

# Factors Affecting Competitiveness of Cement Produced in the Mekong Delta

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## 1. Problem

Fast developments in recent years allow the cement industry in Vietnam, and in the Mekong Delta in particular, to make the best use of its advantages to produce import substitutions. Many cement plants have been built in the Delta but they at times couldn't meet the market demand. Do these advantages keep existing and helping the cement industry adjust to new conditions of the market when tariff barrier is removed? Identifying factors affecting the competitiveness of the cement industry in the Mekong Delta is a meaningful task that helps local authorities adjust the long-term plan for the industry and managers make the best use of their advantages and opportunities to overcome their shortcomings and work out measures to deal with challenges with a view to improving their competitiveness and contributing to the socioeconomic development in the Delta.

## 2. Methodology

### a. Subject, time and site for the study

In the Delta, most cement plants are situated in important cities, such as Cần Thơ, Vĩnh Long, An Giang, and Kiên Giang, so data are collected from these provinces in the years 2007- 08. The subject matter comprises two common classes of cement PC30 and PC40 on the market.

### b. Objectives:

The study aims at identifying factors affecting the competitiveness of the cement industry in the Delta. It comprises: (1) production and consumption of cement in the Delta; (2) Main factors affecting the competitiveness of the industry; (3) Measures to improve the competitiveness.

### c. Testing the hypothesis:

The study also aims at testing the hypothesis that the competitiveness of cement industry in the Delta is poor; and clinker is one of important factors affecting the competitiveness.

### d. Research methods

- Approach: As Michael Porter (1998) puts it, knowledge of basic resources of competitive pressure helps companies identify their strengths and

weaknesses in order to incorporate opportunities and threats posed by the external environment thereby working out their development strategy. In the cement industry today, the competition is increasingly fierce at all levels. The study wants to get access to their efforts to increase their production and improve the competitiveness in the trend of international integration.

The research is carried out through the following stages:

+ Interviewing companies and market agents through questionnaires according to methods of structured and semi-structured interviews.

+ Securing expert opinions.

+ Analyzing, testing, comparing and contrasting collected data.

- Analyzing methods: For the objective (1), descriptive statistical techniques are used for analyzing production of and trade in cement in the Delta. For the objective (2), the TOWS matrix analysis along with the model of five forces of competition and rating method are used for identifying factors affecting the competitiveness of the cement industry in the Delta. For the objective (3), methods used for the objective (2) are also employed here to work out suggested measures to improve the competitiveness of the industry.

- Data collecting: Cluster sampling is used here. Eight out of nine cement plants in the Delta are in Cần Thơ, An Giang, Kiên Giang and Vĩnh Long and our interviews are conducted there.

As for secondary data about cement markets in surrounding countries, direction of development of the Vietnamese cement industry, rules relating to the industry, or effects of WTO accession on the domestic market, etc. are collected from the Internet, magazines on the construction industry, trade associations, provincial statistics offices and financial services, and Customs offices, etc.

Firsthand data about financial statements and business strategies are collected by surveys and investigations of the eight cement plants in the Delta.

## 3. Results and discussions

### a. An overview on the cement industry:

Cement is one of goods included in the list of products on which tariffs are cut according to CEPT/AFTA agreements among ASEAN countries and WTO requirements. From 2006 to 2015 the industry should integrate fully into the ASEAN free trade zone. When all tariffs are cut, the local cement industry will face keener competition from ASEAN rivals, especially Thai ones. This means that comparative and competitive advantages must be enhanced considerably.

By the years 2010-12, it's expected that some 50 cement plants that use rotary kilns come into operation and most of them are in Hà Nam, Ninh Bình, Thanh Hoá, Hải Dương, and Quảng Ninh. At present, 31 projects to build rotary kiln plants with a total capacity of 39 million tones a year are under construction. Investment in the cement industry in Vietnam involves high degrees of risk because most plants are of small size with old technologies. Existence of too many small companies will lead to unnecessary competition or price war, making market prices unstable and uncontrollable.

Cement plants in Vietnam with a total capacity of 29 million tones of cement and 19 million tones of clinker satisfy only 85% of the market demand. The Vietnam Cement Industry Corporation (VCIC) comprises 11 subsidiaries, eight of them produce cement and three are cement trading companies. In the Mekong Delta, its subsidiary is Joint Stock Cement Company Hà Tiên 2 with a capacity of 1.3 million tones a year and a market share of 30%. Supply of cement from all cement plants in the Delta is no more than three million tones a year while the market demand amounts to some six million tones. High market demand is an opportunity for cement companies to expand their share and also a challenge because they are facing keen competition from major players such as Holcim and Nghi Sơn, and cement imported from China and Thailand.

#### *b. Production and distribution of cement in the Delta:*

Production of cement in the Delta meets with difficulty because of limited supply of clinker. Exploitation of lime mounts in the Delta is destroying the only mountainous area in the Delta and the eco system as a whole. Source of imported clinker, mostly from Thailand, is reliable but risky because of socioeconomic fluctuations in Thailand. Our survey shows that in cities and towns, the competition between cement brands is fierce while consumers in remote areas should be content with any brands

supplied. In addition, protectionist measures also affect the distribution networks and selling prices.

It's estimated that the demand will not exceed the supply in the coming years. Due to economic integration, surplus of cement from surrounding countries will flood the domestic market causing the competition to get keener. In the years 2007-2011, the supply of cement, according to a rough estimate, increases by 8.3 million tones a year while the domestic market demand increases only by 3.5 million tones a year. In 2010 - 12, the supply is expected to top the 60-million-tonne mark, and the supply will exceed the demand by 10 - 12 million tones a year. By 2010, Vietnam will become the biggest cement producers in the ASEAN bloc.

- Weaknesses and strengths of the industry:

+ Weaknesses: The selling price set by the VCIC prevents its subsidiaries from working out their own business strategies and policies. Some of their plants are equipped with obsolete production lines (they were built in the 1960s) with low productivity and high costs and energy consumed. These lines use MFO as fuel, which makes the production cost higher when the oil price on the world market fluctuates. According to the Vietnam National Cement Association, after 2010, there are some 20 production lines of capacity of 1,000 - 2,500 tonnes per day each and they are not considered as modern by that year.

In most cement plants, no investment is put in environmental protection and they keep emitting a lot of smoke to the air. The cement industry consumes large quantities of lime, clay, coal, oil and gas. They are non-renewable and produce a lot of smoke and dust that lead to greenhouse effect. All natural resources are limited and the supply of raw materials from these resources is used up and cement companies will have to change their technologies or suffer falls in their profits and competitiveness.

Human resource for the cement industry is of poor quality; its workers lack necessary skills and discipline. Clinker producers meet with difficulties in recruiting skilled or well-trained laborers because most of them are situated in the mountainous areas in Kiên Lương and Hà Tiên (Kiên Giang), far away from big cities. The VNCA has warned about the shortage of labor because most cement companies are badly in need of skilled workers and experienced engineers and technicians. Cement made in the Delta has low added values because no compa-

nies paid full attention to R&D activities with a view to making goods of high competitiveness.

+ **Strengths:** the industry at present enjoys abundant supply of raw materials from lime mountains in Kiên Giang and clay from almost districts in the Delta. Many local brand names, such as Hà Tiên 2; Hà tiên 2 – Cần Thơ, and Cần Thơ Cement, control big market shares because of their stable quality and consumers' confidence and loyalty.

The output always meets the set plans. Many plants have operated at their full capacity. Part of their workforce includes experienced engineers and skilled workers. Many training courses are given every year to help workers to get equal to requirements. The working population in the Delta is big and cheap, which constitutes an advantage for labor-intensive industries like the cement one.

The border with Cambodia with convenient gates allows easy export of cement. Some sea ports by the Gulf of Thailand facilitate import of clinker from Thailand at low cost.

- **Challenges and opportunities:**

+ **Challenges:** Vietnam's integration into the AFTA and WTO opens the domestic market to foreign cement and other building materials. New cement grinding factories will be built using clinker from Thailand or North Vietnam with the result that the competition in the Delta keener. Cement made in the Delta will face competition from local and foreign-invested companies and cement imported from surrounding countries.

Besides the possible surplus of cement, environmental issues are also worrying because increases in the cement output mean more pollutants.

Prices of coal and fuel rise frequently while transport is costlier, local cement will become less competitive in terms of price. Consumers' confidence in imported cement or cement from foreign-invested companies in Vietnam is also a great obstacle to local companies if they fail to improve their product quality, brand names, public images and selling prices.

+ **Opportunities:** Integration into the AFTA and WTO can help local companies absorb modern technologies, technical advances and new managerial skills.

Economic growth in Vietnam and the Delta as well, especially developments of the construction industry, makes the demand for cement to increase quickly and stably. The market demand in the Delta and South Vietnam will be high in 2008- 2011

when land policies are reformed, which stimulates the realty market.

*c. Factors affecting the competitiveness of the cement industry:*

At present, there are 14 cement plants with rotary kilns with an estimated capacity of 21.5 million tonnes a year; 55 small-sized plants with static lime kilns or modified kilns with an estimated capacity of 5 million tonnes a year; and some cement clinker grinding plants with a total installed capacity of 6 million tonnes a year. In the coming year, the cement output is expected to rise because 31 plants with rotary kilns with a total capacity of 30 million tonnes a year are under construction. These new plants will be big competitors to existing cement companies.

The above analyses allow us to identify factors affecting the competitiveness of the cement industry in the Mekong Delta.

Although cement companies in the Delta made high profits and big payments to local treasury, they also cause damage for the environment because of their obsolete technologies. If no plan to replace their existing production lines to improve their product quality and reduce pollutants, they can not compete successfully against big-size rivals when the domestic market is open fully.

## 4. Suggested solutions

*a. Supporting factors:*

- **Capital:** Bank loans and capital mobilized from the stock market are useful sources needed for replacement of production lines, which can bring about higher profit and develop their brand names.

- **Technologies and facilities:** More investment must be made to install modern and highly automated production lines. When deciding on building of new plants or upgrading the existing ones, authorities should give top priority to projects that employ modern and automatic technologies and build plant of high capacity. These plants must be situated in places where infrastructure is good and near sources of raw materials and convenient waterways. These are conditions for improvements in the competitiveness when the domestic market is open completely. The plan for the cement industry aims at removing all static lime kilns by 2020, therefore, authorities must review the program to replace these kilns with modern ones and adopt new policies to support this program and ensure the supply of cement to the domestic market. In addition, the authorities must encourage cement plants

to use coal instead of oil in order to reduce the production cost (by 40% or 50% according to our calculations).

- Labor: Programs to train managers and technicians must be accelerated. Managers should be equipped with knowledge of financial issues, stock market, law and managerial skills in preparation for international integration. New policies must be adopted by companies to encourage their employees to get attached to their careers. A system of assessing performance of employees must be developed and used as a basis for promotion, bonus and rewards.

- Environmental protection: Authorities must launch programs to save energy and recycle waste

when possible. Research centers and provincial services of natural resources and environment must carry out regular inspections and supervision of quality of the air, water and land; give regular training courses in environmental issues; and force companies to handle their waste and effluent.

## b. Demand factors:

- Product: Products must be diversified. Besides traditional products, such as PC30 and PC40 cement, companies can research and develop new products such as specialized cement and clinker, cement used for building bridges and irrigation systems, cement for works in saline areas, cement of low heat radiation, and various by-products of cement in order to increase profit and distribute risks in competition.

**Table 1: Factors affecting the competitiveness of the cement industry in the Mekong Delta**

Factor	Estimates	Rating	Short-term plan	Medium- and long-term strategy
1. Supporting factors				
Knowledge	Difficulties in recruiting skilled laborers	3	On-the-job training	Attracting skilled labors with better wage, benefits, working conditions, etc. and cooperating with training centers
Technology	Lack of hi-tech	4	Application of IT	Replacing old machines with the new ones
Facility	Old and polluting	4	Regular maintenance	Financial support to replacement of polluting machines
Finance	Limited ability to mobilize new sources of capital	3	Effective use of capital	Securing new sources of capital (bank loan, privatization, financial support from the State, etc.)
Land, building site	Unreasonable policies	4	Improving procedures for land clearance and support for industrial projects	Zoning areas for industrial use
2. Demand factors	High elasticity of demand, constant new entries	8	Better supply for construction season	Enhancing the competitiveness and building brand names
3. External support				
Clinker	Local supply is limited, foreign supply is not well under control	10	Importing clinker from ASEAN countries, increasing local production	Tariff on clinker imported from ASEAN countries could be cut to ensure the supply.
Transport	Transport from north to south is limited	2	Maintaining good stocks of cement for the construction season	Developing the transport business to ensure north-south transportation
Machine	Both modern and obsolete ones are in use	4	Working out plans of replacement	The Government supports researches and application of uniform and modern production lines to reduce dependence on imports
4. Business strategy	Subsidiaries of VCIC have advantages in terms of brand names and size but their performance is poor; private companies have better performance and competitiveness	5	Improving the business performance	VCIC subsidiaries should be restructured in order to enhance the management; private ones should work out medium- and long-term development strategies and improve their competitiveness

Source: Data from the survey of cement companies in 2007-2008; rating from 0 (no support), to 5 (medium support) and 10 (good support)

- Market: The distribution networks should be perfected and appropriate forms of distribution must be selected. VCIC subsidiaries operating as traders of cement can be replaced with a network of agents and distributors. Sales departments of cement companies must be more professional and concentrated in order to handle increased output in the coming years. All transactions and exchange of information between companies and customers must be simplified and modernized by employing electronic devices. Competitive sale policies must be made with a view to maintaining and expanding the market share when facing foreign competition. In the coming years, the supply may exceed the demand and companies should consider exporting their products to neighboring countries. In fact, some companies have started exporting cement to Cambodia in small quantities but they didn't promote this plan because of obstacles from regulations.

*c. External support:*

As for raw materials for the industry, companies should develop and maintain cooperation with traditional suppliers, and look for the new ones in order to secure reliable supply. Moreover, they should look for new suppliers who can offer better materials at more competitive prices in order to cut the production cost.

Authorities can consider cutting tariffs on imports from non-ASEAN countries in order to increase the supply of raw materials and reduce dependence on Thai suppliers. At present, price of local clinker is equal to that of imported one, the authorities, therefore had better allow import of clinker in larger quantities in order to preserve local sources of raw materials and protect the environment. Tariffs on cement and clinker imported from non-ASEAN countries could be cut to limit

rushes on cement during the construction season, thereby stabilizing the cement market in the South.

*d. Business strategy:*

Cement companies had better employ both locally-made and imported clinker when prices of the two products are equal in order to preserve the only mountainous area (Kiến Lương) in the Mekong Delta, and the local source can only satisfy 50% of the market demand. To enhance the competitiveness of the cement industry, a uniform development strategy is much needed. Companies must accelerate programs to replace technologies and reform the management system; and develop their own brand names in preparation for foreign competition when tariff barrier is lifted.

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Our research shows that the cement industry in the Mekong Delta lacks the local supply of clinker, a well-trained workforce, and modern and pollutant-free facilities. Results of the research prove the opinion that the cement industry in the Delta has poor competitiveness. ■

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