Lafarge: Rebuilding Community in Indonesia

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Summary

Lafarge employed 80,000 people in 76 countries and posted sales of over US$18 billion in 2005. It was a world leader in the building materials industry with four major divisions: Cement, Aggregates & Concrete, Roofing and Gypsum. One of its countries of operation was Indonesia, and the December 2004 tsunami essentially devastated the Banda Aceh region where Lafarge owned and operated a cement plant. This case examines the role a multinational can play as a stakeholder doing business in a territory devastated by a natural disaster, and, specifically, the challenges and innovations on which Lafarge based its investments to help rebuild and redevelop a sustainable business in the Banda Aceh region.

Lafarge in Indonesia: Long-term Investments for Long-term Expected Benefits

The cement business is a localized industry, and cement plants were built with an expected production of over 50 years. Cement cannot be compared to other products as such as oil or gems which can be extracted in one region, to be exported and sold elsewhere. Cement is actually a rather low-added value product. The cement business model is profitable only if cement is extracted and sold in the same area. Consequently, it is extremely interrelated with the local socio-economic situation of its market. A cement plant is profitable only if the following aspects are present:

- Conducive operating environment: adequate infrastructure, capable suppliers and retailers
- Skilled local labour: expatriated staff was expensive and only posted in key positions when there were no similar skills in the local talent pool
- License to operate: the neighbouring communities must be willing to accept a cement plant in the area
- A profitable local market: cement products must be sold within the region because transportation costs make them uncompetitive for markets based further away
- Business development opportunity: the local market promises growth, with major urban developments or infrastructure building planned in the coming years.

Lafarge invested in Indonesia in the 1990s, when it acquired the PT Semen Andalas Indonesia (SAI) cement production facility on Sumatra Island. The Nanggroe Aceh Darussalam facility was located between two small towns named Lhoknga and Leupung, located on the western coastal areas of Aceh. Indonesia was a strategic market for Lafarge, with high potential for growth compared to comparable Asian markets.¹

¹ In 2002, Indonesia was consuming only 137 kilograms of cement per inhabitant annually, which was significantly lower than China (546 kg), Malaysia (486 kg) and South Korea (1,140 kg). For cement analysts, such a gap is considered to be a business opportunity, because all markets have the potential to consume approximately the same quantity of cement. The less a market is using cement, the more it is likely to rely on alternative building materials.
The Sumatra plant was one of Lafarge’s first acquisitions in Asia. It was built to produce 1.3 million tons of cement per year for at least 50 years. The plant was located in the Banda Aceh area because it was rich in the minerals required for cement production, and Lafarge sold cement in the northern Sumatra market - a 500 km radius stretching from Banda Aceh (the capital of the Aceh area) to Medan (Sumatra’s capital). The Banda Aceh area represented about 20 percent of the plant’s market and the Medan area about 80 percent of the plant’s market. Cement was shipped from the Banda Aceh area all the way to Medan harbour which was faster and cheaper than using the 500 kilometre road linking the two cities.

The December 2004 Tsunami: A Devastating Natural Disaster

The western coastal area of Aceh, including the city of Banda Aceh, was among the areas hardest-hit by the tsunami resulting from the Indian Ocean earthquake on 26 December 2004. While estimates vary, Aceh lost approximately 185,000 people and over 400,000 houses. While parts of Banda Aceh were left unscathed, some areas close to the water were severely damaged, and many towns were completely destroyed.

Twelve thousand people were killed in the community around Lafarge’s plant. The company lost 193 of its 635 employees and more than 700 family members of employees. The plant was ruined, and equipment less than 15 metres above sea level at the Lafarge plant was severely damaged or destroyed, including a 25 MW captive power plant. Tugboats and barges were displaced from the harbour to a highway three kilometres away. A large cement ship that capsized in LhokNga harbour was found upside down after the tsunami; only one crew member survived.

More than a year after the tsunami, many people in the area were still living in barrack-style temporary living centres or tents. Reconstruction was visible everywhere in Lhoknga in 2005, with a large presence of public agencies, NGOs and international organizations. Leupung had
much less reconstruction, perhaps due to less favourable topography. However, because of the sheer scale of the disaster, logistical issues and a lack of funding, progress was slow. Most of the reconstruction work was being performed by local people using a mix of traditional methods and partially prefabricated structures, with funding from various international organizations, individual donors, governments and the people themselves.

**Lafarge’s Strategic Decision to Stay and Rebuild**

Reconstructing and rebuilding its own facilities without participating in the reconstruction and rehabilitation of the province was out of question for Lafarge. It was a matter of humanity in the face of a huge disaster directly impacting Lafarge’s people. But it was also a matter of short-term and long-term strategic business interest.

For the plant to be operable in the short-term Lafarge needed the following:
- **Basic infrastructure:** roads, a harbour and availability of input products in order to bring materials to the factory and export cement in the area
- **Skilled labour:** Lafarge lost valuable employees with skills that required months or years in the factory to acquire; many community members skilled in other trades (carpentry, navigation, driving, etc) died in the tsunami, thus significantly affecting Lafarge’s supply chain

For its local plant to be profitable in the longer-term Lafarge needed the following:
- **License to operate:** as a stakeholder and member of the local community, Lafarge had to participate in the reconstruction to maintain its presence in the region
- **Vibrant local economy:** the Northern Sumatra market demanded 800,000 tonnes of cement annually before the tsunami, and although the economic future was uncertain, it was expected to increase in demand for cement to 1.6 million tonnes annually after the tsunami
- **Business development prospects:** the tsunami created a need for massive rebuilding; over the next ten years, 400,000 houses and all major infrastructure would be rebuilt in Banda Aceh alone, including power plants, water and sanitation infrastructure, and roads all requiring cement materials

Based on these factors, Lafarge committed to a strategy that would contribute to economic development in this country in three main ways.

**REBUILD THE CEMENT PLANT**

The main, long-term business strategy for Lafarge to rebuild the cement plant had economic development implications for employees and its entire supply chain (i.e. with distributors and customers). The new plant would cost US$90 million to rebuild and would be equipped with state-of-the-art technological standards and a production capacity of approximately 1.4 million tonnes annually. It was expected to be operational by mid-2008. With the cement plant back in production, small- and medium-sized building material distributors would be restocked with Lafarge products. Ninety-five percent of Lafarge products in Indonesia were
sold by local distributors to cement masons. The masons generally worked alone or in micro-enterprises, and they generally bought cement in small quantities (by the bag or half bag).

HELP REBUILD COMMUNITIES
Lafarge launched a programme to rebuild 500 homes, four schools, and seven mosques in Lamkruet, a village located about one mile from the factory. Lamkruet was almost entirely destroyed by the tsunami. The first group of 274 houses was targeted for completion by mid-2007, at a total cost of approximately US$2 million. The cost was covered by Lafarge, donations from Lafarge employees around the world and NGOs. These houses were given to employees and other local inhabitants for free. A community council allocated houses based on two elements: if they belong to the community and/or they can show a land concession official document proving that they used to live in the territory. Each house included a bathroom, a bedroom, a living room, a kitchen and a patio, and they showcased the benefits of cement-based materials in housing construction.

HELP GENERATE LOCAL BUSINESS DYNAMISM
Lafarge developed an employee, family and community training programme to help people find new jobs. Vocational training was offered, as well as sewing, embroidery and computer training. Lafarge also offered financing for starting businesses.

Key Innovations
The tsunami’s impacts on the local economy were deeply disruptive, and the response required in the aftermath was both complex and of a huge scale. Partnerships involving businesses, NGOs and authorities were required to help in the recovery of the northern Sumatra area. Lafarge worked with strategic partners to rebuild homes, develop community training programmes and offer financial assistance for micro-enterprises.

STRATEGIC PARTNERSHIPS TO MAKE CEMENT MATERIALS STANDARD IN ACEH HOMES
The Aceh region was among the areas hardest-hit by the tsunami. Some land simply disappeared into the sea. The tsunami destroyed all official land title papers, so the Indonesian government defined a new land concession scheme in June of 2005. For Lafarge, the rebuilding of homes started from an emergency situation with a need to house employees and their families. It ended up being a business project to better understand local business drivers for future business developments. Before the tsunami, cement was mainly regarded as a material dedicated to major buildings within communities: mosques, houses of rich people and major administrative buildings. After the tsunami, Lafarge very quickly saw the potential for cement to become a basic material largely integrated in the rebuilding process underway for all people –low-income populations included– as it was in many of the company’s other markets.

An estimated US$5 million investment was required to rebuild 500 homes. Houses were primarily given to Lafarge’s employees. Lafarge later decided to also grant houses to other
survivors. Many Lafarge’s employees could not qualify to get a new house due to the requirements stated earlier of having belonged to the community and proof that they used to live in the territory. In fact many survivors generally could not qualify but were in great need for new homes.

The reconstruction programme was overseen by Lafarge in partnership with three NGOs. The first phase of rebuilding began in June of 2005, aiming to build 300 houses by mid 2007. Lafarge had three main partners in the project:2

- Atlas Logistique, a French NGO on-site, coordinating the rebuilding programme on behalf of Lafarge
- Habitat for Humanity, an international NGO, provided building materials and also hired and trained local people to build houses
- Dompet Dhuafa, a local NGO, facilitated relationships between local communities and authorities, helping to identify rightful land owners and providing advice regarding local housing traditions.

Lafarge chose to rebuild houses using Lafarge materials only, and the housing design was based on a high usage of cement, concrete roof tile and gypsum ceilings. Lafarge worked with a local NGO to develop a suitable design for the rebuilt homes that would showcase the benefits and affordability of cement construction. The main challenge for Lafarge was to demonstrate that these cement-based homes were of a high quality, integrated with the cultural expectations of people and affordable. A cement house cost about US$4,600 (including materials and labour). This was quite expensive in a country where the average GDP per capita was US$1,256 in 2005 and particularly in one of the poorest regions of Indonesia.3 Lafarge reasoned that over the long-term, cement would be used increasingly in new construction.

Lafarge benefited from reinforcement in building regulation. In the aftermath of the tsunami disaster, the Indonesian government defined new blueprints for construction. These building codes defined stronger rules and principles to enhance building quality and better prevent damage from seismic activities and were to be followed for all new construction.

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2 By 2007, the model changed. Dompet Dhuafa completed its mission and Atlas Logistique became the sole coordinator in the rebuilding programme.

3 Source: Euromonitor (2006)
TRAINING PROGRAMMES
Fishing and farming became difficult activities in the region post-tsunami. Nature needed time to recover from the tsunami’s deep impact. Many fishermen and farmers lost everything and would have to save for years before they reacquired land and tools. However, other employment opportunities were plentiful. The local economy desperately needed workers: plumbers, electricians, carpenters, food processors, security guards, etc. Lafarge worked with the Ministry for Labour’s training institution -Balai Latihan Ketrampilan (BLK)- to develop general vocational training modules to help people develop practical new skills.

After four to five weeks of free training from BLK, workers were quickly hired by local companies, NGOs or public agencies. Trained workers were paid up to Rp 40,000 per day (about US$3, considered above average in the area). Lafarge was the sole investor in the programme. As explained by Ampon Cip, LhokNga community’s chief, “Food and shelters only may transform us into assisted people. We need jobs and tools to make money. This is how we’ll stop thinking of our grief. But this is also how we’ll rebuild a local economy. This is the key condition to rebuild our community.” The vocational training modules received positive feedback from the community, as conveyed in several talks with senior community leaders, youth coordinators and University students.

The training was reported to have helped generate income and a local market. Lafarge saw its return on investment through a more vibrant local economy and, ultimately, increased consumption of its products as the recovery of the people’s purchasing power and the reconstruction of the province itself will increase demand for cement.

FINANCIAL ASSISTANCE TO HELP FORMER EMPLOYEES START BUSINESSES
The new plant required no more than 200 employees (compared to 635 before); about 200 employees would need to find new jobs. Some survivors did not want to go back to the Lafarge plant for emotional and psychological reasons. Others wanted to focus on projects that were of higher personal priority, in rebuilding their communities. Since Lafarge could not rehire all former employees, it offered assistance to help survivors start new businesses. The assistance included grants and coaching to assist with setup. Although it may be too early to measure the programme’s success, some interesting stories have emerged:

- Consultant. One man had been working in the plant for twenty years as a planning agent. Seriously impacted by the tsunami disaster, he did not want to continue to work in the plant for Lafarge. Benefiting from the financial assistance, he first set up a shop distributing electronic items in the Banda Aceh area. He then set up a second shop distributing wooden furniture. This newly trained leader finally decided to offer his services as a consultant to help local businesses working in the wood industry to improve their use of wooden materials. He is now managing 20 people in this new venture.

- Wedding Manager. Weddings are a very important tradition in Aceh, including several traditional sets of events, each involving particular dress and equipment. After the
tsunami, because survivors wanted to cultivate a family environment, the local wedding industry suddenly boomed. It is now common to meet someone who lost his wife and his four children the tsunami day who is already married to another woman and father of a newly born child. This was a way to look into the future. This particular woman took the Lafarge package and set up her own business to plan and coordinate all events and inputs required for a successful wedding. Her business is now thriving.

**Core Business Positive Impacts**

While Lafarge contributed to the rebuilding process of the Banda Aceh area using cement materials, it also demonstrated the benefits of cement for housing. As cement became a standardized material for housing in Indonesia, Lafarge expected local consumers to be more likely to buy cement for further rebuilding. The perception that cement was only used for administrative buildings, mosques and homes of rich people was a key challenge. People thought cement was prohibitively expensive; however, it was not necessarily true when considered as an investment over a longer term. According to Atlas Logistic, an international NGO working in Sumatra, materials to build a wooden home cost about 60 percent of the cost of a cement home but a cement home would last four times longer than a wooden home (about 20 years versus five), even without particular maintenance and especially in a tropical environment. Lafarge was rebuilding housing using cement to simultaneously demonstrate that cement was affordable and also aligned with local traditional housing.

Table 1 below shows sales and production curves for Lafarge Indonesia. The high demand for cement in the area in the aftermath of the tsunami disaster explains the sudden growth in sales and sold quantities in 2006. According to Lafarge, the marginal price of cement has decreased after the tsunami.

Table 1: Sales and Production, Lafarge Indonesia

<table>
<thead>
<tr>
<th>Year</th>
<th>Total net sales US$ M</th>
<th>Total sold quantities in kilotonnes (produced in Banda Aceh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>38.16</td>
<td>1115</td>
</tr>
<tr>
<td>2003</td>
<td>39.12</td>
<td>1169</td>
</tr>
<tr>
<td>2004</td>
<td>36.8</td>
<td>1229</td>
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<tr>
<td>2005</td>
<td>35.28</td>
<td>1125</td>
</tr>
<tr>
<td>2006*</td>
<td>46.72</td>
<td>1274</td>
</tr>
</tbody>
</table>

* includes some cement sourced from Malaysia
Opportunities & Challenges for Scaling Up

A major challenge in the rebuilding process was the public ability to substitute private initiatives for publicly led actions. The government was grappling with how to switch from a redevelopment posture into more sustainable development dynamics. Lafarge invested in vocational training, but it felt that Indonesian public authorities needed to increasingly play a role in shaping the training depending on how authorities foresaw future opportunities for Indonesians.

The local economy was strained; the local presence of numerous NGOs and international organizations severely impacted the local economy. The cost of living is said to have increased by up to 40 percent in the aftermath of the tsunami disaster. The economy will be impacted again when NGOs and international organizations leave the area having completed their mission. Lafarge invested in helping the region recover, because it was clearly the right thing to do, but also because it was strategically necessary. Scaling up will depend on the extent to which Lafarge can develop its cement business in an area were the building industry will more than likely boom in the next ten years. This is a clear business opportunity within which Lafarge benefits already. Some competitors in the cement business have also been active in the area.

Conclusion

In the face of a major disaster, Lafarge had no choice but to invest in the rebuilding of the community around its plant. It does not view this as philanthropy. Investments have already proven to be profitable. Lafarge believes cement is a quality material for all people, and it is using the current rebuilding process in Banda Aceh as an opportunity to integrate cement into local traditional housing for free. At the same time, Lafarge expects, henceforward, to help change perceptions of cement and encourage survivors to increasingly rely on cement as a durable building material in the future.
References


Lafarge. Internal documents released after the 22\textsuperscript{nd} to 27\textsuperscript{th} internal study. This internal study was conducted by Lafarge together with CARE.

Interviews

All interviews were conducted between 22\textsuperscript{nd} – 27\textsuperscript{th} November, 2006.


Bukhari. Factory worker and Lafarge Collaborator.

Chandra, Haryanto. Vice President Commercial & Logistics, Lafarge Indonesia.


Ehrhart, Thomas P. President Director, Lafarge Indonesia.

Fabre, Olivier. Head of Project, Atlas Logistique Indonesia.

Hong Ki, Kim. Vice President Manufacturing, Lafarge Indonesia.

Dr. Isti. Factory Physician, Lafarge Indonesia.

Lafarge, Patrice. Lafarge Headquarter Social Affairs Director.

Mukri. Driver and Lafarge Collaborator.

Suhendra, Agus. Lafarge Executive.

Swissanto, Martha D. Vice President Human Resources, Lafarge Indonesia.
Appendix A: Map of the Indonesia Islands and Lafarge’s Scope of Intervention in the Northern Sumatra Area
Appendix B: Plant and Local Communities After the Tsunami

Facilities before the 26 December 2004 tsunami. Lafarge’s plant was among the major business activities in the area.

Facilities just after the December 2004 tsunami. The entire economy was leveled.

Facilities one year after the December 2004 tsunami. Harbour dredging and reconstruction was nearly complete.
Appendix C: The Housing Rebuilding Process

Lafarge Roofing pitches in with low cost roofing system and training. Lafarge - Boral Gypsum supplies needed board and training.
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The information presented in this case study has been reviewed and signed-off by the company to ensure its accuracy. The views expressed in the case study are the ones of the author and do not necessarily reflect those of the UN, UNDP or their Member States.

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