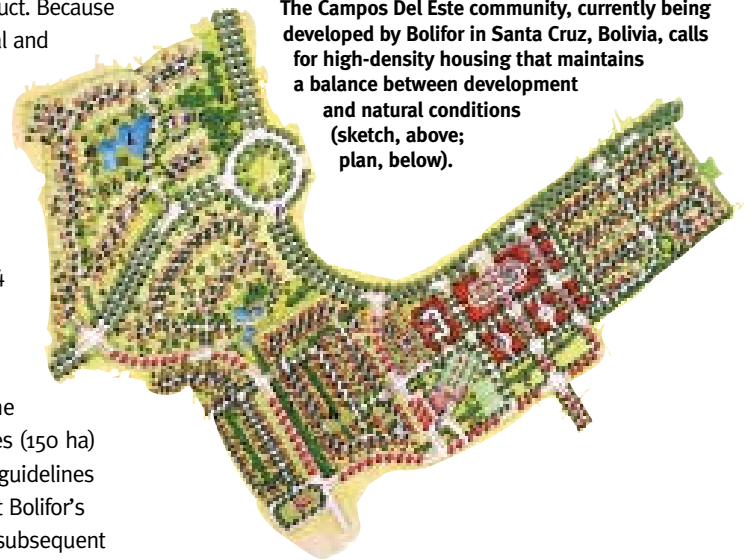
the 1950s, Santa Cruz—with a population of only 25,000—was considered a small, marginal city. With the development of the nation's transportation infrastructure, Santa Cruz saw its economy boom as it became integrated with national and international markets. Less than 50 years later, it supports a population of more than 1.5 million people, has become the largest city in Bolivia, and supplies over 30 percent of the country's gross national product. Because of the expansion of its agricultural and tourism industries, Santa Cruz is a prime target for developers.

Bolifor, a Bolivian development company, is conducting long-range planning (over 20 to 30 years) for a new community called Campos Del Este on 3,954 acres (1,600 ha) of agricultural land in Guapilo, approximately 6.2 miles (ten km) from the historic city center of Santa Cruz. The master plan for the first 370 acres (150 ha) has been executed, and design guidelines have been written to ensure that Bolifor's vision is implemented and that subsequent phases will adhere to the established criteria. Twenty percent of the project will be financed through government loans, and 80 percent through banks, savings and loans, and private investors. After infrastructure and land cost, the developer expects a 25 percent profit. Potential buyers will be financed through corporate loans, private financing, and government subsidies.

The proposed program for the first phase includes a commercial center, a school, and residential neighborhoods of high, medium, and low densities. It is organized around a system of open spaces that embraces the notion of a garden city, bringing people closer to the land. The challenge was to preserve the natural assets of the site and incorporate them into the physical framework of the community. Significant natural resources include dense forest areas, open savannahs, and prominent windrows that separate agricultural fields of sugar cane and soybeans and that also create essential habitat for local fauna. Natural assets are incorporated into the project by way of the open-space amature. Regional parks, community parks, neighborhood parks, and a series of signature streets introduce these assets into the community.



The Campos Del Este community, currently being developed by Bolifor in Santa Cruz, Bolivia, calls for high-density housing that maintains a balance between development and natural conditions (sketch, above; plan, below).



Campos Del Este, which is currently under construction, calls for high-density housing that maintains the balance between development and natural conditions. To preserve as much existing vegetation as possible, the design uses the existing windrows as climate control features, an alternative stormwater system, and erosion control. Sixty percent of residents integrated into mixed-use villages will be low income and will have the opportunity to obtain employment. Though low-income housing tends to look the same, innovative use of the land will distinguish homes and help create a unique identity for the community. The homes will be a mixture of traditional and contemporary styles.

Jose Vasquez, principal of Bolifor, observed, "We want to build an accessible project that will improve the quality of life of the people who will live in our houses. We've provided for open areas, trees, and a strong connection to nature to give residents a better environment in which to flourish." **UL**

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