
BUSINESS PLAN

FOR

NEW INVESTMENT

UNDER THE NAME OF

MAWENI LIMESTONE LIMITED

FOR

COMPLETING THE NEW PROJECT

OF

4000TPD CEMENT PRODUCTION LINE IN TANGA

--BY--

Pradipkumar Harjivandas Paunrana

AND

ARM CEMENT PLC

AS INVESTORS

TABLE OF CONTENTS

1. Project Introduction
 - 1.1 Background
 - 1.2 Shareholders' Profile
 - 1.3 Project Objective
 - 1.4 Implementation Schedule
2. Details of Investment
 - 2.1 Investment Cost
 - 2.2 Source of Financing
3. Technical Aspects
 - 3.1 Brief of Production Process
 - 3.2 Technical Work of Content
 - 3.3 Source of Technology
4. Market Study and Estimation
 - 4.1 Economy Outlook
 - 4.2 Market Demand
 - 4.3 Demand Forecast
 - 4.4 Industry Scenario
 - 4.5 Supply/Demand Balance
5. Social and Economic Impact Analysis
 - 5.1 Employment and Skills Transfer
 - 5.2 Economic Impact
 - 5.3 Financial Projection for the Next Five Years
6. Conclusion

1. Project Introduction

1.1 Background

Maweni Limestone Limited (Referred as Maweni) is a Tanzania local registered company which was a wholly-owned subsidiary of a listed company in Kenya named ARM Cement PLC (Under Administration) (**ARM**). Due to financial constraints, ARM was placed under administration in Kenya and Messrs Muniu Thoithi and George Weru (the **Administrators**) were appointed pursuant to Section 534 (1) of the Insolvency Act of Kenya with effect from 17 August 2018.

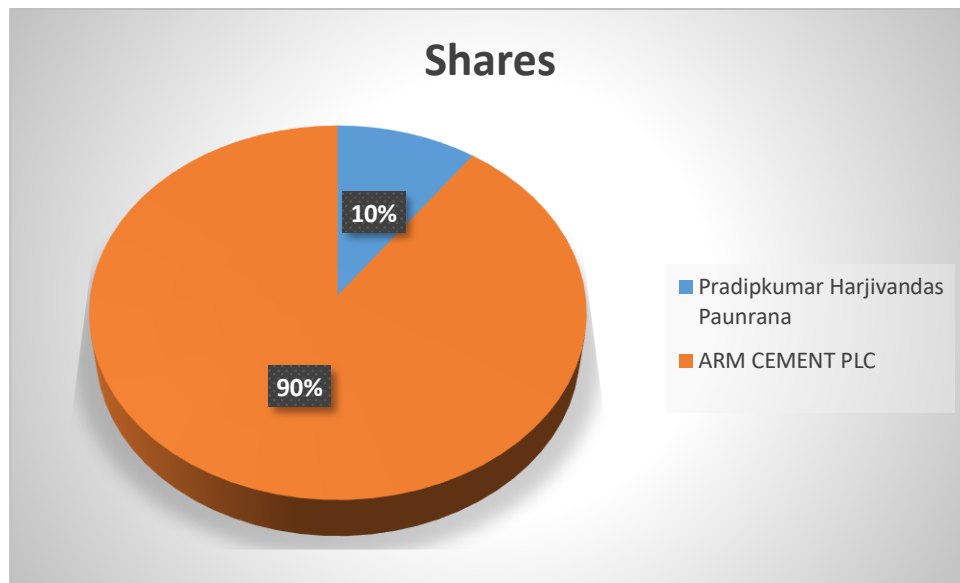
Maweni owns and operates a plant in Tanga (which includes clinker production line of 1.2 million tons per annum (Mtpa) of clinker) and a cement grinding station with a capacity of **0.90** Mtpa of cement in Mkuranga Dar es Salaam. Due to financial constraints, Maweni stopped operating its Mkuranga grinding station in 2017 and production at the Tanga plant was reduced with the plant currently producing at 10% of its production capacity. Maweni itself owes significant amounts to banks, the Tanzanian Revenue Authority, suppliers, as well as employees.

On 6 September 2019, the Administrators executed an agreement for the acquisition of 100% of the shares of Maweni as a going concern with Huaxin (Hong Kong) International Holdings Limited and Huaxin Hong Kong (Tanzania) Investment Limited (the **Transaction**). The Transaction has been approved by Fair Competition Commission on 21 February 2020.

The Transaction is an investment transaction worth United State Dollars one hundred and sixteen million (USD 116,000,000). Further to this, and upon completion of the Transaction, Huaxin Cement (as defined below) expect to carry out an additional investment of United States Dollars Seventy Million (USD70, 000,000) to complete the new project in Tanga plant. On account of lacking of capacity to produce cement, Tanga plant can only produce clinker. The main purpose is to construct the plant into the cement manufacturing industry, and endow it the capacity of cement production. After

the completion of this project, the plant can possess the cement capacity of 4000TPD and become a state-of-art plant in Tanzania.

1.2 Shareholders' Profile



1.3 Project Objective

Upon completion of the Transaction of taking over control of Maweni, Huaxin Cement will carry out an additional investment in Maweni of United State Dollars Seventy Million (USD70, 000,000), for the following objectives:

- (a) To initiate the new project and complete the construction of cement grinding system in the Tanga plant;
- (b) To install a Waste Heat Recovery power generation system in order to harness waste heat from the production process for producing electrical power and thereby reduce the energy consumption of the plan;
- (c) To retrofit, where feasible, plant sections in order to bring them to state-of-the-art performance;
- (d) To improve emission control systems in order to bring the plant


performance in compliance with laws and regulations of the land of Tanzania;

- (e) To improve the safety standard of the plants (including installing firefighting system)

1.4 Implementation Schedule

Tanzania Retrofit Project

Project schedule



No.	Items	Subitems	2020									2021								
			5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8		
1	Project Design	technological design	30%	90%	100%															
		Site survey and survey																		
		Civil & Electrical Design		10%	50%	100%														
2	Equipment Manufacturing	Mill equipment	50%	65%	80%	95%	100%													
		Auxiliary equipment		10%	30%	60%	100%													
		Equipment logistics							FOB		DAP1			DAP2		DAP3				
3	Construction	Team approaching construction preparation																		
		Project civil construction							20%	40%	60%	70%	80%	90%	100%					
		Machine / non-standard production										20%	40%	60%	70%	80%	90%	100%		
		Electrical equipment installation												20%	45%	80%	100%			
4	debugging	debugging																		
		Trial production																		

Summary of implementation schedule presented above:

1. Project design:

The Project Design phase involves technological design, site survey civil and electrical design is expected. It is expected that the project Design Phase will begin from May

and end on August 2020.

2. Equipment Manufacturing:

The Equipment Manufacturing Phase involves manufacturing, complete maintenance and expansion of Mill equipment and Auxiliary equipment including the logistics thereunder. It is expected that the Equipment Manufacturing Phase will begin from May and end on September 2020.

It is in this stage whereby Equipment logistics will be handled accordingly.

3. Construction:

Construction Phase will be undertaken after the Project Design and Equipment Manufacturing phases and involve the following stages:

- (i) Team approaching construction preparation;
- (ii) Project civil construction;
- (iii) Machine/ non-standard production; and
- (iv) Electrical equipment installation,

The team approaching construction stage will be done concurrently with project civil construction stage and this will take a period of 7 months from October 2020 and end on July 2021.

The machine/non-standard production and electrical equipment installation stages will start from April 2021 and end on August 2021.

4. Debugging:

The Debugging Phase involves the trial production where the technical team will be making testing the various machinery which will be installed in the Construction Phase and will make the relevant adjustments where required. The Debugging Phase is expected to take a period of one month from August, 2021 areas that will need adjustments, this phase will not take more than one month.

2. Details of Investment

2.1 Investment Cost

The total additional investment cost amounts to United States Dollars seventy million (USD70,000,000) which shall be used for the following capital expenditure projects:

SN.	Items	CAPEX (USD)
1	7MW Waste Heat Recovery power generation system	17,000,000
2	Raw coal and raw material storage upgrade	6,000,000
3	Clinker storage upgrade	6,000,000
4	New vertical mill for raw grinding	9,000,000
5	Cement silos upgrade	6,000,000
6	Clinker silo and transportation upgrade	6,000,000
7	Packing House upgrade	6,500,000
8	Process water and water treatment upgrade	1,500,000
9	X-Ray Fluorescence spectrometer in the lab	1,200,000
10	Preheater drag reduction transformation (process improvement)	1,350,000
11	Reconstruction of pipeline for cooling tower	1,200,000
12	Environmental monitoring facilities	1,150,000
13	SNCR (Selective Non-Catalytic Reduction) system for the reduction of NOx emissions	300,000
14	Firefighting system	300,000
15	Structure modification and liner replacement of ball mill cabin	1,500,000
16	Various and contingencies (e.g. high-pressure water guns, burner pipes, dedusting units)	5,000,000
	Total Cost	70,000,000

2.2 Source of Financing

As a large cement group in China, Huaxin Cement has the capability to secure the funding of the Project as well as sufficient working capital for the full operation of the completed and upgraded plant.

- The FY2018 (FY2019 are not yet published) financial report of Huaxin Cement indicates total revenue of RMB 27.5 billion (USD 4 billion), and total profit of RMB 5.18 billion (USD 740 million). As of the end of FY2018, the cash at bank and in hand is RMB 5.33 billion (USD 761 million) and available bank credit lines amount to RMB 15.25 billion (USD 2.18 billion). As a public company listed in Shanghai Stock Exchange of China, the information herein has been fully disclosed.
- The Project will be financed through a mix of shareholder and bank loans. Huaxin will ensure a healthy debt to equity ratio following the completion of the Transaction and of the Project.
- Huaxin Cement has sufficient cash deposits to support the implementation of the project, **Attachment 2** refers to RMB 850 million (127 million US dollars in equivalent) of certificate of deposit Corporate Deposit issued by Bank of China.
- In addition, both China Development Bank and Bank of China have expressed their intentions and plans for the financing of the project. Huaxin will choose one of them as the financing bank for this project if needed. **Attachment 3** and **Attachment 4** are the Letter of Intent for the loans of the above two banks.
- Huaxin also consider making the payment by cash at bank and in hand, and the funds will be replaced after the loan funds are in place later. The above mentioned two banks are Huaxin's strategic partners and both of them have done business dealings with Huaxin for several decades. Huaxin has sufficient credit from both banks to cover the financing of this project.

3. Technical Aspects

3.1 Brief of Production Process

The Maweni plant has a clinker production line with an annual output of 1.2 million tons. The plant started construction in November 2012, and completed the clinker line construction and commissioning in November 2014. The factory was designed by Kutumable Consultants (Civil & Structural) of India, Walchandnagar Industries (Core Equipments) of India was contracted to construct and supply machinery and equipment, and Larsen & Toubro of India provided electrical instrumentation and automation equipment.

Limestone from Maweni's own mine close to the plant is transported by truck to the limestone crushing plant, and the crushed limestone is transported to the pre blending bed by conveyor belt, Clay and other raw materials share the limestone stacking equipment and are discharged to the same preblending bed. Coal is supplied to the plant by truck and is stored in an open stockpile.

The raw materials are conveyed to the batching silo through the reclaiming equipment and belt conveyor, and fed into the raw material grinding system after weighing. The raw material grinding system uses 2 sets of ball mill systems. The high-temperature waste gases from the preheater are used to dry the raw materials. The raw materials are dried and ground in the mill. The qualifying raw meal particles are separated by the separators and collected in cyclones. The raw meal is sent to the raw meal homogenization silo via chute and bucket elevator. The dust-containing exhaust gases from the grinding system enter the preheater bag dust collector and are discharged into the atmosphere. During the shutdown of the mill, the high temperature exhaust gases from the preheater enter the preheater bag dust collector after being cooled in the cooling tower. The dust from the preheater dust collector is collected and fed into the kiln feeding system or into the raw meal homogenizing silo.

The raw meal homogenizing silo is used to store and homogenize the raw meal. The

raw meal is extracted from the homogenizing silo and transported to the kiln system via air slides a bucket elevator. The kiln system consists of a five stage preheater, a pre-calciner, a rotary kiln, a clinker cooler and a clinker crusher. The product of the kiln system is called “clinker” which is an artificial mineral and the main ingredient of cement. The crushed clinker is sent to the clinker storage by a chain bucket conveyor. The exhaust gas from the clinker cooler is cleaned in an electrostatic precipitator and then discharged into the atmosphere. Clinker is extracted from the clinker storage and loaded onto trucks via front-end loaders.

(Note: Since the cement grinding department of the plant was never completed, clinker is the only product the plant can currently produce and sell. As a semi-finished product it is sold for finishing, i.e. grinding to cement, to other cement producers (integrated plants and grinding stations) which use it to produce their own cement.)

Coal is stored in the open storage yard and transferred to the coal grinding system via front-end loader and belt conveyor. The coal is ground in a ball mill system, and the high temperature exhaust gases from the preheater are used to dry the coal. . The ground coal is stored in a silo from where it is extracted, weighed and pneumatically conveyed the coal burners of the kiln and of the pre-calciner. The exhaust gases from the coal grinding system are cleaned in an explosion-proof bag filter and then discharged into the atmosphere.

3.2 Technical Work Content of the Project

The main problems in the current production line are as follows:

- 1) All raw materials and coal are stored in the open air. During the rainy season, the moisture content of the raw materials and of the coal often causes the stoppage of the conveying and blending system which leads to rate loss or even interruption of the production.

- 2) The original design of the clinker storage was two silos of 18'000 tons of capacity each but only one was completed whereas for the other the construction stopped after the completion of the foundation. Clinker storage capacity is far from sufficient, which limits the use of the full clinker capacity, especially during the off-season.
- 3) A tube mill system was adopted for raw material grinding, which has insufficient drying capacity and high power consumption.
- 4) Construction of the cement grinding line has only begun but was never completed. The factory does not have the ability to produce, store and ship cement.
- 5) The excess high-temperature exhaust gas from the kiln system is not recycled, resulting in waste of energy.

In view of the above-mentioned problems, it is planned to carry out technical transformation and upgrade of the factory to improve the production rate and availability, and to reduce thermal and electrical energy consumption by undertaking the following:

- 1) Add steel canopies to the stockpiles of pre-blended raw materials, coal, and cementitious materials to reduce the moisture of raw materials and coal and thereby eliminate the frequency of blockages and shutdown or rate reduction of the production line. This will also help to avoid fugitive emissions of dust and thereby help environmental protection.
- 2) Complete the construction of the second clinker silo, and increase effective clinker storage capacity thereby ensuring that the clinker capacity is sufficient so that the clinker stored off-season can ensure product supply during the peak season.
- 3) Replace the existing tube mill system for raw material grinding with a vertical mill system of an advanced technology. The vertical mill system will also reduce the power consumption of the raw meal preparation substantially and will have higher flexibility with regard to raw materials quality.

4) The existing raw material tube mill system will be used for the completion of the cement grinding department (the use of tube mills for cement grinding doesn't have the same disadvantages as the use of tube mills for raw grinding). A new cement storage, packaging and shipping system will be built to complement the plant's new cement grinding department.

5) Add a waste heat power generation system is in order to recover and reuse the high-temperature exhaust gases of the kiln system. The power generated will be used for the factory's own consumption thereby reducing production costs.

3.3 Source of Technology

The design and equipment supply of the Project will be provided by experienced Chinese suppliers and will be of state-of-the-art technology

Huaxin Cement is operating more than 50 cement plants and has built more than 30 integrated cement production lines in China and abroad. It has thus a very wide experience not only in operating plants but also in designing and building plants including selecting the optimum equipment for given raw materials. This will guarantee that the plant completion (addition of the currently missing cement grinding/storage/dispatch) and upgrade will utilize best available technology.

4. Market Study and Estimation

4.1 Economy Outlook

Tanzania's economy has maintained rapid growth of about 7% over the past decade according to Tanzania Business news and Tanzania Economy in the rise document "https://www.expogr.com/tanzania_economy_news.php".

Major agencies are still optimistic about future economic development forecasts, mainly from:

- The Tanzania Five Year Development Plan as per <https://mof.go.tz/> aims at

unleashing Tanzania's latent growth potential in becoming a middle income country as envisaged in the Vision 2025. It targets a real growth rate of 8 per cent during the next five years setting the foundation for a higher growth of 10 percent from 2016 to 2025. It targets at diversifying the economy from agriculture to semi-industrialization, cultivating the industrial economy, focusing on industrial development, with special emphasis on the importance of infrastructure development for industrialization and economic transformation.

- For further development and utilization of natural gas, according to the forecast of the IMF, the total investment during the natural gas development phase will reach 20 to 40 billion U.S. dollars.
- The integration process of the East African Community leads Africa. The fifth development strategy of the EAC (2016/17-2020/21) was approved in March 2018, which will further improve the formation of the customs union and the common market, and promote regional monetary integration. As the largest and most populous country in EAC, Tanzania is expected to be benefited first.

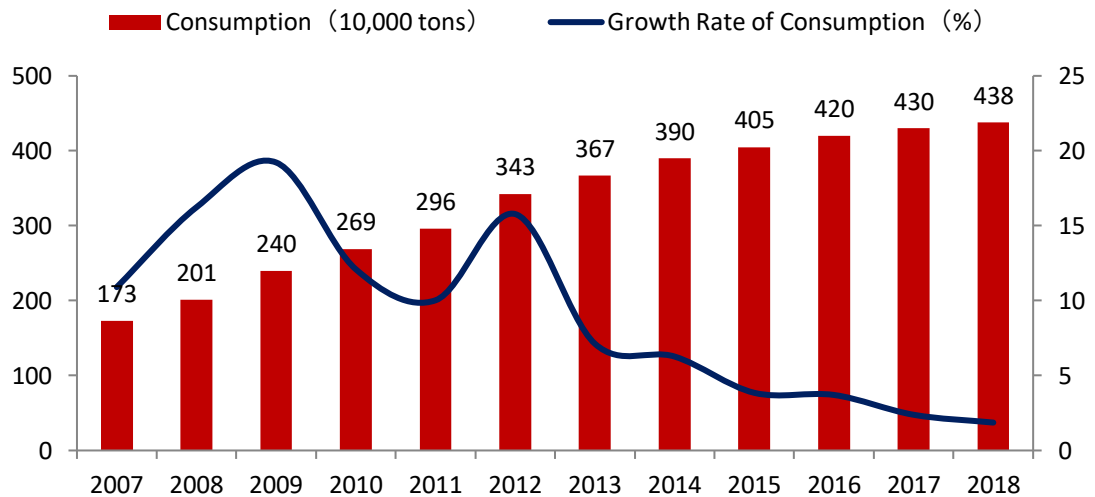
4.2 Market Demand

In light of the massive investment plan in infrastructure development and the aim of “let everyone have adequate and affordable shelter” of Tanzania government, and the demand for urban individual housing and commercial housing is increasing, it drives Tanzania’s domestic cement demand continue to grow (This is according to “Tanzaniainvest.com”)

It is estimated that the domestic cement demand of Tanzania in 2018 was about 4.4 million tons, and the per capita cement consumption is 75kg. Whilst in the past few

years the growth of the cement demand has slowed, a continued growth is highly likely considering the very low per capita consumption as compared to other countries in similar stage of economic development.

Historical Cement Consumption & Growth Rate:



4.3 Demand Forecast

Assuming a GDP growth of between 5.5% and 7.5% in the coming 5 years Huaxin Cement assumes a cement demand growth of between 3% (conservative scenario) and 8% (optimistic scenario) for the same period. The conservative scenario yields a per capita consumption of 86kg in 2023 which is still very low.

Year	Annual Growth 3% (Conservative)	Annual Growth 8% (Optimistic)
2020	4.67	5.13

2021	4.81	5.54
2022	4.95	5.99
2023	5.10	6.47
2024	5.25	6.99

4.4 Industry Scenario

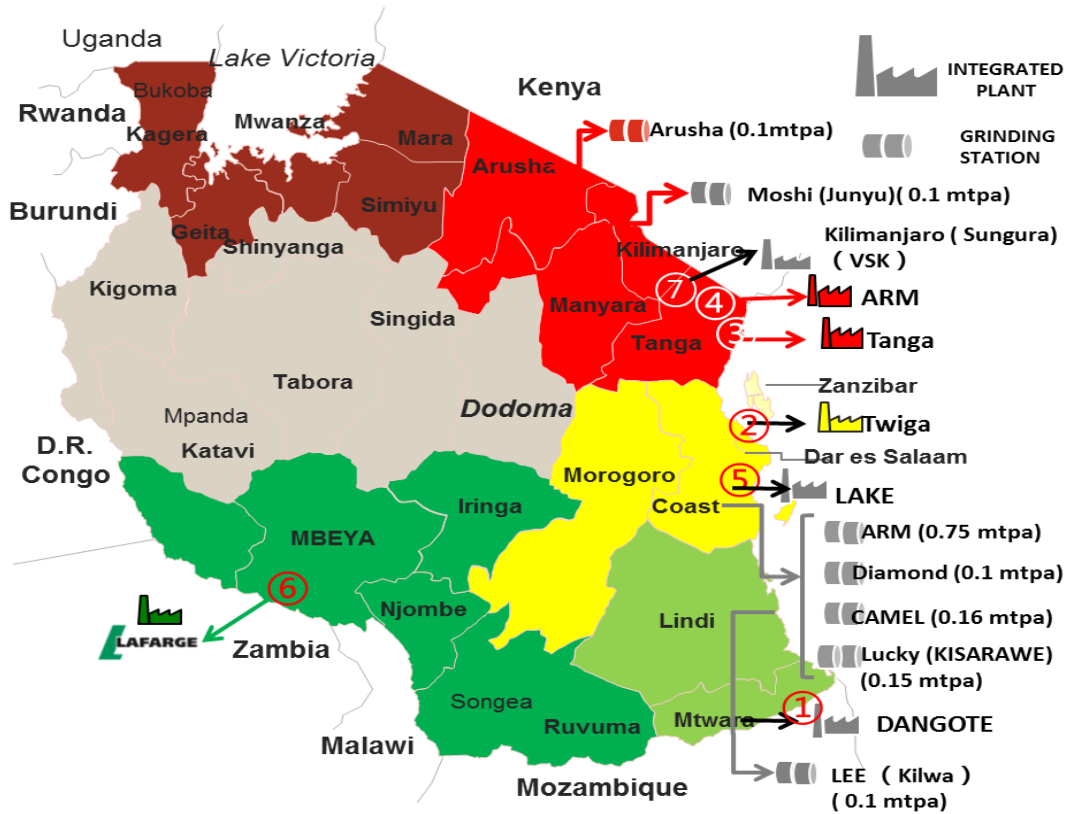
There are 13 operational cement plants in Tanzania with installed capacities of 6.7 million tons of clinker per year and 7.8 million tons of cement per year (see table below).

However, excluding old capacity and considering the plant status and utilization rate (including the very low current utilization of Maweni due to technical and financial reasons), the effective clinker capacity is believed to be below 5 million tons per year.

SN.	Company	Clinker Capacity million tons per annum	Cement Grinding Capacity million tons per annum
Integrated Plants (clinker and cement grinding)	Dangote Cement	1.8	2.4
	Twiga Cement	1.0	1.3
	Tanga Cement	1.2	1.25
	Maweni	1.2	0
	Lake Cement	0.3	0.50
	LH Mbeya Cement	0.3	0.70
	Kilimanjaro Cement	0.9	0.15
Grinding Station (only grinding clinker to cement)	ARM Cement (Maweni)		0.75
	Lucky Cement		0.15
	Diamond Cement		0.10
	Camel Cement		0.16
	LEE Cement		0.10

	Moshi Cement		0.1
	Arusha Cement (Stopped)		0.1

Capacity distribution is as below:



4.5 Supply/Demand Balance

The above sections address domestic production and consumption of cement (and clinker) in Tanzania. However, there are also relevant cross-border flows, in particular of clinker into Tanzania (seaborne) as well as cement out of Tanzania (land transportation to neighboring countries). In order to a) ensure the self-sufficiency of Tanzania in terms of clinker and cement supply on the background of the growth in cement demand in the country in the coming years, and b) exploit Tanzania's potential as an exporter of cement to neighboring countries which experience also growing demand but which don't dispose of the necessary raw material base for an increase in domestic clinker production, it is of high interest to the cement consumers and the wider

economy of Tanzania to bring Maweni to full production as soon as possible.

5. Social and Economic Impact Analysis

5.1 Employment and Skills Transfer

Huaxin Cement intends to increase Maweni's production post-merger. Doing so will result in an increase in the number of Tanzanians employed by Maweni post-acquisition. Once fully operational Maweni should directly employ about 400 people, indirectly creating more than 2,000 jobs.

Huaxin Cement will focus on technical and management training for local employees, and train local staff on a one-to-one basis and gradually increase the proportion of local employees to replace the senior engineers, experienced managers and trainers from China and Europe who will be brought to Maweni to complete and commission the cement grinding department in the Tanga plant, bring the clinker manufacturing in the Tanga plant to full capacity and provide input to bring the performance up to state-of-the-art.

In the process of the mentioned projects and works Huaxin Cement will also work together with a large number of local suppliers and enterprises, which will bring employment opportunities, and will contribute to promote the development and promotion of local talents, thus promoting the transformation and upgrading of the wider economy in the Tanga area.

The ramping up of the operation of Maweni will also result in more employment opportunities becoming available to Tanzanian residents.

5.2 Cement and Downstream Industry

The Transaction will enable Huaxin Cement to bring new technology and know-how to Maweni which will improve the Maweni's operations in Tanzania and will enable it to offer better products and services, thereby contributing also to the development of the whole cement market for the benefit of all customers.

The Transaction will assist in ensuring that Tanzania becomes a relevant cement exporting country in the short term which will benefit the stability of domestic cement prices and the price of related downstream industries (commercial ready-mix concrete, cement bricks, and construction industry etc.)

5.3 Tax Revenues

The eventually increased level of production and bringing Maweni back to a healthy and sustainable way of operation will lead to higher sales and higher profits and therefore continued and enhanced contribution to the exchequer through various forms of taxes.

5.4 Import Substitution and Export

According to statistics of Trade map, Tanzania has imported 255,394 tons of clinker in 2018, amounted 12.5 million USD. Most of the clinker is imported from Mid-East countries by the clinker grinding station and cement plant which has insufficient clinker production capacity. The successful ramping up of the production of Maweni, will provide sufficient and economical product to substitute the imports. As a result, it will significantly save foreign currency for the country.

On the other hand, due to the active regional economic development in EAC, the cement demands in EAC countries are in shortage. In 2018, Kenya has imported 2.05 million tons of cement, Burundi has imported 168 thousand tones cement, Rwanda has imported 326 thousand tones cement, etc. And these provide viable and solid opportunities for exporting the cement to the neighboring countries while enjoying the benefits from the regional economic integration of EAC. Maweni enjoys an ideal

geological location in Tanga coastal region, which enable it to export cement to neighboring countries either via road or sea transportation with a competitive freight cost. Maweni will seek to export cement once ramping up the operation and generates foreign currency for the country.

5.5 Financial Projection for the Next Five Years

Item		Unit	2020	2021	2022	2023	2024
Sales	Sales- cement	1,000 tones		400	600	700	700
	Sales- clinker	1,000 tones	500	600	600	600	600
	Sales--Sum	1,000 tones	50	100	120	130	130
Price	Price- cement	USD/t	70	70	70	70	70
	Price- clinker	USD/t	53	53	53	53	53

Financial	Revenue	1000 USD	26,500	59,800	73,800	80,800	80,800
	EBITDA	1000 USD	10,070	23,320	30,260	34,740	36,360
Indexes	EBITDA%	%	38%	39%	41%	43%	45%
	Total Profit	1000 USD	5,650	13,900	19,490	23,790	26,050

6. Conclusion

According to our analysis and research on the outlooks of the national economy and cement industry, we believe that the cement business would benefit from the steady economic growth and consistent improvement of the investment environment.

Maweni has been a company deeply in debt and struggling for years but still failed in achieving normal operation due to various factors, one of which is the low efficiency and uncompleted plant process. In order to bring the company back on track, it is necessary to inject new investment to furnish the plant as the cement plant and implement technical retrofitting to improve the plant performance to the state-of-the-art.

The successful resumption of the operations of Maweni, will contribute to providing affordable building material to the infrastructure development, creation of employment to the local communities, saving foreign exchange by substitution of cement/clinker import, generating foreign exchange by exporting cement to neighboring countries.

Given above, it is viable and necessary to make the additional investment to Maweni so that it can possess the capacity of cement production, and act like other progressive cement manufacture industry.

[THANKYOU](#)