

Constitución, Chile: Remaking a City

In the early hours of February 27, 2010, an 8.8 earthquake struck off the coast of central Chile. In Constitución, a coastal city of nearly 50,000 built where the Maule River empties into the Pacific Ocean, residents near the shore awoke to a terrifying three minutes of shaking. They knew it was only a matter of time before the tsunami would hit, so those who were able fled to higher ground. Twenty minutes later, 18-foot waves pounded the shore. The city was devastated, and more than 100 people died. Many more were injured, but without electricity or clean water available, most had to be transported to other cities for medical care. Hundreds of people were left homeless.

Big questions about whether and how to rebuild loomed over Constitución. However, the locus of problem-solving originated 200 miles away in Santiago – the capital city and seat of the national government. While Chile is politically organized with a central government, 15 regional governments, and elected local officials, most of the power is held at the top. Constitución's plan for its future would start in the office of Andrés Iacobelli, Chile's newly appointed Undersecretary of Housing. Iacobelli, looking to the private sector for help, contacted the major employer in Constitución, a forestry firm called Arauco. He connected Arauco with Elemental, an architecture firm in Santiago that specializes in social housing projects. From this partnership emerged an agreement that Arauco would fund Elemental's efforts to develop a sustainable reconstruction plan. The plan came to be known as the Sustainable Reconstruction Plan, or PRES (Plán de Reconstrucción Sustentable).

The PRES includes 36 infrastructure projects, including new and rebuilt structures. Some examples include a new cultural center and theater, various re-engineered evacuation routes, a new school, and a large green, forested zone that can act as a buffer to future storms.

The development of the PRES and its rocky implementation offer a fascinating look into the variety of forces that affect large-scale community relocation. The following key points, gathered from articles, studies, and reputable commentary on the PRES, are relevant to the retreat workshop. For more information, see the list of links below to additional reading, primarily in Spanish.

- **Constitución's geography and diverse population present challenging sustainability trade-offs.** The city has limited space to work with for redevelopment and relocation within its borders because it is constrained on all sides by water or mountains, and is fairly densely populated. Also, the majority of the land along the water's edge is low-lying and prone to flooding, while the land along the foothills is vulnerable to landslides. The area of the

city that was hit hardest by the tsunami was La Poza, a large and diverse neighborhood on the border of the Maule River. La Poza was uniformly devastated, but the impacts on the lives of the residents were far from equal. Some of the people who had lived in the neighborhood were wealthy owners of properties and homes with high commercial value. Others were lower-income property owners, tenants, or informal occupants who lived in buildings or on land they neither owned nor rented. Some of the families in the neighborhood were multi-generational. A handful of fishermen lived there because they worked the Maule River. In the aftermath of the storm, the differences in the victims' capacities to adapt using their own resources were stark, and appear to have been exacerbated by the approach to housing in the PRES (see next bullet).

Also, the PRES deals primarily with infrastructure and land use, but one critic suggests that, as a sustainability plan, it does little to support and promote social sustainability. This is regrettable, given the depth of social resilience residents showed in the wake of the earthquake and tsunami as they memorialized the dead, injured, and lost; engaged quickly and effectively in public meetings; and made many of their homes livable using personal and community resources.

- **The PRES redevelopment strategy is criticized for encouraging gentrification and economic injustice.** As the name of the PRES implies, sustainability is the driving redevelopment philosophy in Constitución, but, as in all sustainability efforts, there are differing opinions about which outcomes and trade-offs would lead to maximum sustainability. The PRES prioritizes protection from natural disasters and commercial and civic revitalization; thus much of the city has been rezoned, resulting in more green space, more commercial area, and some more densely populated residential areas. To date, nearly half of the projects proposed by the PRES have been completed or are underway, including a new library, a new Cultural Center and City Theater, a revitalized bus terminal, and some innovative housing projects. But critics say the successful implementation of many projects obscures the fact that the re-housing strategy has been unjust. They say the redevelopment has changed property values such that middle- and low-income households are forced to the outskirts of the city, where access to resources is more limited and different skills are required to survive. For example, the city is converting the La Poza neighborhood into a forest to provide a buffer (wave break) against future storms. Former La Poza residents who stayed in Constitución, but could not return to their neighborhood have faced different kinds of challenges. The fishermen have lost proximity to the water, families with generational ties have moved across town and, in some cases, been separated. Many La Poza residents would like to live in the city center, which is closer to their previous neighborhood, but because the redevelopment strategies in the urban center have led to higher-cost housing and fewer residences, most cannot. One study showed that 13% of the formerly residential parcels in the urban

center have been converted to commercial lots, and there are many undeveloped parcels in the historic sector that were once residential, but have been priced artificially high in order to reserve them for commercial or other high-value uses later. Many of the lower-income residents of La Poza now live in the foothills on the opposite side of the city, where transportation and access to the city's amenities and resources is more difficult, and where some say the threat of landslides is no less dangerous than the risk of tsunamis was before.

- **Partnership with the private sector has had its benefits and costs.** As mentioned previously, the PRES for Constitución was developed through a public/private partnership with a forestry company, Arauco, as a key player. Arauco employs 3,000 people directly and 10,000 indirectly in Constitución, and it operates a large wood pulp mill in the center of town. One of the many controversial decisions on the table during the development of the PRES was what to do about Arauco's mill, which is located near the city center and had been knocked out of commission for three months after the tsunami. Many residents saw the post-disaster planning effort as an opportunity to relocate the mill out of the city center. The company resisted discussion of relocation and ultimately explained (or threatened, depending on one's point of view) that moving the mill out of the city center would mean relocating it to the south of Chile, leading to massive job losses. The decision was made to leave the mill in place. The company agreed, however, to make some concessions, including reducing odors and noise from their transport operations. They also committed to use excess steam from the plant operations to heat some community pools. Five years on, air quality is better and it appears the company has better community relations than before.
- **The PRES was developed through an admirably participatory approach.** The Housing Ministry asked the design firm, Elemental, to lead the effort, and Elemental hired a strategic consulting firm to advise them on how to engage the local community as well as various government entities at the local and national level. They set up an "open house" in the heart of Constitución, where anyone could stop in to view and comment or advise on the plan as it was being developed. They hosted regular community meetings. Early in the process, Elemental put forward various redevelopment ideas to the public for an open vote. Citizens were asked to evaluate a range of adaptation measures, and to rank them in terms of priority. Local residents openly debated the options at the public meetings, and various internet-based discussion threads formed for additional discussion. Citizens proposed or commented on most of the 30+ projects that became formalized through the PRES, and they were asked to prioritize them. The decision to transform La Poza into a forest was influenced by a majority public vote, in which the community preferred the natural buffer solution to rebuilding the neighborhood behind a giant sea wall, or to simply letting the destroyed area

lay fallow. The citizens' votes on both the types and priorities of projects, as well as the future state of La Poza, were informative but not binding. Local and regional government officials made recommendations following the public vote, and the central government made the final decisions. Still, the participatory approach in the immediate post-disaster decision-making process was well-appreciated and both provided public support for many of the projects and raised issues that wouldn't otherwise have been part of the plan.

- **Long-term implementation challenges.** Constitución has much to be proud of. Nearly 50% of the projects in the PRES are under construction or completed, including the first steps to build the mitigation forest. As with many post-disaster recovery efforts, however, most of the attention and resources were dedicated to the reconstruction process in the months following the quake. Since then, bureaucratic hurdles and rival political battles have bogged down many pieces of the implementation plan. At the time of the tsunami, the center-right was in power in Santiago, while the center-left ruled Constitución itself. Now, the center-left is in charge at the top, while Constitución is run by a center-right mayor. Given the low level of influence afforded local leaders in general, the political mismatch has limited the city's abilities to gain access to resources or attention from the central government. The shifting political environment has led to short-term thinking and prioritization of projects that benefit a regional or national strategy more than those that benefit the local population.

RESOURCES

- PRES website (Spanish): <http://presconstitucion.cl/>
- Timeline of status updates on the plan (Spanish): <http://www.arauco.cl/comunidad/proyectos.asp?idioma=17&idq=3026&pagina=4>
- "Debate over land use and politics after Chile's 2010 earthquake and tsunami," Lincoln Institute of Land Policy, May 2011 (Spanish) <http://politicaspUBLICAS.uc.cl/wp-content/uploads/2015/02/descargar-v-ciclo.pdf>
- "The Rebuilding of Chile's Constitución: how a dead city was brought back to life," Gideon Long, *The Guardian*, Feb. 23, 2015 http://www.theguardian.com/cities/2015/feb/23/rebuilding-chile-constitucion-earthquake-tsunami?CMP=share_btn_tw%207/7
- "Reconstruction with resilience capacity: the historic city centre of Constitución, site of the 2010 earthquake and tsunami disaster" Yasna del Carmen Contreras Gatica and Maricel Beltrán Benítez, *Scielo*, May 2015 (Spanish) http://www.scielo.cl/scielo.php?pid=S0718-83582015000100003&script=sci_arttext
- "Vecinos de Constitución eligen cómo reconstruir: Plan de Arauco, municipio y el Minvu proponen 10 iniciativas urbanas" (Locals in Constitución vote on 10 reconstruction plans proposed by Arauco, the Ministry of Housing and Urban Development, and the city), Fredy Aliaga, *El Mercurio*, November 9, 2010 (Spanish) <http://www.plataformaurbana.cl/archive/2010/06/09/vecinos-de-constitucion-eligen-como-reconstruir-plan-de-arauco-municipio-y-el-minvu-proponen-10-iniciativas-urbanas/>