

LESS
MONEY,

MORE
CREATIVITY



ALEJANDRO ARAVENA INITIATES HOUSING PROJECTS FOR CHILE'S POOR WITH INTERDISCIPLINARY FIRM ELEMENTAL.

TEXT CATHELIJNE NUIJSINK
PHOTOS ELEMENTAL

BESIDES HIS OWN ARCHITECTURAL FIRM AA, architect Alejandro Aravena runs what he calls a 'do tank', together with the Chilean oil company Copec and the Catholic University of Chile. With this firm, named Elemental and founded in 2000, he strives to initiate large-scale housing projects and public infrastructure in an unorthodox way, to encourage social development and fight the cycle of poverty in Chilean cities. Aravena talks about the social iniquity in his country and his contributions to better living circumstances for those less privileged.

What is the role of an architect in the case of designing social housing?

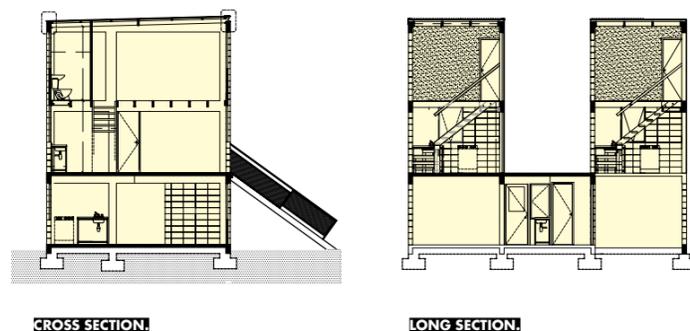
A lot of people have a say in housing: politicians, builders, economists, social workers, primarily the families themselves and of course designers. When designing social housing, the architect should engage himself in questions that at first glance don't seem to be of an architectural nature, like how to overcome poverty, how to deal with development and with the integration of uneducated people into society. The design of a building is a very powerful tool in which the architect should incorporate the answers to all these questions, using his professional expertise.

In optimizing your designs for social housing, you have developed mathematic equations in which the unknowns represent, for instance, the amount of subsidy, the floor area of a house and the amount of public space. How does this help you with your design?

Apart from offering just a house, we are convinced that we should provide future occupants with other means for living as well, such as opportunities for jobs, education, health facilities and transport. Expressing these possibilities in equations makes it easier to make the right choices. For instance, land in Mexico is generally very expensive. We therefore try to make the building density as high as possible. On a typical plot of 6 x 6 m, we build duplexes that combine the feeling of a row house with the density of an apartment block. This is one of the outcomes of such formulas.

What percentage of the total housing stock consists of social housing in Chile?

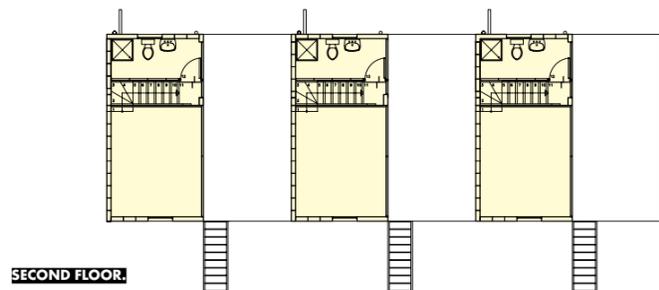
In Chile, 60% of all housing is subsidized. Not only housing for the lowest of the incomes, but also middle-class housing receives at least some kind of subsidy. This pretty much tells you the structure of the country. Chile has doubled its income per capital in the last five years. If we keep on doing as we are doing today, it is said that we can reach a level of development that equals that of Portugal by 2020. For a Latin-American country at the edge of the world, that's a major achievement. Our biggest issue now is the particularly unequal distribution of household



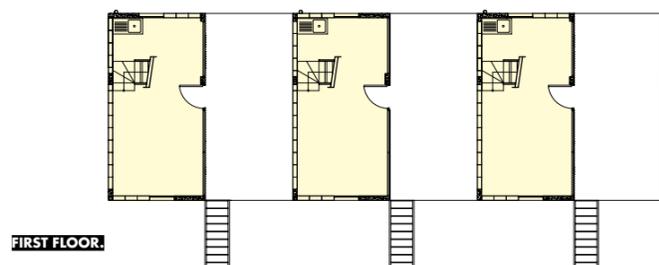
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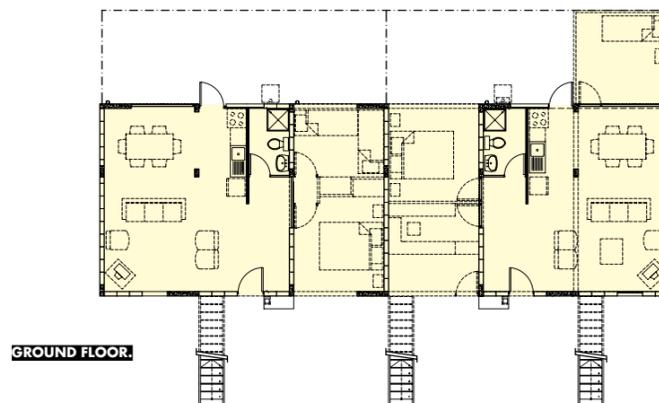
**'IF I DO MY WORK WRONG,
I RUIN THE LIVES OF MANY.
IF I DO IT WELL, I MULTIPLY
MANY PEOPLE'S QUALITY
OF LIFE'**



SECOND FLOOR.



FIRST FLOOR.



GROUND FLOOR.



QUINTA MONROY JUST AFTER COMPLETION IN 2004.

QUINTA MONROY IQUIQUE / CHILE 2004

* 93 FAMILIES / 5.205 M²
714 INHABITANTS PER HECTARE

* HOUSE SURFACE AREA 70 M²
36 M² INITIAL + 34 M² ENLARGEMENT

* APARTMENT SURFACE AREA 72 M²
27 M² INITIAL + 45 M² ENLARGEMENT



SITE.



QUINTA MONROY IN ITS CURRENT STATUS.



CONSTRUCTION DIAGRAMS.



QUINTA MONROY JUST AFTER COMPLETION IN 2004, AND IN ITS CURRENT STATUS, INHERENT TO THE DO-IT-YOURSELF ARCHITECTURE, FULL COMPLETION STARTS ONLY AFTER THE CONTRACTOR HAS LEFT THE SITE.



incomes, which is reflected in our capital city, Santiago, which is a segregated city. The majority of the city typically belongs to South America, in the respect that it is poor, whereas one third of it is a completely different, very rich world. Elemental is working on a way to level that curve.

How does the subsidy system work?

Chilean housing policy is a subsidy to demand. A poor family will receive a voucher of 10,000 dollars, on the condition that it creates a housing committee with at least ten more families. From this amount, 100 dollars is reserved for technical assistance from a specialized agency, like an NGO, the municipality or the ministry of housing. This agency contacts an architect, a social worker and anyone else who is needed in the process, and it checks if all the applications are correct. When everything is settled, it puts out a tender in search for a contractor to build the project. After completion, the residents become the owners of their houses.

How do you initiate your own projects within this subsidy system?

Many times we ourselves, Elemental, find a good site, and then we try to find families who are interested in living there. Because of the existing social networks, it's important that these families already live near the building site, so they don't have to move too far. We initiate our projects by going to those families, proposing the site to them, suggesting that they should apply for subsidy and contacting an agency to do all the administrative work. At this point the agency will ask us to do the design of the project.

What is the most important point of improvement necessary for social housing?

Social housing units are generally very bad quality, they're small and fragile like matchboxes. If you want to do better, you will have to make the units bigger and build them better. For Elemental that is not enough though, because families are able to realize enough space and good materials on their own. We prefer to focus on what they are not able to achieve. We define quality as the capacity of a housing unit to gain value over time, and for that you need other things, like the presence of good public space.

You build about 50% of the structure and allow the residents to do the rest. Do you give them any restrictions for that?

The public funds are only enough to build half of the house. We design a 72-m² house, equal to a middle-income dwelling, but we deliver only the 36 m² we can pay for with the subsidy. The design includes the final stage of the 72-m² unit though, and the building permits for the expansions are already paid for as well. The expansion strategy is

very simple. You are not allowed to go beyond the existing structure when it compromises air, ventilation or property of the house underneath.

When you want to go outside the frame, you have to build foundations, load bearing walls, and so forth, making it complicated to do so. Therefore, most people stay inside. The rules tend to follow common sense. It turns out that most residents expand their houses exactly the way we have planned from the beginning.

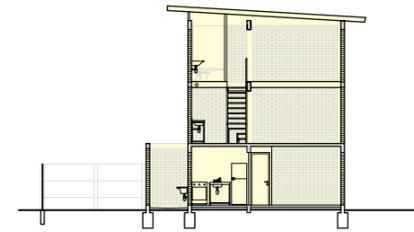
Can the residents expand their house on the roof as well?

They can, but they have the right to expand up to a maximum floor area of 72 m² only, regardless of the configuration. We have learned that the process of expansion usually stops around this size anyway. This size allows a family to have four bedrooms of 3 x 3 m, a living room of 6 x 3 m, a kitchen and a bath room. If a family is in need of more than four bedrooms, it usually wants to change places. They will most likely access the real estate market, sell their house and buy something bigger elsewhere. It's interesting though, that many families build less than the allowed 72 m². For example, they leave a 1-m recess for a terrace, for a space to hang clothes to dry or for a small garden in front of the house. Many people turn out to have a very sophisticated notion of inhabitable space; outdoor space, intermediate spaces, porches, halls, etcetera. They have reached a second level of need; not the basic need of protection from the rain and the necessary square meters, but the need of a space where you can enjoy yourself.

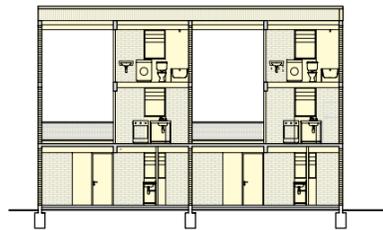
If you would start a social housing project in a developed country, what would be your main concern?

As far as I understand, social housing in the first world is not property oriented but protected rent. That is a completely different thing; self-expansion is out of the question, not only because it is not needed or the code is very complicated, but because people don't own the property. Why invest in something that is not yours? The main concern in social housing owned by the government or state is the maintenance, knowing that families who don't own their property do not invest in it either. The failure of social housing complexes lies in all common spaces like corridors, elevators and public areas that are not maintained by anybody. They are very often the cause of deterioration. I would suggest not including all those common spaces that, if nobody maintains them, are not beneficial for the inhabitants.

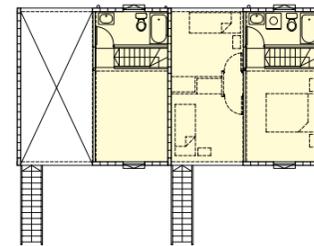
Besides working on low-budget social housing projects you are now involved in the design of a 1000-m² private villa in Inner Mongolia. Don't



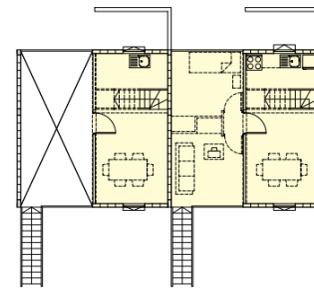
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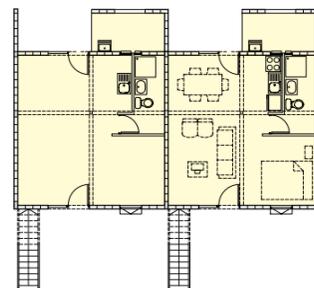
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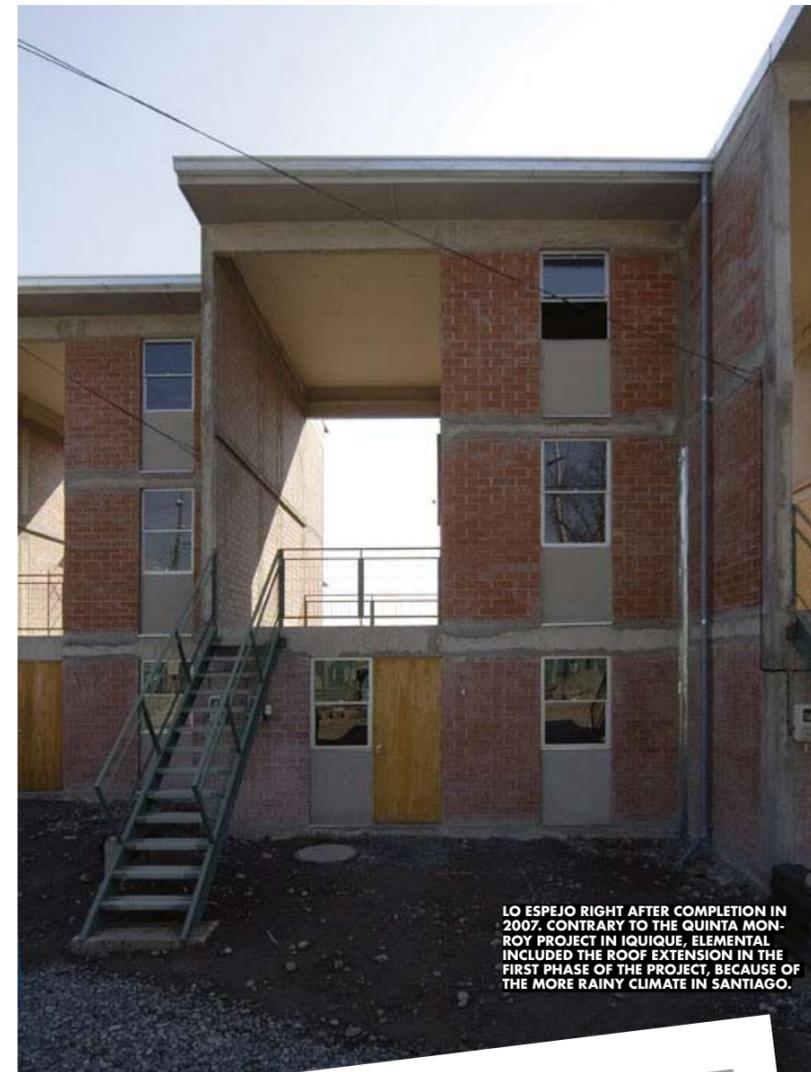
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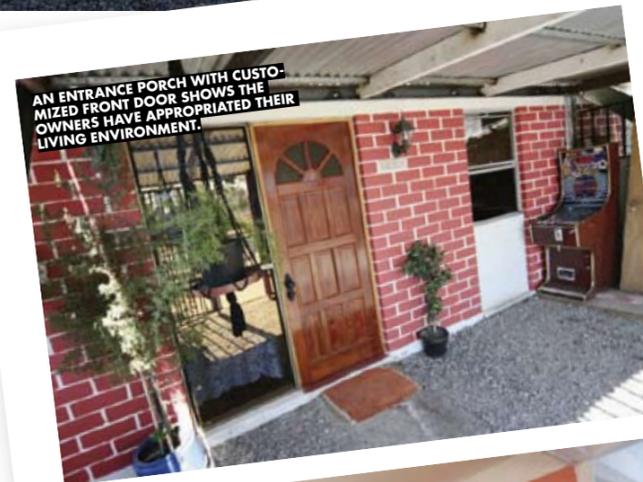
FIRST FLOOR.



GROUND FLOOR.



LO ESPEJO RIGHT AFTER COMPLETION IN 2007. CONTRARY TO THE QUINTA MONROY PROJECT IN IQUIQUE, ELEMENTAL INCLUDED THE ROOF EXTENSION IN THE FIRST PHASE OF THE PROJECT, BECAUSE OF THE MORE RAINY CLIMATE IN SANTIAGO.



AN ENTRANCE PORCH WITH CUSTOMIZED FRONT DOOR SHOWS THE OWNERS HAVE APPROPRIATED THEIR LIVING ENVIRONMENT.



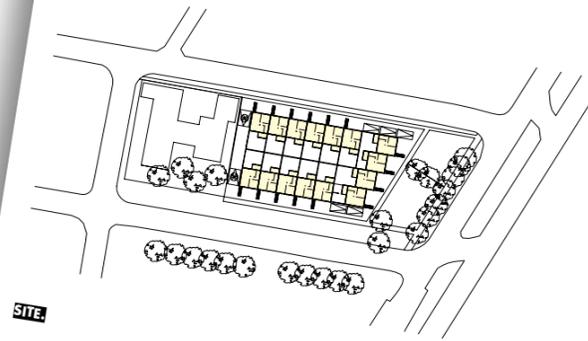
LIVING ROOM OF ONE OF THE HOUSES IN LO ESPEJO.



LO ESPEJO IN ITS CURRENT STATUS.

LO ESPEJO SANTIAGO / CHILE 2007

- * 30 FAMILIES / 1568 M²
351 INHABITANTS PER HECTARE
- * HOUSE SURFACE AREA 60,5 M²
36 M² INITIAL + 24 M² ENLARGEMENT
- * DUPLEX SURFACE AREA 68 M²
36 M² INITIAL + 32 M² ENLARGEMENT



SITE.

you feel a project like this is a little too excessive?

Excess doesn't come from size. Take a look at 30-something-m² housing projects that are being built all over Mexico. In my eyes those projects are excessive because they are not precise and not focused, spending money where they are not supposed to spend it. You can be excessive no matter how much or little money you are dealing with. In social housing it is easier to be disciplined, as the restrictions are so evident. The bigger the budgets and the sizes, the more important discipline becomes. Excess is not going to come from the question, but from the answer. Our project in the USA, dormitories and dining facilities for St Edward's University in Austin, has a big budget and a big 200.000-m² building, but we spend a lot of time framing the question correctly and giving the right answer to it.

What should the money be spent on when big budgets are available?

If not all money is necessary, why spend it? It's happened a couple of times that I thought that the question didn't require all the money to answer it, so we answered it with less money.

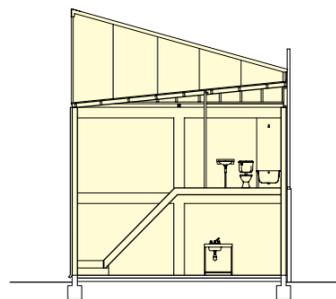
What is your main drive to be an architect in a third world country?

Less money means more creativity. The context I am working in is full of restrictions and rules, caused by scarcity. It forces me to the very edge of my capacities, which I like. The more restricted the context and the more difficult the question, the more relevant the answer can become.

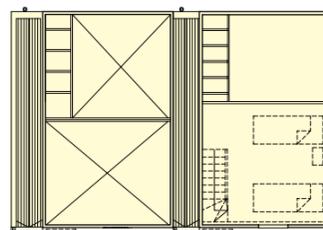
I had expected you'd answer something heroic like 'helping the less privileged'...

It's indeed nice to feel that our efforts are aimed at something relevant. I will never forget when the first Elemental project was built. During the opening a single mother expressed her gratitude to me. She used to live in an informal shed, in the garden of her parents' and grandparents' house. They convinced her to participate in the programme. At first, she was one of those who didn't believe in the project, but the outcome had completely made her change her view. It had not only improved her life, but also that of her parents and offspring. At that moment I realized that the lines I draw on paper influence a couple of generations at the same time. If I do it wrong, I ruin the lives of many. If I do it well, I multiply many people's quality of life.

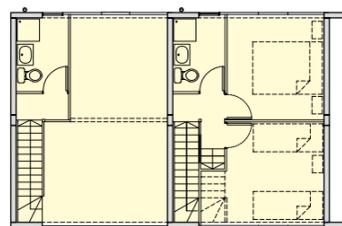
www.elementalchile.cl
www.alejandroaravena.com



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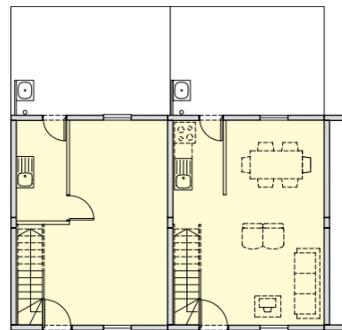
SECOND FLOOR.



FIRST FLOOR.

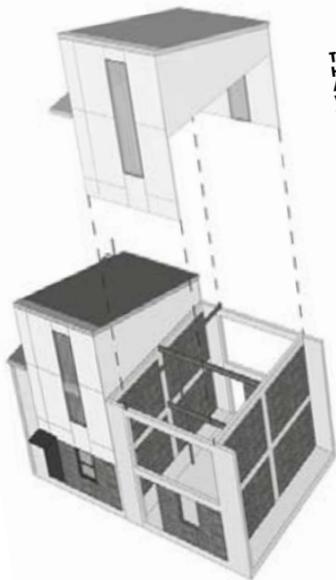


LONG SECTION.



GROUND FLOOR.

'THE MORE DIFFICULT THE QUESTION, THE MORE RELEVANT THE ANSWER CAN BECOME'



THE ORIGINAL DESIGN FOR THE HOUSE SUPPLIED ONLY THE GROUND AND FIRST FLOORS. THE FAMILIES WERE TO BUILD THE SECOND FLOORS THEMSELVES, BUT THEY OBTAINED ADDITIONAL SUBSIDIES FOR THE ENLARGEMENT OF THEIR HOUSES DURING THE CONSTRUCTION PROCESS OF THE FIRST PHASE. THIS MADE IT POSSIBLE FOR THE CONSTRUCTION COMPANY TO COMPLETE THE SECOND PHASE OF THE HOUSES BEFORE HANDING OVER THE KEYS, CAUSING THE EXTENSIONS TO BE IDENTICAL.



THE IDENTICAL ROW HOUSES LOOK LIKE SIMILAR DWELLINGS IN THE WESTERN WORLD.



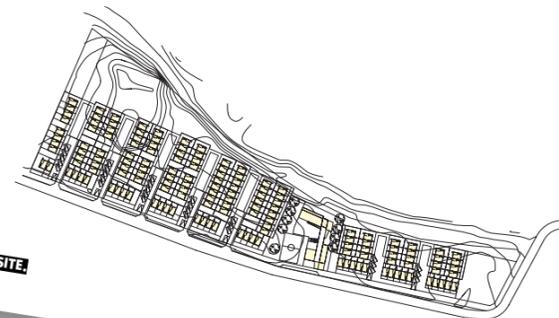
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ELEMENTAL ORGANIZED A COMMUNITY WORKSHOP WHERE FUTURE INHABITANTS COULD DESIGN THEIR OWN HOUSE. THE BUILDING SITE WAS CHOSEN, NEGOTIATED AND BOUGHT BY THE FAMILIES THEMSELVES, WHO LIVED IN VARIOUS SHANTYTOWNS ADJACENT TO THE SITE IN RENCA.

RENCA SANTIAGO / CHILE 2007

* 170 FAMILIES / 28.773 M²
201.9 INHABITANTS PER HECTARE
* HOUSE SURFACE AREA 63.4 M²
35.4 M² INITIAL + 2 M² ENLARGEMENT



SITE.

THE RENCA PROJECT RIGHT AFTER COMPLETION IN 2007. THE HOUSES WERE BUILT ON A FORMER ILLEGAL GARBAGE DUMP. IN ORDER TO BUILD, THE GROUND HAD TO BE DUG DOWN TO A DEPTH OF 2.5 M, WHICH MADE THE LAND COST FOUR TIMES HIGHER THAN WHAT SOCIAL HOUSING CAN NORMALLY AFFORD. THEREFORE, THE WIDTH OF THE HOUSES HAS BEEN REDUCED IN COMPARISON TO THE ORIGINAL DESIGN.