MARKETING PROBLEMS OF NIGERIAN BRICK AND CLAY PRODUCTS COMPANY LIMITED, KANO.

BY

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APPROVAL PAGE

This project has been read and approved as meeting the requirements of the Department of Business Administration, Ahmadu Bello University, Zaria.

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D E C L A R A T I O N

I hereby declare that this write up is original and a product of my research findings, and I am responsible for any mistake(s) made. All articles used have been acknowledged accordingly in the footnotes and Biblography.

A C K N O W L E D G E M E N T

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ABSTRACT

This project is problem solving in nature. The Nigerian Brick and Clay Products, Kano is a subsidiary of the Nigerian Mining Corporation. The Kano Brickworks has a basic problem of low sales of its products - Burnt Bricks. The research starts with certain assumptions which could be the reasons for the low sales. These are high price of product, failure of the product to meet the requirements of the customers, inadequate promotion of the product and poor distribution network. Marketing audit is used as a framework for analyzing the problem.

Questionnaires were distributed to Architects, Engineers and Contractors who are the Decision Makers in the purchase of such products (building materials. Interviews supplemented the questionnaires.

An important finding of the research is that the size of Burnt Brick does not satisfy the needs and wants of customers. The Manufacturers should consider increasing the size of bricks. Another finding is in relation to the price of Burnt Brick which is higher than that of blocks thereby limiting the sale of Bricks. Although Kano Brickworks has a huge stockpile of finished products, they are not available to buyers due to poor distribution. The company should improve the Distribution of its products as it is important to the sale of products. The manufacturers

of Burnt Bricks should make the public aware of the product and its qualities through aggressive promotion in the National Dailies, on TV, and through Architects.

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ABBREVIATIONS

N/S - Nigerian Standard for Bricks which is 250 x 120 x 60 mm in size.

NMC - Nigerian Mining Corporation.

NIMCO - Nigerian Mining Corporation.

D E D I C A T I O N

To My Sister Halima.

CHAPTER ONE

1.1. INTRODUCTION

The Brick Industry plays an important role in the development of Construction Industry in most of the countries in the World. This is true in Nigeria as well.

The Nigerian Economy will benefit immensely if the brick Industry is properly set up and fully patronized. Importation of cement, which is among the commodities draining the Nation's economy because of its insatiable demand, will be reduced to bearest minimum. Besides machinery and source of energy, clay and water are the only essential materials required for making bricks. Nature has blessed our country with inexhaustible deposits of good clay suitable for making bricks and other clay products. Hence a study of this Industry is a worthwhile effort.

The Nigerian Construction Industry is dorminated by Sand-crete blocks. The Brick Industry solely process local raw materials and produces a variety of products like load-bearing bricks, decorative bricks, decking pots, paviours and facing slips. The quality of clay products has been acknowledged and recognised for centuries all over the World. Their durability, strength, fire resistance, reliability and beauty make them excel favourable any other feasible alternative in the building Industry. Clay Bricks could provide up to 60 per cent of all the structural materials required at low cost.

(b) - Price of Products may be too high in view of quality and service provided, and also in view of competition.

(c) - Channels of distribution - Outlets selected may be maldistributed for reaching prospective customers.

(d) - Promotion: Message carried to customers by Salesmen, adverts and other methods may fail to communicate effectively.

(e) - Organisational (Internal) Problems - These may include poor organisation of the company itself, so that there is no coordination between the various departments; poor motivation of the workers and financial problems.

1.3. Problem Analysis

Marketing audit will be used as a framework for problem analysis. Marketing audit involves a thorough evaluation of the company's marketing philosophy, objectives, policies, tactics, practices and results. In other words, marketing audit is used to evaluate overall marketing strategy of the company. Overall marketing strategy is a composite, by blending various inputs (products, price, channels and physical distribution and promotion) in different combinations to achieve given outputs (i.e. objectives such as market share, targeted return on investment, etc.)

Product quality relates to quality of raw materials used, production process, quality control during production, packaging, price of the product, durability of the product in use and the buyers expectation and appreciation. In general, quality is high or good to the extent that any of the above factors is good. Product size is an important feature of product design. To improve sales, the marketing department must determine consumer need with regards to size. There is the need, therefore, to forecast the future nature of the environment and consumer desires to predict what products the market may demand - in terms of quality, size, packaging, etc. An important prerequisite to product design is the assessment of established competitors products. If the products of competitors are of better quality, style or size, then the problem of marketing inferior products in relation to competitors' arises.

Price making in marketing plays an important role in the ultimate sale of the product. High priced low quality products do not sell, especially if there are other better quality products of competitors, which are of low prices. Pricing products above the market results in low sales. High sales can only be achieved if the product is sufficiently differentiated in the mind of the consumer. This could be in the form of styling, special services, etc.

The company should provide consumers with a convenient means of obtaining its products. The marketing manager must analyze alternative channels in the light of consumer needs in order to determine optimum channel or channels

for the company. The products of the company are bulky by volume and because of this, the cost of transportation forms an important factor as far as the customer is concerned. Long distance transportation can also cause breakeages which further adds to the cost of the product. Therefore, how the company handles distribution is a very important issue in the marketing of the products.

Promotion is a key element in marketing strategy. Prospective custo mers must learn about the products' distinctive want-satisfying characteristics and its availability. Promotion should establish and maintain communications with the target market. Success will not be achieved by the marketing department of Kano Brickworks if it is unable to secure strategic placement of its products, unless it can get customers to take the initiative and come to it. Strategic placement however, is only a prerequisite to success. The products can be ideally located and yet fail to get customer acceptance for any of many reasons. One of these reasons might be that customers are unaware that the products exist or can be obtained. Another reason might be that potential customers are not acquainted with the benefits or advantages of the product. And still another reason might be that customers have not been convinced that they need the products. Part of the marketing department's job is to find some means of communicating with potential customers for the purpose of acquainting them with characteristics of the products and of informing them as to where they could be purchased.

1.4. Objectives of the Study

The objectives of the study are to find out:

a - Whether the product (clay bricks) fulfils the requirement of the customer in terms of specification and quality.

b - Whether the pricing is competitive

c - Whether the distribution strategy is effecient enough to enhance sales.

d - Whether the promotion scheme employed by the company is adequately doing its job of arousing awareness for the product and leads the customer through the processes which end in the buying of the product.

1.5. Scope of Study

The study is on the marketing of Bricks by Nigerian Mining Corporation Brick and Clay Products Companie s. There are seven of them, located in Jos, Kano, Kaduna, Enugu, Ibadan, Lagos and Maiduguri. All the seven Brick Works are of uniform size, design and capacity. They are similarly organised and conduct similar operations in production and marketing. The marketing manager of each plant is answerable to the Manager, Economic and Marketing, Nigerian Mining Corporation, Jos.

Kano Brick and Clay Product Company has been selected for the case study. This is mainly because it is near Zaria and because information obtained from it is representative of all the other Brick and Clay Products Companies.

The study concentrates only on the marketing aspects of the organisation. Hence the scope and analysis is limited to the marketing of bricks.

1.6. Methodology

Primary and secondary sources of data were used in the study. Primary source constituted the major source and involved personal interviews and administering of questionnaires.

The purchase decision in the building materials industry is made by the Architect or Engineer and the Contractor, who is also the user. The Architect Specifies the type of building materials to be used and the Contractor selects the brand of material he wants to use. The role of the client (Individual or Firm for which the building is being made) in the purchase is minor one. More often than not, his decision is influenced by the Architect or Engineer or the Contractor.

Three sets of questionnaires were used in the study. One set for Architects/Engineers,(Appendix 1) another for Contractors (Appendix 2) and yet another for the Marketing Manager Kano Bricks and Clay Products Company. Fifty questionnaires were distributed to Architects, Engineers and Contractors in Kano, Zaria and Kaduna. A breakdown is given below:-

Table 1.1

Number of Questionnaires Distributed

Towns	Architects	Engineers	Contractors	Total
Kano	10	5	5	20
Zaria	5	5	5	15
Kaduna	5	5	5	11
TOTAL	20	15	15	50

The questionnaires were personally administered so that certain points were clarified where the need be.

The opinion of twenty individuals on Bricks was sought by the interview method. They comprised of civil and public servants and the self-employed. These individuals were randomely selected, based on the judgement that they would serve the purpose in the study. Sales Managers of ten Sandcrete Block Manufacturing Companies were interviewed to obtain information on their marketing activities.

1.7. Limitation of the Study

Internal secondary data was not maintained in a manner that would have allowed the researcher to tap their full potentials. Most of the data (e.g. sales figures) were scanty. The sandcrete block manufacturers did not have organised marketing programs. Data collected were got through interviews. Thus a proper basis for comparison was eliminated.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

SECTION 'A'

2.1. Marketing

Marketing has been defined as "the development and efficient distribution of goods and services for chosen consumer segment."[1] The objective of marketing is to create consumer satisfaction. A firm's ability to produce a quality product does not guarantee that it will achieve success. To be successful, products require effective marketing, based on a thorough understanding of what consumers want and need. Therefore, marketing is a primary function of an organisation.

Marketing Decision Making can be conveniently classified into four strategies namely: Product, Pricing, Distribution and Promotion.

1. Product Strategy

Planning efforts start with the choice of products to offer the market, pricing, marketing channels and promotion are all based on product planning. The economic justification of the firm's existence is the production and marketing of want-satisfying products. A product is a combination of physical, service and symbolic attributes designed to produce consumer want - satisfaction.

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1. Kurtz David L and Boone Louis E. Marketing (1981) The Dryden Press, New York, p. 6.

2.1.

Product strategy involves decisions on, among others, packaging, branding, product-life cycle and the development of new products. It also considers the satisfaction of all consumers needs in relation to the good or service.

a - Packaging - Packaging is an important part of the total product. Apart from providing physical protection for the product, it also promotes it. Packaging, for some products, represents a major cost e.g. canned foods. Packaging makes handling of products more convenient.

b.- Branding - Firms use a brand to identify their products and to differentiate them from competitors' products. Branding is important both to the Consumer and the Manufacturer. For the consumer, it allows repeat purchases of the same product since the product is identified with the name of the manufacturer. For the Manufacturer once consumers have been made aware of a particular product, its appearance becomes further advertising. Well-known brands also allow the firm to escape some rigors of price competition.

c - Product Life-Cycle - The concept of product life-cycle is an important part of product strategy. Products go through four stages: introduction, growth, maturity and decline before their death.

Introductory stage - At this stage, stimulation for demand of the product is the Firm's objective. Since the product is not known to the public, promotional campaigns give information about it. Campaigns may be directed towards middlemen in the channel to induce them to carry the product.

Growth stage - Sales increase rapidly as new customers make initial purchases and old ones repurchase the product. Substantial profits are realized, and competitors attracted into the market.

Maturity stage - Industry sales continue to grow during the early part of this stage, but eventually reach a plateau because potential customers have been exhausted. Profits decline as competition intensifies. There is heavy promotion to emphasize differences among competing products. Available products exceed Industry demand. Competitors cut prices in an attempt to attract new buyers.

Decline stage - In this stage, innovations or/and shifts in consumer preferences bring about a decline in Industry sales. Profits decline and in some cases become negative as sales fall and firms cut prices. Manufacturers gradually begin to leave the Industry in search of more profitable products.

The product life cycle concept allows the marketing decision maker to improve planning. It gives insights about developments at the various stages of the products life, e.g. promotional emphasis should shift from product information in the early stages to brand promotion in the later stages.

d - New product development - New products are products new to the company or to its customers. Innovations may involve packaging, or may be an initiation of competitive products. Product innovations are necessary because of the dynamic nature of the Business environment. The first step in new-product development is organisation. This may involve the appointment of new product committees and the establishment of new product departments. The next step is the development of new products, which consists of six stages: Idea generation, screening, business analysis, produce development, test marketing and commercialization.

2. Pricing Strategy

"Pricing is the exchange value of a good or service; and the value of an item is what it can be exchanged for in the market place."[2] Most marketers have the initiative for proposing prices and they can vary them to the extent that they can differentiate their products in the eyes of the buyer.

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2. Kurtz David L. and Boone Louis E. (1981) Marketing. The Dryden Press, New York, p.320.

There are several factors influencing pricing Decisions. They are grouped into internal factors and environmental factors.

Internal factors - under this group are:-

a - Company Objectives - Pricing objectives should derive from company objectives. Pricing policies should be consistent with pricing objectives and pricing strategies should be in alignment with both pricing policies and pricing objectives.

b - Product and market factors - stage in product life-cycle determines the amount of discretion management has in making pricing decisions. In the initial stage, prices may be set high to skim the market, or low to achieve significant market penetration quickly. During growth and and early maturity stages, price reductions by competitors becomes a factor for securing market expansion. If a marketer succeeds in differentiating his products an opportunity may exist to get customers to whom product differences are more important than price. Competing on non-price basis depends not only on the amount of product differentiation but on its relative importance to the potential buyer. Customer buying habits also influence pricing. Products purchased frequently by customers are sold profitably by middlemen at low mark-ups because of rapid inventory Turnover.

c - Marketing channels and distribution policy- the particular marketing channels used should be considered in making pricing decisions. Specifically gross margins expected by middlemen should be considered.

d - Promotional Strategy - If massive advertising campaigns are used by the manufacturer, he will probably allow middlemen less than their normal gross margins. If, on the other hand, the middlemen carry part of the burden, they will expect greater than their normal gross margins.

d - Cost Considerations - Prices and costs are related. Sales revenue should cover costs. Usually the marketer should first estimate the prices he can obtain for his products, taking into account the nature of demand, competitors position, promotion, etc. Then he works backward to make products suitable to such prices.

External influences include competition, Economic Climate and Legislation and Governmental pressures.

3 - Distribution Strategy

Distribution is concerned with the various activities necessary to transfer goods from the producer to the consumer or user.. This includes physical activities such as movement and storage of goods as well as promotional legal and financial activities involved in the transfer of ownership. Distribution consist of both channels and physical distribution. Therefore,

a - Channel of Distribution - This is also known as marketing channel, and has been defined as "a path traced in the direct or indirect transfer of title to a product, as it moves from a producer to ultimate consumers or users."[3] Independent Business firms who assist in the task are called channel members, middlemen or intermediaries. The process of distributing goods and services from the producer to the final buyer is an essential part of marketing. The manufacturer must consider the interest of buyers and middlemen before making decision on marketing channel.

Middlemen are considerd by manufacturers as extensions of their own sales and marketing organisations because if there were no middlemen, their own sales organisations would have to perform all the functions of middlemen. Consumers and Industrial Users consider middlemen direct sources of goods and points of contact with producers.

Merchants and Agents - All middlemen fall into two broad classifications: Merchants and Agents. A merchant middleman takes title to and resells merchandise, while an agent middleman negotiates purchases or sales or both, but does not take title to the goods. The merchant always both buys

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3. Cundiff, E. W. and Still, Richard R (1971) Basic Marketing: Decisions, and Strategies, Prentice Hall, Inc., Egalewood Cliff, New Jersey, p. 271.

and resells, while the agent may specialize in negotiating either buying or selling transactions. Retailers and Wholesaler - Middlemen may also be grouped into two other major categories - retailers and wholesalers. A retailer is a merchant, or occassionally, an agent, whose main business is selling directly to ultimate consumer. A Retailer sells in significant amounts to consumers; Wholesalers buy and resell merchandise to retailers and other merchants and to Industrial, Institutional and Commercial Users, but do not sell significant amounts to Ultimate Consumers.

Marketing channel alternatives in common use include the following:-

i - Manufacturer to Consumer or User

ii - Manufacturer through Agent Middlemen to Consumer or User.

iii - Manufacturer to Retailer to Ultimate Consumer

iv - Manufacturer to Merchant Wholesaler to Retailer to Ultimate consumer.

v - Manufacturer to Merchant middlemen to Industrial User.

There are several factors affecting channel choice. These are:

a - The Product - Product characteristics determine to some extent the way it is distributed. Perishable products must be sold through shorter channels, so also highly technical products. Highly standardized

products often should be marketed through long and complex channels.

The Market - Most important aspect is Customer buying habits. Size and location of the market are also important, When there is a very large number of customers, a manufacturer is likely to need at least one layer of middlemen.

Manufacturer - Financial strength, need or desire to control the product's sale to end-buyers also affect channel length. The reputation of the company or its products are considered by middlemen before taking on a product. Middlemen are willing to take well-known products but hesitate to take unknown products by unknown manufacturers.

Middlemen - Marketing channels are sometimes dictated by middlemen available. A manufacturer may be restricted in his choice of channel by the availability of particular middlemen. Choice is also affected by the cost of using different types of middlemen relative to his own sales and profit goals.

b - Physical distribution - this involves a number of related activities, most important of which are inventory control, storage, transportation, materials handling, order size control and order processing. In managing physical distribution, marketing management seeks to maximize the utility or economic value of its products by getting and having them where they are wanted and at the time wanted, at reasonable cost.

Transportation and storage decisions are very much influenced by competitors operations.

Manufacturers must try to obtain optimal performance of the total distribution system by finding effective ways of coordinating inventory policies and practices with those of other channel members.

Promotional Strategy

Successful promotion is an essential ingredient in marketing strategy. Promotion should establish and maintain communications with the target market. Communication requires a sender (or source), a message and a receiver. Unless a sender's message is received by someone, no communication takes place. If it is to achieve its objective, a marketer's promotional message must be received by those who make up the target market.

There are several ways of promotion. These include, among others, Personal selling, Advertising, packaging, branding, Direct Mail, point of purchase display, premiums, sampling, trading stamps and couponing. Both in terms of impact upon market demand and expenditures involved, the most important promotional methods are personal selling and advertising.

a - Personal selling - Personal selling seeks to pair the right products with the right customers. It involves the interpretation of product and service features in terms of benefits and advantages to the buyer, and persuading the buyer to buy the right kind and quality. Personal selling, plays an important role in marketing even the most advertised and otherwise promoted products. Personal selling is potentially the most effective and the most costly promotional method. There is maximum opportunity for feedback in personal selling.

b - Advertising - Advertising is an impersonal method of communicating messages to prospective buyers. Messages are transmitted to large numbers of potential receivers. There is a wide choice of message media - newspapers, Magazines, radio and Television. One weakness of advertising is the difficulty involved in obtaining accurate feedback to evaluate message effectiveness. Advertising costs are relatively low per promotional message received. The role most effectively served by advertising is to acquaint potential customers with the product and its strength so that they will be more favourable disposed when they come to buy the product.

2.2. Marketing Audit

Product strategy, Pricing strategy, Distribution Strategy and Promotional strategy are inputs for Overall Marketing strategy. These are blended together in different combinations to achieve stated or given outputs (objectives, e.g. market share). Marketing audit is used to evaluate the overall marketing strategy of a company. Specific inputs and desired outputs, changes in company and competition are factors which make overall marketing strategy dynamic in nature. There is a need, therefore, for a systematic basis for controlling and evaluating overall marketing strategy.

While the control process for marketing essentially asks: Are we doing things right, the marketing audit extends the question to: Are we also doing the right thing. Thus marketing audit is a continuation of the control process.

Audits are applicable to all organisations - large or small, profitable or profitless, profit or non-profit oriented. Audits are particularly useful when they are performed for the first time.

The Kotler audit of marketing effectiveness: Philip Kotler has devised a checklist to measure marketing effectiveness. This is based on five variables:

1 - Consumer Philosophy - This is a guide to check if management acknowledges the primacy of the market place and of customer needs and wants in shaping company plans and operations.

2 - Integrated Marketing - Is the Company organised and staffed in such a way that it will be able to carry out marketing analysis, planning and implementation and control?

3 - Adequate Marketing Information - Does management receive or seek the kind and quality of information required to conduct effective marketing?

4 - Strategic Orientation - Are there innovative strategies and plans for long run growth and profitability of the company.

5 - Operational Efficiency - Are marketing plans implemented in a cost-effective manner, and are the results monitored for immediate corrective action?

SECTION 'B'

2.3. Manufacture of Burnt Clay Bricks[4]

Burnt Clay Brick may be described (whether solid or with perforations) as made of clay and fired at 900 to 1080 degrees centigrades to achieve ceramic bond among clay components.

Burnt Clay Bricks are manufactured generally as per the following process consisting of six steps: clay selection, preparation, forming, cutting, drying, burning and cooling.

1 - Clay Selection - Clay is dug, stockpiled and mixed (to improve workability) outside the plant. The selected clay is transported to the plant and tipped into a box-feeder.

2 - Preparation - A little water is added to the mix in the box-feeder. The final mixture is then crushed and tipped into a conveyor belt leading to the wet pan mill. The clay is again mixed with water and further homogenised. The homogenised clay passes through the perforated base of the mill on to another conveyor belt which carries it to the fine roller mill. Plastic clay passes through a narrow cylinder slot which further grinds it into the double shaft mixer. The clay is further homogenised and humidified (if necessary) by addition of water. A conveyor belt then carries the clay to the forming section.

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4. El-Rufai, N. A. "Comparative Cost Study of Clay Bricks and Precast Concrete Blocks." Unpublished Undergraduate Project. Department of Surveying, A.B.U., Zaria, 1980. pp. 8 - 10.

This takes place in another double
er with a vacuum chamber where the
e-aired and dropp ito the extruder
•saes the clay to the desired brick shape.

The extruded column of clay is cut into
'd brick size as it pa through the cutter,

ig - Bricks are placed on pallets and moved
.n elevator which takes them to the drier,
drying chamber has a twin fan and both hot and
Ld air dampers. The bricka arc dried by a hot air
rapper from the kilns and from o hot air producer.
The bricks are first grad , cehydrated for some
hours to avoid warping and cracking.

Burning - After drying, the bi icks art-: taken to the kilns for burning. The burners use a cheap by-product of crude petrol um distillation as fuel. The burning is fed by the continuous supply of oil and acid into the kiln until the required temperature is checked by rt-ocouple unit.

7 - Cooling - The bricks are colled by opening the doors of the kiln tunnel to allow cold air to rush in. As it cools the bri s the air becomes hot and is trapped by a devic d sucked to th drying chambers of the plant.

3 - Forming -
cture of Bricks is capital intensive, requires
shaft mix
clay is c
abour and extensive management. It requires
which pr
area equipped with conveyors, driers, kilns,
acture of blocks, on the the other hand, is
4 - Cutting
ither capital or labour intensive. The plant
requir
require the elaborate building of production
uired a brick manufacturing. Blocks can be produced
5.- Dryi
site of building, thus eliminating haulage costs
to
nt in brick manufacturing.
The
co
Let us now see how sandcrete blocks are produced.
t

. Manufacture of Sandcrete Blocks

The process consists of three stages: Proportioning and mixing, moulding and curing and hardening.

1 - Proportioning and Mixing - The materials needed for the production of Sandcrete blocks are cement, sand and water. Theseaare mixed in the following proportions: 50 kg (by weight) or 1.00m^3(by volume) of cement, 530 kg or 6.00m^3 of sand and some amount of water necessary to produce a workable mix.

2 - Moulding - The block mould first vibrates and consolidates the concrete before moulding. It is powered either by electricity or petroleum. The concrete is poured into the mould and the wet block is received on a timber pallet about three minutes later.

3 - Curing and Hardening - The loaded pallets are carefully moved to a large, mechanically ventilated room. They are placed in rows with a 100mm minimum space between them. To effect curing, they are sprayed with water. They are left for about twenty one days to allow for hardening and drying.

2.5. Advantages of Clay Bricks[5]

Clay has been a treasure to mankind from the beginning of civilization. Most of the major buildings of significance in the world today were built with this materials. An example in Nigeria is the Gobarau Minaret in Katsina, which was estimated to have been built in the 15th Century. It is 15.5 metres high and stood unrepaired for over 400 years before it was put in its present use as a Museum. Clay serves as the key ingredient providing shelter to about 80 per cent of the world's population.

Clay bricks have various advantages, some of which are durability, safety, comfort, economy and beauty.

Durability:-

Bricks have been proved to survive the rigours of thousands a years, and it is one of the sources through which historians today trace early history of man and often

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5. Nuhu, S. "Problems and Future Prospect of Brick Industry in Nigeria." Unpublished. Nigerian Mining Corporation, Jos.

visualize his mode of life. Here in Nigeria almost all the brick buildings constructed in the early part of the century are still standing in their original colour, beauty and strength. The high load bearing capacity of bricks provides the ease of making major alterations and building more storeys on top of them.

Safety:-

The value of brickwork as a security against fire has been recognised for centuries. The Great Fire of London gave impetus to the use of brickwork as such a safe-guard. In the second world war, steel construction was frequently damaged with nearby brickwork largely unaffected. The use of locally made clay pots for cooking is a simple example of resistance and non-combustibility of clay. The bricks produced are being fired to a temperature of about 1200^{o}C for about 90 hours including pre-heated in the kiln. The bricks thus attain much more heat then the ordinary fire provides. Bricks are not easily susceptible to thermal and moisture movements that usually cause cracks on walls. Bricks weight less than sand-crete blocks, therefore the foundation of a structure made with bricks carries less load than a similar structure of sand-crete blocks. Consdquently, there is less risk of having a depression on the foundation.

Comfort:-

Clay bricks are comfortable in that they are good insulators against air-borne sounds, heat and cold. Bricks regulate the internal temperature of the building upon prevailing weather conditions. This can be testified in Mud-houses, which are cool in hot weather and warm during the cold season.

Economy:-

Clay bricks are economical to the Nation. The materials required for making bricks, besides machinery, are clay, water and energy. Raw materials do not have to be imported.

2.6. Other Clay Products

Besides Bricks, many other clay products are produced in other countries of the world.

The American Brick Industry for example is experiencing a growth cycle that may be unprecedented in its history. Following it are a variety of other clay products which a select number of companies continue to produce profitably. These products have a growing profit potential for clay product producers.

The first of such products is the thin brick or brick slices. Firms producing this product are finding a market for it. The brick slices are used as exterior cladding material and as interior adornment. Much like the thin bricks, extruded clay floor tile and split tile are growing in popularity. Americans are now moving back to the basic

earth tones and away from the sterile look of concrete. A third product is the clay pipe, which is literally as old as the hills. Contractors are going back to clay pipes as they discover that its alternatives do not do the job as well. Another product is the clay roof tile. One of the most ancient of building materials, clay roof tile lies a sleeping grant, ready to revolutionize the American building scene.

CHAPTER THREE

THE NIGERIAN BRICK AND CLAY PRODUCTS LIMITED, KANO.

Before going into the operations of Kano Brick Works, it will be useful to give some general information related to the establishment of Nigerian Mining Corporation (NIMCO) Brickworks.

3.1. Introduction of Fired-Brick in Nigeria

In the early colonial days, the colonists took cognisance of clay used by our local builders. Clay was used to build public offices and Government Residential houses. The quality was improved beyond the traditional by firing the dried hand moulded brick with firewood as was the practise in Western Europe and other Asiatic Countries. Some of these buildings can be seen in former provincial headquarters in various parts of the country. Examples include the Borno Native Authority Treasury built in 1924; General Hospital Maiduguri, built in 1929; Kaduna First Magistrate Court, built in 1920; Main Post Office Enugu, built in 1920; P and T Staff quarters Enugu, built in 1941.

Later in the years, brick laying was introduced in our local schools. This started the beginning of our modern building industry. With the introduction of cement in the construction field and the improvement of global transportation system in subsequent years, clay bricks were thrown out by the colonists. Cement, an imported substitute, took over the lead in the construction Industry.

The early Civilian Administration as well as the Military were not able to reshape our construction industry even at the period when Industrialized Nations were striving for economic survival in the early part of the 70's. This was as a result of the energy crisis and drought which resulted in heavy inflation. Ironically, it was within this period that oil boom was at its peak in Nigeria.

A five year development plan was launched. Each state and the Federal Government strived to accomplish all the projected developments. As a result, the Nation became a treasure house for many exporting countries. At one stage, the Nation had to pay millions of Naira as demurrage to foreign shipping lines due to over-congestion at our ports. The major cause of this congestion was cement.

In 1975, as result of the staggering economy, the Military Administration resorted to exploring all possible ways of utilizing indegenous resources towards building the Nation and stabilizing the economy. Industrialisation, self-dependency and sufficiency on raw-materials and high and low level manpower in all technological fields were given attention and placed on priority list. Many parastatals were established, and existing ones reactivated and financed. One of such bodies is the Nigerian Mining Corporation, with its headquarters in Jos.

3.2. The Nigerian Mining Corporation

This was established in October 1972, under Decree No. 39. Its functions are to explore, prospect , mine, process, purchase and sell minerals of various kinds accuring in Nigeria, other than Petroleum and Coal. It can also purchase or otherwise acquire or take over any asset, business property, contract, right, privledge obligation and liability of any company, firm or person in furtherance of the business engaged in by the Corporation in addition to other powers confered to it for giving full effect of the decree. Apart from the Brickworkds, NMC is working on five other projects.

Through the NMC, the Government has taken a firm decision to make greater contribution to, and play a more vital role in the mining Industry with the aim of achieving economic control of an area of activity crucial for the rapid transformation of Nigeria into an Industrial State.

The important objectives of the Nigerian Mining Corporation are:-

(1) To promote the diversification of our primary mineral products through extensive geological exploration and mineral beneficiation appraisals.

(2) Encourage the development of mineral resources for the national economy.

(3) Secure the conservation of mineral resources through research into efficient extractive methods and wider application and use.

The Corporation was also required to:

(a) Supply raw materials for Domestic Industries.

(b) Meet the country's requirements of mineral substances.

(c) Provide better and cheaper materials for buildings and road construction.

(d) To compete effectively for a fair share of world trade in metals and minerals.

NMC is a corporation from which the Federal Government expects very much in terms of concrete and dynamic contributions to the economy and manpower development of Nigeria. The establishment of the NMC marked an important turning point in public policy in Nigeria, with regard to the general conception of the role of the Government in commercial exploitation of Nigeria's solid mineral resources.

3.3. Brickworks Projects

In 1975, the then Military administration assigned the NMC to investigate clay deposits in Nigeria and report its findings on their suitability for making bricks and other clay products. Intensive Geological Surveys were carried out in each state of the Federation, and the Corporation was able to identify at least one area of good clay deposit for brick making in each state. These investigations were carried out in areas closer to the state capitals, for easy means of getting electricity, water and other materials and facilities when setting the factories.

NMC was directed by the Federal Government to establish seven brick plants one each in Jos, Kano, Kaduna, Enugu, Ibadan, Maiduguri and Lagos on first phase. Others were to be established later in each of the remaining states. Recently, the Federal Government approved the establishment of a factory at the Federal Capital. The plant will have an annual output of 60,000,00 normal size bricks.

All the seven plants are of uniform size, design and capacity. The life duration of each plant was put at 30 years with an annual output of about 15,00,000 normal bricks or its equivalent when fully operational..This figure is estimated to produce about 600 medium size 3 - bedroom bungalows.

Each plant is registered as a limited liability company under the name of Nigerian Brick and Clay Products. Each has its board of Directors and a Chief Executive. The Federal Government has given each state the option to purchase up to 25 per cent equity share in the company located in its area.

The brickworks is a bold and imaginative project. The conception, creation and realisation of a national building organisation is a matter for national pride in any country throughout the world.

3.4. Kano Brick Works

The Nigerian Clay and Bricks Products Company, Kano is situated in Bagauda, 52 kilometres from Kano. This location is important for raw material (clay). The size of the clay pit is over 100 hectares. Although it was commissioned in February 1982, the plant started production in 1980. As stated earlier, ... full production capacity is about 2 million bricks in N/S equivalent per annum. However, only about 3.6 million bricks in N/S equivalent were produced in each of the last four years.

Goals and Objectives

1 - To prospect and utilize natural resources for construction purposes with the view to save the Nation's foreign exchange.

2 - Advertise the products, and convince prospective users on their durability and economic viability.

3 - Make the products as cheap as possible to be within the reach of the common man. The price of the products must compete favourably with cement products.

4 - The company must run profitably.

Products

The company produces four types of products. (see Appendix 4 for the different types of products and their prices). These are:-

a - Load-bearing bricks used for construction.

b - Non load - bearing bricks which are used in screening and partition walls.

c - Decorative bricks used for decorative purposes and screening walls.

d - Special products used for paving floors, covering concrete lintels and facing of walls in Architectural finishes.

Raw materials (clay and water) for the products are easily available around the plant. High quality of products is ensured by carrying out daily tests on the raw materials and the finished products. Clay and water for blending are tested daily to determine the consistency of the mineral composition and plasticity of the clay. Tests are also carried out to confirm that the raw materials do not have soluble substances that are likely to be detrimental to the desired quality of the finished products. The homogeneity of the admixture is consistently maintained and controlled, so also the preparation, forming, drying and firing processes in order to achieve uniform size, shape, strength and colour of the finished products. At least three bricks (from top, middle and bottom) out of each kiln (oven) chamber are tested in the laboratory to determine their water absorption, weight, size and load-bearing capacity.

Products are designed locally in the plant workshop by special designers. Designs are also made to the specifications of customers.

Pricing of products is cost-oriented. The prices of decorative bricks are higher than those of building/ engineering bricks. Selling is on cash and carry basis, no credits are allowed to customers. The following discounts based on value of bricks purchased, are given to Direct buyers and Distributors.

Table 3.1

Discounts Given to Buyers of Burnt Bricks

Value of Bricks (₦)	Discount (%)
1,000 - 2,000	1
2,100 - 3,000	2
3,100 - 4,000	3
4,100 - 5,000	4
51000 and above	5

SOURCE: Marketing Department, Nigerian Brick and Clay Products Limited, Kano.

There have been no profits since the company started production in 1980. The company has been running at a loss.

Promotion

The marketing manager of the company considers promotion very important to the marketing of the company's products.

Advertising is the most important method of promotion used. The products are advertised in National Dailies, on Billboards and in pamphlets which are distributed to customers. The beauty, reliance, comfort, durability, strength and economy of Burnt bricks are points emphasized in the advertisements. One basic advertisements is used in the dailies, pamphlets and on Billboards. This coloured advertisement illustrates attractive Brick houses and persuades the public to build with Bricks (Appendix 5). Services offered by the company to customers are listed as part of the advertisements.

There are only two salesmen employed by the company. Participation in Trade Fairs, Personal contacts and Building sample houses in Bricks are other forms of promotion used.

Distribution

The company sells its products direct to customers and through agents and dealers. Direct sales has the highest sales figure.

The company assists its Distributors in various ways:-

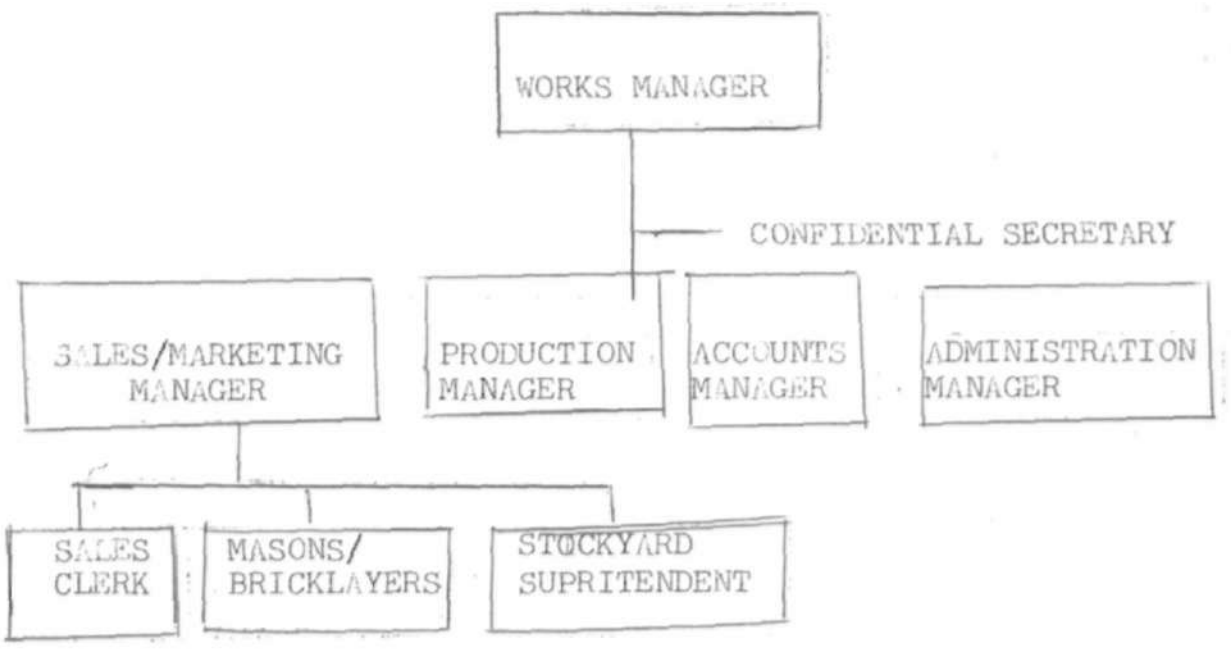
a - Through advertisements - Names and addresses of the distributors are printed on the advertisements.

b - Distributors are provided with promotional materials like singlets, stickers, calenders and address books. They are also assisted in personal contacts.

c - Distributors are given a 5% commission to encourage them to carry the products of the company.

ORGANISATION

ORGANISATIONAL CHART (WITH REFERENCE TO MARKETING DEPARTMENT)



The Nigerian Brick and Clay Products Company, Kano is under the control of NMC, which is owned by the Federal Government.

In theory, the marketing department is answerable to the works Manager at the Kano Brickworks, but in practise it is not so. The Marketing Manager is under the Assistant General Manager, Economic and Marketing, NMC, Jos. All other Managers (Production Manager, Accounts Manager and Administration Manager) report directly to the Works Manager.

CHAPTER FOUR

DATA ANALYSIS

QUESTIONNAIRE ANALYSIS

Thirty five questionnaires were distributed to Architects and Engineers and fifteen to Contractors. One questionnaire on Marketing Effectiveness was answered by the Marketing Manager, Nigerian Brick and Clay Products Limited, Kano. All the thirty five Architects and Engineers and fifteen Contractors responded.

4.1. Experience of the Respondents in Their Fields

The analysis starts with the years of experience of the respondents.

Out of the thirty five Architects and Engineers, 26% of them have been practising for between one and four years, 43% between five and nine years and 17% between ten and fourteen years. This shows that majority of them have had number of years of experience (5 to 9 years) in their fields. Also, majority (53%) of the Contractors have had between five and nine years experience.

This is a justification that the respondents of the questionnaires are knowledgeable in this industry and hence a large amount of trust can be placed on their answers.

4.2. Clients of Respondents

About 32% of the Architects and Engineers have only individual builders as clients; while 30% of them have individuals, state and Federal Government as clients. In the latter case, individuals are the majority. The rest of the Architects and Engineers have private companies and others as clients.

Also, 30% of the Contractors have individuals as clients, 27% have individual State and Federal Government as clients. Here again, individual are the majority (40%). The rest of the Contractors have private companies and others as clients.

The analysis of the data obtained for this question shows that majority of the Architects, Engineers and Contractors have a high percentage of individual customers and a small percentage of them have a mixed clientle where also the individual builders dorminate. This gives the indic ation that the marketing of bricks is to be tailored to suit the needs of this dorminant section of the market.

4.3. Awareness of Companies Producing Burnt Bricks in Northern Nigeria.

The largest number (26%) of the Architects and Engineers knew of companies producing Burnt Bricks in Northern Nigeria for the first time through the National dailies. About 40% of the above came to know through advertisements while the rest 60% read about the companies in articles. The next largest number (20%) came to know about the companies at Trade fairs. Others got to know through: TV - News (11.4%); TV - advertisement (2.9%), Clients (11%), Contractors (3%), Architects and Engineers (6%), Billboards (6%), others -

friends and relatives (14%).

Out of the fifteen Contractors, 20% of them came to know about the companies for the first time through clients, 19% at Trade Fairs; 13% through the National Dailies; 6.67% heard from contractors; 13% from Architects and Engineers, none through Billboards, 13% on TV (advertisement) and 6.67% on TV (news). None of the respondents (Architects, Engineers and Contractors) heard about the companies on the Radio.

It can be generalised from the data above that the decision makers like the Architects, Engineers and Contractors, generally look for information on building materials in dailies (either through articles or advertisements or both) and at Trade Fairs. Hence the promotion of the product should be done through Newspapers and Trade Fairs. This is also supported by how the Architects and Engineers ranked various advertising media.

When asked to rank a list of advertising media according to effectiveness, 40% of the Architects and Engineers ranked the National dailies highest, while 25% ranked TV highest. About 15% of them ranked Architects and Engineers highest.

4.4. Aproximate Value of Burnt Bricks Used In Construction Projects in the Last Five Years

A frequency table (table 4.1 below) was constructed for values (in percentages) given by the Architects, Engineers and Contractors.

Table 4.1

Value of Burnt Bricks Used in Construction Projects By The Respondents in the Last Five Years.

Class (%)	Architects and Engineers	Contractors
0 - 5	10	6
5 - 10	5	2
10 - 15	3	2
15 - 20	4	1
20 - 25	3	1
25 - 30	3	1
30 - 35	2	0
35 - 40	0	0
40 - 45	1	1
45 - 50	1	1
50 - 55	2	0
95 -100	1	0
	35	15

SOURCE: Questionnaires administered to Architects, Engineers and Contractors.

The value of Burnt Bricks used by 23 (66%) of the Architects and Engineers is below 20%, while only one (3%) Architect used 96% Bricks in his construction projects. As high as 73% of the Contractors have used below 20% Bricks in their construction projects.

The data collected on this question goes to confirm the original estimate that bricks are not used sufficiently by the Architects, Engineers and Contractors in building

projects. As much as 66% of the Architects and Engineers and 73% of the Contractors who answered the questionnaire used bricks only in less than 20% of their total expenditure on blocks and bricks. This shows the poor usage of bricks and also gives us the hope that there is room for improvement if proper ma eting of bricks is done.

4.5. Comparison of Qualities of Burnt Bricks and Sandcrete Blocks by Respondents.

Table 4.2

Comparison of Qualities of Burnt Bricks and Sandcrete Blocks

	Architects and Engineers (%)	Contractors (%)
1. Cheaper	29	20
2. Safer	83	53
3. More Durable	86	73
4. More Comfortable	66	93
5. More beautiful	96	100
6. More Available	9	7
7. More Porous	20	-
8. Heavier	14	-
9. Higher load bearing Capacity	66	-

Source: Questionnaires administered to Architects, Engineers and Contractors

Both group of respondents were asked to compare same qualities. The contractors were not asked to compare technical qualities like porosity, weight and load bearing capacity.

The bricks have a better score in qualities like beauty, load-bearing capacity, safety, durability and comfort. All these aspects should be used to good advantage in the promotion of the product.

Most of the Architects and Engineers and Contractors say that Burnt bricks are not as available as blocks. This should throw light on the problem of availability. It looks that the decision makers like Architects, Engineers and Contractors feel that blocks are more available. On the contrary, one of the problems of the company chosen for this project is that of excess inventory and lack of sales. The bricks are available in plenty, may be not in the right places. Hence there is a need to change the perception of the Architects, Engineers and Contractors by really changing the situation. This can be done by increasing the availability.

All data for Architects, Engineers and Contractors on different qualities are the same except on safety (83% and 63%) and comfort (66% and 93%). These significantly vary. This could be because the Contractors do not have enough technical data to compare bricks and blocks which the Architects and Engineers do have.

4.6. Size/Shape of Burnt Bricks and Sandcrete Blocks

Only about 15% of the Architects and Engineers and 13% of the Contractors feel that the size of Burnt Bricks is handy. The rest 85% and 87% of the respondents however feel otherwise. Some of them say that the size of bricks is too small and therefore expensive to lay. Others feel that the paviours and facing slips are too thick and should be made thin. Another set of respondents suggest that the size of Bricks be increased to the size of existing Sandcrete blocks. The increase in size, they say, will facilitate speed in construction.

On the question of size of Sandcrete blocks, about 98% of the Architects and Engineers and 100% of the Contractors say that the size is suitable for speed and handling in construction. 2% of the Architects and Engineers feel that the size should be reduced, because blocks are too heavy to lift and lay.

This is a significant finding of this project. The decision makers like the large sized concrete blocks and a majority of them feel the bricks are too small for convenience and speed in laying. The manufacturers can consider this point and think about increqsing the size of the bricks.

4.7. Quality of Burnt Bricks and Sandcrete Blocks

97% of the Architects and Engineers and 96% of the contractors that answered the question on quality say that the quality of Burnt bricks is high (good), and maintenance costs are less. The good quality, some of them say, is due

to effective quality control during production. They believe that the quality of bricks is better than that of blocks.

About 85% of the Contrac ·s and 90% of the Architect: and Engineers say that the quality of Sandcrete blocks is poor, and maintenance costs high. They say that it is because of poor quality that blocks break easily, especial during transportation. The other 15% and 10% of the respondents say that the quality is average.

This goes to prove that the Burnt bricks occupy a hig place in the opinion of the decision makers as far as quality is concerned.

4.8. Percentage of Bricklayers in Northern Nigeria

A frequency table was used to analyse the data.

Table 4.3

Bricklayers in Northern Nigeria

Class (%)	Architects and Engineers (%)	Contractors (%)
0 - 20	91	85
20 - 40	9	15
40 - 60	0	0
60 - 80	0	0
80 -100	0	0

SOURCE: Questionnaires Administered to Architects Engineers and Contractors.

The question on percentage of Bricklayers and block layers was asked to find out the ra i o of bricklayers to blocklayers.

A very high majority (91%) of Achitects and Engineers feel that the ratio is 20:80, that is 20% bricklayers to 80% blocklayers. Even the remaining 9% of Architects and Engineers gave a ratio of only between 20 to 40% for bricklayers and the remaining for blocklayers.

This shows an absolute lack of skilled bricklayers. Only such manpower can create beautiful buildings for which burnt bricks are famous. This highlights a problem which can inhibit the buying and usage of bricks.

87% of the Contractors and 70% of the Architects and Engineers say that all things being equal, construction with Bricks takes longer time to complete than the same using blocks. 6% of the Architects and Engineers say that both take equal time to complete. Also 80% of the contractors that responded say that all things being equal, cost of labour is higher when building with bricks.

The reasons for the high cost of labour and longer time could be lack of enough skilled labour (from previous point) and the small size of bricks.

4.9. Promotion.

34% of the Architects/Engineers and 40% of the Contractors say that neither blocks nor bricks have been well promoted by their manufacturers However, 34% of the Contractors say that bricks have received more promotion than blocks

while 20% of the Architects and Engineers agree with them. On the other hand, 31% of the Architects and Engineers and only 13% of the Contractors say that Sandcrete blocks have been more promoted.

It is interesting to note that the bulk of the respondents feel that both bricks and blocks are not promoted well. It is also interesting to note that the bulk of the remaining Architects and Engineers feel that blocks are better promoted while the Contractors feel that bricks are better promoted. This is the first time that a large number of respondents from the two groups of users differ totally. This also points out that the brick manufacturers should promote their product to the Architects in a more effective way.

4.10 Distribution

Only the Contractors were asked questions on distribution as they are mainly concerned with it.

About 7% of them say that Bricks are well distributed, 86% of the respondents say blocks are well distributed while 7% say neither is well distributed.

67% (majority) of the Contractors buy bricks direct from the manufacturers, 6.67% through Dealers, 6.67% from fetailers, 6.67% buy direct from manufacturers, through Dealers or from retailers, 6.67% have never bought bricks, and none of the 15 respondents manufacturers bricks.

The respondents that buy direct from anufacturers say they do that because bricks are not available elsewhere.

Like Burnt bricks, Sandcrete blocks are bought direct from the manufacturers by a majority (73%) of the respondents. 7% buy through Dealers, 20% manufacture on site while none buys from retailers. This is because there are no retailers in the marketing channel of blocks.

The majority of the Contractors feel that bricks are not well distributed. This strengthens the points that were found out earlier on availability. This lack of proper distribution is also brought out by the answers to the question on buying behaviour. A majority of the respondents buy directly from the manufacturers, who are only seven in number in Northern Nigeria. Hence the purchasing cost is sub-optimal.

Though the blocks are also bought directly from the manufacturers by most of the contractors, the number of block makers is very large and they are situated in every town.

4.11 Decorative Bricks

55% of the contractors say they have never used decorativ bricks in their building projects. Most of them feel that they are too expensive, while others say decorative bricks were not specified in the projects they carried out.

4.12. Recommendation of Bricks to Clients

When asked if they will recommend the use of bricks to their clients in future 40% of the Architects and Engineers ticked 'Yes' while 60% of them ticked 'No'.

High price of bricks compared to price of blocks, non availability of bricks and lack of skilled Bricklayers are the reasons given by the latter group.

4.13. Suggestions as to How To Increase the Market for Burnt Bricks

In relation to product, price, promotion and distribution the fifty respondents gave various suggestions that could increase the market for Burnt Bricks. Similar points have been combined into one to avoid duplication.

In relation to products, the respondents feel that:

a - Bricks should be made bigger to cover large wall area.

b - There should be a variety of colours of bricks.

c - Bricks should be made more porous.

d - Manufacturers should adopt the existing size and shape of blocks.

In relation to price, respondents say that:-

a - Price of bricks should be cut by at least 50% to attract buyers.

b - Price of bricks should not differ from that of blocks.

c - Price of bricks should be made lower than that of blocks.

The respondents had the following to say on distribution:-

a - Distribution should be controlled by qualified dealers and distributors. 'Qualified' here refers to those that have had some experience in handling building materials.

b - Cost of transporting bricks from the factory to site should be reduced by manufacturers.

c - Burnt bricks should be more available to people. People resort to blocks which they can acquire easily.

The respondents listed various ways in which the manufacturers of bricks could promote their products. These are:-

a - Promotion through specimen buildings.

b - Promotion through Architects, Engineers, and Quantity Surveyors.

c - More Advertising in National Dailies, T.V. and Journals.

d - Training of Bricklayers who can promote bricks by good workmanship.

4.14. Marketing Effectiveness of Nigerian Brick and Clay Products Limited, Kano.

The marketing manager was served with a questionnaire relating to marketing effectiveness. An interview supplemented the questionnaire. The answers got from both the questionnaire and interview were used to fill in the questionnaire on marketing effectiveness originally prepared by Philip Kotler as part of marketing audit (see Appendix 3).

The total number of points scored by the company is nine points. From the scale at the end of the questionnaire, (Appendix 3), the equivalent in marketing effectiveness of the Company is Poor. Therefore, marketing effectiveness of the company is presumed to be poor.

The company scored only one point out of nine points in the area of customer philosophy. This clearly shows that management does not recognise the importance of serving needs and wants of chosen markets, that is market segmentation, and does not take a whole marketing system view in planning its business.

Two points were score out of nine in the area of integrated marketing organisation. There is poor co-ordination and communication between the various departments of the company; marketing, production, etc; and also between sections within the marketing department. Coordination is very important in that no single section within a department, or a single department within an organisation.

can

can operate successfully on its own.

The company does not have adequate marketing information system, the area in which it scored only two points out of nine - It does not have information on customer buying behaviour, competitors, channels of distribution, etc. Without such information, the company cannot satisfy customer wants and needs, or improve on its marketing activities.

In the area of strategic orientation, the company scored three points out of nine. Marketing strategy is based on traditional strategy and marketing planning is inadequate for long term profitability and growth. There is room for improvement on this aspect of marketing.

The final area in Kotler's marketing effectiveness is operational efficiency. The company scored one point out of nine. It means that marketing resources are not adequate or deployed efficiently and also that the company does not communication marketing thinking down the line.

4.15. Interview of Individuals

All of the twenty individuals interviewed have heard of the products of Nigerian Bricks and clay products company. 70% of them knew for the first time at Trade Fairs, 20% through friends 3% through advertisements 5% through Architects and the remaining 2% through Contractors.

Five (25%) of the respondents have buildings constructed with Burnt Bricks and/or have decorative walls built with decorative burnt bricks, while 75% do not have either of the above.

Those that have used burnt bricks said that the main problems encountered by their contractors were that of transportation and lack of skilled bricklayers. The contractors had to transport the bricks from the manufacturers to the construction sites and because of the distance, transportation costs were high. The respondents also said that it is cheaper and quicker to build with blocks.

When asked if they would build with Burnt bricks again, the respondents said they would, if services are improved. The first is the provision of transport facilities to direct buyers of bricks from the factory and provision of skilled bricklayers to customers. Another point made was in relation to prices of bricks which the respondents said are much higher than prices of blocks. They said manufacturers of bricks should cut down the price.

The remaining 75% of those interviewed who have never used burnt bricks in their buildings gave reasons that can be grouped into four:

1 - 70% of them said that their Architects have never recommended Burnt Bricks in the projects. They rely on Architects to make decisions on the type of building materials to be used. This shows that the Architects do not go out of their way to sell the advantages of Bricks to the Public.

2 - Some of the respondents claim that buildings with Burnt Bricks are very few, therefore they are not sure if bricks are good or strong.

3 - Others feel that bricks are far too expensive to build with.

4 - The Nigerian Brick and Clay Products Company is owned by the Federal Government, but so far very few Federal Government Construction projects have been carried out in bricks.

Interview of ten block manufacturing sales managers revealed that they do not have any formal or detailed marketing programs. Blocks are produced and sold direct to customers on cash and carry basis. There are no middlemen. Transport facilities are provided for customers by most of the manufacturers. Products are promoted through complimentary cards, issued to customers. This is the only method of promotion. The Managers feel that their products sell themselves because blocks have dominated the construction industry in Nigeria as walling material for a long time, and the public is used to blocks. Competition, they say, is between block manufacturers in the same area and Brick manufacturers are not considered as a threat.

CHAPTER FIVE

RECOMMENDATIONS, SUMMARY AND CONCLUSION

5.1. Recommendations

Certain recommendations, based on the study are made for increasing the sale of Burnt Bricks. These recommendations are on the Product, its price, Distribution and promotion. There are recommendations on marketing effectiveness and others which are presented in the last part of this section.

Product

a. Manufacturers of Burnt Bricks should increase the size of Bricks as majority of the decision makers on the choice of building materials (85% of Architects and Engineers, 87% of Contractors) say the existing size of bricks is too small and uneconomical (4.6%). If possible, manufacturers of bricks should adopt the size of Sandcrete blocks. Most of the Architects, Engineers and Contractors say that the larger size will increase the speed of laying.

b. Technical data like combustibility, coefficient of expansion etc. of the Bricks should be made available to Architects and Engineers as the data will help them in making decisions as to the type of building material to use.

c. Manufacturers of bricks should also provide comprehensive building guides as to the use of their products, as most times, users do not know how to apply them.

Price of Bricks

a. High price of Bricks is a major factor discouraging people from buying them. High cost of bricks is made up of two components. One is the price of the brick itself which is 30% (approximately) more than that of blocks of similar volume. The other is the cost of transportation, breakages, etc. These two together can make the bricks costlier than the blocks by about 50 to 60%. Architects do not recommend the use of bricks in their projects, and contractors prefer to buy blocks because bricks are more expensive than blocks. There is a need, therefore, to reduce price of bricks, making them same as or lower than that of blocks. There is also a need for better distribution so that the transportation costs are eliminated and possibility of breakages reduced.

Promotion

Aggressive promotional campaigns should be launched by manufacturers of bricks. This can be done in the following ways:-

a - Advertisements in National dailies and on TV.

b - Active participation at Trade Fairs.

c - Promotion through Architects and Engineers to make clients aware of the qualities of Bricks. Promotion could be in form of special discounts to Architects and Engineers who intend to use bricks

for their personal buildings. This obtains in advanced countries, and will encourage the professionals to give bricks a try. They in turn will recommend bricks to clients.

d - Promotion in form of providing trained bricklayers to customers so as to beat competition.

Distribution

a - The manufacturers of bricks should make their product more available by increasing the number of Agents and Dealers.

b - Provision of transport facilities to customers which will reduce transportation costs.

Marketing Effectiveness

The company should be more effective in its marketing operations. More attention should be given to customer philosophy, integrated marketing information, adequate marketing information, strategic orientation and operational efficiency.

Other Recommendations

a - At present, all advertising programs of each of the seven Brick Manufacturing Companies of the NMC is controlled by the NMC. Each company should be made autonomous and allowed a free hand on advertisements and programs.

b - Technical institutions and other Training bodies like ITF and post primary training centres should introduce training courses for bricklayers.

c - All Brick Manufacturing Companies in Nigeria should from a Brick Manufacturers Association. This way, a standard quality that has to be attained by the products of all members can be set. The association can arrange exhibitions, advertisements and other methods of promoting the products of its members.

d - The interviews and questionnaires revealed that the bricks are associated with a high image; perceived as an expensive building material with an upper middle class usage. This image has to be brought to proper perspective through vigorous campaigns. For example, some builders should be encouraged to build beautiful buildings with burnt bricks in middle class localities.

e - The directives by the Federal Government that all Federal Government projects should be built with bricks is not enough to increase sales. The Government of different states should be requested to use burnt bricks for all Government projects.

5.2. Summary

"Nothing builds better for less money than NIMCO Bricks", so goes a line in the advertisement of the products of Nigerian Brick and Clay Products Company.

However, for one reason or the other, the public does not seem to believe the afore mentioned slogan. This study sought to find out why NIMCO Bricks do not sell, though they are supposed to 'build for less money.'

The first step in the research was to survey the customer and obtain his perceptions about bricks and blocks as competitors for the construction of walls in buildings. Currently, the Sandcrete block is the institutionalised market leader. The customer here in refers to the person who makes the decision as to choice of building material. The needs and wants of the customer are the end results of the survey.

The second step of the research was to assess the marketing effectiveness of the Brick Manufacturing Companies of the NMC in general, by a case study of the Nigerian Bricks and Clay Products, Limited, Kano. This is a typical representative of all the other companies, and structures, strategies and systems are expected to be the same throughout the group.

The research was inherently problematic with a time constraint and dearth of information. Inspite of this, a

lot of effort was expended to identify the problems of the brick as a walling material.

The results of the research are presented in previous chapters of this study. Recommendations therefrom are detailed in section 5.1 of this chapter. The recommendations cover the marketing areas of price, product, promotion, physical distribution and channel policies.

5.3. Conclusions

This study concludes therefore that Burnt bricks may have a future in Nigeria's construction industry if the product and its attributes are tailored to the needs of the customer.

This can be achieved by implementing the recommendatios detailed in section 5.1 in the marketing mix of the brick as a walling material.

There is the additional problem of modifying the existing product in terms of size with the inherent obselescence of some items of capital investment. For instance, some equipment may have to be substituted with associated importation costs. However, the most important issue is for the company to cut its price drastically so that covering cost per unit area of bricks is lower than blocks to enable market penetration. At present the exact opposite is true.

APPENDICES

APPENDIX '1'

QUESTIONNAIRE FOR ARCHITECTS/ENGINEERS

1 - For how long have you been an Architect/Engineer?

_____years.

2 - In the last five years, what percentage of your clients were:

a - Individuals _____ percent

b - State Governments_____ percent

c - Federal Government_____ percent

d - Private Companies _____ percent

e - Others (please specify)

_____ percent

_____ percent

3 - What is the approximate value of Burnt Bricks and Sandcrete blocks used in your construction projects in the last five years?

Burnt Bricks_____percent

Sandcrete blocks_____percent

4 - Comparing Burnt bricks and Sandcrete blocks, which is is: (please tick)

	Burnt bricks	Sandcrete blocks
a - Cheaper(per square metre)	☐	☐
b - Safer (e.g. against fire)	☐	☐
c - More Comfortable	☐	☐
d - More Available	☐	☐
e - More Beautiful	☐	☐
f - More porous	☐	☐
g - Heavier	☐	☐
h - Has higher load-bearing capacity	☐	☐

5 - How did you first know of companies producing Burnt Bricks in Northern Nigeria.

a - On TV (News) ☐ b - On TV(Advert) ☐

c - On the Radio ☐ d - In the National dailies ☐

e - From Clients ☐ f - From Contractors ☐

g - From other Architects/ Engineers ☐ h - On Billboards ☐

i - Trade Fairs ☐ j - Others (please specify)

6 - Which of the two products do you think has been adequately promoted by their manufacturers?

Burnt Bricks ☐ Sandcrete Blocks ☐

Both ☐ Neither ☐

7. Below is a list of advertising media through which the qualities and uses of Burnt bricks could be communicated to their users. Please rank them (from 10 to 1) according to effectiveness

a - TV ☐

b - Radio ☐

c - National Dailies ☐

d - Billboards ☐

e - Trade Journals ☐

f - Engineers ☐

g - Architects ☐

h - Contractors ☐

i - Distributors ☐

- Others (please specify)

j - ☐

8 - What do you think of the size/shape and quality of:

a - Burnt Bricks for Construction_____

_____

_____

b - Sandcrete Blocks for Construction_____

_____

_____

9 - What (approximate) percentage of Bricklayers and Sandcrete block layers do you think are in Northern Nigeria.

a - Bricklayers _____ per cent

b - Sandcrete block layers_____per cent

10.- Which of the following takes longer time to complete

a - Construction with Bricks ▱

b - Same Construction with Blocks ▱

11 - (a) Do you intend to recommend the use of Burnt Bricks to your clients in future?

YES ▱ No ▱

(b) If the answer to above is No, Why?

12 - What steps do you suggest the manufacturers of Burnt bricks and Sandcrete blocks take (in relation to product, price, promotion and distribution) to increase the market for their products?

(please use back page)

Thank you very much for your cooperation.

APPENDIX '2'

QUESTIONNAIRE FOR CONTRACTORS

(1) - For how long have you been a Contractor

_____years

(2) - In the last five years, what percentage of your clients were:-

a - Individuals _____percent

b - State Governments_____percent

c - Federal Government_____percent

d - Private Companies_____percent

Others (please specify)

e - _____percent

(3) - What is the approximate value of Burnt Bricks and Sandcrete Blocks that you used in contruction projects in the last five years?

Burnt Bricks_____percent

Sandcrete Blocks_____percent

(4)a - Have you ever used decorative bricks in your constructions?

YES ☐ NO ☐

b - - If No, Why?

_____

_____

(5) - What do you think of the size and quality of:

a - Burnt Bricks for construction

_____

_____

_____

b - Sandcrete Blocks for construction

_____

_____

_____

(6)- Comparing Sandcrete blocks and Burnt Bricks, which is (please tick)

	Sandcrete Blocks	Burnt Bricks
a-Cheaper(per Square Metre)	☐	☐
b-Safer (e.g. against fire)	☐	☐
c-More durable	☐	☐
d-More Comfortable	☐	☐
e-More available	☐	☐
f-More beautiful	☐	☐

(7)- How did you first ~~kjow~~ Know of companies producing Burnt Bricks in Northern Nigeria.

a - On TV (News) ☐ b - On TV (advert) ☐

c - On the Radio ☐ d - In the National Dailies ☐

e - Through Clients ☐ f - Through Architects/ Engineers ☐

g - Through Other Contractors ☐ h - On Billboards ☐

i - Others (please specify)

☐

(8) How do you buy Sandcrete Blocks

a - Direct from the Manufacturer ☐

b - From Dealers ☐

c - From Retailers ☐

d - You Manufacturer them any others (please specify) ☐

(9) Why?

_____

_____

_____

(10) How do you buy Burnt Bricks?

a - Direct from the manufacturer ☐

b - From Dealers ☐

c - From Retailers ☐

d - You manufacture them ☐

any others (please specify)

e - ☐

f - ☐

(11) Why?

_____

_____

_____

(12) Which of the two products below do you think is well distributed?

Sandcrete Block ☐

Burnt Brick ☐

Neither ☐

(13) - Which of the two products do you think has been adequately promoted?

Sandcrete Blocks ☐

Burnt Brick ☐

Neither ☐

(14) - What percentage of Bricklayers and Sandcrete Block layers are in Northern Nigeria?

a - Bricklayers _____percent

b - Sandcrete block layers_____percent.

(15) - Which takes longer time to complete:

a - A construction using bricks ☐

b - Same construction using Sandcrete Blocks ☐

(16) - Which of the two projects in 15 above is cheaper in terms of Labour?

(17) - What steps do you suggest the Manufacturers of Burnt Bricks and Sandcrete blocks take (in relation to product, price, promotion and distribution) to increase the market for their products?

(Please use back page)

Thank you very much for your cooperation.

APPENDIX '3'

Kotler's Marketing Effectiveness Audit:

Outline for Marketing Effectiveness

Customer Philosophy

A - Does management recognise the importance of designing the company to serve the needs and wants of chosen markets?

▱ - Management primarily thinks in terms of selling current and new products to whoever will buy them.

1. ▱ Management thinks in terms of serving a wide range of markets and needs with equal effectiveness.

2. ▱ Management thinks in terms of serving the needs and wants of well-defined markets chosen for their long-run growth and profit potential for the company.

B - Does management develop different offerings and marketing plans for different segments of the market?

0 ▱ No

1 ▱ Somewhat

2 ▱ To a good extend

C - Does management take a whole marketing system view (suppliers, channels, competitors, customers, environment) in planning its business?

0 - ▱ No, Management concentrates on selling and servicing its immediate customers.

1 ☐ Somewhat, Management takes a long view of its channels although the bulk of its effort goes to selling and servicing the immediate customers.

2 ☐ Yes. Management takes a whole marketing systems view, recognizing the threats and opportunities created for the company by changes in any part of the system.

Integrated Marketing Organization

D - Is there high-level marketing integration and control of the major marketing functions?

0 ☐ No. Sales and other marketing functions are not integrated at the top and there is some unproductive conflict.

1 ☐ Somewhat. There is formal integration and control of the major marketing functions but less than satisfactory coordination and cooperation.

2 ☐ Yes. The major marketing functions are effectively integrated.

E - Does marketing management work well with management in research, manufacturing, purchasing, physical distribution and finance?

0 ☐ No. There are complaints that marketing is unreasonable in the demands and costs it places on other departments.

1 ☐ Somewhat. The relations are amicable although each department pretty much acts to serve its own power interest.

2 ▱ Yes. The departments cooperate effectively and resolve issues in the best interest of the company as a whole.

F - How well organised is the new product development process?

0 ▱ The system is ill-defined and poorly handled

1 ▱ The system formally exists but lacks sophistication

2 ▱ The system is well-structured and professionally staffed.

Adequate Marketing Information

G - When were the lastest marketing research, studies of customers, buying influences, channels and competitors conducted?

0 ▱ Several years ago

1 ▱ A few years ago

2 ▱ Recently.

H - How well does management know the sales potential and profitability of different market segments, customers, territories, products, channels and order sizes?

0 ▱ Not at all

1 ▱ Somewhat

2 ▱ Very well

I - What effort is expended to measure the cost effectiveness of different marketing expenditures?

0 ☐ Little or no effort

1 ☐ Some effort

2 ☐ Substantial effort

Strategic Orientation

J - What is the extent of formal marketing planning?

0 ☐ Management does little or no formal marketing planning.

1 ☐ Management develops an annual marketing plan

2 ☐ Management develops a detailed annual marketing plan and a careful long-range plan that is updated annually.

K - What is the quality of the current marketing strategy?

0 ☐ The current strategy is not clear

1 ☐ The current strategy is clear and represents a continuation of traditional strategy

2 ☐ The current strategy is clear, innovative, data based and well-reasoned.

L - What is the extent of contingency thinking and planning?

0 ☐ Management does little or no contingency thinking.

1 ☐ Management does some contingency thinking, although little formal contingency planning.

2 ☐ Management contingencies and develops contingency plans.

Operational Efficiency

M - How well is the marketing thinking at the top communicated and implemented down the line?

0 ☐ Poorly

1 ☐ Fairly well

2 ☐ Successfully

N - Is management doing an effective job with the marketing resources?

0 ☐ No. The marketing resources are inadequate for the job to be done.

1 ☐ Somewhat. The marketing resources are adequate, but they are not employed optimally.

2 ☐ Yes. The marketing resources are adequate and are deployed efficiently.

O - Does management show a good capacity to react quickly and effectively to on-the-spot developments?

0 ☐ No. Sales and market information is not very current and management reaction time is slow.

1 ☐ Somewhat. Management receives fairly up-to-date sales and market information, management reaction time varies.

2 ☐ Yes. Management has installed systems yielding highly current information and fast reaction time.

Rating Marketing Effectivness

The following scale shows the equivalent in marketing effectiveness.

0 - 5	None
6 - 10	Poor
11 - 15	Fair
16 - 20	Good
21 - 25	Very Good
26 - 30	Superior.

Source: Kurtz, David L. and Boone, Louis E. (1981)

Marketing, The Dryden Press, New York. pp.640 - 641

APPENDIX 4

NIGERIAN BRICK & CLAY PRODUCTS (LTD.)
(A Subsidiary of the Nigerian Mining Corporation)

DECORATIVE BRICKS

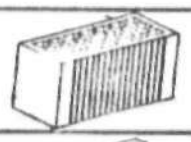
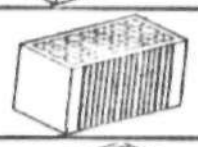
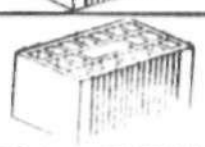
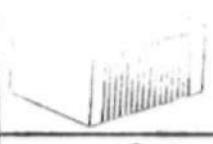
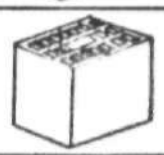
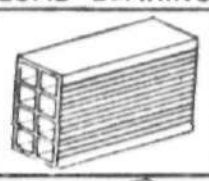
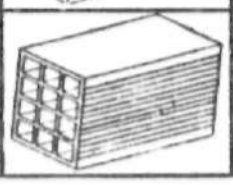
Products	Sizes LxBxH		Recommended Uses	Prices per 1,000 units
D.B.1.H.	240x115x2$\frac{1}{2}$0mm giving approx. 16bricks/m²		Decorative purposes and screening walls	₦700.00
D.B.2.H.	240x120x160mm giving approx. bricks/m²		Decorative purposes and screening walls	₦800.00
D.B.4.H.	300x120x145mm giving approx. 22 bricks/m²		Decorative purposes and screening walls	₦600.00
Northern Knot	240x115x240mm giving approx. 16 [illegible]		[illegible]	₦1200.00

SPECIAL PRODUCTS

PAVIOR (small)	200x95x45mm giving approx. 55 bricks/m²		Paving of floors	₦140.00
PAVIOR (large)	250x120x60mm giving approx. 44 bricks/m²		Paving of floors	₦140.00
LINTEL CASING	250x120x135mm or 250x150x135mm or 250x180x135mm		*Covering concrete* Lintels	Prices correspond with the size of the bricks
FACING SLIPS	250x60x35mm giving approx. 95 slips per m²		Facing of walls in Architectural finishes	₦150.00

APPENDIX 4

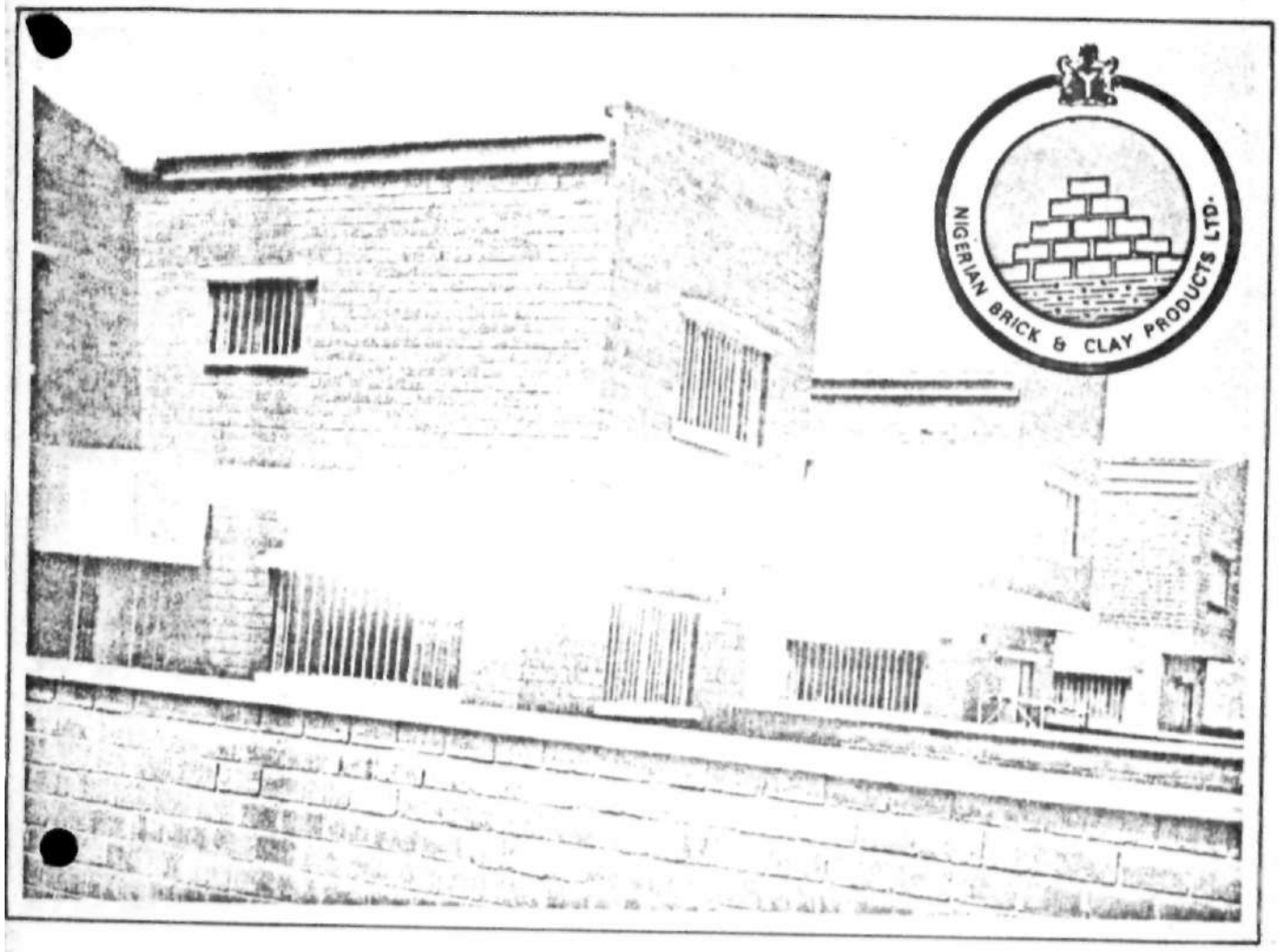
NIGERIAN BRICK & CLAY PRODUCTS (LTD)
(A Subsidiary of the Nigerian Mining Corporation)
The price list showing different sizes and types of products:-

Products	SIZES LxBxH		Recommended Uses	Prices per 1,000 units
NS	NS./Normal Size 250x120x60mm giving approx. 52 bricks/m²		For wall construction decorative purposes	₦110.00
B10	250x100x135mm giving approx. 26 bricks/m²		Mainly for inside wall construction	₦190.00
B12	250x120x135mm giving approx. 26 bricks/m²		Mainly for inside wall construction	₦220.00
B12L	250x120x200mm 20 bricks/m²			₦310.00
B15	250x150x135mm giving approx. 26 bricks/m²		Construction of outer walls	₦280.00
B18	250x180x135mm giving approx. 26 bricks/m²		Construction of outer walls in storey buildings	₦360.00
B15L	250x150x225mm giving approx. 16 bricks/m²		Construction of outer walls	₦440.00
B15 M	250x150x200mm 20 bricks/m²			₦400.00
B18L	250x180x225mm giving approx. 16 bricks/m²		Construction of outer walls in storey buildings	₦500.00
B18M	250x180x200mm 20 bricks/m²			₦460.00
	NON–LOAD BEARING			
HB8	300x105x200mm giving approx. 16 bricks/m²		Screening and partition walls	₦360.00
HB12	300x150x200mm giving approx. 16 bricks/m²		Screening and partition walls	₦460.00

NOTHING

APPENDIX 5

builds better for less money



....than NIMCO BRICKS.

NIGERIAN BRICKS & CLAY PRODUCTS LIMITED
(A Subsidiary Of Nigerian Mining Corporation)

BRICKS!!!

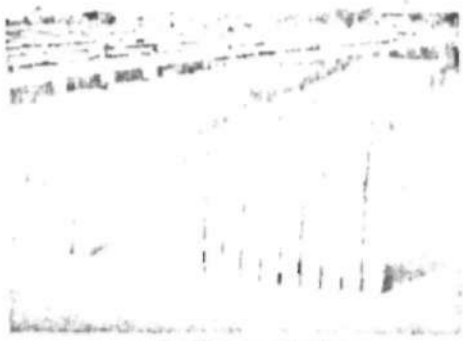
Bricks, claybricks or burnt bricks as they are often called have long been used for building houses by our forefathers. Some of these structures are still standing in some parts of the country today; having been able to stand the test of time and the rigours of our climate. Not very surprising, bricks have also been part of the vocabulary of architecture for long. And nowadays with so much shortages in the supply of cement for building and construction purposes, designers are returning more and more to brickwork and seeking to exploit its aesthetic potential to the full. The demand by potential house owners and those that already own houses to use bricks is developing rapidly; having noticed that bricks provide good structure, finish and decoration. Nigerian Brick & Clay Products Ltd., manufactures of NIMCO bricks has always recognised the reliance placed on them by customers and designers, and all their range of bricks are carefully designed to very rigid standards. What's more:- NIMCO brick plants are located on site of their raw material which ensures reliable supply of bricks for any construction purposes. This arrangement is a rather unique one ; and it boils down to one thing:-

Availability makes production.

WHY NIMCO BRICKS?

Apart from bricks being aesthetically satisfying and functionally efficient form of construction that will stand the test of time and the rigours of our climate, the idea of setting up brickwork plants in different parts of the country was conceived primarily to alleviate the housing shortages in the country.

This was at the time the nation was running short of cement and arrangements were being made for bulk purchase of the commodity.



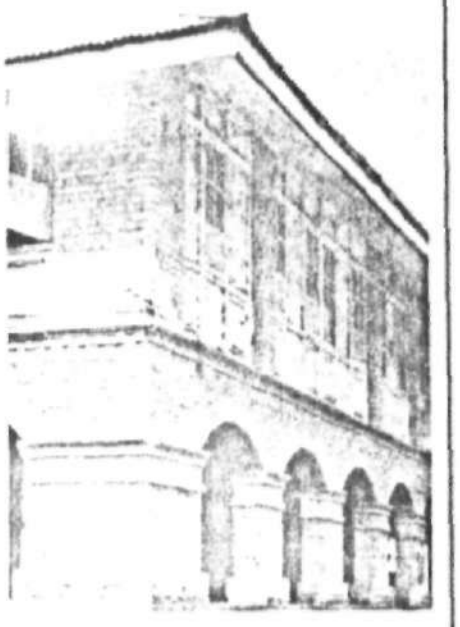
Load-bearing bricks



Decorative Bricks

Hence on the 24th October, 1972, the Nigerian Mining Corporation was formed and in July of 1976 the Corporation formed the Nigerian Brick & Clay Products Limited, as a subsidiary with the aim of establishing seven brickwork plants simultaneously in different parts of the country. The areas selected are:- Lagos, Ibadan, Kaduna, Jos, Kano, Maiduguri and Enugu.

Simultaneously too, clay which occurs in abundance within the country was earmarked for processing into burnt bricks (NIMCO BRICKS) as an alternative to cement blocks for housing projects, and other construction purposes.

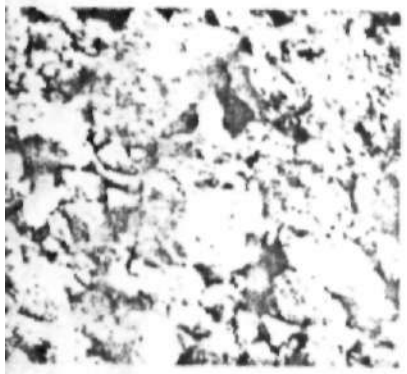


Century-old Brick Building
– looking as new

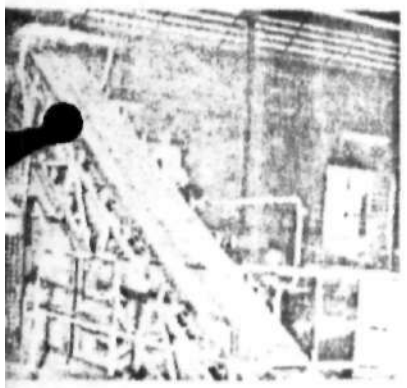
PRODUCTION OF NIMCO BRICKS

The production of NIMCO bricks is simple and cost effective, and the raw materials are not imported. The project based entirely on the use and [redacted]ssing of clay is thus a major break-through in the development of the building industry in Nigeria.

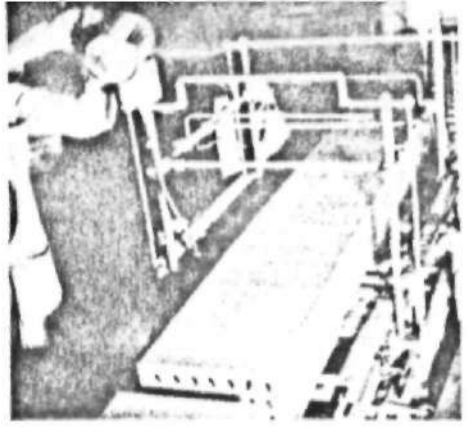
The product after extrusion is fired to between 980-1100 degrees Celsus. This gives the product the strength which is far more reliable than cement blocks.



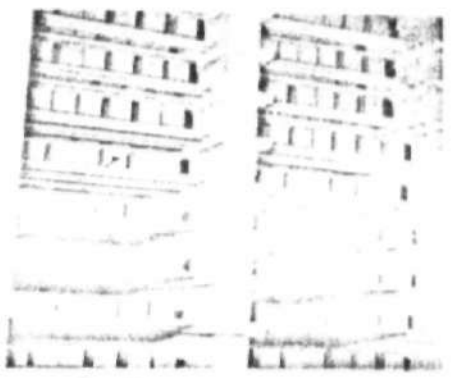
Gray clay type



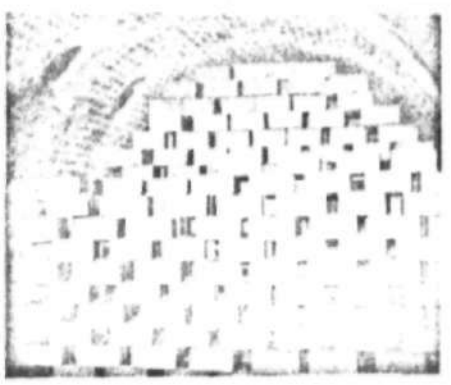
Conveying clay to mixer



Wire-cutting bricks



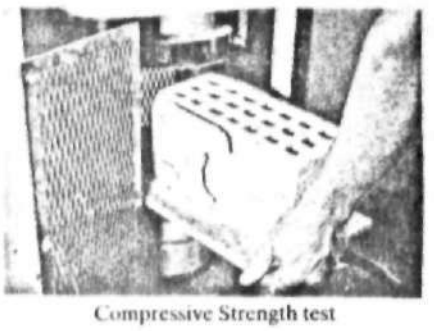
De-airing at temperature of 900°C



Burnt Bricks in kiln

STRENGTH OF NIMCO BRICKS

The strength of NIMCO Bricks accord with Nigeria Industrial Standard for compressive strength with not less than $15N/mm^2$. To maintain its high standards. The bricks are normally put through the load-bearing (strength) capacity test.

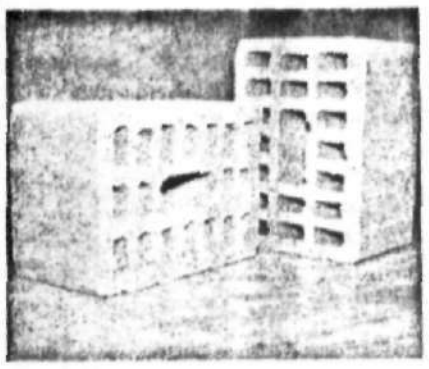


Compressive Strength test

TEXTURE OF NIMCO BRICKS

In all brickwork, the surface texture is another important element in the subtle aggregation of factors that make up the overall appearance of bricks. Colour, texture and form are closely inter-related each modifying the aspect of the others. The natural texture of the brick is determined by the clay deposits. Slight variation in colour occurs from one plant to the other. It is sometimes possible to play on this natural advantage by using a combination of decorative clay products from two or more factories. All of these together play an important role in the aggregation of visual factors

pearance of brickworks. And if we may add, please remember that even a colour photograph can never capture the full surface texture of NIMCO bricks, and that the real things are more effective.



Texture of Bricks

QUALITIES OF NIMCO BRICKS

BEAUTY

NIMCO bricks have their natural colouring and therefore, are naturally beautiful ... this beauty improves with age.

CONSISTENT QUALITY

With NIMCO bricks, and because of the quality procedure during manufacture, the bricks are always consistent and their quality always reliable. Supervision of civil works is therefore simplified.

Common Bricks	Facing Bricks	
		NS. / Normal size 250x120x50 mm giving approx 52 bricks /m²
		3 10 250×100×135 mm giving approx. 26 bricks/m²
		8 12 250×120×135 mm giving approx. 26 bricks/m²
		8 15 250×150×135 mm giving approx. 26 bricks/m²
		8 18 250×180×135 mm giving approx. 26 bricks/m²
		8 25 300×250×135 mm giving approx. 23 bricks/m²
	HOLLOW POT	HB 8 300×105×200 mm giving approx. 16 bricks/m²
	HOLLOW POT	HB 12 300×150×200 mm giving approx. 16 bricks/m²
DECORATIVE	BRICKS	
	D. B. I. H.	240 x 115 x 240 mm giving approx 16 bricks/ m²
	D. B. 2. H.	340 x 120 x 160 mm giving approx 18 bricks/ m²
	DB 4 H.	300 x 120 x 145 giving approx. 22 bricks/m²
	Northern Knot	240 x 115 x 240 mm giving approx 16 bricks/ m²
SPECIAL PRODUCTS.		
	PAVIORS (1) 200×96×46 mm giving Approx 56 Paviors/m²	PAVIOR (2) 250x120x60 giving approx 44 paviors per m²
	Lintel Casing	250x120x135 mm giving approx 4 Casings per m
	Facing slips	215x60x50 mm giving approx 95 slips per m²
	N.S. Engineering quality bricks	250x120x60 mm giving approx 52 bricks per m²



Nigerian Mining Corporation Housing Estate at Anglo-Jos



Rotary Bus stop, Jos

DURABILITY

The durability of bricks is quite pronounced and it actually gets past the 100 years mark.

PROVISION OF HEALTHY DWELLING

The ability of NIMCO bricks to 'breath' produces a balance of humidity which ensures healthy and pleasant interior atmosphere. NIMCO brick houses are cooler in very hot weather conditions, and they are fire resistant. Heat and cold are very well insulated to ensure a pleasant interior atmosphere.

SAVINGS

With NIMCO bricks, houses don't require painting or plastering of the outside wall ... this translates into a considerable savings in materials and labour. Again future re-decoration becomes unnecessary/easy.

SOUND INSULATION

The high compression of NIMCO bricks ensures optimum protection against the nuisance of noise from within and outside the building.

STRENGTH

The high compressive strength which more that meets with the Nigerian Industrial Standard, allows NIMCO bricks to be used for load-bearing mansonry in multistorey buildings.

Produced and designed by ADPURE Ltd Jos

ECONOMY

NIMCO bricks are versatile materials, a good bargain at all times (Boom or Austerity); easy to work with and of consistent shape and size. Cost savings on wall construction is just over 30% as compared with cement block works. Where it is desired to build economically without compromising beauty and elegance, NIMCO bricks are the designers' and builders' choice.

SALES OF NIMCO BRICKS

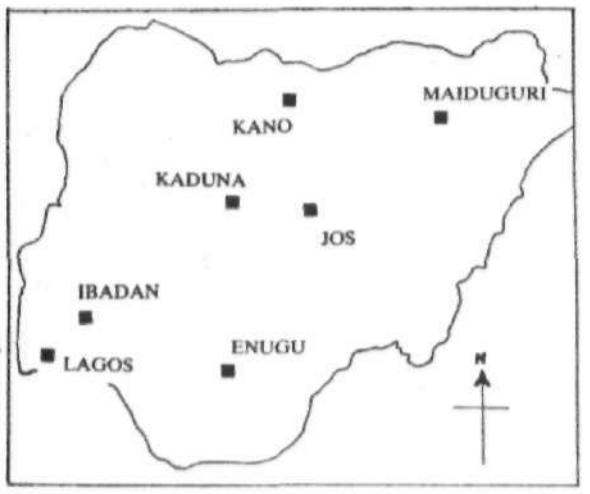
The Company, aware of the problems of retailing their products in the country has been operating both the agency and the open system of marketing. This is with a view to providing a price check on the appointed agents and ensuring that the customers who for convenience desire to get their supply and requirement with ease at the company's listed price, which is uniform throughout the country. Any customer making a large order can do so direct thereby enjoying some of the advantages given to appointed agents. The marketing department of the company which is in charge of the sales of the company products also give on request, further details and technical information about it's products. You can obtain such information by addressing all your enquiries to the:-

SERVICES OFFERED FREE OF CHARGE BY MAKERS OF NIMCO BRICKS

The best bricks in the world are no good to you if the manufacturers of such bricks do not include in their programme of operations some services free of charge to their scores of customers before and after any purchase. Nigerian Brick & Clay Products Ltd., has always recognised the importance of such free services to its customers and have continued to give such services. Below are such services that are offered by the makers of NIMCO bricks.

1. When a customer is not sure of the quantity of bricks required for construction, our marketing department will do the calculation free of charge.
2. Any customer using our bricks will have the advisory services of one trained NIMCO bricklayer for a period up to two weeks depending upon the size of the project free of charge.
3. The company will give in-plant training to bricklayers sent by the customer free of charge.
4. Useful suggestions on type of bricks and method of using decorative bricks offered free of charge.
5. Special Products are manufactured at customer's request.

LOCATION AND ADDRESS OF OUR PLANTS



- NARAGUTA BRICKWORKS (BAUCHI ROAD),
  P.O. BOX 3125,
  JOS.
- KADUNA BRICKWORKS,
  MARARRABAN-RADIO,
  KACHIA ROAD,
  P.O. BOX 6321,
  KADUNA.
- IBADAN BRICKWORK OMI-ADIO,
  ABEOKUTA ROAD,
  P.M.B. 5636,
  IBADAN.
- MAIDUGURI GONGOLON ROAD,
  P.M.B. 1467,
  MAIDUGURI.
- KANO BRICKWORKS
  OPPOSITE BAGAUDA LAKE HOTEL,
  P.M.B. 3138,
  KANO.
- AKEGBE-UGWU,
  ENUGU-P.H. EXPRESS WAY,
  P.M.B. 1405,
  ENUGU.
- LAGOS BRICKWORK IKORODU
  IBESHE ROAD,
  P.M.B. 541,
  IKORODU.

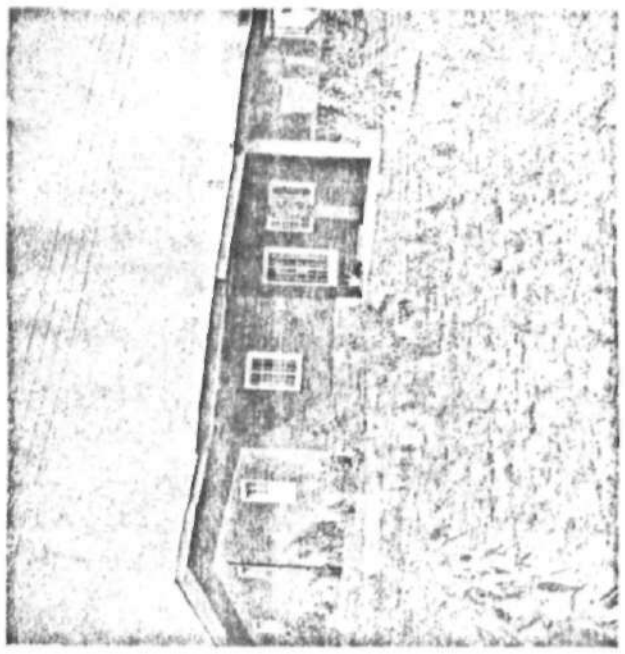
Colour separation and printing by the Scanning House London, England.



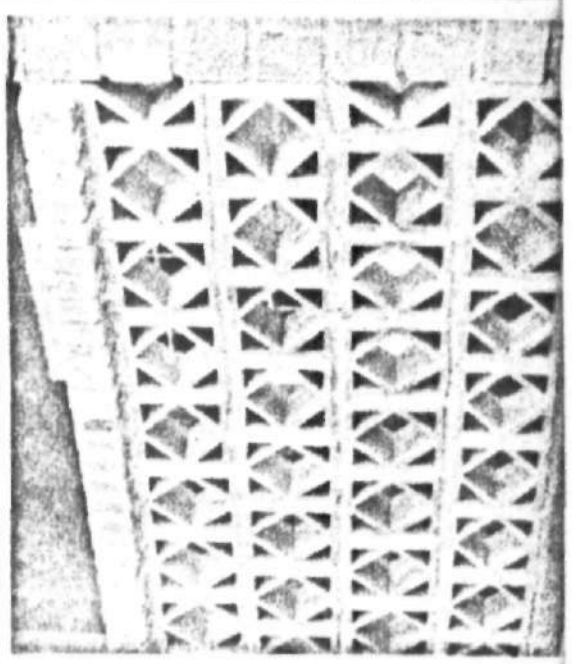
Facing Slips on a Gas Station



Housing Estate in Vom



Bungalow built with Nimco Bricks



For further information please fill out this coupon and send to address on the back:

Name .....

Address .....

Profession .....

B I B L O G R A P H Y

1. Abell, Derek F. and Hammond, J. S. (1979) Strategic Marketing Planning: Problems and Analytical Approach; Prentice-Hall Inc. Eaglewood Cliffs, New Jersey.

2. Cundiff, Edward W. and Still, Richard R. (1971), Basic Marketing: Concepts, Decisions and Strategies. Prentice-Hall Inc. Eaglewood Cliffs, New Jersey.

3. El-Rufai, N. A. "Comparative Cost Study of Clay Bricks and Precast Concrete Blocks." Unpublished undergraduate project, Department of Surveying Ahmadu Bello University Zaria, 1980.

4. Endicott, Wayne A. "Other Structural Clay Products provide profit opportunities," Brick and Clay Record, Vol. 184 (April 1984), p.29.

5. Fox, Edward J, and Wheatley, E. W. (1978). Marketing Principles and Practices. Scot Foresman and Company, Illinois.

6. Jeffers, P. E. "Government Relations Influence on Industry." Brick and Clay Record, (November 1980) pp. 23-54.

7. Kerby, Joe K. (1970), Essentials of Marketing Management. South-Western Publishing Company, Cincinnati, Ohio.

8. Kotler, Philip (1972), Marketing Management: Analysis, Planning and Control. Prentice-Hall Inc. New Jersey.

9. Kurtz, David L. and Boone, Louis E. (1981), Marketing. The Dryden Press, New York.

10. Markin, R. (1979), Marketing. John Wiley and Sons, New York.

11. McCarthy, Jerome E. (1964). Basic Marketing: A Managerial Approach, Richard D. Irwin Inc., Homewood, Illinois.

12. Nuhu, S. "Problems and Future Prospect of Brick Industry in Nigeria." Unpublished. Nigerian Mining Corporation, Jos.

13. Nuhu, S. "The Effect of Economic Stabilization Act (1981) on Local Industries." Paper presented at a Symposium organised by Kano Permanent Trade Fair Committee, Kano; January 29, 1983.

14. Stanton, William J. (1975). Fundamentals of Marketing McGraw-Hill Book Company, New York.

15. Usoro, Eno J. "The Dynamic Role of the Construction Industry in Nigeria's Development", Nigerian Economic Society. Proceedings of the 1974 Annual Conference.