

PUBLIC ENTERPRISE AND INDUSTRIALISATION: THE CASE OF ZAMBIA BREWERIES LIMITED

Chisepo J.J. Mphaisha

The manufacturing, bottling and marketing of clear beer in Zambia began in 1952 when the Ndola Brewery, functioning as a subsidiary of the South African Breweries, was established. This linkage ended in 1963 when the Ndola Brewery was renamed Northern Breweries. It established the second plant in Lusaka in 1967. The government, under the general programme of economic reforms, took over the operations of the Northern Breweries in 1969 and renamed the organization Zambia Breweries Limited in June, 1970.

The purpose of this article is to assess the performance of Zambia Breweries, particularly with regard to the development of local technological capabilities. The areas investigated include organization and management, product mix and marketing, production technology/techniques and raw materials, finance and investment decisions, research and development, and management development and training.

Organization and Management

Zambia Breweries Ltd a subsidiary of the Industrial Development Corporation, is a joint-venture. The state controls 55% of the shares while Zamanglo Ltd has 25% and John Labatt of Canada has 20% of the shares.

The involvement of minority shareholders in Zambia Breweries Ltd is in line with a long-established development policy. After independence in 1964 the government had two major development goals. The first was to diversify the economy from copper-mining to manufacturing activities. This was largely a result of, and a response to the 6% contribution of the manufacturing sector to the Gross Domestic Product. The government, in order to accelerate industrialisation from this small base, pursued a policy of direct participation on its own in key industries, wherever necessary, and of providing incentives to attract foreign direct investments through the joint-venture mechanism. The second goal was to increase Zambian participation in the ownership of the economy and in the management of enterprises:

It is the policy of the government to participate in certain basic industries which are of major significance to the economy. This participation will generally be in partnership with private

investors but, in certain circumstances, the government itself will undertake the establishment of industries considered to be in the national interest...

Participation in all such cases will be undertaken by the Industrial Development Corporation on behalf of the government.... In certain cases, the Industrial Development Corporation will carry out management functions in addition. In the case of existing industries in which the government wishes to participate, appropriate arrangements will be made by agreement and again the Industrial Development Corporation will hold the shares on behalf of the government.

Thus, the Industrial Development Corporation had the responsibility of providing direct assistance to its subsidiaries through loans and equity capital; providing physical infrastructure such as factory buildings; and promoting projects, feasibility studies and investment advice. Except for bank overdraft facility arrangements, the Industrial Development Corporation was to be the sole negotiator for company loans of its subsidiaries. At the enterprise level, however, broad policy guidelines had to be decided upon by a Board of Directors while the day-to-day operations were in the hands of management.

Hence, Zambia Breweries Limited has a Board of Directors comprising seven members. Three members come from the Industrial Development Corporation, three are from minority shareholders and one is the Permanent Secretary, who represents the Minister of Commerce and Industry. Its Chairman is one of three directors from the Industrial Development Corporation which meets in regular session once every three months. Its functions are to decide on policies governing Zambia Breweries Limited, to exercise control over the management and to decide on expansion programmes. Major policies, such as new projects, require the clearance of the Industrial Development Corporation. The liaison between this holding company and Zambia Breweries is provided by the latter's Chairman. The Permanent Secretary ensures that the operations of Zambia Breweries Limited are within the context of the broad development policies of the government.

The management of Zambia Breweries Limited is organised into about seven departments, brewery, technical, personnel, purchasing, marketing, accounting and administrative/legal. The heads of departments directly report to the General Manager who is appointed by the President of the Republic of Zambia. The heads of departments are appointed by the Board

of Directors. The General Manager and the heads of departments form the management committee which meets as often as there are administrative problems to be solved. They all attend the meetings of the Board of Directors. This provides a link between policy-making and implementation within Zambia Breweries Limited.

Management contracts are a normal practice in joint-ventures. Zambia Breweries Limited does not, however, have a management contract with minority shareholders. Neither does it have a technical consultancy contract. It directly employs expatriates in technical fields in which there is no indigenous expertise. In addition, it sub-contracts foreign-based firms to undertake major engineering jobs at either the Lusaka or the Ndola Plant. These are firms that supply Zambia Breweries Limited with technology.

Product Mix and Marketing

When Zambia Breweries Limited was created, it was expected to manufacture, bottle and market a variety of alcoholic and non-alcoholic drinks. However, it has concentrated on the production of two beer lagers, Mosi and Muchinga (formerly called Castle and Lion, respectively). Although it has not experienced market pressure to diversify its products, in the early 1970s it briefly tried to market Eagle. This product was eliminated from the production line because of its 4.5 percent alcoholic content compared to 3 percent for Mosi and Muching. Public speculation that its consumption was causing sterility in men, hence contributing to broken families, exacerbated Eagle's poor market performance.

Zambia Breweries Limited has, therefore, almost virtual monopoly in the production and marketing of clear beer lager. Some indirect and somewhat insignificant competition comes from National Breweries which produce traditional and market opaque beer in the urban areas and from individual brewers of traditional local beers in both urban and rural areas. The opaque and traditional beers are favorite drinks among the low-income groups. Some middle-income consumers seem to be joining the band-wagon of opaque and traditional beers. Due to a high rate of official inflation in Zambia, it is almost impossible for low-income groups to afford more than K1.50 price per bottle of Mosi or Muchinga.

Zambia Breweries now plans to increase its products. It wants to introduce Kool, a lower alcoholic content beer than Mosi and Muchinga. It also wants to introduce Keg (draught) beer whose distinct market is said to be in the hotels. In

addition, it has spared no efforts to produce high quality beer. This is evidenced by medals won at international competitions from 1975 through 1982. In 1978, for example, the Industrial Development Corporation announced that:

Mosi and Muchinga products of Zambia Breweries have once again won top medals of this year's world selection of the best beer and non-alcoholic beverages held in Belgium recently.²

The selection of high quality beer products and the award of medals to the winners are done by the World Institute in Brussels, Belgium. The expectation of Zambia Breweries was that it would continue to improve on the quality of its products to meet international standards. However, experiences after 1982 have proved the contrary. Not only has Zambia Breweries Ltd failed to satisfy domestic demand but it has tended to market poor quality beer. The production of Mosi and Muchinga dropped from 1,101,000 hectolitres in 1982 to 1,099,000 hectolitres in 1984, the lowest level of production in the last five years. As a result, Zambia Breweries Ltd's operational losses for 1984 alone stood at K1.8 million.³ The drop in production was partly caused by constant machinery breakdowns at the Lusaka Plant.

The management further attributed poor quality beer to equally poor refrigeration facilities at the Lusaka plant. Additionally the Ndola Plant has adequate supplies of soft water in contrast to the Lusaka area which has hard water because of high lime content. This damaged the cooling power of refrigeration and compressed air machinery. The machinery breakdowns resulted from burnt out motors and clogged water spray jackets, compressor units and pipes. In addition, "floaters" developed in beer bottles because of the malfunctioning of boilers which received insufficient supplies of steam. Hence, the management believed that beer quality would improve and production levels would increase by overhauling the old equipment and installing new machinery at the plants.

Production Technology/Techniques and Raw Materials

The brewing and bottling machinery was imported from South Africa and the United Kingdom. Zambia Breweries Ltd has recently purchased machinery from West Germany and Zimbabwe. Engineering and maintenance personnel from suppliers of the technology are often contracted to install new equipment and to do major repair works. Zambia Breweries Ltd also employs technicians who mainly deal with less complicated repair and maintenance works.

Zambia Breweries Ltd has a capacity utilization of 24 hours. It is divided into three eight-hour shifts from Monday through Sunday. Downtime is experienced when maintenance work is undertaken especially after a breakdown. The Lusaka plant had only one production line. This meant that production had to stop until machines were repaired. In 1971, therefore, a second line was installed with a capacity of 42,000 bottles per hour. This somewhat improved the situation.

It is noteworthy that the machinery at the Lusaka plant was almost obsolete because no major capital investments had been made since 1968. The first annual overhaul was done in 1984 at a cost of K1 million. A second overhaul for K2 million was undertaken in 1985. In addition, limited fabrication of spare parts was done in order to reduce the foreign exchange component of the total costs of the overhaul.

In 1985 about 57 tonnes of refrigeration equipment was imported from West Germany, worth K534,322.⁴ Next the Portala Water Treatment Company of South Africa, the supplier of the initial water treatment equipment at the Lusaka Plant, was engaged to install the new machinery for K100,000. The second phase of this project is to cost about K90,000. Boiler tubes and reticulation pipes are to be provided and installed by Thomas and Taylor of Zimbabwe. An additional K320,000 is needed to rehabilitate the brew house control panel. Some machinery overhaul work has been going on at the Ndola plant. In 1985 a new bottling line, with a rated capacity of 42,000 bottles per hour, was installed at a cost of K5 million.⁵

Zambia Breweries Ltd plans to produce beer at full capacity in the next few years. By 1985, for instance, its actual annual production was 290 million bottles (or 1.1 million hectolitres). With the above technological improvements, the annual capacity is to rise to 375 million bottles (or 1.4 million hectolitres). This figure will apparently meet present market demand. The immediate difficulty, however, has been that all the projects mentioned require sufficient allocations of foreign exchange to Zambia Breweries Ltd.

This difficulty is compounded by the importation of most raw material inputs. The imported inputs include malt, hops (pellets and concentrates), salts, bottle tops, cork, acids and filter aids/stabilizers. The only locally available raw materials are maize and sugar, comprising 12% of total inputs, respectively obtained from the Choma Milling Company and the Zambia Sugar Company. Zambia Breweries Ltd obtains bottles from the Kapiri Glass Products Ltd and plastic crates from Morgroup Plastics. In this way, it supports some local industries.

Malt is made from barley and, currently, constitutes about 35% of the annual foreign exchange expenditures of Zambia Breweries Ltd. The foreign exchange squeeze is now forcing Zambia Breweries Ltd to substitute imported malt with malt from locally grown barley. What now remains, after many experiments, is the establishment of a malting plant and the provision of sufficient incentives to local barley farmers. Zambia Breweries Ltd also plans to get directly involved in barley production by establishing its own farms.

Another factor that seems to compel Zambia Breweries Ltd to find alternative sources of raw materials is a government tariff of 30% on all imported inputs. The management has asked the government to exempt them from this tariff to allow for similar benefits enjoyed by enterprises such as the Zambia Consolidated Copper Mines Ltd. Such an exemption would likely lead to laxity and backward linkages. For instance, one cannot understand why acids are not purchased from Kafue Nitrogen Chemicals Ltd. The government needs to revise its 30% tariff upwards in order to compel public enterprises like Zambia Breweries Ltd to explore the possibilities of localising most of its raw materials.

Investment Decisions and Sources of Finance

The central theme underlying government intervention in the economy was that state ownership conferred the rights of direct control necessary to implement public policies and to accelerate the achievement of national goals. By definition therefore, the goals of Zambianisation, employment generation, economic diversification and agricultural development are determined by the government. It decides what specific investments and actions would further its objectives and issues directives to public enterprises like Zambia Breweries Ltd to implement those decisions.

Thus, Zambia Breweries Ltd as a public corporation is expected to be a profit-making unit as compared to statutory boards that are 100% owned by the state. President K.D. Kaunda made the distinction between these two kinds of public enterprises as follows:

If a project is placed under a statutory board it should be operated in such a manner and under a price structure so that in the long run it makes no profit and no loss, covering its expenses including depreciation on its wasting assets and interest on government's investments. Any short run gains should be credited to a reserve account, and any short run losses would be charged to that reserve account. The further capital which it may need for

expansion should come either from its depreciation account or from fresh government loans. It should not be expected to repay the principal in the foreseeable future.

Any other parastatal company should be operated in such a manner and under such a price structure that it covers its expenses including depreciation and interest on any debt owing to government, plus a profit. Again, expenses should be kept to the minimum. The rate of profit should be related to the riskiness and uncertainty of the business, and should allow a reasonable return to government or its appointed agency. The annual rate of profit might vary, between say 12 and 16 percent of the capital invested, depending on the riskiness of the business and on the expansion plans of the business.⁶

Zambia Breweries Ltd normally finances its day-to-day operations from internal sources through commercial bank overdrafts. This fact made the setting of beer prices a critical issue in its operations because pricing determines whether or not adequate revenues will be available for recurrent and capital expenditures.

Beer prices are set by Zambia Breweries Ltd in consultation with the Industrial Development Corporation. They are then approved by the Minister of Commerce and Industry and subsequently gazetted. Before 1982, therefore, the obvious pricing problem arose from the government's decision on a price ceiling that did not allow Zambia Breweries Ltd wide enough profit margins. It either recorded relatively low profits or suffered losses on an annual basis (see Table 1).

Table 1
Turnover and Profits/Losses, 1978-1983
(K'000)

	1978	1979	1980	1981	1982	1983
Turnover	94029	110643	124885	135557	140797	160026
Profit/Loss	242	-1938	-742	438	1474	815

Source: Indeco, Annual Reports, 1978-1983 (Ndola)

The government, by exercising the right to review beer prices, approved a retail price primarily on the basis of protecting consumers from the full impact of price increases. Such a decision did not seem to give adequate consideration to production costs. This is because the government controlled

price was often lower than the cost, insurance and freight charges on imported inputs.

In 1982 the government decided, in response to the conditions for an International Monetary Fund loan, to decontrol the setting of prices. This decision had an almost immediate positive effect on the profit levels of Zambia Breweries Ltd (see Table 1). It, however, began to record lower figures starting from 1983. Zambia Breweries Ltd fully enjoyed benefits from decontrolled prices because of constant machinery breakdowns. The factors that combined to create this situation included: poor maintenance of equipment; lack of adequate numbers of technical personnel; and lack of sufficient foreign exchange with which to procure new equipment and spare parts from abroad.

The policy of Zambia Breweries Ltd, despite its operational problems, was to produce and market high quality beer. Therefore, its management decided that it could not market beer that had failed to meet strict quality control standards. This decision potentially meant that there would be lesser beer on the market. It also meant that until and unless retail prices were immediately raised, less revenues would be available for operational costs.

What is more, the government would be unable to levy excise and corporate taxes on Zambia Breweries Ltd. It must be noted that the government was experiencing liquidity problems in the aftermath of the 1973 world economic crisis. The bad economic situation compelled the government to rely on revenues from profit-making public enterprises for its programmes. In addition, it borrowed funds on several occasions from Zambia Breweries Ltd and the Zambia State Insurance Corporation just to pay civil servants salaries. This borrowing was over and above excise and corporate taxes received from Zambia Breweries Ltd. Hence, Zambia Breweries Ltd was under great pressure to increase production. The immediate consequences were constant machinery breakdowns and the marketing of poor quality beer. Consumers like Zambia Airways Corporation Ltd, a consumer as well as a public enterprise, was compelled to sell South African beer lagers on its international flights.

The Industrial Development Corporation, apparently for fear of some political backlash, insisted that Zambia Breweries Ltd had to continue to produce and market poor quality beer. The assumption seemed to have been that consumers would hardly mind the state of the beer after a couple of drinks! However, the Lusaka Urban District Council checked the situation by threatening to sue Zambia Breweries Ltd on the grounds that poor quality beer was a potential health hazard.

The political backlash would have several manifestations. First, Zambia Breweries Ltd would suspend hundreds of workers as a result of the closure of the Lusaka plant. This would be a difficult decision to implement given the fact that the government was keen to prevent indiscriminate laying off of workers by public enterprises. Second, the government would somewhat default on the payment of civil servants' salaries because a major portion of revenue would not be forthcoming from Zambia Breweries Ltd. Third, the already existing 'black market' in beer lagers would flourish, making it extremely difficult for the average consumer to obtain beer. In addition, the government would not realise any revenues from the 'black market' because such informal activities are hard to regulate. Consequently, the policy trade-off between the potential political backlash and poor quality beer was to keep open the production lines at the Lusaka plant.

Capital investments involving new machinery come from loans provided by public institutions like the Zambia National Provident Fund and commercial banks. Zambia Breweries Ltd has no restrictions on the amounts it can borrow. Nonetheless, its unfavorable liquidity position determines whether or not certain loans can be secured.

Management recommends plans or new capital investments to the Board of Directors for consideration and decision. However, such plans must be approved by the Industrial Development Corporation before implementation. Project feasibility studies are conducted prior to decisions on investments. In most cases, foreign consulting firms are contracted to do the feasibility studies. This does not help much in the development of local technological capability in Zambia Breweries Ltd. Hence, there is a need for increased horizontal coordination between Zambia Breweries and other public enterprises.

Management Development and Training

Recruitment and placement of high calibre personnel is a cornerstone of any personnel structure. This is because no amount of in-service training can make mediocre individuals bright and efficient. Thus, a sound recruitment policy is integral to operations. Equally important is the training of individuals in order to make them very productive in the organisation.

Government policy of take-overs of industries had two aspects. The first was the ownership of the means of production. The second was the indigenisation of personnel to manage and participate in the use of state assets. When Zambia Breweries Ltd was taken over, therefore, a decision was

made to retain minority shareholder administrative and technical management through contracts. This was changed in 1975 to contracting individuals instead of companies. This was the basis of recruitment. The gradual replacement of expatriate personnel also entailed a programme of on-the-job training.

Zambia Breweries Ltd now sends personnel overseas for specialised technical training and to local institutions like the Evelyn Hone College of Applied Arts for accountancy, the University of Zambia for engineering and general degrees, and the Zambia Institute of Technology for crafts and technician's courses.

Managers attend local and international workshops and seminars in order to broaden their knowledge. In addition, suppliers of technology can and do come to conduct brief courses at Zambia Breweries Ltd premises. In 1985, for example, experts from West Germany came to Zambia for 6 weeks to lecture on brewing techniques. All these efforts are designed to build some local technological capability within Zambia Breweries Ltd. This has resulted in almost 95% Zambianisation of personnel. The areas in which there is still room for accelerated training are accounting and engineering units.

Research and Development

Applied research and the utilisation of its results are important to any organization. They help identify constraints and provide short and long-term solutions to problems. Zambia Breweries Ltd has no research and development department. Nonetheless, it carries out some limited research. Presently, it has about 11 professional personnel who examine problems in the production process and in finding new sources of raw materials such as obtaining malt from locally grown barley. However, these individuals do not seem to be engaged in research on new products such as new brands of beer. Besides, there is no special budgetary allocation for research and development.

Consequently, Zambia Breweries Ltd is unlikely to introduce new brands of beer apart from the already mentioned Kool and Keg. Neither is Zambia Breweries Ltd in a position to effectively modify or improve upon present production techniques. In addition, it has no technical library with the latest literature on the present state of brewing technology. The only exceptions are annual reports and 'in-house' magazines of the Industrial Development Corporation. It is imperative to involve the National Council for Scientific Research in the brewery's research activities.

Conclusion

The preceding discussion and analysis have demonstrated the difficulties confronting Zambia Breweries Ltd. There is no doubt that it has technicians, with long years of experience mainly with the original machinery. The constant machinery breakdowns and poor quality beer are indications that the knowledge of old machines leaves much to be desired. What is needed, therefore, is an intensive training programme for technical personnel to help them handle both old and new machinery.

The long-term advantage of the training programme is a reduction on the existing over-reliance on ad hoc service and/or technical contracts with foreign-based companies. The minority shareholders like John Labatt, reputed brewers of beer in Canada, would have to be persuaded to play an active role in such a training programme. This is because Zambia Breweries Ltd cannot continue, with current foreign exchange problems, to indefinitely depend on technology suppliers to maintain its machinery.

In addition, Zambia Breweries Ltd must establish horizontal links with relevant public enterprises. Presently, it obtains bottles from Kapiri Glass Products Ltd and crates from Norgroup Plastics Ltd. However it continues to import bottle tops and cork mainly from South Africa. This means, obviously, that beer would not be bottled whenever difficulties were experienced with foreign exchange allocations. Hence, there is great need to localise certain inputs. A good start was the decision to obtain malt from locally grown barley. Further efforts must be made to explore the possibility of obtaining acids from the Nitrogen Chemicals of Zambia Ltd.

Finally, Zambia Breweries Ltd management enjoys considerable autonomy in the choice and acquisition of technology. This is because the government maintains a rather flexible policy on the sources of technology. The geographical proximity of South Africa compared to countries such as Britain and West Germany, for example, allowed Zambia Breweries Ltd to import from South Africa. The government did not prevent such dealings despite the often strained political relations between Zambia and South Africa as a result of the latter's domestic policy of apartheid. Nonetheless, there is a need for Zambia Breweries Ltd to sub-contract certain jobs to other public enterprises. The Lusaka Engineering Company, for example, could possibly fabricate items such as steam jackets, now imported. Metal Fabricators of Zambia Ltd could, as a long term goal, work on the manufacture of steel pipes rather than only aluminum irrigation pipes and plastic hoses. Such product diversification requires intensive

research supported, of course, by public enterprises like Zambia Breweries Ltd.

Research and development are essential to the future of Zambia Breweries Ltd in a different way. Currently, its two products are Mosi and Muchinga. At times it has been asserted that Zambia Breweries Ltd is a mono-product organization because the absence of labeling the beer bottles makes it difficult to distinguish between Mosi and Muchinga: consumers tend to simply use the popular name, Mosi. Thus, research would improve upon the present product. It could also help to discover new flavours of beer; which would mean wider consumer choice and appeal. But this cannot be possible in the absence of meaningful research and development activities.

It is clear that Zambia Breweries Ltd's dependence on foreign-based consulting firms and the slow substitution rates of raw materials pose the most pressing problems. Research and feasibility studies should be integral components of any planning designed to ameliorate production at the brewery. Therefore, there is now need for it to work closely with the National Council for Scientific Research to attempt to find ways of developing and strengthening local technological capabilities. The University of Zambia and other research institutions in the country could also be involved in research programmes. The long-term effect and related suggestions would be a reduction of the foreign exchange thirst upon which almost all operational problems are now blamed.

FOOTNOTES

¹GRZ, Ministry of Commerce and Industry. Outline of the Government's Industrial Policy. Lusaka: Government Printer, 1966, p.6.

²Times of Zambia. March 7, 1978.

³Indeco. Annual Report, 1984. (Ndola), p.13.

⁴Zambia Daily Mail. March 8, 1985.

⁵Financial Review of Zambia, 2, 15. January, 1985, p. 10.

⁶Summary Report on the Economic Situation in Zambia (Report Number 1.A). Presented by H. E., President K. D. Kaunda to the UNIP National Council, June 30, 1975. (Lusaka: Government Printers, 1975), p. 16.

⁷Chisepo J. J. Mphaisha, "Public Enterprise and Development: A Study of the Metal Fabricators of Zambia," Unpublished manuscript (Richmond, 1986).