

LAFARGE MOROCCO

- *A partnership*

Lafarge Morocco is an equally-owned partnership between the Lafarge Group and SNI/ONA, Morocco's leading industrial group.

- *Lines of business*

Lafarge Morocco is the largest cement manufacturer in Morocco, with production capacity of 4.2 million tonnes (before the increase in capacity at the Bouskoura plant) and over 40% market share. Lafarge Morocco is also active in four other lines of business: gypsum, concrete, aggregates and industrial lime.

- *Development policy:*

1. Lafarge Morocco has developed **an active investment policy**. Over the past six years, Lafarge Morocco has invested 3 billion dirhams (€300m) in capital expenditure, including 1.2 billion dirhams (€120m) for the new Tetouan cement plant. To maintain its number one position, Lafarge Morocco will continue to invest in production capacity to meet the expected growth in market demand and to modernise production facilities. For the period 2004-08, Lafarge Morocco will invest over 2 billion dirhams in new projects to strengthen industrial facilities, enrich its product line and fulfil its commitment to sustainable development. The company announced that it would build a new production line at the Bouskoura plant near Casablanca, investing 900 million dirhams (€80m) to add 900,000 tonnes of cement capacity. A second line in Tétouan could also be built, would market growth require another capacity increase in this area (the plant has been conceived in order to give the possibility to add a second line). Other investments are geared toward expanding the company's gypsum and concrete activities.
2. Another priority is **skills development and training**. Over the past five years, the company has hired 200 young workers, managers and line supervisors. Lafarge Morocco has stepped up training efforts and is adapting operating procedures to encourage greater accountability and teamwork between business units and functions. Investment in training programmes accounts for over 4% of the total payroll.
3. Lafarge Morocco has made **sustainable development** an integral part of its business. Spending on environmental protection accounts for about 15% of total investment. After successfully improving the environmental standards of its industrial sites, Lafarge Morocco has launched environmental management systems that meet the ISO 14001 global standard.
4. Lafarge Morocco shares the corporate values of the Lafarge Group, which focus not only on the company's success, but also on making **a sustainable contribution to the economic and social development of the country**.

THE NEW TETOUAN 2 CEMENT PLANT

1. Why build a new cement plant?

- *New production capacity to meet the demands of a fast-growing market*
- *A modern industrial plant to replace obsolete facilities*

1.1. Morocco: A market with strong growth potential

Several factors attest to the very strong growth potential of the national cement market:

- At 280kg per inhabitant, cement consumption in Morocco is very low compared to 335kg in Algeria, 580kg in Tunisia, 410kg in Turkey, and 1,100kg in Spain.
- Morocco has a big need for housing, tourism facilities and infrastructure.
- The political authorities are determined to overcome Morocco's shortcomings, and have launched new programmes to reinvigorate social housing projects, accelerate the development of tourism and provide the country with badly needed infrastructure. Legal measures and fiscal incentives have also been introduced to boost the construction sector.

Research studies predict that demand will virtually double by 2015, rising to more than 16 million tonnes, from 9.5 million tonnes today.

1.2. The financial commitment to develop a competitive industrial facility in the north of Morocco

Even though 1999 sales were disappointingly flat compared to the year-earlier period, research conducted at the time led us to believe that the northern provinces would grow much faster than the rest of the country. As it turned out, annual sales growth averaged 12% between 1999 and 2002, versus 5.5% at the national level.

The region's close proximity to Europe and the gradual opening of borders to international trade justify having a modern industrial plant in the north to maintain Lafarge Morocco's leading position in this important market.

Unlike the Tangier region, Tetouan offers high quality limestone deposits in large quantities to meet the operating needs of a cement plant (90 years).

This was also an occasion to modernise obsolete production facilities and to address the growing concern for environmental issues. The existing cement plant could not be modernised due to obsolete manufacturing techniques, an undersized quarry and its urban location within the city of Tetouan.

The new site at Al Mashar, located 10km outside of Tetouan, has a large quarry and is far enough away from urban areas to build a modern plant that meets both environmental and competitive constraints.

1.3. An ambitious investment policy

The project to build a new cement plant fits within Lafarge Morocco's investment policy of modernising facilities and increasing production capacity. Over the past four years, the company has invested 1.5 billion dirhams.

This investment shows our determination to keep pace with regional development and to seize growth opportunities arising from this newfound economic momentum. **The new plant, with production capacity of one million tonnes, is designed to accommodate a second production line as soon as more capacity is needed to meet market demand.**

Alongside these industrial investments, Lafarge Morocco has also invested in human resources to strengthen and develop the qualifications of the work force. In addition to hiring, the company has developed a dynamic training programme, which accounts for 4% of the total wage bill. For Tetouan 2, the company has invested 11 million dirhams in 36,000 hours of training.

2. Optimising performance

- ❑ *Equipment and procedures were selected during the design phase to guarantee the best industrial performances*
- ❑ *The procedures and organisation of the new unit are designed to meet ISO 9001 quality management standards*

The technical performances and equipment used at **Tetouan 2 will be comparable to the best cement plants in the world**, particularly in terms of energy consumption and product quality.

2.1. Key characteristics

Tetouan 2 is a dry process cement plant (to reduce energy and water consumption) with a fully-automated conveyor system and an online management system to minimise intermediary stocks.

2.2. Performance levels

Equipment and procedures were selected as part of systematic efforts to boost performances.

- From an operational perspective, the goal was to **reduce energy consumption and lower maintenance costs**. The most impressive technical innovation is the drastic reduction in the length of the kiln, which has only two supports. The 46-meter kiln is a third smaller than those usually found in cement plants, thereby reducing electricity and thermal consumption as well as maintenance expenses.
- The equipment and procedures at the new plant provide perfect control over the quality of raw materials and burning procedures, ensuring the regularity of the end product. Double crushing and separate feeds to the raw mill prepare raw materials better, while the kiln system produces a more reactive clinker.

3. Staff preparation

- *Well before start-up, major investments were made to improve staff qualifications*
- *A highly qualified team dedicated solely to cement manufacturing*

3.1. The concept and goals of operational readiness

Preparations began well before the start-up phase to get the new team ready to operate the new plant.

In the experience of the Lafarge group, the quality of this preparation phase is just as important as engineering: both are essential if the new staff is to ensure a smooth start-up and to reach nominal production targets on schedule, as the plant is gradually brought up to full cruising speed.

3.2. Team selection

The new production team was selected as early as November 2001 based on the following criteria:

- The team specialised solely on the core cement manufacturing business. Tasks that did not require expertise in cement manufacturing were outsourced to specialised service companies, who were in a better position to handle them more efficiently.

The company outsourced all support functions, including security, secretarial services, food services, cleaning and transport. Quarry operations and certain maintenance services (mechanical workshops, engine maintenance) were also outsourced. The new plant maintained control over operational planning, quality management and several environmental issues pertaining to its quarries.

- Given the high technical qualifications required by Tetouan 2, the new employment team consisted of management (51%), engineering technicians (22%), and workers and staff (27%).
Multi-skilled workers were systematically sought for certain posts, such as conveyor operators and production site managers.

3.2. Skills development: Investment in training and preparations for all the tasks of managing an industrial plant

To achieve operational readiness, the company invested in a total of 36,000 hours of training over a two-year period at a cost of 11 million dirhams.

Training was carried out in Morocco and abroad. Preparation work was divided into several sections. At the technical skills development centre, Lafarge Morocco organised training sessions to master the basics of cement manufacturing. Workers could also learn to use equipment through internships with suppliers, simulators, or total immersion in the new working environment via internships at other Lafarge sites equipped with similar machinery.

Under these circumstances, we can see the undeniable advantages offered by a global group with extremely sophisticated benchmarking and performance measurement tools.

4. Environmental performance

- ❑ *An environmental management system based on the ISO 14,001 global standard*
- ❑ *Environmental considerations are integrated into projects from the design phase*
- ❑ *Environmental issues are just as important as economic considerations: reduce consumption of non-renewable energy supplies and raw materials, reduce greenhouse gas emissions*
- ❑ *Environmental efforts accounted for 15% of the total investment in Tetouan 2*

4.1. Environmental impact study

In keeping with **the Lafarge group's environmental protection policy** and in compliance with current Moroccan regulations, Lafarge Morocco commissioned an environmental impact study from a consulting firm specialising in energy, water and the environment. The study analysed the impact of the quarry and the start-up of the future cement plant on the fauna, flora, air, water and social economic environment. Whenever possible, measures were taken to eliminate or reduce any environmental nuisances at the source.

The recommendations of the impact study were taken into consideration in the design and construction of the new cement plant.

4.2. Energy conservation measures

In addition to energy savings generated by the type of technology chosen for Tetouan 2, nearly half of the cement plant's electricity needs will be supplied by **renewable energy generated from a local windfarm. This is a world first, and a new know-how developed by the Group, that could be used elsewhere later on.**

Lafarge Morocco took advantage of the physical characteristics of the Tetouan site to install a windfarm, thereby contributing to the group's commitment to reducing greenhouse gas emissions. Wind power will replace electricity produced by thermal power stations, reducing greenhouse gas emissions (40,000 tonnes of E-CO₂ per year).

The windfarm consists of twelve 850kw turbines with a total capacity of 10MW (the maximum currently authorised), which will generate a net annual average of 42,000MW. The total investment is roughly 100 million dirhams.

4.2. Reduction of dust emissions and fugitive dust

- Baghouse filters

A series of baghouse filters protects the kiln system, fuel crushing units and both the raw and cement grinding stations. These filters **reduce dust emissions in compliance with the strictest international standards**. The crushing unit and receiving areas for raw materials and solid fuels are also equipped with an aqueous spray system to reduce fugitive dust.

- Stockpile covers

Fugitive dust was also reduced by covering stockpiles of raw materials, fuels and end products.

- Handling of products and raw materials

The conveyor system and transfer points for raw materials were equipped with baghouse filters and hoods to help retain fugitive dust and dust emissions.

4.3. Water conservation and protection measures

Rainwater is recycled through a storm drainage system connected to a water treatment plant.

4.4. Insertion within the landscape

The new plant was designed by a specialised architect to oversee its insertion within the site and the environment. The Tetouan cement plant was built in compliance with the architect's recommendations and charter.

A reforestation plan was designed in partnership with the national water and forestry services, which provided numerous plant varieties as well as technical supervision of the planting. The four-year plan calls for nearly 100,000 plants to cover a 40-hectare zone. In 2001-02, the first phase focused on the reforestation of the site's perimeter, creating a live fence using 16,000 plants over an 18-hectare area. During the next two phases in 2002-03 and 2003-04, a total of 80,000 plants will cover 20 hectares and 18 hectares, respectively. This second reforestation project is located alongside the quarry and has two purposes: to provide a visual screen and to protect against fugitive dust. The cost of the full project is estimated at 2 million dirhams.

**Environmental protection measures
accounted for 15% of the total cost of the new cement plant.**

5. Redeployment plan

With the closing of the former Tetouan cement plant, Lafarge Morocco decided to launch an employee redeployment plan. All personnel, including both full-time and temporary staff, that could not be transferred to another group site were provided with assistance to ensure they found a steady line of work or a regular job. Despite the uncertainty created by the difficulties inherent in such an undertaking, the group achieved its objectives. Indeed, the plan was even more successful than we could have hoped.

Most of the redundant employees decided to create their own business rather than to seek a job with another company. Thanks to this preference, the redeployment plan created many more jobs than were destroyed by the closing of the plant.

At the same time, customers continued to be serviced throughout the transition period in a climate of confidence, without the least incident or a single day of strikes to interrupt operations.

[In the appendix, see the research paper on the success of this redeployment plan by Mohand Hamoumou, sociologist and professor at the Lyon school of business management.]

Total redundancies	121
Payroll employment	10
Start-up of new businesses	111
Agriculture	37
Industry	8
Commerce	42
Services	24
Job creations	266

APPENDIX

Corporate social responsibility: Lafarge in Morocco, a concrete example

By Mohand Hamoumou

Mohand Hamoumou, an Essec graduate with a DESS in Psychology and a Doctorate in Sociology (Ecole des Hautes Etudes en Sciences Sociales), is a professor of Human Resources Management at the Lyons School of Management (Text reprinted with the kind permission of the author)

For the past decade, local development, business ethics and corporate social responsibility have become increasingly common topics for reflection and debate. Yet more often than not, these concepts remain simple incantations that are rarely put into practice, because ethics and socially responsible behaviour cannot be decreed from above. Of course, directives and sanctions can clearly favour certain approaches while ruling out others. Yet, without the intimate conviction and involvement of the decision makers, these actions are doomed to be little more than investments in social marketing and image building.

Yet, the “employee redeployment plan” launched by Lafarge Morocco demonstrates that it is possible to put theory into practice.

From the retrospective vantage point of the sociologist and his research, we can cut through the official commentary to find the real keys to the success of this exemplary case of local development and socially responsible behaviour by an international corporation.

Background and key issues:

Lafarge, a family-run business created 170 years ago in the Ardeche region of France, has grown into the world’s largest cement manufacturer, with 75,000 employees working in 75 countries.

In Morocco, Lafarge has entered a partnership with ONA, the country’s largest private industrial group. Lafarge Morocco owns four cement plants, two modern ones and two older facilities, and has 1,400 employees, including administrative and sales personnel.

In the late 1990s, Lafarge Morocco clearly saw that “*the Tetouan plant lacked sufficient production capacity to meet market demand, especially in the light of the strong development prospects of the northern provinces*”. The Tetouan plant only produced 250,000 tonnes of cement per year. Yet it would take much higher tonnages to meet the needs of major construction projects, such as the new port of Tangier, and the chronic need for housing and infrastructure.

To modernise the existing Tetouan plant and increase its production capacity was not reasonable from a financial perspective because the facilities were simply obsolete.

There was also an ecological argument against the existing site: the city of Tetouan has expanded rapidly since the plant was created half a century earlier. Originally built outside the city, the site was now in the midst of an urban area. Production capacity could only be raised at the risk of increasing the environmental nuisance.

The Tetouan plant with its 195 employees would clearly have to be shut down in the short term (3 to 5 years). There were two possible solutions: 1) increase production capacity at other plants to supply the northern provinces, or 2) build a new, modern plant with a much higher production capacity. The new plant would need fewer employees due to automated manufacturing procedures.

From a short-term financial perspective, the first solution was much more attractive because the construction of a cement plant is an extremely heavy investment. By increasing production capacity at one or more existing facilities, the group could produce more tonnage at a lower cost thanks to savings on fixed costs. Yet this solution would require transporting large quantities of cement, a costly process and an environmental nuisance. Worse, the group would still lack an efficient production facility in the

north, a region poised for rapid growth as it opens to foreign trade. This solution also raised social and ethical questions: in a poorly developed economic region, the majority of the relatively older workforce with few qualifications would be condemned to unemployment.

Numerous employees at the Tetouan plant had dependent, full-age children who were already unemployed. Shutting down the outdated plant without building a new facility or launching a redeployment plan would drive many families into very difficult situations. According to Jean-Marie Schmitz, CEO of Lafarge Morocco, “the desire to act in a socially responsible manner helped tilt the balance in favour of the second solution”.

Yet the construction of a new cement plant was not enough to solve the problem

The old plant with its 195 employees produced 250,000 tonnes of cement a year, but in 2004, the new plant will produce one million tonnes with only 99 employees!

Yet former employees were qualified to fill only about half of the jobs at the new plant. This left 145 employees out of work!

To address this situation, the CEO of Lafarge Morocco said that he was “personally committed to seeing that no one was left to face this job situation alone”. Although he promised resources and not results, the group was clearly committed to doing all it could so that none of the former employees would suddenly be in a position where they could not support their families.

The terms of the employee redeployment plan

The main elements of the plan are outlined below:

- Redundancy benefits would be paid in compliance with all legal and contractual requirements to all employees, including temporary workers, even though they were not legally eligible for benefits.
- The group would offer financial aid for the creation of new businesses, covering up to 80% of the cost of a project, with a ceiling of €15,000 depending on the number of jobs created. Former employees who launched a new business would still be left with a big share of expenses, to guarantee that they were fully implicated in the success of the project.
- Lafarge Morocco created a three-man employment “support team” devoted entirely to the redeployment plan. Backed by the project director and factory manager, this support team was given three key missions: 1) to listen to employees and carefully explain the redeployment plan, 2) to help with skills assessment and job hunting and 3) to evaluate start-up projects and provide advice for creating a company.

This plan has already been a big success.

Indeed, the plan has been such a success that CFDT, a French labour union, has already produced a 7-minute documentary on Lafarge’s experience, which will be shown during its national convention.

The results speak for themselves:

After taking into account the employees who will work at the new factory, those participating in early retirement programmes, and those transferred to other factories in the Lafarge group, there were still 121 employees to be reclassified at the time the closing of the Tetouan plant was announced. In the end, however, these 121 redundancies were offset by the creation of 266 new jobs via the start-up of 111 small businesses.

The keys to success

Four factors seem to have been essential for the success of the redeployment plan:

- At a very early stage (as early as 1997), work was begun to raise the qualifications of the workforce. Skills testing was used to develop a major technical and professional training programme. These efforts helped strengthen the employability of Tetouan personnel, even though they also revealed the limits of any GPEC (jobs and skills management planning).

- Employees and their union representatives were also informed about the plant closing at a very early date (nearly two years ahead of the official closing). Decisions to shutdown an activity are often taken very badly by employees, and can become a source of labour unrest. As a result, numerous business leaders tend to wait until the last possible moment, if at all, before announcing a shutdown. There have even been cases where workers were notified by mail that their company had gone bankrupt!

By announcing the news two years before the actual shutdown date, Lafarge Morocco's management ran the risk of union mobilisation and/or a demoralised workforce, with a decline in productivity and product quality, and a likely deterioration in the social climate.

Yet management clearly wanted to give employees time to prepare for their redeployment, and this decision was a key factor of success. Employees could see that the concern for transparency about their future employment situation was not just talk.

This honest approach only reinforced the employees' confidence in management.

- The third key to success was to get the labour unions involved in the process very early on. Direct contacts were made with the national leaders of UMT, the union representing the factory. Management said that it would respect all Moroccan legal obligations – which might seem normal but unfortunately is often not the case! Union leaders were won over by management's determination to go beyond mere legal obligations by building a new plant and assisting employee redeployment by providing financial aid for the start-up of small businesses. Later, when plant employees summoned the union via their local delegates, national union leaders defended the Lafarge project and called for constructive collaboration. Local union members then played a key role in explaining the redeployment plan and how it would be implemented. By reassuring and cooperating with the unions, management prevented any deterioration in the social climate. Most importantly, they helped ensure that all employees found new jobs.
- The fourth key to success was the close **collaboration with the local authorities**: Wilaya, Ministry of Agriculture, OFPPT (a public-sector professional training organisation)
The ministry of agriculture played a big role through its local agricultural consultants and technicians, who helped train and assist employees who wanted to resume an agricultural activity (farming, animal husbandry, honey, cheese...). OFPPT made a similar contribution for employees that wanted to develop industrial or commercial projects.

Specific cultural factors

Last but not least, Lafarge Morocco took into account the specific cultural characteristics of the country. Two events illustrate this point:

First, a sense of honour is deeply ingrained in the Tetouan region, as shown by Pierre Bourdieu's research on the Kabyle and Raymond Jamous' on the Rif Berbers.

Courage and keeping one's word play key roles in this honour system.

When announcing that Tetouan would be shut down, the CEO wrote to each employee personally and offered his help, thereby acting as a man of honour, worthy of trust and respect.

Second, the group made intelligent use of the sociological structure of the Maghrebian family. The extended family remains the basic social structure, which is probably due to unemployment, among other reasons. It is even common for full-aged children, once they are married, to continue living with their parents. One characteristic of this family structure is that the father continues to have uncontested authority over his children, regardless of their age.

Numerous employees used the redeployment plan to launch job creation projects not for themselves directly, but for their children. In some cases, employees were close enough to retirement age that the loss of a job would not have a dramatic impact on their situation (i.e. redundancy payments covered the period up to retirement). Others felt that their children had special skills that could be better used to create jobs (training and diplomas in hairstyling, carpentry...).

Consequently, a large number of projects were started for the children of employees, including hair salons, wood shops, the acquisition of a taxi license (and vehicle), and the buyout of existing

businesses. For the parents, who managed to receive financing for these projects as former employees of Lafarge Morocco, this kind of investment goes beyond the western vision of a father's loving helping hand to a son or daughter. Although affection is not excluded from this system, the wealth of one member benefits the extended family as a whole, and the father maintains some control over his children's' business.

Thanks to this combination of factors, from early training efforts to real partnerships with the unions, the involvement of the local authorities and respect for local cultural distinctions, Lafarge Morocco managed to create 266 jobs to replace 121 redundancies.

Ethics, a matter of choice

The success of this redeployment plan was facilitated by the current popularity of “corporate social responsibility” and “local development”.

Yet this commitment cannot stop with mere words. Even though “local development” and “corporate social responsibility” have become trendy concepts- the absolute must for high-flying management teams - we are not talking about a passing fad.

The real difference lies in the fact that Lafarge does not resort to ethics for what it stands to gain, but practices ethics out of conviction.

In other words, this case also illustrates how corporate social responsibility is still primarily a matter of “the boss taking responsibility for ‘his’ employees”, a concept rooted in the conviction that it should be the economy that serves mankind, and not the other way around. Consequently, when faced with a difficult situation, it is still possible to act – and might even be easier to act – with that “extra bit of heart” that was so dear to Bergson.