**Enquiry Report**

Causes of increase in the cement prices
in February-March 2007

Based on the Findings of Enquiry Committee
Competition Commission of Pakistan
Islamabad

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## Preamble and mandate

Between January and March 2007, cement prices increased suddenly by Rs 50-70 per 50 kg bag causing widespread concern in the construction sector and, indeed, in the country at large. An increase in the price of cement, a product with many backward and forward linkages spread over a number of sectors in the economy would clearly have repercussions far beyond the construction sector; hence the widespread concern. Price data from the Federal Bureau of Statistics (FBS) also reported an increase in the cement market price from Rs 220/230 to Rs 275 - 300 per bag during the first week of February 2007 alone. To many, the sudden rise after a relatively long period of stability smacked of collusion and price-fixing by the cement producers. The cement consumers alleged that cartelization and the use of restrictive practices by the cement manufacturers were the main causes of the sudden price hike.

The Cabinet directed the then Monopoly Control Authority (MCA) to investigate the reasons for the rise in prices. A report was accordingly submitted to the Cabinet by the MCA. However, the MCA considered it imperative to also institute a Special Enquiry to investigate the reasons for the particular cement price increase of Rs.50 -70 between January – March, 2007. This enquiry was conducted in consonance with the Monopolies and Restrictive Trade Practices (Control and Prevention) Ordinance, MRTPO, 1970. The four-member Committee was formed and given the task to collect evidence, if any, of cartelization and price fixing in the cement industry. The Committee was partially assisted in its work by Messrs Four Corners Group, Karachi. The following report is based on the enquiry conducted by the four member committee.

## Methodology

The Committee conducted an in-depth investigation into the affairs of the cement industry including allegations regarding cartelization after soliciting information from the general public. It held hearings, involving the industry and various stakeholders, examined witnesses under oath, interviewed independent experts and also solicited information from the intelligence agencies. Upon the conclusion of the Enquiry, the Committee was required to make recommendations under the Monopolies and Restrictive Trade Practices (Control and Prevention) Ordinance (MRTPO) 1970.

However, when this report was still being written and compiled, the MCA was replaced by the Competition Commission of Pakistan (CCP) under the Competition Ordinance 2007. As such, it was the CCP which completed the enquiry in the early part of 2008 regarding the rise in cement prices in February-March 2007. It relied on the following sources for its work:

- Market data as captured by the Federal Bureau of Statistics (FBS);

- Industry data provided by the cement manufacturers individually and through the All Pakistan Cement Manufacturers Association (APCMA);
- Internal research and field survey;
- Structured questionnaire for dealers and retailers;
- Statements under oath of complainants, Chief Executive Officers (CEOs) of cement companies and key office bearers of various associations;
- Written statements of engineering and industry experts; and
- Reports by the Intelligence Bureau (IB).

To involve public at large, the Committee invited views from stakeholders, cement consumers and the general public through a public notice published on April 7, 2007 in the national press. Views were also called from:

- The Consumer Rights Commission of Pakistan (CRCP);
- The Network for Consumer Protection (NCP);
- Contractors and Builders Association (CBA);
- National Engineering Services of Pakistan (NESPAK); and
- Association of Builders and Developers (ABAD).

Given the importance of the investigation, the CCP deployed its fullest resources to gather information and obtain views from a wide variety of sources. As a result, the CCP is confident that the findings presented in this Report are sound and valid. In addition, the recommendations that follow seek to capture the complex structure of the cement market in the country as understood by a broad range of stakeholders. It would be pertinent to state here that the Enquiry was initiated under the provisions of the MRTPO, 1970. However, this law was replaced by the more powerful Competition Ordinance 2007; hence, some of the recommendations drawn with respect to any future course of action have been made keeping in view the scope of the new law.

## Scope and limitations

The investigation was technically limited to only examining the causes behind the sudden price increase of cement in early 2007. However, any price increase is often symptomatic of many underlying changes specific to the industry, in addition to developments in the wider economy. Therefore, it became essential that a number of related issues be also investigated, such as the strength and characteristics of local demand, the strength of foreign demand and export trends, capacity utilization, incentives for hoarding, etc. in order to come up with credible evidence relating to the claims of alleged cartelization and price fixing. While such related themes have been covered in some detail, the Report should not be construed as a comprehensive analysis of the cement industry. The Report limits itself to events leading up to the price hike, its main likely causes and consequences from an anti-trust, public policy perspective and draws lessons for the future from that perspective. It needs stressing, too, that the Report is not a commentary on what are continuously changing, complex industry dynamics.

The CCP accepts that a more rigorous microeconomic analysis of the internal working of the cement industry would have significantly added value to the findings of the Report. However, the CCP takes a more *juridical* view of events in the market and sees them through the prism of practices such as price-fixing. It, therefore, adopted the means and methods of collating information that were in line with this broad approach.

## Investigation and findings

This section sets the scene by briefly examining the process of price determination in a free market. All goods and services sold in the market place, unconstrained by controls or restrictions, have to undergo what in economics is referred to as the 'price discovery' process. While the price discovery process applies more generally to the prices of financial assets, it has relevance to commodities as well. The process brings together producers/sellers and buyers in the market place to strike a market clearing price for the good or service being traded. In the process, the profit maximization objectives of the former come up against the utility maximization goals of the latter, the latter often, if not always, subject to budget (income) constraints.

The price set by the free interplay of buyers and sellers, whereby buyers get maximum utility, and producers a fair return on their investment via profit maximization, is dependent on the availability of information so that no participant is able to exploit any other because of his ability to influence market conditions or through the control of information or by the use of lobbying power, erecting impediments or engaging in restrictive or anti-competitive practices. But what goes under the rubric of price discovery actually subsumes within it a host of explicit and implicit socio-economic factors and considerations, not to mention consumers' psychology such as: demand, supply, price expectations, uncertainty, fears, international trade linkages, cost of production, interest rates, money supply, fiscal and trade policies.

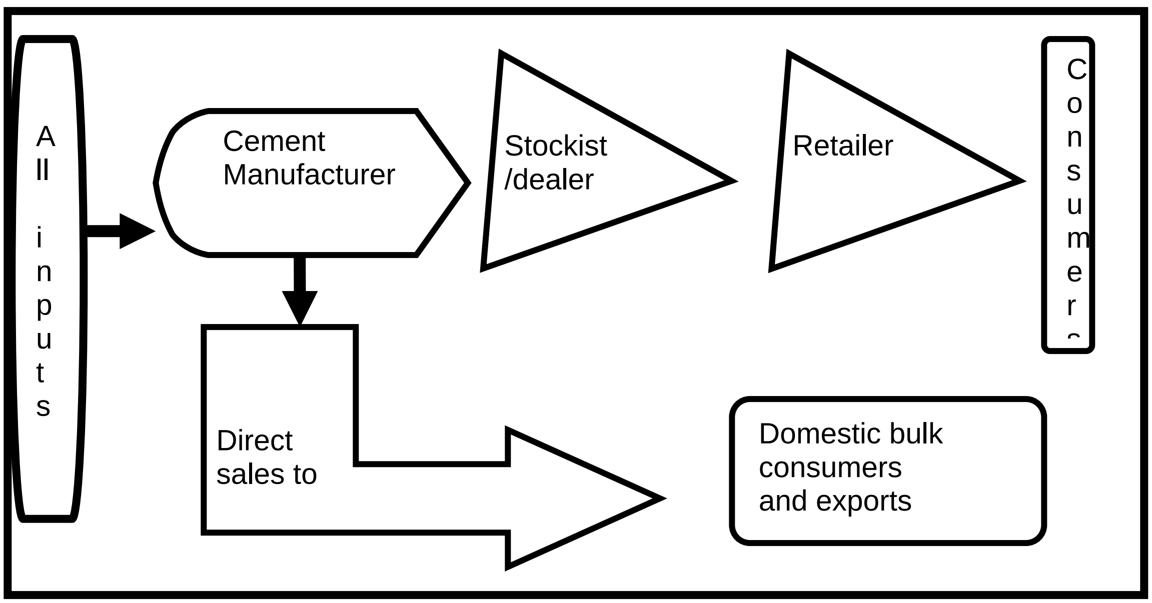
The fact of the matter is that the full range of such information is rarely, if ever, available to all market participants. Indeed, many market participants are often prey to irrational moods that then tend to exacerbate any prevailing aura of political or other uncertainty that frequently exist in an economy like Pakistan. Moreover, in practice, producers have a disproportionate degree of influence on the functioning of markets in Pakistan, as compared to consumers, as information asymmetries are the norm between them.

Such conditions enable producers and/or sellers to influence price expectations in their favour so that the price discovery process becomes skewed with buyers/consumers generally playing the role of price takers even when there are ample supplies of the goods in question. While a price increase may well be justified on economic grounds and gradual price increases are the norm in an economy like Pakistan, any sudden, or large, hike by all or most producers together is thus bound to invite public suspicion.

Because there usually tends to be a build-up to a certain price increase and there are consequences following it, the Committee covered a longer time period around February 2007 in order to capture any leading and lagging indicators of the price hike in question. Based on data from July 2005 to June 2007, the report analyzes cement price movements historically, considers the relevant factors such as production cost, capacity utilization, impact of exports, and the market linkages. The Committee has also taken into account the viewpoints of producers, intermediaries and consumers. Findings are covered in the following sections.

## The structure of cement industry: basic information

The diagram below gives a flow chart picture of the cement industry in Pakistan. The relative sizes of different end-users as given in the diagram are discussed in the text.




The cement industry is highly energy-intensive. Once the capital investment has been made, coal, gas, furnace oil and electricity make up on the average around 65-70 per cent of the total running input costs in the manufacture of cement. An increase in energy costs is therefore bound to push up the cost of production. If higher energy prices affect all producers equally, the impact will be passed on to consumers fully but there could be differences between older and newer plants in this regard. More important, whether the pass-through effect of higher costs happens in full depends upon how competitive the industry is.

Manufacturers also pay central excise duty of Rs 750 per ton and general sales tax (GST) at 15 per cent on the duty-paid price of cement per ton. The overall demand-supply matrix allows some cement manufacturers earn 15 per cent return on equity, which ensures sufficient profitability for them to continue to manufacture and sell cement. The cement has also to be transported to the enduser, the freight and transport cost up to Rs 600 per ton or Rs 15-25 per 50-kg bag depending upon the distance involved.

Producers sell 50-kg, paper-sack bags of cement to stockists/wholesale dealers for cash payment in advance and payment terms are ex-factory. In this manner, manufacturers can generally achieve a fairly quick and painless recovery of their working capital investment and, in the process, pass off the title and risk to dealers who bear all costs related to transport, insurance, in-carriage damage, if any, and stock spoilage due to lack of use. Dealers' margins range around Rs 175-200 per ton or Rs 4.50-Rs 5.00 per 50 kg bag. Manufacturers allow credit only to a few large dealers. Dealers sell ex-stock to retailers on similar terms, who add their margin into the final price consumers pay. Thus it can be inferred that the supplier enjoys high market power as evidenced by a greater share of profitability and the ability to choose which dealer will be provided on credit. Retailer margin is a relatively low Rs 2-3 per 50 kg bag.

Builders, contractors and public infrastructure projects constitute the bulk consumers of cement. They are able to negotiate more favourable prices from manufacturers, who supply them directly on site. At times, packaged cement is not supplied to bulk consumers; instead raw cement in roller mixers directly at the designated construction sites is delivered by the manufacturer.

For the entire industry export prices are given as the international market behaves as if it is perfectly competitive. Exporters can at best save on packaging costs as export orders are bulk-packed in huge plastic pouches but other than that Pakistan's cement manufacturers are price takers when it comes to exports.

A peculiar characteristic of the industry is that the date of production and expiry is not mentioned on the 50 kg bags meant for retail use. It is worth stressing that cement is considered perishable; its quality is best when used within five days of it being manufactured. If stored for long, atmospheric moisture causes the cement to become unusable. As a rule of thumb assumption cement cannot be stored for long. However, dealers and retailers have reported that it can be stored for up to two months without any discernable decline in quality, for retail consumers at any rate. Table 1 presents various cost components of the ex-factory price of cement.

**Table 1**

**Cement: Cost Components**

| Market price of cement | 2006 | 2005 | 2004 | 2003 |
|---|---|---|---|---|
| Total variable and fixed cost/ton | 2,849 | 2,398 | 2,295 | 2,313 |
| Central excise duty – fixed | 750 | 750 | 750 | 1000 |
| General Sales Tax @ 15 per cent (duty paid value) | 540 | 472 | 457 | 497 |
| Freight and unloading | 600 | 550 | 500 | 500 |
| Wholesaler/dealers commission | 200 | 180 | 160 | 140 |
| Manufacturers profit @ 15 per cent on equity | 725 | 475 | 410 | 377 |
| Market price per ton | 5663 | 4825 | 4572 | 4827 |
| Market price per bag | 283 | 241 | 229 | 241 |

Source: All Pakistan Cement Manufacturers Association.

## Price, consumption and demand: regional differences

Pakistan is divided into North and South sub-markets by the cement industry and 28 cement plants serve the two regional sub-market segments with a combined production capacity of 32-35 million tons per annum. Companies in the South consist of the provinces of Sind and Balochistan and demand in this market is led by Karachi. The North comprises of Punjab and NWFP where the demand is geographically less concentrated. Because of transport costs, the two sub-markets are said to be non-competing.

With some regional variations, cement consumption peaks during the months February-June each year, when housing construction takes place before the monsoon rains. It is in this period that consumers buy most of their requirements of cement as does the construction industry in general. Increased demand tends to push up prices in these months when cement sells at a premium compared to the rest of the year. The same seasonality may have occurred in March-April 2005/06 and February 2006/07. However, the resulting sudden price surge of over Rs 50 per bag seems much more than the normally expected increase due to seasonality. The Association of Builders and Developers (ABAD), which consumes over 30 per cent of the cement manufactured, especially in the South, alleged that the surge was on account of cartelization and price-fixing by the cement manufacturers and thus asked the Government to investigate and intervene.

It should perhaps be mentioned here that the rise in prices in February 2007 came after a gradual rise between July 2005 and April 2006 followed by a decline from May 2006 to January 2007. For example, starting at Rs 276 in July 2005, the average cement prices peaked at Rs 364 in April 2006. Prices started going down in May 2006 and the decline continued when they hit the trough of

Rs 218 in January 2007. In February 2007, however, average prices shot up to hit Rs 254. The causes of this jump are examined later in the Report.

The following tables (2 and 3) capture price movements across Pakistan from July 2005 to June 2007.

**Table 2**

**Monthly average market price in major cities FY 2005/06 (July-June)**

(Rs per bag)

| City | July | Aug. | Sep. | Oct. | Nov. | Dec. | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| **Rawalpindi** | 290 | 300 | 300 | 300 | 295 | 305 | 300 | 298 | 300 | 348 | 325 | 300 |
| **Islamabad** | 290 | 300 | 300 | 300 | 300 | 305 | 300 | 298 | 300 | 350 | 325 | 300 |
| **Lahore** | 298 | 290 | 285 | 305 | 310 | 290 | 286 | 285 | 290 | 375 | 315 | 290 |
| **Multan** | 285 | 280 | 280 | 310 | 305 | 290 | 280 | 275 | 310 | 350 | 325 | 285 |
| **Peshawar** | 281 | 287 | 302 | 306 | 301 | 291 | 281 | 276 | 324 | 346 | 309 | 275 |
| **Avg North** | 289 | 291 | 293 | 304 | 302 | 296 | 289 | 286 | 305 | 354 | 320 | 290 |
| | | | | | | | | | | | | |
| **Karachi** | 255 | 260 | 265 | 265 | 265 | 265 | 263 | 263 | 275 | 365 | 333 | 310 |
| **Hyderabad** | 240 | 240 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 345 | 330 | 300 |
| **Quetta** | 293 | 300 | 301 | 308 | 313 | 307 | 293 | 295 | 323 | 413 | 323 | 335 |
| **Avg South** | 263 | 267 | 274 | 276 | 278 | 276 | 270 | 271 | 284 | 374 | 328 | 315 |
| | | | | | | | | | | | | |
| **Av. price** | 276 | 279 | 284 | 290 | 290 | 286 | 280 | 278 | 295 | 364 | 324 | 303 |
| **Difference** | -- | 3 | 5 | 7 | 0 | -4 | -6 | -1 | 16 | 69 | -40 | -22 |

Source: Federal Bureau of Statistics (FBS).

**Table 3**

**Monthly average market price in major cities 2006/07 (July-June)**

(Rs per bag)

| City | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rawalpindi | 289 | 283 | 283 | 280 | 250 | 225 | 221 | 259 | 249 | 240 | 233 | 234 |
| Islamabad | 291 | 285 | 285 | 284 | 251 | 230 | 225 | 264 | 253 | 243 | 237 | 237 |
| Lahore | 286 | 280 | 270 | 230 | 215 | 195 | 195 | 253 | 238 | 235 | 232 | 228 |
| Multan | 275 | 265 | 250 | 235 | 215 | 205 | 189 | 263 | 236 | 230 | 228 | 229 |
| Peshawar | 282 | 271 | 252 | 232 | 221 | 207 | 203 | 258 | 234 | 230 | 225 | 224 |
| ***Avg North*** | *285* | *277* | *268* | *252* | *230* | *212* | *206* | *259* | *242* | *236* | *231* | *230* |
| | | | | | | | | | | | | |
| Karachi | 300 | 300 | 295 | 295 | 285 | 238 | 225 | 230 | 230 | 233 | 236 | 245 |
| Hyderabad | 280 | 278 | 280 | 273 | 260 | 220 | 211 | 228 | 230 | 225 | 225 | 234 |
| Quetta | 323 | 300 | 300 | 300 | 300 | 300 | 250 | 288 | 281 | 270 | 270 | 271 |
| ***Avg South*** | *301* | *293* | *292* | *289* | *282* | *253* | *229* | *249* | *247* | *243* | *244* | *250* |
| | | | | | | | | | | | | |
| ***Av. price*** | *293* | *285* | *280* | *271* | *256* | *233* | *218* | *254* | *245* | *239* | *237* | *240* |
| Difference | | -8 | -5 | -9 | -15 | -24 | -15 | 36 | -10 | -5 | -2 | 3 |

Source: Federal Bureau of Statistics (FBS).

The FBS data cover market price trends; there is no reliable data available for cement consumption. Thus it is very difficult to find information for actual cement consumption, whether in Pakistan as a whole or in the South and North sub-markets or in the main towns of the country. A corollary to this problem is that segment demand too cannot be ascertained with certainty: what percentage of total consumption is by the Government, by builders, by bulk consumers and by retail consumers. ABAD estimates that builders, i.e., real estate developers consume over 30 per cent of total production, Government another 40 per cent, around 13-15 per cent is exported leaving 15-17 per cent as residual for the retail consumers.[1] While these percentage shares in consumption seem plausible, the estimates cannot be verified independently since the documentation trial is either non-existent or marginal. In the absence of actual consumption data, we have to rely on manufacturer-supplied information on cement dispatches as the best proxy for consumption.

In a market free of distortions, the assumption that all the cement bought will be consumed without too much delay is both fair and valid. Because cement loses its quality if stored for long, there is unlikely to be a time lag between dispatch from a factory and consumption at a construction site for nearly all types of consumers. APCMA admitted that bulk consumers – the Government and ABAD members—can not only command favourable prices but are also preferred by a cement manufacturer, for they have the power to influence production runs and thus ensure steady demand for a longer duration. However, neither quality nor price can be compromised for bulk consumers. Architects and civil engineers employed by bulk consumers are duty-bound to ensure quality specifications. Cement is delivered direct to bulk consumers, thus eliminating all middlemen[2]. Bulk consumers are also protected against sudden and unjustified price increases because of a well-defined price variation/cost escalation clause in their buying contract with cement suppliers.[3] ABAD claimed that "we do not use cement older than 72 hours".

For retail consumers, however, the situation is both different and more difficult. The time lag between dispatch and consumption is high as the commodity passes through stockists/dealers and retailers before being consumed. The consumers have to buy at the prevailing market price; they cannot influence production or supply decisions, individually or collectively. There are no contractual agreements between a manufacturer and end-consumers and they are at the mercy of market forces dictated by intermediaries.

There are other infractions of consumers' rights, which represent opportunities for exploitation. As mentioned elsewhere, dates of expiry and manufacture are not printed on the bag. The public sees it as a major source for

[1] Statement by Association of Builders and Developers (ABAD).
[2] Statement by APCMA and various other respondents.
[3] Written statement by NESPAK.

malpractice by the dealers.[4] In the absence of this vital information, consumers do not know how old the cement is that they are buying; retailers' or dealers' personal assurance is their only warranty. This lacuna can incidentally assist dealers and stockists in creating an artificial shortage that can, in turn, trigger a speculative demand for cement.

During the period July 2005 to February 2007, a number of factors may have contributed to a substantial increase in the demand for cement. Generally, cement demand can be classified into the broad categories of housing and infrastructure development. It is estimated that the current demand for housing accounts for about 65-70 per cent of the total cement demand and the rest is accounted for by infrastructure.

According to the State Bank, mortgage financing touched over Rs 40 billion in 2006/07 as compared to Rs 27.5 billion in 2005 and there was something of a construction boom with real estate development firms undertaking large projects across the country. Thus, with the development of Gwadar port, demand for cement increased substantially in the South of Pakistan. In future, other large scale projects that are in the pipeline, i.e., the Murree project and the leasing of two islands near Karachi to a UAE-based firm to develop into Dubai-like mini cities are expected to increase cement demand in the country possibly generating temporary supply-demand mismatches.

At the same time, the City District Government, Karachi and the Federal Government's Karachi package involved the implementation of mega projects such as the construction of Lyari Expressway, Northern Bypass, and a huge network of 30-plus flyovers and underpasses came into full swing during the period and similar programmes were begun in Hyderabad by its District Government. Incidentally, the Federal Government's Public Sector Development Programme (PSDP) traditionally accounts for about 30 per cent of the cement demand in the country mostly for infrastructure. During the period 2004-2007, there was an increase of 80 per cent under this head. In 2006/07, there was an allocation of Rs 415 billion and this was 50 per cent higher compared to the previous fiscal year. Some of the major projects included in the enlarged PSDP were the cement lining of water channels, Karachi and Gwadar ports and Islamabad and Gwadar airports.

Moreover, about half of the year 2006 was taken up in the reconstruction of the earthquake devastated towns of Balakot, Mansehra, Bagh and Muzzafarabad. Reconstruction started in the second half of 2006 and picked up further pace in early 2007. Earthquake reconstruction thus contributed to a significant increase in cement demand in the North of Pakistan.

Given the demand surge, the price increase in early 2007 makes economic sense. However, it is the magnitude of the increase, the suddenness of

[4] Response from general public on MCA's public notice.

the surge, the intensity of the public reaction led by ABAD and others that required closer scrutiny by the Committee. The Committee was thus faced with the task of finding out:

- Was the price increase justified on economic grounds?
- Was there any truth in ABAD's allegation of cartelization and price-fixing?
- Where, if any, did price manipulations occur and how?

The quest for answers led to investigations regarding costs, capacity utilization, the role of intermediaries and nature of the role played by the cement industry association, APCMA.

## Supply, exports, producers' market power and ex. factory price

When actual production is viewed against capacity utilization, it becomes evident that the industry as a whole has been operating below its optimum level as shown in the following table. Although the demand picked up in February, 2007 but a capacity utilization of 67% in both January and February pushed up the price.

**Table 4**

**Monthly Cement Production Capacity Utilization: 2006- 2007**

(Percentage)

| Region | Capacity | July | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar | Apr | May | June |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North | 24,707,276 | 70 | 71 | 76 | 65 | 68 | 74 | 74 | 67 | 73 | 78 | 78 | 81 |
| South | 6,912,000 | 47 | 41 | 45 | 35 | 49 | 59 | 43 | 65 | 85 | 88 | 86 | 75 |
| Total | 31,619,276 | 65 | 65 | 69 | 59 | 64 | 71 | 67 | 67 | 76 | 80 | 80 | 80 |

*Source: CCP Internal Research*

The table clearly reveals a significant degree of under-utilization of production capacity. Such a phenomenon could mean a number of different things: maintenance or production difficulties, lack of local demand or, more seriously, an environment in which prices are high enough not to require economies of scale to be an important factor in the scale of production and output can accordingly be restricted.

Market diversification (through exports) appeared to be most suited to Bestway, Cherat, Pioneer and Lucky which operate the largest plants with average production capacity of over 2 million tons. And this is exactly what appears to have happened; these companies have grabbed bigger chunks of the export pie. It appears from the table below that a major portion of production was exported in the reference period by some cement manufacturers (see Appendix tables I and II for details. In absolute terms, cement exports increased from 95,237 tons in December, 2006 to 146,840 tons in January, 2007 and then 216,595 tons in February.

**Table 5**

**Exports as a percentage of total production Jan-June 2007**

| Companies | Jan. | Feb. | Mar | Apr | May | June |
|---|---|---|---|---|---|---|
| Askari (Nzp) | 9 | 24 | 7 | 5 | 4 | 30 |
| Bestway | 24 | 30 | 25 | 13 | 16 | 21 |
| Cherat | 48 | 37 | 37 | 22 | 22 | 30 |
| Fauji | 21 | 15 | 19 | 14 | 11 | 9 |
| Kohat | 27 | 46 | 46 | 31 | 34 | 37 |
| Lucky Pezu | 10 | 15 | 14 | 15 | 13 | 16 |
| Lucky Karachi | 0.28 | 40 | 73 | 69 | 84 | 76 |

Source: Derived from data provided by the companies and APCMA.

It is understandable that the exports via land to Afghanistan may have impacted on prices in the North and a possible bunching of sea dispatches to those on the South. On account of the paucity of data, the magnitude of the impact is unknown, but ABAD believes exports to be an important cause of the price hike.[5] Although they did not provide any proof in this regard they did point out that whenever the Government has imposed a ban on exports, prices have tended to come down,[6] a viewpoint also shared by ZealPak Cement which maintains that export prices tend to favour manufacturers.[7]

It may well be the case that the pre-hike price was not sufficiently attractive for the large capacity producers due to their high fixed costs. They found international prices more attractive, increased production runs and achieved optimum efficiency. Meanwhile, there were pockets of shortages and exports magnified these pockets of scarcity. In absolute terms, while the export outflow in percentage terms may be small, its marginal impact on local shortages can still be quite high. In other words, exports caused a “tipping point” in favour of a temporary physical shortage and this led to the price hike.

Leaving conjecture aside, let us look at more objective facts: market powers of industry players and their cost functions. From a regulator’s perspective, the CCP has to keep a close watch on industrial concentration, for it represents a form of competition vulnerability that can be open to exploitation, covert or open, by players that wield the most power in the market. In an undifferentiated product market like cement, unchecked concentration will tempt players to form cartels, engage in price-fixing, quota allocation and the main players will, in time, strive for monopoly power by way of mergers and acquisition. Appendix III provides the market shares of various players in the industry.

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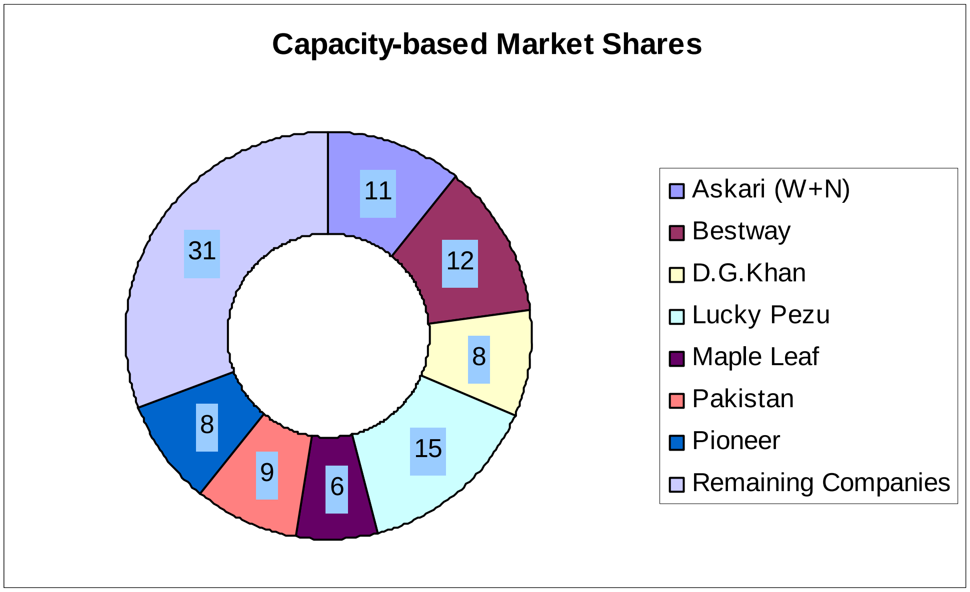
[5] Written statement by ABAD.
[6] Ibid.
[7] Written statement by ZealPak Cement.

Despite there being 28 cement manufacturers – a fact which should encourage competition amongst manufacturers for market share - there is a significant degree of concentration of market power between a few leading companies, namely Lucky Cement, DG Khan Cement, Bestway Cement, Maple Leaf Cement, Askari Cement and Pakistan Cement, which together control about 70 per cent of the market in the Northern region.




Source: CCP internal research based on data for the year 2006-07.

The South is even more concentrated: four units control 72 per cent of the market. This may provide an opportunity to set oligopolistic prices. Cement/ordinary portland cement is generally considered to be a homogenous product but here too branding and product differentiation plays a role in setting prices - some manufacturers have been able to create product features that consumers value highly. For example, Dadabhoy and Essa (Al-Abbass) cement brand are not considered to be of premium quality. That is why various brands command different prices – a fact emphasized by retailers and intermediaries.[8] Every market has its own leading brand and premium brands and their markets are as under:

- Lahore – Maple Leaf
- Faisalabad – Lucky
- Karachi – Attock
- Govt – Fauji
- Afghanistan – Cherat

The enquiry found that branding premium is a normal practice. However, its impact is limited to and remains within segments and pockets of markets.

[8] CCP field survey of retailers and dealers.

Though a high level of concentration is something to be watched closely, it does not in itself constitute cartelization.

Table below depicts sharp ex. factory price increase during February, 2007 by several cement producers though there have been price cuts in December-January, 2007.

**Table 6**

**Change in ex. factory price from previous month Dec. 2006 to June 2007**

(Rs per bag)

| Co. Name | December | January | February | March | April | May | June |
|---|---|---|---|---|---|---|---|
| Askari(Wah) | -26 | -1 | 41 | -5 | -3 | -3 | 0 |
| Bestway | -12 | 5 | 40 | -11 | -5 | -5 | 3 |
| Cherat | -9 | -3 | 31 | 6 | -1 | -11 | 1 |
| Dandot | -6 | 0 | 54 | -7 | -6 | -5 | 0 |
| D.G.Khan | -17 | 0 | 29 | 13 | -2 | -4 | -2 |
| Fauji | -10 | -1 | 37 | -6 | -5 | -5 | 1 |
| Fecto | -11 | -4 | 29 | -6 | -5 | -4 | 4 |
| Lucky(Pezu) | -14 | 1 | 36 | 4 | -1 | -5 | 0 |
| Maple Leaf | -10 | -24 | 70 | -4 | 3 | -13 | -8 |
| Pioneer | -11 | 2 | 47 | -4 | -4 | -5 | -2 |
| Dewan Hattar | -23 | -3 | 30 | 0 | 19 | 0 | 0 |
| Attock | -30 | 0 | 7 | -2 | 4 | -4 | 13 |
| Dadabhoy | -27 | -8 | 14 | 0 | -25 | 5 | 2 |
| Al- Abbas (OPC) | -21 | -14 | -2 | 9 | 3 | 4 | 9 |
| Javedan | -15 | 0 | 14 | -1 | 0 | 2 | 10 |
| Dewan | -15 | 9 | 5 | -1 | 3 | 16 | 8 |
| Thatta (OPC ) | -30 | -1 | 4 | 4 | 2 | 2 | 7 |
| Zeal Pak | -40 | 0 | 16 | -3 | 0 | 0 | 10 |
| Mustehkam | -12 | -3 | 36 | -6 | -5 | -8 | 2 |
| Lucky(KP) | -27 | 0 | 8 | 1 | 2 | 3 | 6 |

While providing reasons for price increase, the industry was of the view that fuel, power and packaging constitute bulk of input cost. The industry reported that each of these inputs sharply increased during 2006-7. For example cost of:

- Coal/pet coke increased by 36 per cent
- Furnace oil increased by 2.5 per cent
- Paper bags increased by 16 -29 per cent

The industry also contended that the 6 percentage point increase in interest rates from 2004 to 2007 and declining exchange rate of the Pakistan rupee vis-à-vis the US dollar (5 per cent) also contributed to an increase in the overall cost of operations. [9] 9 out of 12 (75 per cent) of the CEOs of major cement units, who recorded their statements under oath, attributed the price hike to higher input costs.

## The price hike: reasons, opinions and statements under oath by major cement units

We carried out content analysis of statements provided by the CEOs of 12 cement companies to categorize their viewpoints on reasons behind the price hike. The following table summarizes the statements made:

**Table 7**

| **Cement manufacturers** | **Justifications** | | | | | | |
|---|---|---|---|---|---|---|---|
| **Maple Cement** | DS | CF | ER | MM | G | GI | C |
| **Dadabhoy Cement** | DS | CF | ER | ---- | ---- | GI | C |
| **Flying Cement** | DS | CF | ---- | ---- | G | GI | C |
| **Dewan Hattar Cement** | DS | CF | ---- | ---- | ---- | GI | C |
| **Fauji** | DS | ---- | ---- | MM | ---- | GI | ---- |
| **Fecto Cement** | DS | ---- | ---- | MM | ---- | ---- | C |
| **Kohat Cement** | DS | CF | ER | MM | ---- | ---- | ---- |
| **D.G. Cement** | DS | CF | ER | MM | ---- | GI | C |
| **Javedan Cement** | DS | CF | ER | MM | ---- | ---- | ---- |
| **Bestway Cement** | DS | ---- | ---- | ---- | ---- | ---- | C |
| **Mustehkam Cement** | ---- | CF | ER | ---- | ---- | ---- | |
| **Askari wah** | DS | CF | ER | ---- | ---- | GI | C |
| **ZealPak Cement** | claims cartelization practices were prevailing | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fractional | | **11/13** | **9/13** | **7/13** | **6/13** | **2/13** | **7/13** | **8/13** |
| Percentage | | **85 percent** | **69 percent** | **54 per cent** | **46 per cent** | **15 per cent** | **54 per cent** | **62 per cent** |
| **Without ZealPak** | | 92 per cent | 75 per cent | 58 per cent | 50 per cent | 17 per cent | 58 per cent | 67 per cent |

| **Legend:** | |
|---|---|
| Local and global demand and supply: | DS |
| Increase in cost of factors of production: | CF |
| Economic reasons: (interest rates, inflation, devaluation, taxes) | ER |
| Middlemen influence | MM |
| Govt. intervention | G |
| Growth of Industry | GI |
| Competition | C |

A remarkable 92 per cent attributed the price hike to a gap in demand and supply under the interplay of a free market. Around 75 per cent considered

[9] Written statements by Maple Leaf, Dadabhoy, D.G. Khan, Attock, Askari, Dewan, Flying, Kohat, Mustehkum and Lucky Cement companies.

input costs to be the driving reason; 58 per cent considered macroeconomic policies contributing to the phenomena and an intriguing 50 per cent held market intermediaries responsible for the price increase. The Committee also verified the cost and macroeconomic data from independent sources and found them to be accurate. However, during the course of our investigations, we also interviewed APCMA, the cement industry's representative body. ABAD had earlier alleged that APCMA is a cartel.[10] Accordingly, the CCP has dilated upon the role of APCMA and why it causes concern elsewhere in the report.

### Market intermediaries and middlemen

This breed of market operators is the closest to the market and has first-hand information on demand, shortages and even impending price increases. Dealers' close contacts with manufacturers allow them to receive insider information on impending pricing decisions. If they withhold supplies or hoard, they can and do make inventory profits by selling old stock at new prices.

As stated earlier, given the labeling lacuna and lack of retail consumers' influence in the market, there exist major vulnerabilities in market clearing mechanisms for retail customers. The potential for exploitation invites many predators: investors, hoarders, speculators and black-marketeers. An artificial shortage, even for a short span of time, can raise prices for consumers. By the time market mechanisms or Government interventions come into play, the hit-and-run operators have usually made their killing. They have created not only speculative demand in the market but have generated sufficient uncertainty in which such actions become widespread and upward price pressures become more acceptable.

Interestingly, the Committee discovered a big discrepancy in statements on the storage life of cement. ABAD asserts that it does not use cement older than 72 hours, most bulk consumers consume cement within five days of its manufacture and APCMA says cement should not - and cannot - be stored for more that 10 days as it rapidly loses its quality. Yet our field survey reveals that cement is being stored for up to two months.

Dealers invest cash to buy cement that can be stored for up to 60 days. There are investors who team up with dealers to hoard cement and thus cause artificial shortages. The investor in question buys cement worth Rs 500 million from a manufacturer, say, Falcon Cement, which does not sell directly; the investor then hoards or markets the commodity as appropriate.[11] This intermediary-investor nexus needs special investigation.

Finally the link between ex. factory and retail market price is shown below for 2006-2007.

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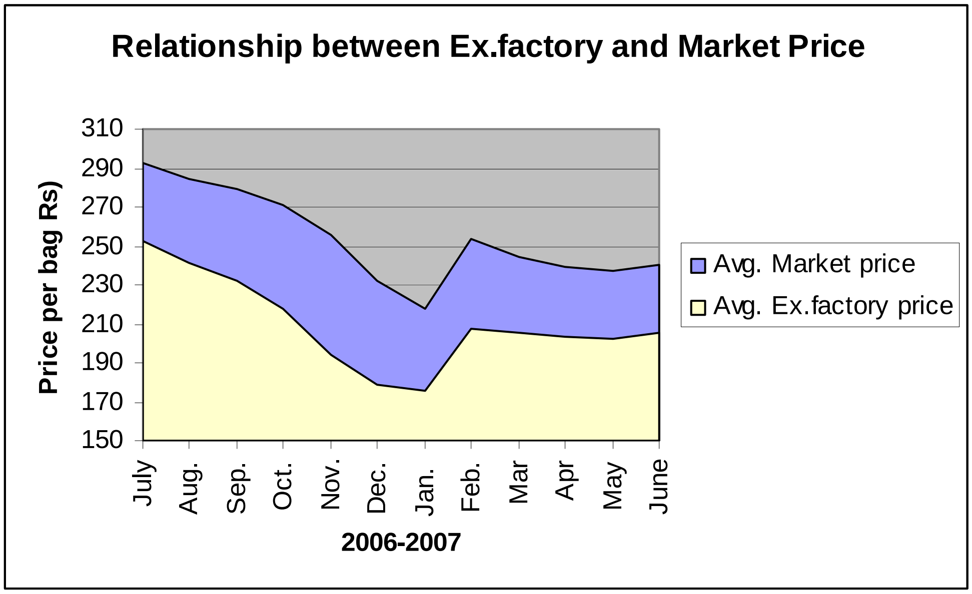
[10] Written statement of ABAD.
[11] Statement of the President of Karachi Cement Dealers' Action Committee.




The difference between ex. factory and market price range from Rs 35 to 62 per bag. It was found during a market survey that dealers' margin, transportation, utility and other charges though have increased overtime but these alone were not responsible for wide dispersion. However, producer-dealer nexus as a probable cause could not be explored due to limitations explained elsewhere in this Report.

## APCMA: functions, allegations and concerns

ABAD and CBA had alleged that APCMA is the cement industry's cartel. According to them, it fixes prices and controls supplies to the detriment of general consumers. APCMA sprang up many times in our investigations with CEOs and key experts. The manufacturers had varied opinions regarding the usefulness of APCMA as a collective platform to solve their problems. Invariably all the CEOs, except one, denied any involvement of APCMA in restricting trade or fixing prices.

For its part, APCMA supplied the following information about its role and functions pertinent to the investigation:

1. APCMA is registered with the SECP and is working as a guaranteed limited company. It is also registered with the FPCCI.
2. There are five production units that are not members of APCMA.

It further contended that:

3. Any information relating to prices and production can only be provided by manufacturers. APCMA only maintains data on production and dispatches. Data are available on a monthly basis. Export data are also

updated. APCMA identifies export markets and gives information related to exports.

4. There is no cartel in the cement market and there is no fixation of prices. The entire focus of the cement sector is only to supply end-users. Around 3-4 years ago prices increased due to the prevailing demand and supply mismatch. When demand increased cement plants expanded capacity, market supply increased and prices came down.
5. No evidence of a shortage of cement supply exists in the market and there is no evidence of a cartel in the industry.
6. Dealers are also involved in influencing prices. Hoarding cement is only possible for five days. But manufacturers are dispatching 100 per cent production to the market. Whatever is being produced is being sold and used. There could be mutual understanding of manufacturers on different issues but it is not related to prices.
7. APCMA is only responsible for monitoring. Its objective is to check whether taxes are being paid or not in order to increase Government revenues. This creates a linkage between manufacturers and the Government on common issues. No decision relating to prices or production takes place in APCMA meetings. Even companies do not share any market-related information between them.

These statements appear to be in sharp contradiction to the prevailing views in the market and provide a basis for some suspicion to the Committee as to APCMA's functions. For instance, our field survey revealed the widely held view that cement can, in fact, be stored for up to 60 days. Likewise, the assumption that dispatch equals consumption is of doubtful validity. Some storage beyond five days almost certainly occurs but, equally, hoarding beyond 60 days is both difficult and unlikely. Again, different issues of mutual understanding between different cement manufacturers have not been spelled out: are such understandings completely unrelated to matters of capacity utilization and quota allocation? Such understandings, while not 'explicit' about prices, do directly impact them. Finally, if companies do not share any output and price information then what is the real purpose of APCMA? If the objective is only to monitor the payment of taxes then on what basis does this monitoring take place? Dispatches, which relate to production capacity and actual production - and hence the price?

In the view of the Committee, APCMA's tax monitoring could well be a disguise for ensuring compliance with a pre-set production quota. It was a moot question faced by the Committee and to which no satisfactory answer was provided either by APCMA or by Riaz and Company, the audit firm responsible for collecting dispatch data for APCMA. On the contrary, the committee found some tantalizing, though insufficient, evidence against APCMA's assertions. One company that broke away from APCMA gave documentary evidence against APCMA. The Chief Executive Officer suggested forcefully that there is, indeed, a cartel of cement manufacturers. He also came up with documentary proof showing that the APCMA monitors the sales of every factory so that no deviation is made from the allocated quota of the respective members and Riaz Ahmad and Company Chartered Accountants monitors the sales on behalf of APCMA.

The documents provided by the company with reference to their complaint against APCMA after their statement under oath include minutes of the meeting of the APCMA and some production/sales percentages set issued by the said Association to its members. These indicate the *prima facie* presence of some cartel-like behaviour among cement manufacturers under the auspices of APCMA. The following are self-explanatory monthly statements by APCMA.

**APCMA statement for December, 2001**

- Date issued : December, 20, 2001
- Percentage set : 51 per cent
- Percentage achieved :
    - North Zone = 48 per cent
    - South Zone = 49 per cent
    - Overall = 49 per cent

**APCMA statement for January, 2002**

- Date issued : December, 29, 2001
- Percentage set : 55 per cent
- Percentage achieved :
    - North Zone = 55 per cent
    - South Zone = 59 per cent
    - Overall = 56 per cent

**APCMA statement for January, 2004**

- Date issued : January 13, 2004
- Percentage set : 78 per cent
- Percentage achieved :
    - North Zone = 80 per cent
    - South Zone = 77 per cent
    - Overall = 79 per cent

**APCMA statement for July, 2004**

- Date issued : July 9, 2004
- Percentage set : 95 per cent
- Percentage achieved:
    - North Zone = 95 per cent
    - South Zone = 82 per cent
    - Overall = 92 per cent

From the above results, it is clear that in the past cement manufacturers have been following the directions of APCMA to achieve target percentages for production and sales. Riaz Ahmed and Co. has been performing the task of monitoring sales and dispatches. However, such information relating to 2007 is not available to determine any cartel activity. For their part, Riaz and Company agreed that they conduct special audit to verify daily cement dispatches of APCMA members but forcefully refuted to have knowledge of cartel-like behaviour such as allocation formula or price fixation by their client, APCMA.[12]

[12] Statement under oath by Managing Partner, Riaz Ahmad and Company.

## Conclusions/Recommendations

Essentially, it is true to say that the CCP did not find conclusive evidence to indicate that the price hike in February 2007 was the result of cartelization. This conclusion was in line with the Lahore High Court ruling in 2006 that the existence of a cartel needs to be established through much more rather than by merely associating it with the phenomenon of parallel price movements and that the support of corroborating plus factors are necessary to prove collusive price fixing[13]. However, such direct evidence can only be found through the physical search of premises of APCMA, the admission of a member of the alleged cartel, an estranged executive of a member company or of APCMA itself or a so-called ‘whistle blower’.

Due to the limitations of the 1970 Law, the MCA could not conduct a search of APCMA premises. Under the new Competition Ordinance, the CCP is now empowered to not only conduct searches but also impose punitive fines if evidence of industry collusion is conclusively found. Given these powers, as far as APCMA is concerned and the doubts that have been expressed about it in different quarters, its activities clearly need to be thoroughly examined, including through the search of its premises. Is it as benign in its functions as is made out by itself or does its ‘monitoring’ have another, less savoury purpose?

- The CCP needs to adopt a more pro-active stance in investigating collusive price-fixing behaviour. It should have the wherewithal to utilize qualified people for its investigations so that its findings are of the standard required of a vigilant vanguard of public policy.

- The CCP needs to develop links with academia and relevant research organizations that help it perform according to its mandate. There is a need, too, to mobilize citizen involvement in consumer rights in a meaningful fashion and strong links with media need to be established to achieve this end. Currently, the tendency of civil society in Pakistan is to complain loudly but not come forth with any concrete evidence or information to substantiate these complaints; and even worse, complainants have been observed to withdraw from cooperating with CCP after making their complaints with great fanfare in public. CCP finds itself greatly handicapped in such situations. Consideration should be given to empowering CCP to proceed against those persons who make allegations in public, in the strongest terms, but have virtually nothing to support their allegations.

[13] D.G. Khan Cement, Attock Cement Pakistan Ltd and Pakland Cement Ltd *vs*. the Monopoly Control Authority, Order No. C.M.151-C-99, PLD, 2007, Lahore 1.

- It is also high time that CCP gears itself to proceed against trade associations as well as consultancies and other agencies that facilitate cartels, and “aid and abet” in their functioning. This was previously not possible under the MRTPO but very much within the purview of the Competition Ordinance, 2007.

## Appendix I: Cement Exports - July 2006 to June 2007

| | July | August | Sept | Oct | Nov | Dec | Jan | Feb | March | April | May | June | Quantity exported | Share in total exports (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Askari (Nzp) | 6,155 | 6,261 | 10,679 | 5,977 | 10,066 | 4,372 | -- | | | | | | 43,510 | 2 |
| Bestway | 11,650 | 24,328 | 24,654 | 20,685 | 26,421 | 12,404 | 26,489 | 23,173 | 21,725 | 13,160 | 17,940 | 25,880 | 248,509 | 9 |
| Cherat | 15,368 | 21,007 | 21,008 | 15,120 | 20,920 | 7,071 | 38,461 | 33,358 | 35,446 | 17,463 | 17,660 | 31,719 | 274,601 | 10 |
| Dandot | | | 348 | | | | | 27 | | | | | 375 | 0 |
| D.G. Khan | 12,713 | 15,772 | 15,945 | 7,315 | 9,985 | 6,278 | 5,912 | 13,492 | 12,176 | 13,069 | 17,518 | 23,358 | 153,533 | 6 |
| Fauji | 14,570 | 12,180 | 10,918 | 8,007 | 12,907 | 10,154 | 17,627 | 14,688 | 18,080 | 13,292 | 10,660 | 9,185 | 152,268 | 6 |
| Fecto | 80 | 120 | 120 | 200 | 80 | 1,935 | 1,765 | 6,450 | 2,720 | 2,600 | 1,520 | 26,080 | 43,670 | 2 |
| Kohat | 1,900 | 16,152 | 17,132 | 11,242 | 14,453 | 5,802 | 12,901 | 22,073 | 21,098 | 13,814 | 11,726 | 11,815 | 160,108 | 6 |
| Lucky (KP) | | | | | 27,387 | 26,482 | 141 | 38,600 | 139,009 | 133,206 | 148,453 | 137,565 | 650,843 | 25 |
| Lucky (Pezu) | 77,080 | 96,869 | 79,196 | 32,152 | 28,177 | 14,258 | 29,789 | 36,589 | 34,895 | 38,033 | 28,866 | 40,326 | 536,230 | 20 |
| Maple Leaf | | | | | | | | | | 500 | 236 | 138 | 874 | 0 |
| Pioneer | 15,605 | 10,256 | 17,674 | 5,565 | 5,683 | 2,891 | 6,952 | 8,288 | 7,280 | 15,429 | 20,922 | 13,739 | 130,284 | 5 |
| Dewan Hattar | 1,440 | 0 | 80 | 127 | 0 | 0 | 0 | 200 | 0 | 0 | 0 | 0 | 1,847 | 0 |
| Dadabhoy | | | | | | | | | | 4,472 | 2,259 | 2,363 | 9,094 | 0 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dewan | 5,150 | 11,227 | 15,015 | 2,803 | 1,181 | 2,236 | | | | 2,185 | 6,915 | | 46,712 | 2 |
| Thatta (OPC) | | | | | | | | | | 5,340 | 4,910 | 1,200 | 11,450 | 0 |
| Mustehkam | 600 | 600 | | | 26,421 | | | | | | | | 27,621 | 1 |
| Pak.cem | | | | | | | 193 | 6,264 | 4,891 | 2,840 | 18,551 | 33,423 | 66,162 | 3 |
| Total | 169,569 | 228,163 | 220,449 | 115,238 | 185,702 | 95,237 | 146,840 | 216,595 | 307,016 | 279,443 | 311,336 | 356,871 | 2,632,459 | 100 |

## Appendix II: Exports as a percentage of total production

### FY 2005/06

| No. | Co.'s Name | July | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar | Apr | May | June |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Askari(Wah) | 2 | 3 | 2 | 1 | 3 | 0 | 0 | 5 | 9 | 4 | 11 | 8 |
| 2 | Askari (Nzp) | 2 | 1 | 0 | 1 | 2 | 4 | 0 | 2 | 8 | 3 | 13 | 10 |
| 3 | Bestway | 28 | 28 | 25 | 18 | 20 | 15 | 7 | 18 | 4 | 2 | 10 | 16 |
| 5 | Cherat | 31 | 42 | 37 | 33 | 40 | 38 | 12 | 54 | 32 | 13 | 31 | 28 |
| 6 | Dandot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 |
| 7 | D.G.Khan | 8 | 11 | 11 | 6 | 5 | 7 | 9 | 8 | 7 | 1 | 11 | 8 |
| 8 | Fauji | 10 | 15 | 12 | 11 | 16 | 10 | 4 | 12 | 19 | 3 | 9 | 7 |
| 9 | Fecto | 2 | 1 | 14 | 4 | 4 | 1 | 0 | 0 | 3 | 2 | 4 | 1 |
| 10 | Kohat | 36 | 38 | 36 | 26 | 31 | 21 | 11 | 34 | 36 | 13 | 33 | 28 |
| 11 | Lucky | 13 | 24 | 19 | 14 | 11 | 17 | 9 | 26 | 17 | 5 | 17 | 7 |
| 12 | Pioneer | 25 | 21 | 26 | 13 | 12 | 33 | 6 | 19 | 9 | 1 | 9 | 6 |
| 13 | Saadi | 0 | 0 | 9 | 1 | 4 | 2 | 0 | 1 | 6 | 5 | 3 | 2 |
| 14 | Attock | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 0 |
| 15 | Dadabhoy | 0 | 0 | 0 | 27 | 18 | 24 | 7 | 12 | 13 | 4 | 25 | 28 |
| 16 | Pakland | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 7 | 7 |
| 17 | Thatta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 7 | 0 | 0 |

Source: Companies and APCMA.

### Exports as a percentage of total production

### FY 2006/07

| No. | Co.'s Name | July | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar | Apr | May | June |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Askari (Wah) | 8 | 12 | 8 | 7 | 5 | 2 | 7 | 14 | 10 | 4 | 4 | 0 |
| 2 | Askari (Nzp) | 6 | 7 | 10 | 7 | 8 | 4 | 9 | 24 | 7 | 5 | 4 | 30 |
| 3 | Bestway | 16 | 24 | 33 | 25 | 25 | 11 | 24 | 30 | 25 | 13 | 16 | 21 |
| 4 | Cherat | 34 | 28 | 23 | 26 | 33 | 11 | 48 | 37 | 37 | 22 | 22 | 30 |
| 5 | Dandot | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | D.G.Khan | 7 | 8 | 9 | 3 | 5 | 3 | 3 | 7 | 6 | 6 | 7 | 8 |
| 7 | Dewan Hattar | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Fauji | 13 | 12 | 11 | 12 | 13 | 10 | 21 | 15 | 19 | 14 | 11 | 9 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | Fecto | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 9 | 4 | 3 | 2 | 41 |
| 11 | Kohat | 4 | 32 | 33 | 29 | 30 | 15 | 27 | 46 | 46 | 31 | 34 | 37 |
| 12 | Lucky Pezu | 25 | 28 | 21 | 11 | 11 | 5 | 10 | 15 | 14 | 15 | 13 | 16 |
| 13 | Maple Leaf | | | | | | 0 | 0 | 8 | 5 | 2 | 14 | 28 |
| 16 | Pioneer | 19 | 15 | 21 | 8 | 6 | 3 | 6 | 7 | 6 | 12 | 16 | 11 |
| 19 | Attock | 0 | 9 | 12 | 1 | 4 | 3 | 1 | 2 | 2 | 1 | 4 | 3 |
| 20 | Dadabhoy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 9 | 14 |
| 21 | Dewan | 7 | 20 | 24 | 6 | 3 | 4 | 0 | 0 | 0 | 3 | 9 | 0 |
| 24 | Thatta | | | | | | | | | | 16 | 15 | 5 |
| 26 | Lucky Karachi | | | | | 38 | 30 | 0.28 | 40 | 73 | 69 | 84 | 76 |

Source: Derived from data provided by the companies and APCMA.

## Appendix III: Market share - regional and national

| Capacity based Market Shares<br>2006-2007 | | |
|---|---|---|
| (North) | Capacity-based regional market share | Capacity-based National market share |
| Askari (Wah) | 4.45 | 3.48 |
| | | |
| Askari (Nzp) | 6.36 | 4.97 |
| | | |
| Bestway | 12.27 | 9.59 |
| | | |
| Cherat | 4.20 | 3.28 |
| | | |
| Dandot | 2.03 | 1.59 |
| | | |
| D.G.Khan | 8.32 | 6.50 |
| | | |
| Dewan Hattar | 4.58 | 3.58 |
| | | |
| Fauji | 4.70 | 3.68 |
| | | |
| Fecto | 3.31 | 2.58 |
| | | |
| Gharib Wal | 2.29 | 1.79 |
| | | |
| Kohat | 2.29 | 1.79 |
| | | |
| Lucky Pezu | 14.90 | 11.65 |
| | | |
| Maple Leaf | 6.27 | 4.90 |
| | | |
| Mustehkum | 1.97 | 1.54 |
| | | |
| Pakistan | 8.52 | 6.66 |
| | | |
| Pioneer | 8.46 | 6.61 |
| | | |
| Zaman | 5.09 | 3.98 |
| **Sub North** | 100.00 | 78.18 |

| South | Capacity-based regional market share | Capacity-based National market share |
|---|---|---|
| | | |
| A.C.Rohri | 3.49 | 0.76 |
| | | |
| Attock | 25.98 | 5.67 |
| | | |
| Dadabhoy | 7.67 | 1.67 |
| | | |
| Dewan | 11.39 | 2.49 |
| | | |
| Al-Abbas | 6.84 | 1.49 |
| | | |
| Javedan | 9.11 | 1.99 |
| | | |
| Thatta | 4.56 | 0.99 |
| | | |
| Zeal Pak | 5.21 | 1.14 |
| | | |
| Lucky Karachi | 25.75 | 5.62 |
| **Sub South** | 100.00 | 21.82 |