Providing shelter for world's poor

CONSTRUCTION | Trio comes up with idea for homes families can build easily

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BY TED PINCUS

Can a clean, safe magical box shelter the world's poorest families?

This is the story of a homebuilder who doesn't know there's a housing recession. Chicago's Tom Pirelli is out to provide a complete $5,000 house to the one-sixth of the planet's population that has nothing. Are you listening Rockefeller, Ford and Gates foundations?

Among his immediate beneficiaries are the Garcias. Until last month, Simon Garcia, 21; his wife Yanelet, 25, and their two small children had lived as more than one billion others are living, according to the U.N.'s latest estimates. That's in a plastic or cardboard covered lean-to propped up with scrap wood or pipe, with a dirt floor and no running water, sewer or electricity. There, in a barrio called El Paraiso, a not very exclusive suburb of Ensenada, Mexico, the family had survived in that hovel on restaurant worker wages of $65 per week each for mom and dad. A fourth of its income must cover day care for the kids.

In their meager way, the Garcias are blessed among a fortunate few. They've just moved into a brand new house that they helped build themselves over a weekend. It's no palace, but it has three rooms on a 6-inch cement foundation, plumbing, electricity, a stove and steel walls and a roof insulated against heat and cold. Even on pauper wages they'll be able to pay off their micro-mortgage over the coming years.

By Christmas, 10 more Ensenada families will have similar quarters. By next year, 100 more, and within two years, Tom Pirelli intends to be producing 1,000 homes per year to house additional impoverished Mexican Indians in Ensenada alone. That's only for openers. His 10-year goal: one million homes for Third World families in Vietnam, South Africa, India, Haiti, Lithuania, Honduras plus Ghana, where his alma mater, Princeton University, might be developing 16,000 acres for the poor.

Is this a Quixotic dream? How is all this possible? Because of the remarkable imagination, drive and selfless dedication of three Chicagoans who jump started this effort in only the past year: Pirelli; his wife, Jane, and Paul Saydek, owner of Service Construction of Illinois, in Lake Forest. Pirelli, 62, the former IT director of American Hospital Supply, became the founder and CEO of Wheeling-based Enterprise Systems, a health care software company that went public and then sold to McKesson in 1997. He later established the Arial Foundation as a nonprofit organization focused on aid to the homeless. One of its initiatives has been to use robotics, and it sponsored the first LEGO Robotics Competition for the Chicago Public School system.

"It was the application of robotics that led us to creating the key component that makes our Arial Homes initiative possible," Pirelli tells me. "That's the highly automated, localized production of all the roof and wall panels of the house and a 'LEGO' type of assembly so simple a family can do it itself.

"It's made of galvanized refrigeration panels, 24-gauge painted steel, with liquid polyurethane sandwiched between them -- to fight both heat and cold conductivity."

With that idea and a commitment of $1 million per year indefinitely from their own pockets, the Pirellis and Saydek designed a tongue-and-groove system with self-tapping screws to permit an easy do-it-yourself assembly; and a robotic process to perform the insulation sandwich process with minimal time and labor.

A prototype factory was then created in a rented garage in Ensenada. "Our model is not the home construction industry but the auto industry," Pirelli says. "We aim to produce houses the automated way Toyota produces cars, which they do at every 27 seconds!"

He intends to replicate this model, with solar power added, and establish 250 production bases worldwide, each funded by $100,000 startup capital. With full optimal mass production, he says, houses will be self-funding by 2008, selling for $5,000 each and either partly subsidized by his foundation or financed by microlenders whose Nobel Prize-winning Muhammad Yunus and his Grameen Bank has shown the way.

"Consider the possibilities," he says, "if we could convince the major foundations to underwrite these little factories on a massive scale." (e-mail: arialhome.org)

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