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Program to boost the competitiveness of businesses in Local Production Systems in the state of São Paulo. Lessons learned.

Case B: The implementation phase

A little over a year after the loan agreement for the cluster-based development program was signed, a number of activities from Component 1 (awareness raising) were already underway through the field activities of the Secretaria de Desenvolvimento [Department of Development] (SD)'s partners in the "Rede Paulista": SEBRAE-SP¹, and FIESP².

In August 2009, the Rede Paulista launched Component 2, starting the development of the Competitiveness Improvement Plans (CIPs) in fifteen clusters – or APLs – spread out throughout the State of São Paulo. The execution of this Component was led by SEBRAE-SP, who hired specialized consultants to assist in the task, while SD and FIESP followed developments closely.

Four out of those fifteen CIPs concerned red-clay ceramics manufacturers: Itú and Tatui, relatively near the State capital (São Paulo, an urban metropolitan region of approximately 20 million inhabitants), and Tambaú and Vargem Grande do Sul, some 200 kms north of the capital and near the second largest city in the State, Ribeirão Preto (Exhibit 1).

The context

The state of São Paulo was the center of the construction industry in Brazil – accounting for 31% of the country's total industry value in 2008³. This huge industry was supplied by a number of different building materials producers in the state, including numerous small producers of red-clay ceramics. These producers were clustered around regions close to sources of their main raw material – clay –

¹ Serviço Brasileiro de Apoio às Micro e Pequenas Empresas [Brazilian Microenterprise and Small Business Support Service] in São Paulo

² The Federação das Indústrias do Estado de São Paulo [Federation of Industries of the State of São Paulo]

³ IBGE - Pesquisa Anual da Indústria da Construção 2008.

This case was prepared by Inés Sagrario on 2012 based on IADB official published documents about a real experience in the State of São Paulo (Brazil), as the basis for class discussion rather than to illustrate the effective or ineffective handling of an administrative situation. Some situations, characters and companies have been disguised to preserve confidentiality.

and to big markets, since the low value to weight ratio makes transportation of both raw materials and finished products very expensive. That was the case of the four towns where the CIPs were carried out: Itu, Tatuí, Vargem Grande do Sul and Tambaú. The profile of these four clusters was very heterogeneous, with a majority of companies presenting obsolete production systems and rudimentary management, but others with some of the biggest and most advanced factories in the Brazilian sector. In these four regions, the sector played a fundamental role in the local economies, serving as a large source of employment. At that time, there were around 250⁴ companies producing various types of clay bricks, ceiling blocks and roof tiles. In the surrounding areas there were also some other machinery, technical assistance, transportation and clay suppliers.

The clusters had benefited from the rapid expansion of the civil construction market that began in Brazil in 2006. In 2009-2010, when the CIPs were developed, this market continued to be boosted by credit expansion, government subsidies and efforts to address a huge housing deficit (of around 6 millions⁵ homes).

The challenges

The bullish market over the previous five years had led to rampant excitement by the clusters' companies, who focused only on ways to increase their production in order to meet growing sales orders. This short-term vision, however, posed a significant threat to the survival of the companies, as it distracted them from the sector's many challenges, which they needed to address in order to compete over the long term.

In 2009, the companies' largest clients were construction materials retailers, which sold their products to individual consumers who built their own homes. This important type of client was starting to slowly change its product offering in order to bring the final customer more convenience in terms of aggregated services such as customization, installation and even the sale of product combos in a single offer. Compared to other building materials industries, the red-clay ceramics companies were far behind in their ability to expand and improve to meet this trend.

This was not the only change affecting their clients at that time, as the market size of building materials retailers and self-construction was also diminishing. This was due to an intense growth of the professional construction companies in all market segments – especially in the low-income segment. Construction companies had realized the huge opportunity represented by the housing deficit combined with the country's economic growth, and were, therefore, expanding and consolidating their operations. This new fast-growing client sought the lowest cost and the fastest construction time. Therefore, construction companies were constantly looking for innovation in construction systems that would allow for lower waste of material and faster assembly. In a nutshell, this meant that they were demanding industrialized construction instead of “artisanal” products.

⁴ Competitiveness estimate based on field research.

⁵ Déficit habitacional no Brasil 2007 / Ministério das Cidades, Secretaria Nacional de Habitação. - Brasília, 2009 - 129p.

The way this new client bought its products was also changing. The real estate market was starting to realize that reducing the operational cost of a building could increase a building's value. In this regard, materials and systems that could contribute to the reduction of resources used in managing a building (such as electricity and water) could be sold at a premium price. Thus, many building materials producers were moving towards capturing this value by integrating resource-saving functions (such as walls with integrated cooling systems or covers with integrated thermal panels) to their products. Construction companies – the main buyers of materials – were starting to combine the actual cost of construction with the operational cost of a building in order to **reduce the total cost of a building through its entire life-cycle** (Exhibit 2).

While the red-clay ceramic producers had become content from high sales volumes, competing building materials producers were constantly pushing forward. Following the trend to reduce total building cost, new technologies such as prefabricated structural construction and innovative housing covers were constantly being launched in the market by more advanced players. Other companies were also offering aggregated services – focusing on increased agility and convenience for the client. The “good times” when red-clay ceramics producers could take advantage of a booming market without changing were coming to an end. Everyone, including producers of substitute building materials, retailers and construction companies, were working hard to deliver a ready-to-use house with lower operational costs to the final consumer.

The path to a value-added business

The first step in the change process was to change the mindset of the local businessmen, which had been, until recently, only focused on non-strategic issues, for instance asking for public funds to massively advertise their existing products. With high sales levels, they did not realize that they could not continue just producing and selling standard products. The way of doing business in the construction industry was changing, both in terms of product innovation and in terms of market players. Bringing hard data to the business owners on market evolution and – most importantly – the opinions of the most advanced players in the market, allowed the project team to open the companies' eyes to this new reality.

Although the business owners realized that the market was changing, their immediate question was: what are our options? Analyzing the different ways of competing in the construction materials industry, the team identified two distinct strategic segments:

The **product strategy** was characterized by the focus on production of a few lines of non-differentiated products, which in the case of red-clay ceramics were usually standard clay bricks and tiles. This business was characterized by low margins, so in order to successfully compete, a company had to seek economies of scale by increasing its production volume. Through scale, the company could produce at the

lowest possible cost, obtaining the highest positive margin, because the sales price was roughly the same as every other competitor in the market. Scale increases were also desirable through combining production at multiple sites to accompany state and national-wide clients in their expansion. This was a business for the “big boys”, since this segment allowed only large players to survive in the long term. This consolidation had already happened in other parts of the world, where the number of ceramic producers had decreased consistently, and huge continental and even global players had emerged.

On the other hand, the **constructive solutions strategy** was characterized by its focus on a comprehensive offer that directly addressed buyers’ need to reduce the total cost of a building throughout its life-cycle. The total cost reduction could be achieved in many ways. One example was to add functions to the conventional product, providing a roofing system that incorporates photovoltaic cells to create renewable energy. Another trend was for products to integrate with other services, such as installation, aiming to reduce the construction time. In this way, the producers would attend to the specific needs of their clients and would be able to position their offer within a much better price range, through the value-added instead of the sale of a single product. Furthermore, companies competing in the constructive solutions business did not necessarily need to be “big boys”; instead, they needed to be close to their clients and be flexible and innovative enough to attend each client’s specific needs, customizing every solution. This required a well-developed communication system with these clients, and a solid network of other building materials suppliers or service providers to team-up in order to develop these new solutions.

Considering the differences between the two strategic segments (Exhibit 3), and the characteristics of the companies in the four clusters (mainly small or medium sized producers), it was much more attractive in the medium term to compete in the constructive solutions segment. The path to reach this more interesting, value-added business was going to be a long one, but luckily the short-term perspective for the companies was still booming. Taking advantage of a current positive context, and advancing one step at a time, the cluster companies would be able to enter into a better business and grow sustainably in the long term.

Areas for improvement at the cluster – value chain levels

Implementing the strategic change in the clusters was challenging precisely because of the market context. The strategic analysis carried out offered new alternatives that implied changes in order to become competitive in the long term. The initial reaction was naturally one of resistance: if they were receiving good short-term profits, why should they change?

Despite this initial resistance, the development of an action plan in partnership with the business owners, maintaining a constant exchange of information and allowing an opportunity to further explain the analysis, made more companies join the

⁶ Exhibit 4.

efforts. As the number of companies interested in the new strategic segment increased, the action plan gained greater likelihood of success, since more companies were involved in the process of “getting there”.

The first, immediate step towards reaching this more attractive business focused on exactly what a constructive solutions company needs most: understanding its clients’ needs. A round of meetings with advanced buyers was set up over the first 6 months of implementation, where business owners could learn the specific needs of each company. This step was part of a broader action line set up to help cluster companies interact with other types of solutions and services providers involved in the construction business value chain. The interaction with potential clients and influencers (architects, engineers, ...), as well as fellow suppliers should allow businessmen to **develop the new constructive solutions** that would allow them to get into a more attractive business in the long run.

A second broad action line aimed at **encouraging demand** for red-clay ceramics in the longer term by raising awareness amongst current and future decision makers as to the benefits of construction systems that use that material. This involved activities such as setting up workshops in engineering and architecture universities, developing specialized publications, or creating a prize to encourage the innovative uses and applications of red-clay ceramics.

Finally, a number of more **basic actions** were required to allow companies which were currently servicing very basic undemanding clients (the broadly informal self-construction market) to upgrade their capabilities in order to start working with highly demanding construction companies, which were quickly taking over the market. In this regard, activities involved training their own workforce, training management level staff, energy efficiency consulting, compliance with environmental and labor laws, etc.

Recommendations for the broader business environment

The lessons that were learned, however, did not stop at the cluster and value chain level. There were in fact a number of lessons overarching to the broader business environment, and that were even validated by similar lessons extracted from the other CIPs carried out within the program.

A first lesson regarded the adaptation of **R&D efforts** to maximize local infrastructure and capacity. The strategic change from providing isolated products to offering integrated solutions required more complex value chains, which in turn implied reshuffling of R&D priorities and launching new multi-disciplinary research projects. Developing constructive solutions required involving architects, materials and construction engineers, mathematicians, mining and energy specialists, as well as environmentalists. Up to now, research departments of these faculties at the different Federal and State level universities had absolutely no contact with each other.

Another area where significant gaps were identified was regarding **higher education and technical training programs**. The curricula and training programs had been defined considering more traditional visions of degrees and professions. A key element to be able to sophisticate demand in the future was to make sure that new architects and engineers, for example, could understand these new ways of competing in the construction business. Introducing courses on constructive solutions and encouraging the development of multi-disciplinary projects amongst students would be a step in the right direction. Changing university curricula, however, would not be an easy step, and would require aligning ideas and efforts throughout different government departments, with university deans and faculty boards and even with federal-level instances to be able to influence also Federal universities in the State of São Paulo. At a more technical level, workforce training programs currently existing in São Paulo should also be adapted to include training in constructive solutions.

Financial resources to fund innovation programs are not scarce in Brazil, especially at the federal level with FINEP and CNPq. The calls for proposals, however, could be better defined to encourage the interaction amongst different disciplines to facilitate innovation projects that genuinely bring comprehensive construction solutions that reduce total cost of construction.

In terms of **legislation**, federal level legislation was already requiring certain performance levels for acoustic isolation in buildings. Energy efficiency or other concepts that could be included in the “total cost” approach were not contemplated in current legislation. There was, however, a federal level program called PROCEL Edifica⁷ aimed at encouraging the efficient use of natural resources (water, electricity, ventilation, etc.) in buildings to which construction companies could voluntarily adhere to obtain the PROCEL distinction. Unfortunately, there were no specialists in the State of São Paulo that had been approved by PROCEL to audit buildings and give the PROCEL distinction. The expertise at that time was concentrated in some of the Southern states of Brazil, where they were more advanced in these matters.

Finally, a very important implication for all levels of government, from municipal, to state, to federal, was their capacity to act as **advanced demand**. All new public buildings to be commissioned, refurbished or rebuilt should do so with a clear objective to “total cost” reduction in order to save public money in the maintenance of these public buildings as well as show the Brazilian construction business, how they should all be purchasing in the future.

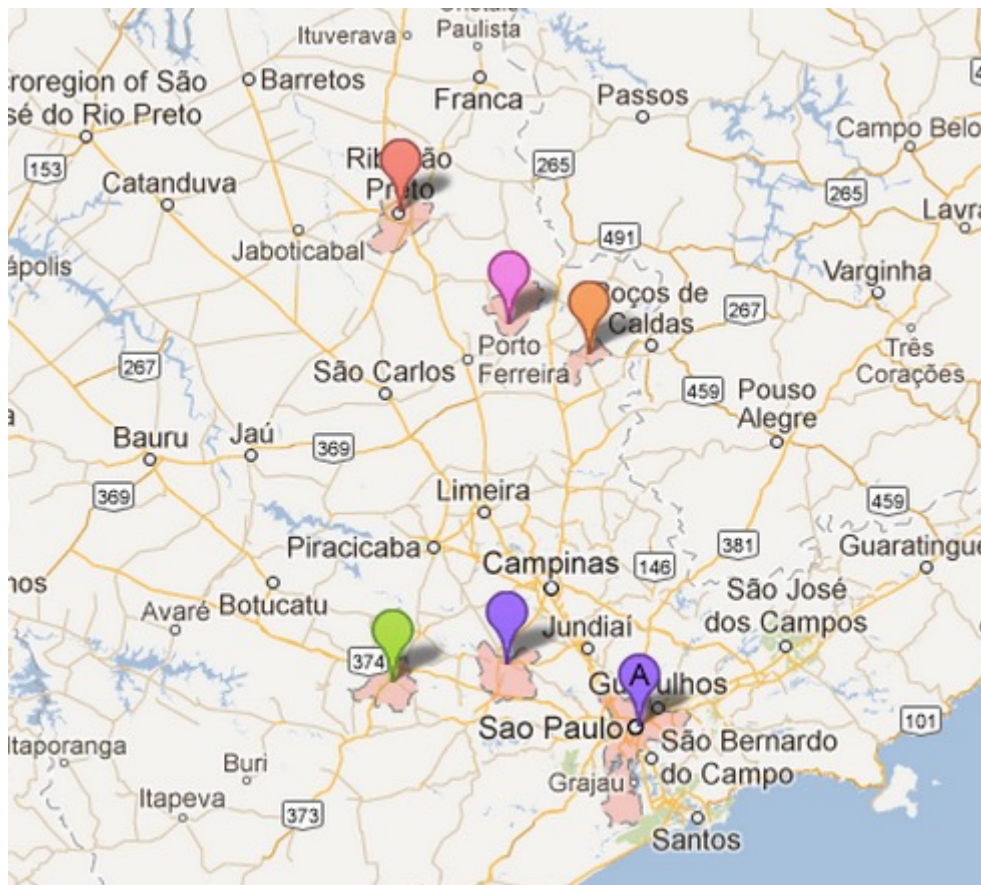
QUESTIONS FOR DISCUSSION

How could the small project team within SEBRAE-SP – essentially a private sector organization – bring about the more complex changes that were required in terms of new legislation, revised university curricula or public procurement at the different government levels?

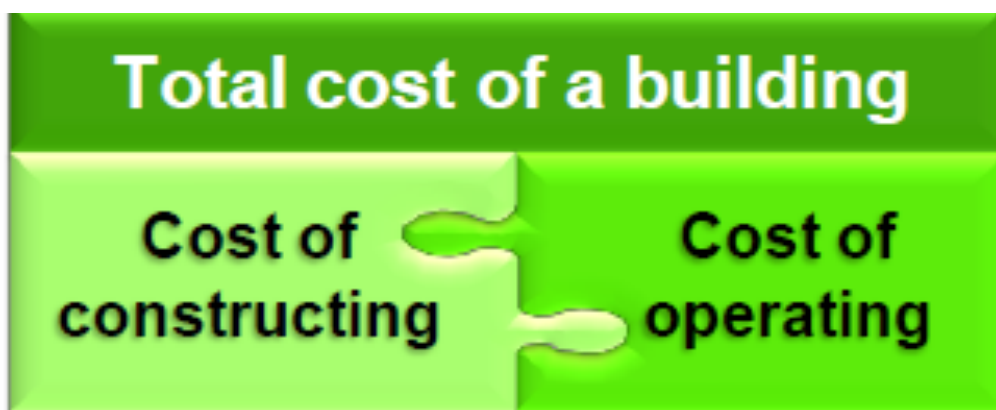
⁷ <http://www.procelinfo.com.br/>

Exhibits

Exhibits 1 – Maps



Exhibits 2 – Elements of the total cost of a building



Exhibits 3 – Strategic segments in the construction business



Exhibits 4 – Value chain for constructive solutions

