



USAID FIRMS PROJECT

Cement Plant

Pre-Feasibility Report

July, 2014

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Data Page

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Abstract:

The USAID Pakistan Firms project aims to assist the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) in promoting investment and trade in the province. In an effort to achieve this aim, preliminary feasibility studies have been conducted in order to highlight the investment opportunities available for international and domestic investors. The focus of these preliminary feasibility studies has been kept on the high economic growth sectors in KPK.

This report is a part of series of pre-feasibility studies conducted for identified projects. The information used for the preparation of this report has been gathered from various reliable sources including economic and statistical surveys carried out by the government of Pakistan. Competitor's data and industry averages have been used as a basis for the preparation of preliminary financial projections.

This report provides a financial and economic analysis of the opportunities available in the sector and identifies the potential technical strengths and constraints that may be encountered by the investor(s) in undertaking the identified project. It aims to help the reader develop an understanding of the operational aspects of the sector and its growth potential in the country particularly in the Khyber Pakhtunkhwa province. An outline for a business plan has been prepared for the identified project, which identifies the operational requirements (equipment, human resource, infrastructure etc.). The analysis is supported by preliminary financial projections for the first ten years of the business.

Acronyms

BEE	Business Enabling Environment
KPBOIT	Khyber Pakhtunkhwa Board of Investment & Trade
KPK	Khyber Pakhtunkhwa
SOW	Scope of Work
US	United States
USAID	United States Agency for International Development

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Executive Summary

Chemonics International is implementing the USAID Pakistan Firms Project that works to develop a dynamic internationally competitive business sector to accelerate sales, increase exports, investment, job growth and produce higher value added products and services. Within the business-enabling component, the project has initiated an assistance program for the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) to help it meet its mandate promoting investment and trade in the province. The KPBOIT was created with a mandate to advocate specific investment friendly reforms and advise the KPK government regarding the provision of adequate infrastructure facilities for making the KPK Province business environment more conducive to international investment.

In view of the outstanding mineral deposits of limestone, gypsum, iron ore in the province coupled with recent surge in cement sector production and profitability on the back of economic growth in the country, the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) conducted this pre-feasibility to explore opportunity of setting up a 7000 tpd (tonnes per day) cement manufacturing plant.

This pre-feasibility has been based on a series of assumptions with respect to design, size, costs, revenues, returns etc. However, these are indicative only and the investors should carry out their own feasibility studies prior to making investment decision.

Results of Financial Pre-Feasibility

The results of this financial pre-feasibility indicate that development of a cement production plant, located in Karak, D.I.Khan or Mansehra area of KPK province, with a production capacity of 7000 tonnes per day, will be a profitable financial investment.

The results of this financial pre-feasibility indicate that the project is capable of generating following results:

- Equity IRR of 22.13% and
- Project IRR of 18.94%

Following are the key assumptions/considerations for the investors, which were used in this pre-feasibility, and which form basis of projected returns from the project:

- Total project outlay is estimated at PKR 23.6 billion, financed through 40% equity and 60% debt. Total equity contribution will be required at PKR 9.5 billion.
- The cost of equity has been assumed at 18%, whereas, cost of debt is estimated at KIBOR + 2.5% (12.95% total).
- The project is expected to be constructed in a time period of three years.
- Proposed locations for the project include Karak, Mansehra or D.I.Khan areas based on abundant deposits of limestone and gypsum.
- Capacity utilization estimates are kept at 60% for the first year of operations, 70% for the second year of operations and 75% for the third year onwards.

1. Project Background and Rationale

1.1 Introduction

Pakistan is blessed with abundant reserves of limestone and gypsum, the key raw material used in cement manufacturing. As per the studies requisitioned by the Khyber Pakhtunkhwa government, huge deposits of limestone and gypsum (up to billion tonnes) are available in the Dargai (Malakand Agency), Nowshera, Kohat-Lachi and D.I.Khan areas of the province.

Pakistan's installed cement capacity stands at 46 million tonnes. Average utilization of this capacity has stood comfortably above 75% over the last five years with notable improvement seen in both FY'12 (+5%) and FY'13 (+3%) respectively. The local dispatches are likely to remain on an upward trajectory in upcoming years on the back of higher PSDP allocations, infrastructural development projects such as dams, motorways, low-cost housing schemes and power projects etc.

The industry accounts for Rs. 30 billion tax revenue to the country. As the industry is expanding, it will also lead to increase in tax revenue. The industry also affords profitable opportunities to foreign investors. At present, four foreign companies are operating in the country.

1.2 Introduction to KPBOIT

Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) is established for the promotion of trade and investment activities in Khyber Pakhtunkhwa (KPK). Government of Khyber Pakhtunkhwa is committed to bring economic prosperity in the Province through industrial and trade development and delegated this role to KP-BOIT.

KP-BOIT has accepted this challenging task towards achievement of its mission under the leadership of a dynamic Board Members comprising of eminent people of public and private sectors.

High motivation and commitment is there to achieve the vision to flourish the investment and trade in Khyber Pakhtunkhwa making it most favorite investment destination for investors.

Our land is blessed with abundance of natural resources of Oil & Gas, Hydel Power Generation, Tourist Destinations, Mines and Minerals along with Agriculture. The Province is located at an outstanding geographical location.

KPBOIT is striving for exploiting the tremendous potential of the Province into reality and is focused on meeting its important objective of facilitating local and foreign investors desirous of benefiting from this huge potential of the KPK. Our aim is creating an attractive business environment through proactive policy advocacy both at the Provincial and Federal level. Another important role of awareness among investors is to the tremendous opportunities available for investment in KPK and therefore facilitating them for undertaking such investment as a joint venture partners.

We also act as a focal point of contact for both foreign and domestic investors providing information and assistance in coordination with other Government Departments and Agencies.

KPBOIT's objectives are:

- To flourish and revive the investment climate of Khyber Pakhtunkhwa and to make it a lucrative investment friendly destination.
- To provide one window operation facility to investors by proactively engaging with all stakeholders to ensure successful investments.
- To act as a bridge between investors and all related government and semi Government Departments/Organizations.
- Advise the Provincial Government to create environment for investment through advocacy of specific investment friendly and comprehensive Public Private Partnership policies.

1.3 Overview of Cement Sector in Pakistan

1.3.1 Historical Overview

Pakistan's cement industry has shown tremendous progress since Independence. In 1947, there were only four operational cement units in West Pakistan with the total production capacity of approximately half a million tons per annum. The industry experienced gradual growth as five plants were set up in the 1950's with a total capacity of 2.8 million tones with four more set up in the 1960's. During the late 60's the construction industry went through a boom as demand grew because of an expanding economy and by 1969 the cement industry of Pakistan had 14 operational cement plants with an annual rated capacity of 3.3 million tones. The cement industry witnessed another major change in the 1990s as the industry was privatized, leading to privatization of eight units. Moreover, the government also announced tax exemption of all industrial units (including cement) in Khyber Pakhtunkhwa and Baluchistan. Consequently, the private sector also established new plants while tempting existing units to embark on capacity expansion to reap benefits of growing cement demand. Towards the end of 1990s, the industry's installed capacity exceeded local demand, while the industry geared up to start exporting the surplus production.

During the latest decade, the Pakistani cement industry has expanded its production capacity significantly; while gradually making inroads into the exports markets mainly to India and Afghanistan. Apart from these two countries, Pakistan cement is also being exported to South Africa, Iraq, Sri Lanka, Tanzania, Djibouti, Mozambique, Sudan and Kenya. The cement production capacity of Pakistan stood 44.8 million tons in FY13 (source: Pakistan Bureau of Statistics). Currently, Pakistan is ranked among the top 10 in the world's cement export.

1.3.2 Market Structure

The industry comprises of 23 companies having 29 plants (19 units in the north and 10 units in the south), with the installed production capacity of 44.09 million tons. The north with installed production capacity of 35.18 million tons (80 percent) while the south with installed production capacity of 8.89 million tons (20 percent), competes for the domestic market (source: PACRA Cement Study February 2014).

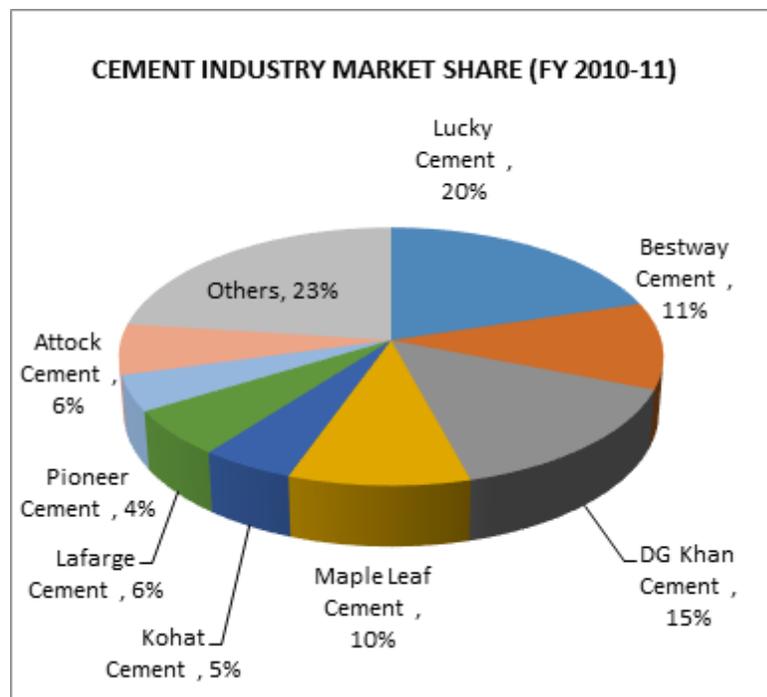


Figure 1 Cement Industry Market Share

Cement is a specialized product requiring specific raw material sources. Most of the cement manufacturers in Pakistan are located near mountainous regions or plateaus that are rich in clay, iron and mineral capacity. The concentration of the production facilities are divided in two zones: North and South. The Northern region consists of Punjab, KP, and some parts of Baluchistan have 19 plants and accounts for majority (~83%) of the total installed capacity due to the close proximity to raw materials. Meanwhile, Southern region consisting of mainly Sindh and remaining parts of Baluchistan have only 5 plants and account for remaining 17% of the capacity. Moreover, the barriers of entry of a new participant are high as there is an overcapacity hang in the sector and substantial initial investment is required to set up the plant.

1.3.3 Market Structure

The cement industry has witnessed significant profitability during the recent years. The sector posted 19 percent growth in profits to reach PKR 18.7 billion in the first half (July-December) of the fiscal year 2013-14. During the year 2012-13, total production remained 33 million tonnes and resulted in total revenues of PKR 193 billion for the sector. Total net income of the cement sector in the year 2012-13 remained PKR 38 billion (source: PACRA cement study February 2014).

Cement production is the most energy intensive within Large Scale Manufacturing (LSM). In Pakistan, all cement manufacturers shifted from natural gas to coal in the early 2000s, which means this sector was largely immune to the worsening energy shortages in the country. In addition, various cement manufactures in the country are also using bio-fuels and a few have also installed heat recovery plants to generate their own electricity.

1.3.4 Regulatory Environment

The cement industry operates under the rules and regulation set out by Ministry of Industries and Production (MOIP), which oversees the sector performance and provides requisite support to increase its international competitiveness while maximizing job creations. The industry is

completely deregulated and the companies are free to decide the operational details of how they run their plants, what fuel they use and where they sell their final product. Notably, there are three foreign (Lafarge, Bestway, and Attock) companies and couple of armed forces entities (Askari and Fauji) operating in Pakistan, while rest of the companies are majority owned by various renowned business groups and industrialists.

In order to protect the interests of the cement manufacturers, they have formed a trade association, called the All Pakistan Cement Manufacturers Association (APCMA). It was established in September 1992 under the section 32 of the companies Ordinance Act 1984 and is a registered body under section 3 of the Trade Organization Ordinance 2007 in April 2008 by the Ministry of Commerce. Most of the leading cement manufactures are members of this organization, while some manufacturers opted to stay out of this club. The purpose of the body is to collect and distribute industry data, represent the industry participants to government, advice the government on policy development and to effectively protect its members' interests and rights. The body is structured as an Executive Committee, which meets frequently to discuss current issues and future policies. The Executive Committee of APCMA has significant influence on industry dynamics as it has the representation of owners and top management of major cement manufacturers.

1.4 Growth Potentials

The main growth engine for the sector is the allocation made towards Public Social Development Programme (PSDP) funds by the Government of Pakistan in its annual budget. The funds are primarily used towards the development of infrastructure projects – a main driver of cement demand. With increased infrastructure spending in the last two years, local cement production have also witnessed an improvement. The adjacent graph explains this positive correlation. For the year 2014-15 National Economic Council (NEC) has approved an overall size of PSDP at PKR 1,175 billion, which is higher by 1.7% when compared to budget estimates 2013-14. Total National PSDP for 2014-15 is 4% of GDP. With the ongoing infrastructure development programmes, the domestic demand is expected to remain strong in the near term.

Pakistan's per capita consumption of 132 kg (2012 estimates) is one of the lowest in Asia and less than half the region's average. It is also one of the lowest in the world after Africa and falls below the historical peak per capita consumption of 139 kg in FY 08. However, a long-term demand growth story remains intact considering the low per capita consumption and excellent demographics (57% of the population below the age of 25). Given the accelerated pace of urbanization in the country – two million people shifting from rural to urban areas annually – the demand for housing is likely to remain upbeat. According to a study by the State Bank of Pakistan (SBP), Pakistan has a housing backlog of approximately 8.5 million units with an annual addition of 300k units to the outstanding backlog. Given annual population growth of around 1.6% and house density of 6.7, approximately 400k new houses need to be built annually.

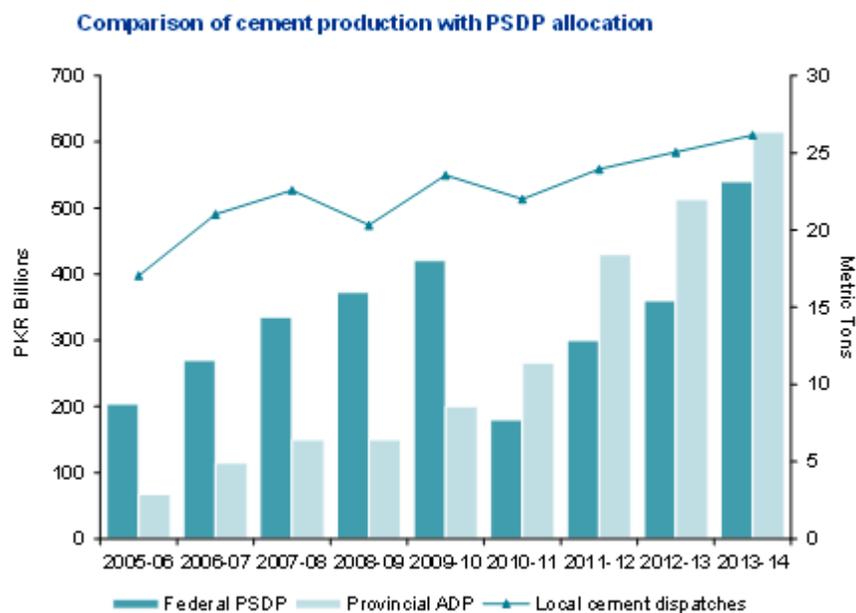


Figure 2 Comparison of Cement Production with PSDP Allocation

The Cement sector is likely to benefit over the medium to longer term on account of significant infrastructure projects planned. These include mass transport system projects in KP, construction of roads, dams etc. The foundation laying of the 4,320 MW Dasu dam is likely to attract interest within the sector. The project is expected to be completed in two phases with an estimated total outlay of about USD 4.8 billion (Source: GoP's PSDP FY15 publication) with ~USD3.7bn foreign financing component. From industry vantage, the construction of the dam will likely provide impetus to dispatch growth within the Northern region of the country. While numbers remain murky, the cement industry expects an incremental demand of ~1.0mn tons/annum as a consequence of the construction of the dam

1.5 Proposed Project Location

As discussed earlier, the province is rich in limestone and gypsum deposits. The proposed cement plant project can be based in the areas of Mansehra, Karak or D.I.Khan having abundant deposits of limestone and gypsum. Given the outstanding potential of the province in Hydel power generation, setting up a cement plant in the province will provide competitive advantage in terms of lower transportation costs for upcoming Hydel generation projects.

The province is also ideally located to serve cement exports to Afghanistan and Central Asian countries.

1.6 KPBOIT Allocation

In accordance with the objectives of the KPBOIT, it will serve as one window facilitation center for the investors with respect to the proposed project. KPBOIT will assist the investors, in relation to the proposed project, through:

- Obtaining requisite approvals from the provincial government for establishing the limestone/gypsum extraction quarry and setting up of cement manufacturing plant;
- Identification of geographic location and land for the project;

- Provision of pre-feasibility study for the project; and
- Assistance in arranging utilities etc.

2. Financial Pre-Feasibility

2.1 Project Design Assumptions

The project aims at exploring the opportunity of setting up a cement manufacturing plant in limestone/gypsum rich areas of the Khyber Pakhtunkhwa province. In view of the current market dynamics and demand analysis, the proposed project size has been kept at a production capacity of 7000 tpd (tonnes per day). All financial outlays and outcomes projected in this pre-feasibility are based on this production size. However, the investor is encouraged to undertake its own detailed feasibility study to determine optimum size of the project.

The project is expected to take a period of almost three years for construction and development. The factory including the production plant will be constructed over an area of 1500 canals in total (excluding limestone/clay leases).

The plant will be structured to produce the best quality cement. Special care and quality control will be observed in the production, so that the export targets can be achieved and resulting in maximization of profits.

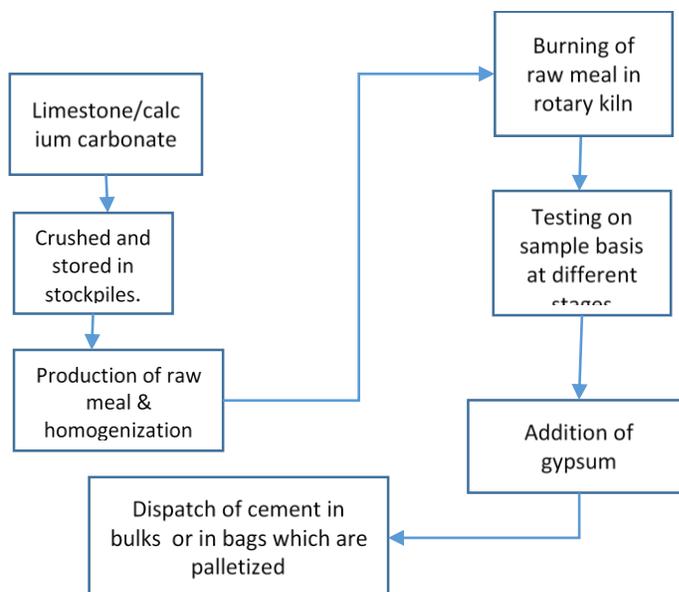
Basic Requirements for Cement Production plant:

Following are the basic requirements for cement production plant:

- Lime stone/Calcium carbonate
- Raw material mill
- Raw material silo
- Rotary Kiln
- Clinker Silo
- Cement mill/cement silo
- Cement bags

Following Office equipment will be required:

- Furniture & Fixtures
- Computers
- Other IT Equipment
- Laboratory for testing
- Workshop equipment
- Vehicles



2.2 Project Set-Up Costs

The total project outlay has been estimated at PKR 23.6 billion, translating into USD 236 million (conversion rate of 1 USD= 100 PKR has been assumed in the pre-feasibility study). Please refer table below for detailed breakdown of project set up costs.

Project Setup Cost	PKR (Million)	USD (Million)
Cost of Imported Equipment & Supervision	10,000	100
Sea Freight, Inland freight, duties, etc	1,000	10
Civil works (includes cost of structural fabrication)	5,000	50
Material Procurement, Fabrication & Erection	4,000	40
Power project and pre-op exp	2,000	20
Land (Excluding limestone/ day leases)	300	3
Furniture and fixtures	25	0
Office equipment	20	0
Computers and IT equipment	30	0
Lab and workshop	500	5
Vehicles	50	1
Intangible Assets	10	0
Total	22,935	229
Base Project cost	45,870	229
Interest during construction and related costs (Estin	700	7
Total Project	23,635	236

In addition to the initial set up costs, recurring Capital expenditure of PKR 150 million will be required each year after year 4 which will be the first year of operations. The recurring CAPEX has been estimated to maintain production quality and address technological advancements.

For the purpose of this financial pre-feasibility, the debt to equity ratio has been assumed as 60% debt and 40% equity. At these levels, the investor will be required to plough in equity of around PKR 9.4 billion, spread equally over a construction period of three years. Debt financing of up to PKR 14.181 billion will be required during the construction period of three years of the project. Cost of equity has been estimated at 18% and financing cost at KIBOR (currently 10.45%) + 2.5%.

2.3 Operating Revenues

As discussed, construction period of three years has been assumed. Operating revenues from the project are assumed from the year 4, which will be the first year of operations.

General assumptions	Units
Capacity (Tons per day)	7,000
Production days (annual)	300
Bag of cement (kg)	50
Annual capacity (tonnes)	2,100,000
Annual capacity (bags)	42,000,000

A capacity utilization rate of 60% has been assumed for the first year of operations of the project. This rate is expected to increase to 70% in second year of operations and 75% utilization rate is predicted for third year of operations and onwards.

Revenues have been estimated on the basis of capacity utilization rates, selling prices, and inflation rates. Selling price estimates have been made with regard to the prevailing market prices for the product

Revenue assumptions	
Net retention (PKR per Ton)	
Local sales	6,800
Export sales	6,200
Sales mix:	
Local sales	75%
Export sales	25%

The net retention estimates stated in the table above comprise of revenue to the project net of sales tax, federal excise duty and distributor commissions/discounts.

Annual increase in selling prices for local as well as export sales has been established at a rate of 10%. Total revenue of PKR 8.42 billion is estimated for the first year of operation. This figure is expected to rise to PKR 24.8 billion by Year 13. Other income, comprising revenues from scrap/by-products etc. is estimated at 1% of net sales.

2.4 Project Returns

Based on cash flow projections prepared after taking into consideration project set up costs and operating results, the project is expected to generate IRR of 22.13% for the equity investor. Please refer charts on the following page for profitability analysis.

Assumptions

For calculation of IRR and net present value of the project, terminal value in year 13 has been calculated using constant growth model. Perpetual growth rate of 2% has been assumed. Cost of equity has been assumed at 18%. Whereas, cost of debt is assumed at 12.95% (KIBOR +

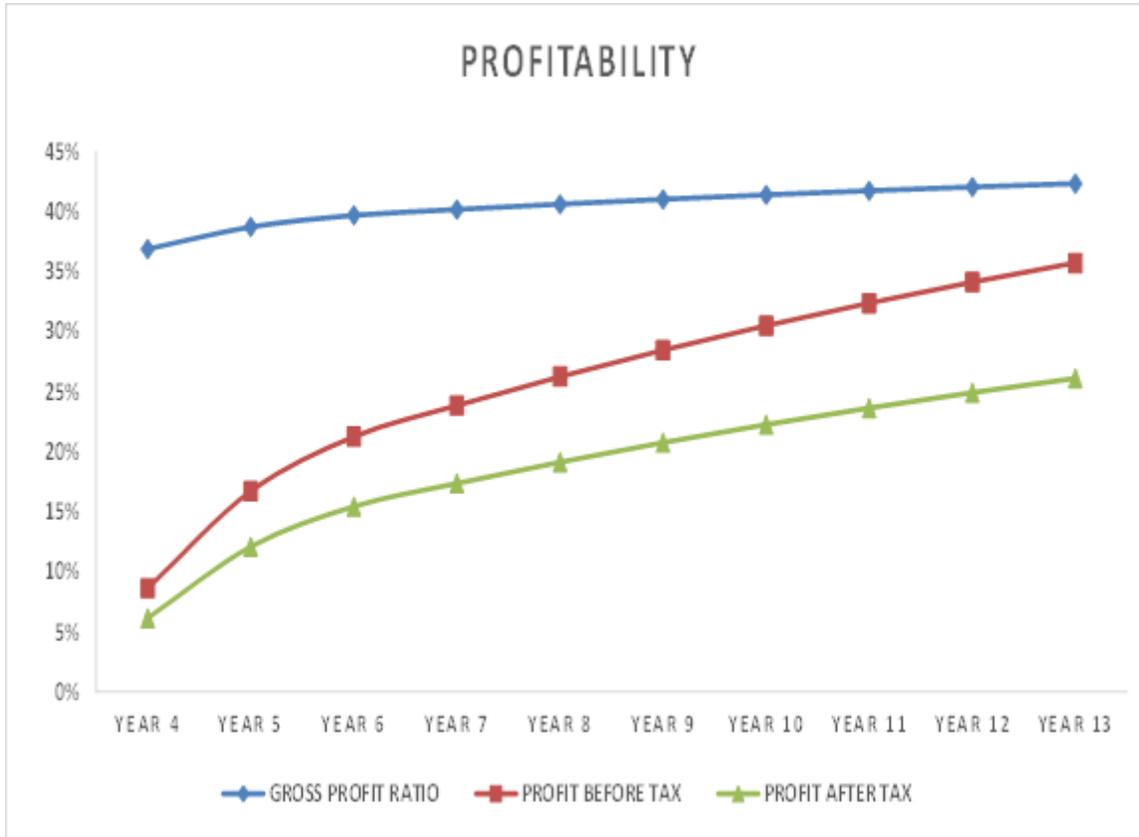
2.5%). Weighted average cost of capital (WACC) has been calculated by using 60%/40% debt/equity ratio.

Project Returns

Project IRR	18.94%
Project NPV (WACC)	10,558,129,995

Equity Returns

Project IRR	22.13%
Equity NPV	2,248,126,673



3. Appendices

Appendix -1 Indicative Financial Statements

Cement Plant													
Balance sheet													
Amounts in PKR													
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
NON CURRENT ASSETS													
Property, Plant and Equipment	-	-	-	22,829,166,667	22,178,333,333	21,522,500,000	20,861,666,667	20,195,833,333	19,625,000,000	18,949,166,667	18,268,333,333	17,582,500,000	16,891,666,667
Intangible Assets	-	-	-	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Capital Work in Progress	7,878,333,333	15,756,666,667	23,635,000,000	-	-	-	-	-	-	-	-	-	-
CURRENT ASSETS													
Fuel stores	-	-	-	314,370,000	403,441,500	475,484,625	523,033,088	575,336,306	632,870,036	696,157,039	76,577,274	84,235,002	92,638,502
Stocks	-	-	-	670,320,000	860,244,000	1,013,859,000	1,115,244,900	1,226,769,300	1,349,446,329	1,484,390,962	3,469,763,873	3,816,740,261	4,198,414,287
Trade debts	-	-	-	83,790,000	107,530,500	126,732,375	139,405,613	153,346,174	168,680,791	185,548,870	204,103,757	224,514,133	246,965,546
Prepayments, Advances & Receivables	-	-	-	83,790,000	107,530,500	126,732,375	139,405,613	153,346,174	168,680,791	185,548,870	204,103,757	224,514,133	246,965,546
Cash and bank balances	-	-	-	833,216,799	1,945,102,905	3,604,482,293	5,602,683,724	7,979,363,267	10,671,122,272	13,918,077,808	16,516,457,177	20,695,141,209	25,462,475,670
	-	-	-	1,985,486,799	3,423,849,405	5,347,290,668	7,519,772,936	10,088,161,400	12,990,800,219	16,469,723,549	20,471,005,840	25,045,144,738	30,247,479,551
Total Assets	7,878,333,333	15,756,666,667	23,635,000,000	24,824,653,466	25,612,182,739	26,879,790,668	28,391,439,603	30,293,994,734	32,625,800,219	35,428,890,216	38,749,339,173	42,637,644,738	47,149,146,218
EQUITY AND LIABILITIES													
SHARE CAPITAL AND RESERVES													
Share capital	3,151,333,333	6,302,666,667	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000	9,454,000,000
Unappropriated profit	-	-	-	517,091,348	1,824,881,428	3,791,305,223	6,223,888,795	9,172,390,851	12,691,905,197	16,843,440,774	21,694,565,708	27,320,122,584	33,803,022,927
	3,151,333,333	6,302,666,667	9,454,000,000	9,971,091,348	11,278,881,428	13,245,305,223	15,677,888,795	18,626,390,851	22,145,905,197	26,297,440,774	31,148,565,708	36,774,122,584	43,257,022,927
Debt financing	4,727,000,000	9,454,000,000	14,181,000,000	13,409,249,618	12,537,557,561	11,552,981,383	10,440,902,589	9,184,809,592	7,766,052,552	6,163,566,476	4,353,558,452	2,309,154,589	-
Current Liabilities													
Trade payables	-	-	-	1,444,312,500	1,795,743,750	2,081,504,063	2,272,648,219	2,482,794,201	2,713,842,470	2,967,882,967	3,247,215,013	3,554,367,765	3,892,123,291
Total Equity and Liabilities	7,878,333,333	15,756,666,667	23,635,000,000	24,824,653,466	25,612,182,739	26,879,790,668	28,391,439,603	30,293,994,734	32,625,800,219	35,428,890,216	38,749,339,173	42,637,644,738	47,149,146,218

Figure 3 Projected Balance Sheet

Cement Plant Profit and Loss													
Revenue	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
Net Revenue													
Local Sales	-	-	-	6,426,000,000	8,246,700,000	9,719,325,000	10,691,257,500	11,760,383,250	12,936,421,575	14,230,063,733	15,653,070,106	17,218,377,116	18,940,214,828
Export Sales	-	-	-	1,953,000,000	2,506,350,000	2,953,912,500	3,249,303,750	3,574,234,125	3,931,657,538	4,324,823,291	4,757,305,620	5,233,036,182	5,756,339,801
Net Sales	-	-	-	8,379,000,000	10,753,050,000	12,673,237,500	13,940,561,250	15,334,617,375	16,868,079,113	18,554,887,024	20,410,375,726	22,451,413,299	24,696,554,629
Other Income	-	-	-	41,895,000	53,765,250	63,366,188	69,702,806	76,673,087	84,340,396	92,774,435	102,051,879	112,257,066	123,482,773
Total Revenue	-	-	-	8,420,895,000	10,806,815,250	12,736,603,688	14,010,264,056	15,411,290,462	16,952,419,508	18,647,661,459	20,512,427,605	22,563,670,365	24,820,037,402
Costs													
Direct Costs													
Raw and packing materials consumed	-	-	-	771,120,000	989,604,000	1,166,319,000	1,282,950,900	1,411,245,990	1,552,370,589	1,707,607,648	1,878,368,413	2,066,205,254	2,272,825,779
Salaries, wages and other benefits	-	-	-	282,240,000	362,208,000	426,888,000	469,576,800	516,534,480	568,187,928	625,006,721	687,507,393	756,258,132	831,883,945
Fuel and power	-	-	-	3,143,700,000	4,034,415,000	4,734,846,250	5,230,330,875	5,753,363,963	6,328,700,359	6,961,570,395	7,657,727,434	8,423,500,177	9,265,850,195
Stores and spares consumed	-	-	-	220,500,000	282,975,000	333,506,250	366,856,875	403,542,563	443,896,819	488,286,501	537,115,151	590,826,666	649,909,332
Repairs and maintenance	-	-	-	57,960,000	74,382,000	87,664,500	96,430,950	106,074,045	116,681,450	128,349,594	141,184,554	155,303,009	170,833,310
Depreciation	-	-	-	716,250,000	720,750,000	725,250,000	729,750,000	734,250,000	738,750,000	743,250,000	747,750,000	752,250,000	756,750,000
Insurance	-	-	-	27,720,000	35,574,000	41,926,500	46,119,150	50,731,065	55,804,172	61,384,589	67,523,048	74,275,352	81,702,887
Other manufacturing costs	-	-	-	95,760,000	122,892,000	144,837,000	159,320,700	175,252,770	192,778,047	212,055,852	233,261,437	256,587,581	282,246,339
Total	-	-	-	5,315,250,000	6,622,800,000	7,681,237,500	8,381,336,250	9,150,994,875	9,997,169,363	10,927,511,299	11,950,437,429	13,075,206,171	14,312,001,789
Gross Profit				3,105,645,000	4,184,015,250	5,055,366,188	5,628,927,806	6,260,295,587	6,955,250,146	7,720,150,160	8,561,990,176	9,488,464,194	10,508,035,613
Administration & distribution costs													
Administration Costs	-	-	-	178,500,000	196,350,000	215,985,000	237,583,500	261,341,850	287,476,035	316,223,639	347,846,002	382,630,603	420,893,663
Distribution Costs	-	-	-	283,500,000	363,825,000	428,793,750	471,673,125	518,840,438	570,724,481	627,796,929	690,576,622	759,634,285	835,597,713
Financing Cost	-	-	-	1,836,439,500	1,736,497,825	1,623,613,704	1,496,111,089	1,352,096,885	1,189,432,842	1,005,703,806	798,181,859	563,785,820	299,055,493
Depreciation	-	-	-	79,583,333	80,083,333	80,583,333	81,083,333	81,583,333	82,083,333	82,583,333	83,083,333	83,583,333	84,083,333
Total	-	-	-	2,378,022,833	2,376,756,159	2,348,975,787	2,286,451,047	2,213,862,506	2,129,716,692	2,032,307,707	1,919,687,817	1,789,634,040	1,639,610,203
Net Profit before tax	-	-	-	727,622,167	1,807,259,091	2,706,390,400	3,342,476,759	4,046,433,081	4,825,533,454	5,687,842,453	6,642,302,360	7,698,830,154	8,868,425,411
Tax													
Corporate tax	-	-	-	191,000,818.75	474,405,511.43	710,427,480.01	877,400,149.20	1,062,188,683.69	1,266,702,531.61	1,493,058,644.01	1,743,604,369.38	2,020,942,915.37	2,327,961,670.28
Income tax on exports	-	-	-	19,530,000	25,063,500	29,539,125	32,493,038	35,742,341	39,316,575	43,248,233	47,573,056	52,330,302	57,563,398
Net Profit after Tax	-	-	-	517,091,348	1,307,790,080	1,966,423,795	2,432,583,572	2,948,502,056	3,519,514,347	4,151,535,576	4,851,124,934	5,625,556,877	6,482,900,342

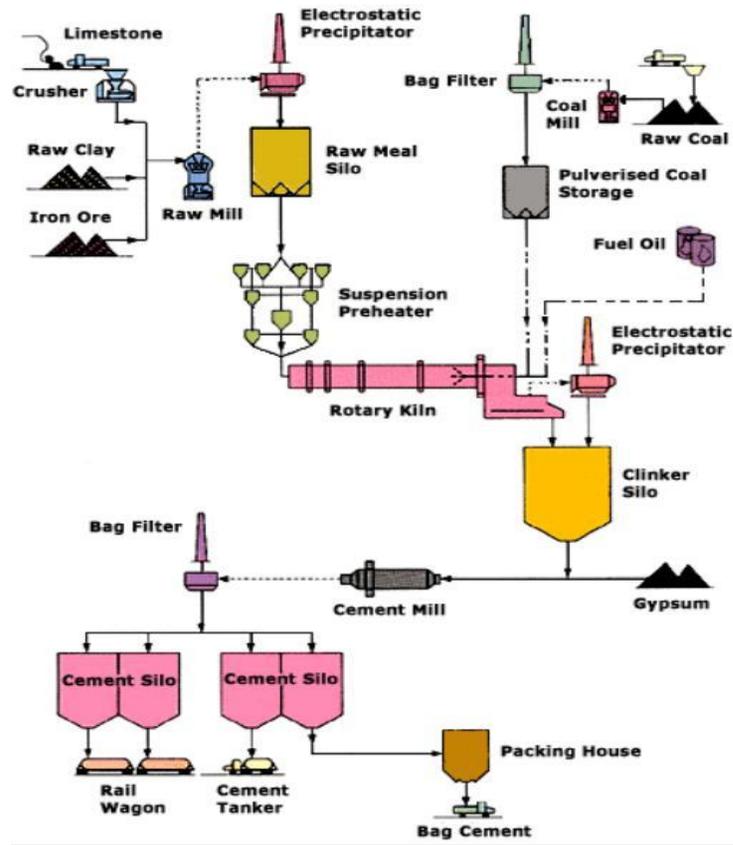
Figure 4 Projected Income Statement

Cement Plant													
Cash Flow Statement													
Amounts in PKR													
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
<i>Cash flows from operating activities</i>													
Profit before tax	-	-	-	727,622,167	1,807,259,091	2,706,390,400	3,342,476,759	4,046,433,081	4,825,533,454	5,687,842,453	6,642,302,360	7,608,830,154	8,688,425,411
Add: Financial costs	-	-	-	1,836,439,500	1,736,407,825	1,623,613,704	1,496,111,089	1,332,096,885	1,189,432,842	1,065,703,806	978,181,859	903,785,820	839,035,493
Add: Depreciation	-	-	-	705,633,333	800,833,333	865,833,333	810,833,333	815,833,333	820,833,333	825,833,333	830,833,333	835,833,333	840,833,333
(Increase) / Decrease in Current Assets	-	-	-	3,359,895,000	4,344,590,250	5,155,837,438	5,649,421,881	6,234,363,299	6,855,799,629	7,519,379,592	8,271,137,351	9,098,449,307	10,008,294,237
Fuel costs	-	-	-	(314,370,000)	(89,071,500)	(72,043,125)	(47,548,463)	(32,303,309)	(17,333,440)	(63,287,044)	(119,570,765)	(7,657,727)	(8,423,500)
Salaries	-	-	-	(670,320,000)	(189,924,000)	(153,615,000)	(101,385,900)	(111,524,400)	(122,676,939)	(134,944,633)	(155,372,912)	(184,674,020)	(191,674,020)
Trade debts	-	-	-	(83,790,000)	(23,740,500)	(19,201,875)	(12,673,238)	(13,940,561)	(15,334,417)	(16,668,079)	(18,154,987)	(20,410,376)	(22,451,415)
Prepayments, Advances & Receivables	-	-	-	(85,790,000)	(23,740,500)	(19,201,875)	(12,673,238)	(13,940,561)	(15,334,417)	(16,668,079)	(18,154,987)	(20,410,376)	(22,451,415)
Increase / (Decrease) in current liabilities	-	-	-	(1,152,270,000)	(326,476,500)	(264,061,875)	(174,288,838)	(191,708,920)	(208,879,813)	(231,967,795)	(1,402,902,920)	(395,454,866)	(435,000,353)
Trade payables	-	-	-	1,444,312,500	351,431,250	285,760,313	191,144,156	210,146,072	231,048,179	254,040,407	279,332,047	307,152,751	337,755,526
Income tax paid	-	-	-	(210,530,819)	(489,469,011)	(739,366,695)	(909,895,187)	(1,097,931,025)	(1,306,019,307)	(1,536,306,877)	(1,791,177,426)	(2,073,273,277)	(2,385,525,068)
Net cash generated from operations	-	-	-	3,441,406,681	3,870,075,989	4,417,569,270	4,756,391,313	5,134,869,425	5,549,948,888	6,005,145,418	6,506,569,252	7,056,873,915	7,655,524,343
<i>Cash flows from investing activities</i>													
Fixed capital expenditure/CWIP	(7,878,333,333)	(7,878,333,333)	(7,878,333,333)	-	(150,000,000)	(150,000,000)	(150,000,000)	(150,000,000)	(250,000,000)	(150,000,000)	(150,000,000)	(150,000,000)	(150,000,000)
Net cash used in investing activities	(7,878,333,333)	(7,878,333,333)	(7,878,333,333)	-	(150,000,000)	(150,000,000)	(150,000,000)	(150,000,000)	(250,000,000)	(150,000,000)	(150,000,000)	(150,000,000)	(150,000,000)
<i>Cash flow from financing activities</i>													
Proceeds from share capital	3,151,333,333	3,151,333,333	3,151,333,333	-	-	-	-	-	-	-	-	-	-
Debt (draw down and repayment)	4,727,000,000	4,727,000,000	4,727,000,000	(771,750,342)	(871,692,057)	(984,576,178)	(1,112,078,793)	(1,256,092,997)	(1,418,737,040)	(1,602,486,077)	(1,810,008,024)	(2,044,404,063)	(2,300,154,389)
Financial costs	-	-	-	(1,836,439,500)	(1,736,407,825)	(1,623,613,704)	(1,496,111,089)	(1,332,096,885)	(1,189,432,842)	(1,065,703,806)	(978,181,859)	(903,785,820)	(839,035,493)
Net cash flow from financing activities	7,878,333,333	7,878,333,333	7,878,333,333	(2,608,889,882)									
Net increase/(decrease) in cash and cash equivalents	-	-	-	833,216,799	1,111,886,106	1,639,379,388	1,998,201,431	2,376,679,543	2,691,759,006	3,246,955,535	2,998,379,370	4,178,684,032	4,767,334,660
Cash and Cash equivalents at the beginning of period	-	-	-	-	833,216,799	1,945,102,915	3,604,482,293	5,602,683,724	7,979,363,267	10,671,122,272	13,918,077,808	16,516,457,177	20,695,141,209
Cash and cash equivalents at the end of period	-	-	-	833,216,799	1,945,102,915	3,604,482,293	5,602,683,724	7,979,363,267	10,671,122,272	13,918,077,808	16,516,457,177	20,695,141,209	25,462,475,870
<i>Project returns</i>													
Free cash flows (Enterprise)	(7,878,333,333)	(7,878,333,333)	(7,878,333,333)	3,441,406,681	3,720,075,989	4,267,569,270	4,606,391,313	4,984,869,425	5,299,948,888	5,855,145,418	6,206,569,252	6,786,873,915	7,375,524,343
Continuing value	-	-	-	-	-	-	-	-	-	-	-	-	-
Total cash flows (Enterprise)	(7,878,333,333)	(7,878,333,333)	(7,878,333,333)	3,441,406,681	3,720,075,989	4,267,569,270	4,606,391,313	4,984,869,425	5,299,948,888	5,855,145,418	6,206,569,252	6,786,873,915	7,375,524,343
Free cash flows to equity	(3,151,333,333)	(3,151,333,333)	(3,151,333,333)	833,216,799	1,111,886,106	1,639,379,388	1,998,201,431	2,376,679,543	2,691,759,006	3,246,955,535	2,998,379,370	4,178,684,032	4,767,334,660
Continuing value	-	-	-	-	-	-	-	-	-	-	-	-	-
Total cash flows to equity	(3,151,333,333)	(3,151,333,333)	(3,151,333,333)	833,216,799	1,111,886,106	1,639,379,388	1,998,201,431	2,376,679,543	2,691,759,006	3,246,955,535	2,998,379,370	4,178,684,032	4,767,334,660

Figure 5 Projected Cash Flow Statement

Appendix -2 Cement Production Process

CEMENT PRODUCTION PROCESS



Quarrying and Crushing

The primary raw material for cement manufacture is calcium carbonate or limestone. This is obtained from the quarry where, after the removal of overburden, the rock is blasted, loaded into trucks and transported to the crusher. A multistage crushing process reduces the rock to stone less than 25 mm in diameter. Most modern cement factories are located close to a source of limestone as about 1.5 tons of limestone is needed to produce one ton of cement.

Blending and storage

The crushed rock is stored in stockpiles where, by a carefully controlled process of stacking and reclaiming across the stockpile, blending takes place and a uniform quality of raw material is achieved. Systematic sampling and laboratory testing monitor this process. The other raw materials, normally shale, iron ore and sand, are also stored in stockpiles.

Raw milling and homogenization

Carefully measured quantities of the various raw materials are fed, via raw mill feed silos, to mills where steel balls grind the material to a fine powder called raw meal. Homogenizing silos are used to store the meal where it is mixed thoroughly to ensure that the kiln feed is uniform, a prerequisite for the efficient functioning of the kiln and for good quality clinker.

Burning

The most critical step in the manufacturing process takes place in the huge rotary kilns. Raw meal is fed into one end of the kiln, either directly or via a pre heater system, and pulverized coal is burnt at the other end. The raw meal slowly cascades down the inclined kiln towards the heat and reaches a temperature of about 1450 °C in the burning zone where a process called clinkering occurs. The nodules of clinker drop into coolers and are taken away by conveyors to the clinker storage silos. The gas leaving the kiln is cleaned by electrostatic precipitators prior to discharge into the atmosphere.

Cement Milling

The cement mills use steel balls of various sizes to grind the clinker, along with a small quantity of gypsum to a fine powder, which is then called cement. Without gypsum, cement would flash set when water is added and gypsum is therefore required to control setting times. The finished cement is stored in silos where further blending ensures consistency.

Quality Assurance

Extensive sampling and testing during the manufacturing process ensures the consistency and quality of the end product. Testing takes place at the stages of the manufacturing process indicated by the symbol.

Cement Dispatch

Cement is dispatched either in bulk or packed in 50 kg bags and distributed from the factory in rail trucks or road vehicles. The 50kg bags are either packed directly onto trucks or can be palletized. The pallets can be covered by a layer of plastic to offer further protection from the elements.

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