

From blocks to 3D printed houses: this social entrepreneur's journey



At the age of 7, **Francesco Piazzesi** recalls going to a **handmade brickyard** with his brothers. Their father, a civil engineer who lived through the Second World War in his native Italy, was about to teach them **a life lesson**.

It was the early 60s. Francesco got to work making **red clinker bricks** alongside other children, among mud and ovens, where **“all kinds of indescribable junk were burned,”** he says.

“It was like the antechamber of hell. My father would take us to make bricks so we’d see how difficult it was to earn a living and the lack of opportunities available to many people. There, he made us socially aware.”

Years later, that **social awareness** led him to founding **Échale a tu casa**, (Build Your Own Home) a social enterprise that’s part of a **project to build houses** with a **3D printer** in Nacajuca, Tabasco, and to **The New York Times** doing a report on him.

And so, he went from learning to make **handmade bricks** to creating a company that won the **“Nobel for sustainability,”** which is now working on **fabricating homes** with **technology** that’s attracting international attention.

<https://twitter.com/nathanbarry/status/1443650859049488387>

Risking his entire patrimony to give one to others

Starting **Échale a tu casa** meant **gambling everything by mortgaging his home**, after no institution wanted to finance his project.

*“I left the job I’d been doing my whole life, and I even had to mortgage my home, which was like going through the ‘valley of death.’ That really was a Russian roulette. It was a difficult time because I was **putting my family’s patrimony at stake**.*”

*“**Nobody wanted to lend us money, neither banks nor financial institutions, or they wanted to lend at horrific interest rates.** That’s when I said, ‘Holy Mother of God!’ **I could be left jobless, sleepless, and homeless.**”*

Eventually, the **Tec graduate** says he found backing from the [Inter-American Development Bank](#), which he paid off over the following 5 years.

Échale a tu casa gives communities the option of **paying for their own housing through loans and paid work** on the construction of their home.

*“**It’s not philanthropy. It’s a social enterprise.** We charge for our work. We don’t have a great return on capital, but we do have a great social impact.”*

Today, his project **has managed to impact nearly one million people**, with the construction of **50,000 homes**, which have benefited some **1,000 communities in 28 states** across the country.



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Building 3D-printed homes in Mexico

This started from an international alliance that **Échale a tu casa** formed with institutions **New Story** and **ICON** to **build homes** for communities in need **using 3D printing technology**.

*“ICON is based in Austin, Texas. They made the **first 3D printer** named **Vulcan 1**, and we later got together (with New Story) to provide housing to those most in need.*

*“Cutting-edge technology shouldn’t only be at the service of capital. **Cutting-edge technology** should also be at the service of **those most in need**, the **under-served** population.”*

His company worked together with the **social organization** by **selecting communities**, such as **Nacajuca, Tabasco**, where **they used Vulcan 2**, a **3-meter 3D printer** that’s operated by 3 technicians and that can finish a **house in 24 hours**.

*“**The 3D printer extrudes the concrete to form the house**. The houses are lined up, so it makes 2 at a time. We use extruded concrete, which has certain slump qualities, and is a concrete that can be supplied at any cement plant,” he said.*

(An example of how the 3D printer works to fabricate houses):

<https://twitter.com/i/status/1185991558501294080>

Fighting poverty with sustainable communities

*“The great value of this model is that **when you finish** a (3D) house that cost 10,000 dollars, without the land, its market value increases to **30,000 dollars**, and **that profit is left to the family** so they can have some patrimony,” he explained.*

Francesco points out that this contributes towards the **United Nation’s [Sustainable Development Goals \(SDGs\)](#)**.

*“(We’re achieving) the goal of creating **sustainable communities** (SDG 11), but first is SDG 1, **no poverty**, because they go from living in a house made from sheet roofing and cardboard with a dirt floor and no sanitation, drinking water, or electricity to having adequate housing,” he said.*

*“This effort to bring the **3D printer** to a community in such need as Nacajuca **has truly been sensational**.*

*“If we want **a better world**, it’s what we have to do. Take a small step in any direction towards any situation that **involves those who don’t have the same opportunities** in this world,” he said.*

“If we want a better world, it’s what we have to do. Take a small step in any direction towards any situation that involves those who don’t have the same opportunities in this world.”



width="900" loading="lazy"> **In shock, making bricks in that same “antechamber of hell”**

*“We would leave in a **state of shock**. You would witness **dead dogs** being put in the oven. They would burn absolutely everything,”* Francesco remembers what it was like to work in the **brickyards** on the **outskirts** of Mexico City and the State of Mexico.

Francesco would put mud in a box to shape the bricks and then take them to the **furnace**, where they would burn all kinds of waste for fuel.

*“My father was a civil engineer and he’d take us there, **not to play or to give away toys**. We went to work. **It wasn’t a punishment**. He wanted to show us the **value and sacrifice of work**.”*

He remembers that even teenagers didn’t want to work in the conditions of these **handmade brickyards**. They thought they were like **“antechambers of hell.”**

That’s how Francesco, **who was born in Mexico 65 years ago**, learned to value what he has, and where he realized that **other people** didn’t have the **same opportunities** as he and his brothers.

*“My father lived through the war in Italy, and that’s no joke either. He said to us, ‘Come and see the struggle. You go to school, come home, and food is served, but **not everybody has that opportunity**,’”* he said.



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Laying the foundations for his idea to help people

Piazzesi graduated from Anahuac University with a degree in Administration, and in 1983, he graduated from [Tec de Monterrey](#) with a **Master's in Administration**.

When he began working at his father's company, which he claims was the first to bring **concrete block making machines** from Italy, he realized that those who **build houses don't have one themselves**.

"It's like saying that a fisherman is dying of hunger," he says. Hence his concern for **every Mexican family** to have a home, whether they have access to INFONAVIT or not.

In 1985, he founded **Adobe Home Aid** by developing **Ecoblock** and a **portable hydraulic press** that was patented to manufacture it.

"It's a material made from a type of clay, and soil. It's ecological with both thermal and acoustic properties, and it's more resistant than a concrete block. It's what's known today as Ecoblock."

"While I was at the Tec, we did the first pilot in Chalco, State of Mexico. We trained people so that the material is made in the community, which saves shipping and reduces our carbon footprint by 30%."

In 1997, Piazzesi left his father's company and founded **Ecoblock International**, the predecessor to **Échale a tu casa**, with a view to generating building materials and involving people in the construction of their own homes.



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A company recognized with the “Nobel for sustainability”

Échale a tu casa’s social work has not gone unnoticed in other countries. The company has procured alliances with global construction companies, such as the project in Nacajuca, as well as national and international distinctions and recognition.

*“We were one of 200 companies in the world selected to become a **Certified B corporation**. We’re [Ashoka fellows](#), we’ve participated in the [Clinton Global Initiative](#), and we have a **Katerva World Housing award**.”*

A **Katerva award** is considered the “**Nobel prize**” of sustainability. It was the first time a Mexican project was chosen to compete for this award.

*“All this has opened up opportunities and has led us to building contacts. You start building links with programs. For example, **we’re a part of the Schwab Foundation**, which is a foundation for social entrepreneurship that’s involved with the **World Economic Forum**,” Piazzesi highlighted.*

His father's great lesson

Piazzesi remembers that **Tec de Monterrey** gave him **structure** according to his concerns and needs.

*"That great structure doesn't let you wander off, and it allows you to create a framework in which you alone are guiding your footsteps. That's the great lesson. **(At the Tec) we carried out our first pilot** and we began learning lots of things."*

With regard to what he has achieved, he says he's satisfied with the results, as well as with his work team.

*"It's extraordinary to be able to **dedicate your life to helping others**. My biggest reward is when we go to a community and they welcome us with a party, a lot of love, and warmth."*

Nowadays, **Piazzesi is looking to take his social work to further places** across Mexico and the world, since he said they'll be **replicating their initiative in two African countries** under different models, a franchise and through an investment fund.

Looking back, he reflects that doing something for others is all thanks to his family, especially to his **father**, who taught him a **great lesson at those brickyards**.

*"The lesson my father taught me is that we live in a world full of benefits and blessings. **It's our responsibility to pass those blessings** to others. It's not right to keep them to ourselves, and what's more, it isn't difficult for us to share them."*

That boy learned more than to make bricks. **He learned what to do with them in his life.**



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