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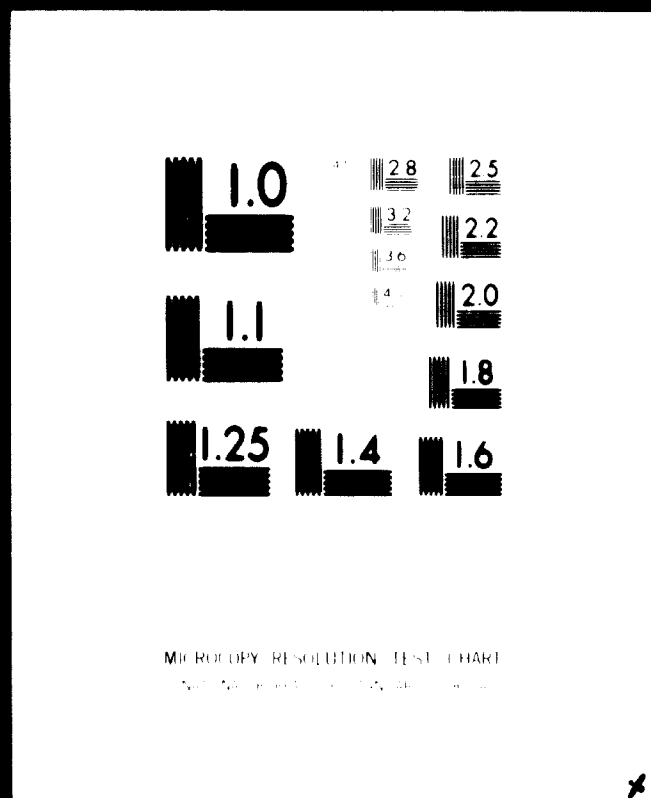
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THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

GOVERNMENT OF GHANA

(R) MANAGEMENT ASSISTANCE TO THE GHANA INDUSTRIAL HOLDING CORPORATION

UNIDO CONTRACT NO. 75/3 PROJECT NO. DP/GNA/74/002

STAGE 1 FINAL REPORT

VOLUME 1 - TEXT

October 1975

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Corporate Strategy Practice

THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

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STAGE 1 FINAL REPORT

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PART A - INTRODUCTION AND SUMMARY

1. Introduction

In a telex of 15th February, 1975 the United Nations Industrial Development Organisation (UNIDO) informed P-E Consulting Group Limited (P-E) that they had been selected as the contractors for a comprehensive programme of management assistance to the Ghana Industrial Holding Corporation (GIHOC).

The general terms of the programme are laid out in the Project Document jointly signed by the United Nations Development Programme (UNDP), UNIDO, and the Ghana Government on 9th August, 1974. Subsequently P-E signed a contract with UNIDO in Vienna on 14th March, 1975 for the work to be performed, which was to be in two stages:-

Stage 1 (six months): to assess the situation of GIHOC, reviewing the management of all sixteen divisions and headquarters, and to make detailed proposals for Stage 2.

Stage 2 (24 months): to implement a programme of changes and improvements to management practice, with particular attention to training GINOC counterpart staff to the point of self-reliance.

The terms of reference are set out in full in Appendix I.

The team for Stage 1 has consisted of four full-time consultants: D. J. McCosh (Team Leader), A. N. Catterall, S. A. Cruickshank and C.H.R. Meyer. In addition two specialist consultants K. G. Scoones and E. C. Windsor have each paid visits of several weeks to Ghana.

2. Content of Report

This report records what has been done in Stage 1, assesses the scope for useful consulting work in helping GINOC to improve its managerial performance and effectiveness, and sets out a programme of assistance

designed to achieve the greatest possible improvement in those areas which most need attention.

It is divided into the following additional parts.

Part B	Background to the Study
Part C	Appraisals of CIMOC and its Divisions
Part D	Findings and Recommendations
Part E	Consulting Input and Conclusions.

3. Work Done

In total the team of four resident consultants and two specialists has spent 22 man-months on Stage 1. Appendix II gives details of their involvement and during this period they have visited every division and major branch, most of them on several occasions.

The pattern of work adopted was to have exploratory general discussions with General Managers and their senior staff which was followed by more detailed discussions with selected departmental heads to judge the scope and efficacy of existing operational procedures. The work was divided broadly into the following areas:

- General management
- Finance
- Marketing
- Production

and detailed investigation was made in each of these areas following the early discussions.

At an early stage a financial analysis was made of the past 3 years accounts of all divisions and this work provided pointers for some of the later investigation in the production areas - for example, into stock holdings. These analyses are included as Appendices III and IV to this report.

From the preliminary meetings and the analyses which had guided our views on the areas most requiring attention, a further series of visits was made to the divisions, for the following purposes:

- detailed examination of accountancy/costing practices and of the quality of staff
- specific and detailed studies of production and maintenance aspects in Distilleries, Fibre Bag and Steelworks divisions
- assessment of the state of and attitudes to marketing throughout CINOC.

Because of the number and variety of the divisions it was not possible to make detailed production studies in every division, and instead three divisions were selected as examples to illustrate problems already identified in broad terms in many other divisions.

Further work then has been designed to provide factual detail to support our preliminary findings, and to provide a firm basis for the proposals for Stage 2.

In the case of marketing, where the picture became clear at an earlier stage, two small marketing studies have already been completed as an aid to policy determination. A pilot Export Promotion study has been begun, and considerable statistical and demographic data relating to Ghana has already been assembled.

4. Organisational Changes

The situations diagnosed in detail later in the report call for certain changes in headquarters. Notably several extra posts are required to provide a cadre of skills which are not now available within, or to the divisions. These are discussed in more detail in the relevant sections of Part D, but it is necessary to stress that their creation implies no departure from current policies of decentralising management. Rather they will serve to guide and assist divisional management in important areas which are presently poorly understood. Consequently their

function is advisory and technical and not one of execution; and by the end of the project divisions should have built up a considerable degree of competence in the areas concerned.

5. Summary of Findings and Proposals

- 5.1 GINOC is solvent, but several of its divisions are effectively not. Although the majority of the divisions make profits only two divisions have significantly improved their profitability since 1968.
- 5.2 GINOC makes inadequate profit to satisfy the requirements of NLCD 207, the foundation decree.
- 5.3 Low profitability, if caused by the need to cross subsidize unprofitable divisions is ultimately damaging, since it prevents any long term progress of the corporation and therefore of Ghanaian industry.
- 5.4 The causes of low divisional profitability are various. They include:
- unsound original concept for the enterprise
 - excessive labour force
 - inadequate finance
 - unrealistic selling prices
 - low output deriving from excessive plant breakdowns
 - inadequate supply of materials
 - excessive overheads
 - inadequate technical knowledge.
- 5.5 GINOC headquarters needs to improve its capability for:-
- monitoring divisional progress
 - technical and professional guidance of divisional staff (as part of its duty to improve divisional management)
 - assessing capital expenditure proposals
 - forward planning of its activities in an integrated manner. The environment in which GINOC and its divisions operate needs to be clarified.

5.6 P-E can help in two ways:

- by identifying the need for reappraisal of existing policies and then by preparatory studies
- by improvement to managerial practices.

5.7 The proposals for change involve:

- a small number of new specialist advisory posts in headquarters
- setting up central maintenance workshops to make the more difficult spare parts.

5.8 The programme of work includes:

- assistance at corporate level in long term planning and policy determination (including policy papers for certain divisions)
- supply studies for MEAT PRODUCTS and STEELWORKS DIVISIONS
- a detailed programme to improve financial information systems and to upgrade the skills of all divisional accounting staff, particularly in the field of costing
- marketing work for headquarters and the divisions both as an aid to corporate policy decisions and to assist operational management of the divisions
- a large volume of assistance at divisional level on production control, preventive maintenance, stock control and supervisor training
- a limited quantity of specialised technical assistance.

5.9 The total inputs required are:-

Consultants	- 160 man-months
Counterparts	- 210 man-months
Overseas Training	- 100 man-months

PART B - BACKGROUND TO THE STUDY

This part notes briefly various aspects of history and environment which are relevant to an understanding of GINOC's problems and the proposals submitted later in the report.

1. History

GINOC began to operate in 1968, having been founded by decree NLCD 207 of 19th September 1967, in an attempt to improve the then unsatisfactory performance of various state enterprises. Appendix V gives various important extracts from the vesting decree and Appendix VI lists more fully events leading up to the creation of GINOC, and discusses the subsequent differing interpretations of the vesting decree. From the information provided to us we have concluded that there is no likelihood of major changes to GINOC's status, at least in the medium term. There is therefore a stable foundation for a programme of management assistance.

2. The Environment

GINOC is a complex organisation. Employing as it does over 7,000 people in a great variety of industrial occupations it is a unit of significant importance in the country's economy. Thus the way in which the national environment and governmental policies impinge may have an important influence on the extent to which the country can benefit from its size and competence. We enumerate below some of the more important factors which affect or may constrain GINOC's operations.

2.1 Foreign Exchange

Ghana has no domestic oil supplies and prices have risen fourfold in recent years. She has been affected by the world-wide phenomenon of inflation, and simultaneously the downturn in world trade has resulted in a sharp drop in the prices of her basic commodity exports - cocoa and timber. Together these factors have resulted in a drastic worsening of Ghana's trading position and the resulting critical shortage of foreign exchange has necessitated the most stringent import controls, as well as sharp rises in internal taxation. Even

without these problems there is continual pressure to import goods, so that the country already had a chronic but fluctuating shortage of foreign exchange. Government consequently finds it necessary to control the demand on this scarce resource and does this by allocating import licences up to a certain value against specific approved needs.

Foreign suppliers are well aware of the exchange shortage and are unwilling to supply goods except against an irrevocable letter of credit accompanying the order. This results in an increase in the lead time for procurement.

Both factors may combine to restrict the flow of essential imports in a way which makes long term planning of production difficult, and in addition increases the needs for working capital of those who are significantly dependent on foreign supplies.

2.2 Government Policies

Government has a number of responsibilities which may result in conflicting policies so far as the operations of industry are concerned. For example, one of the primary objectives of any business is to remain profitable. Yet profitability is not independent of the numbers of staff employed and the skills which they deploy. Government, therefore, in attempting to maintain employment levels in existing enterprises runs the risk of damaging the profitability of that enterprise, particularly if the numbers and types of staff recruited for the industry in the past were ill conceived.

Profitability is of course not the sole criterion. The provision of an essential service to the community at a politically acceptable price is just as valid an objective.

Management of the domestic economy has required price control of a wide range of products and the way in which this is exercised may make it difficult if not impossible for enterprises to operate at a profitable level.

Earning of foreign exchange by exports, or the saving of it by import substitution may be objectives which are sufficiently important for Government to provide special incentives to industry. Thus, Government needs to define what the balance of objectives is to be for a parastatal organisation such as GIHOC, if it is to be enabled to operate effectively. Profitability, selling prices, employment levels, foreign exchange need to be considered together, and in GIHOC's case a different balance will probably be appropriate for each of its divisions.

2.3 Farming Attitudes

A very large section of the community is still effectively outside the cash economy. Thus the incentive to produce for sale, and even more so to increase production and sell regularly to a factory is very limited. The consequence is that those plants constructed to process agricultural products have very great difficulty in attracting supplies of raw materials large enough to run at an economic level. This is particularly the case for produce which has an alternative fresh market in the towns and cities, e.g. tomatoes, pineapples and groundnuts.

2.4 General Availability of Skills

In some respects Ghana is fortunate. The average level of literacy and academic attainment is high for a developing country. But inevitably there are gaps in the skills available, and these can prove serious obstacles. This is particularly so if one considers the matter of skills derived from practical experience as distinct from academic training.

There is an understandable desire to use Ghanaians for every job, not least because of the cost of expatriates. However, in certain key posts if progress is to be made, the only solution may be to import such skills from abroad, temporarily, in the shape of expatriates. But the corollary is that Ghanaians must be trained to succeed them.

2.5 The Market Environment - Domestic

The effect of import controls is that the domestic market in Ghana is highly artificial. It is hardly possible to assess the unconstrained market demand either in size or quality requirements and such an assessment would be of little relevance. Not only is there quantitative limitation of licences, but also in some cases protection is given to locally manufactured products by a ban on competitive imports. Moreover there may be little or no competition to a particular product so that its price may require to be controlled. Both factors tend to result in a take-it-or-leave-it attitude by the manufacturer to the customer, and remove all spur to improve quality or value for money. This in turn accentuates the perceived differences in quality of the imported and locally manufactured product as seen by the consumer.

2.6 Exporting Environment

It is government policy to encourage exports to earn foreign exchange. But there is no wide understanding of ways and means to do this effectively. The relative values of the cedi and foreign currencies allied to duties and tariffs create substantial obstacles to legal exports of all but a small minority of products. This is partly recognised by Government incentives to export, but the export performance of industry so far has been disappointing. In order to overcome these difficulties it is likely that careful selection of products and markets will yield better results than unfocussed attempts to export across the whole range.

Against the background depicted above, Part C appraises the existing situation of GINOC and its divisions and this leads on to specific proposals for assistance in Part D.

PART C - APPRAISAL OF GIHOC AND ITS DIVISIONS

This part of the report starts with a consideration of the role of GIHOC leading to our view of the relationship of headquarters to the divisions and, arising from this, the functions of headquarters. We then appraise all sixteen divisions in turn noting the salient facts about their circumstances and ending with summary conclusions and recommendations. Our more detailed proposals come later in the report. The final two sections deal with the performance of GIHOC as a whole and record our general conclusions. In the course of the appraisals certain statistical and financial figures are quoted. These are taken from Appendices III and IV, Divisional Operating Statistics and Financial Analyses which provide considerable detail.

1. The Role of GIHOC

We noted above in Part B three cogent reasons for retaining GIHOC as a vehicle for industrial management and development. These are:-

- (i) Ghana needs an organisation to manage miscellaneous state ventures which are too small or temporarily too weak to be individually viable.
- (ii) As part of a large organisation small units have readier access to scarce skills and resources.
- (iii) The reputation of an established holding company can ease the problem of finance for the smaller ventures.

The detailed arguments are given in Appendix VI and we conclude that the concept of the holding corporation is correct. GIHOC's role then could be defined along the following lines:-

- (i) To manage the industrial enterprises handed over at vesting day in order to provide products or services to the community at an economic price, having regard to the need to make sufficient profit for the enterprise to continue and develop.
- (ii) To invest directly in industrial or processing operations which offer acceptable rates of return on the investment and which contribute to government policies in:

- earning or saving of foreign exchange

- employment
- regional development.

The other side of the second role above is that where GIHOC operates an enterprise which is neither unique nor essential to Ghana's economy and which has no realistic prospect of contributing usefully to GIHOC's profits or managerial strategy, then GIHOC should be free to dispose of it by any appropriate means and thereby be enabled to concentrate their attention on more worthy ventures.

These roles all follow from NLCD. 207 (See Appendix V) where paragraph 9 clearly lays down the duty of GIHOC to earn an adequate return on its assets.

We have however already noted that the Government policies may at times conflict with one another. For example the profitability of an enterprise may be affected by the desire to maintain regional employment while holding down the selling price of the product. It is therefore important to identify all these factors in each case, since it is not otherwise possible to provide any objective standard for assessing managerial performance. In such situations profitability can only be used as a qualified measure of performance.

2. Relationship of Headquarters to the Divisions

What should be the relationship between GIHOC's headquarters and its divisions? The answer is crucial, since if it is wrong there will be every opportunity for misunderstanding and ineffectiveness.

The relationship must be one of mutual respect; that is the divisions must accept that there are certain valuable functions which headquarters performs for them, and which they are not geared to do for themselves. Conversely headquarters should not seek to do those things which are the proper sphere of the operating units i.e. the divisions.

In our view, the divisions are past the stage where management is so inexperienced that every action has to be monitored in detail. Even if it were possible it would be undesirable. The long term aim must be for the divisions to become self-sufficient in all day to day matters, and the more quickly this can be realized the better. Headquarters then should not seek

to do anything which is within the reasonable capacity of divisional management and where there are temporary deficiencies should work towards removing them as quickly as possible, vigorously guiding and supporting the divisions in their operations, and providing help and advice in areas where they have not got the requisite resources. It is in this advisory and educational role particularly that we see some need for strengthening headquarters.

This concept fits broadly with the existing structure of headquarters and the divisions whereby each division's day to day operations are the responsibility of the General Manager, who is only accountable to the Managing Director for the overall performance of his division.

If we consider those functions of managing a business which are appropriate for any headquarters and those others which in present circumstances cannot be performed by the divisions, the list for GIHOC's headquarters will include:-

(a) Control of key resources

- acquisition, control and deployment of capital funds
- recruitment, development and deployment of senior staff.

(b) Monitoring

- surveillance of divisional performance, including guidance to management on further action.

(c) Technical advice and development

- provision of specialist advice and assistance across important fields such as marketing and engineering
- co-ordinated business appraisal of major capital projects, before submission to the Board.

(d) Policy Development

- definition of policies and aims for GINOC as a whole, within Government's guidelines
- discussion and development with divisional staff of their strategies within GINOC's policy framework.

(e) Enterprise

- encouragement of divisions to look for business opportunities with guidance on the criteria to be used
- assistance in co-ordinating valid sources of information in order to move GINOC from a passive to an entrepreneurial stance, and thereby develop its products, staff and profitability.

3. Boatyards Division

3.1 History and Size

The Boatyards division was formerly the State Boatyards Corporation and consists of two yards. The smaller yard, at Sekondi was started in 1954 and the main yard at Tema was added in 1961. The object in each case was to build fishing vessels of greater capacity than the traditional dugout canoes. There was also the economic consideration that the traditional canoe is wasteful of timber and the supply of trees big enough for their manufacture is limited.

Tema employs 215, Sekondi 95 and the Mumford repair shop, 5.

In 1974 the division's turnover was ₵659,000 on which a net loss of ₵394,000 was incurred.

3.2 Background

The coast of Ghana has traditionally been a fertile source of food for the local population, and a relatively high density of population has grown up based on inshore fishing from dugout canoes.

In recent years evidence of declining inshore catches of fish has encouraged fishing further offshore, which has necessitated boats of a larger capacity and of non-traditional design. At the present time the Ghanaian offshore fishing fleet is said to consist of nearly 500 wooden vessels in the size range 30' - 70'. These all operate on the continental shelf and habitually are at sea for 4 to 14 days depending on size. In addition, State Fishing Corporation operates a small number of steel-hulled trawlers which fish in deep waters.

3.3 Product Range and Output

Both yards are essentially making the same products, that is wooden-hulled fishing vessels. Tema concentrate on the larger vessels now usually from 45' to 70' long, whereas Sekondi mostly build boats of smaller size. They also make boats in these ranges for other uses as well as smaller craft. Other activities are boat repairing, including the sale of chandlery, and furniture manufacture. Table 1 below gives the divisions' turnover by product group for the last 3 years.

Table 1 Annual turnover, by product group

Year	New Boats £000	Repairs £000	Chandlery etc. £000	Furniture £000	Total Turnover £000
1972	257	77	133	-	467
1973	885	108	112	52	1157
1974	371	120	118	49	658

A most significant factor on sales is the effect of boat completions. At Tema and Sekondi these have fluctuated as shown in Table 2 below.

Table 2 Number of completions of major boats

Year	Tema (35' +)	Sekondi (30' +)
1971	4	n.s.
1972	5	4
1973	14	6
1974	3	9
Annual Av.	6.5	6.3

It will be noted that the output at Sekondi has been on average nearly as high as that of Tema despite the disparity of resources employed.

3.4 Market Considerations

3.4.1 Competition

There were, until recently, claimed to be no known competitive yards building wooden fishing boats of this size in West Africa apart from a small private concern at Elmina between Accra and Sekondi. Lattersly, however, a neighbouring enterprise has been entering the market for wooden-hulled boats, but it is not known what success they have had.

Steel-hulled US built boats are also a potential source of competition, but see paragraph 3.4.3 below.

3.4.2 Potential for Repair Work

The size distribution of the Ghanaian offshore fishing fleet is given approximately in Table 3 below.

Table 3 Ghanaian fishing boat population, by size

Size	Approximate Number
30' - 35'	120
40'	150
45'	180
49'	20
70'	2
Total	say, 470

In addition there are numerous smaller vessels and canoes. Repair turnover in recent years has been over \$100,000, but has been restricted by the inadequate slipway facilities.

3.4.3 Local Market

Import restrictions make it unlikely that Ghanaian boat operators would be permitted to buy from abroad. Boatyards division and their Ghanaian competitors should thus have a captive market at least for a while. But the size of this market is not known, nor its sensitivity to price.

3.4.4 Product Trends

There has been a tendency over the years for the boats required to increase in size. There are four 40' hulls in the water at Tema, built some time ago, for whom buyers are yet to be found. Current demand there is mostly for 49' vessels and a few 70' vessels have been built. However, Sekondi still make the smaller size.

More recently an export order was taken for wooden hulls without fittings for export to an Irish shipyard, who will fit them out. This arrangement is superficially attractive since it avoids the difficulties inherent in procuring and paying for the machinery from abroad. It has, however, introduced problems of export standards of quality differing from those for domestic production.

3.5 Production Capacity and Facilities

3.5.1 Capacity

The annual capacity of the two yards is claimed to be:

- Tema 12 boats of 45'/70'
- Sekondi 6 boats of 35'/49'

In practice difficulties of various sorts mostly connected with the procurement of engine and machinery from abroad have seriously affected completion dates as indicated by the variable output from Tema shown in Table 2.

3.5.2 Facilities

At Tema and to a lesser extent at Sekondi the yard layout and in particular the shortage of slipways and cradles is a constraint both on production of new boats and the repair of existing ones. Boats currently have to wait up to 3 months for repair at Tema, although this is not necessarily only due to

slippery difficulties. More seriously, delays in constructing whichever boat happens then to be on the cradle can result in wasteful interference with the effective operation of the whole of the yard.

Most repair work has to be done on the vessels as they lie in the water. In such a situation control of labour is freely admitted to be minimal.

3.5.3 Machinery

Both yards have simple wood working machinery, but most of it was installed in 1961 and some of it is in poor condition. There was no evidence that the machines were being fully utilised and it is unlikely that the machines themselves are a serious constraint. However, production control for these machines is clearly a matter for some concern.

Examples were seen such as the boring for a stern tube by manual auger and certain planing and adzing work where provision of relatively inexpensive modern machinery could have significantly speeded up the work.

In addition there is some elderly metal working equipment for boat repair work. Most of it is in poor condition.

3.6 Finance

The division has for a long period been in financial difficulty, both in terms of profitability and cash flow. It has accumulated losses of \$717,000, negative net capital employed and massive short term borrowing of £3.m.

Table 4 below shows an accelerating rate of loss against a fluctuating turnover.

Table 4 Main operating results, 1972 - 74

Year	Turnover £000	Operating profit (loss) £000	Pretax (loss) £000
1972	467	(321)	(111)
1973	1157	(351)	(131)
1974	658	(632)	(394)

The capital position of the division has deteriorated with the succession of losses as indicated in Table 5 below.

Table 5 Capital and Borrowings, 1972 - 74

Year	Capital			Borrowings			
	Capital Accumulated a/c £000	Net (losses) £000	Net Capital £000	Overdraft £000	GINOC Recurrent Deposits £000	Buyers £000	Total £000
1972)		(9)	623	284	779	79	1,142
1973)	632	(354)	278	186	1,276	210	1,812
1974		(717)	(85)	258	2,431	409	3,098

Various reasons have been cited for the divisions financial difficulties: inadequate capitalisation; a legacy of bad debts; unwillingness or default of hire purchase customers to pay up; difficulties in procuring essential components from abroad. It is likely that a combination of interrelated factors has been involved and we discuss some of them below.

3.6.1 Pricing

At the present time the division is still working through orders taken at unrealistic prices as much as 18 months ago. The prices were calculated on an unsound costing basis (see Part D para. 4.7.2.2) and only recently were steps taken to rectify the mistake.

Even so, for a yard whose nominal output is 12 boats a year, Tams's average of 6 to 7 boats completed annually in the last 4 years must give cause for concern. Quotations for new work

must reflect a realistic appreciation of the output over which overhead costs are to be recovered. And while commercial considerations may occasionally permit costs to be underrcovered, knowingly, on a particular order, to do so habitually is a recipe for bankruptcy.

3.6.2 Working Capital

Management complain of a long standing and acute shortage of working capital. This has at times forced them into wholly undesirable expedients such as the use of unseasoned timber or the taking of deposits on new boats which were then used to finance others already in progress. Both practices have in the long run only aggravated the problems. There have been difficulties over quality and consequent delays in completion and the increased amount of work in progress has demanded extra amounts of working capital.

The situation has been compounded by difficulties in procuring all necessary components, and by the consequent large holdings of engines and accessories. The affect of all this is shown in Table 6 below.

Table 6 Work in progress and spares stocks, 1972-74

Year	Value \$000
1972	389
1973	209
1974	969*

*Note: this figure includes \$523,000 for engines and accessories.

If the division is to have any hope of prospering it must become a prime concern of management to develop policies and practices which will reduce the time to complete a boat.

The practice of financing current work by deposits for future boats must cease, and proper arrangements be made for financing the operations of the yard.

The high imported content of the larger boats makes the yard unusually vulnerable to delay and to cost variations. Either there must be a move towards increased manufacture of unfitted hulls or the customer must accept a higher proportion of the risk of cost increases in components. Arrangements for procuring the imported components need careful scrutiny.

3.7 Developments

No major developments have yet been approved for the division. Divisional management are understandably keen to have a second slipway at Tema, and for complete rehabilitation of the slipway/cradle arrangements. However, in view of the division's financial status in recent years, headquarters have not been willing to invest more capital without the most careful consideration.

3.8 Summary and Recommendations

We conclude as follows:

- the size of the market for new boats and the strength of competition is not known. There is therefore no firm basis for major capital investment or rehabilitation
- the shortage of working capital has damagingly affected the operations of the division, both directly and indirectly and no permanent solution to the division's problems is possible without rectifying this
- the Tema yard is at present in layout, resources and management (though not in size) inferior to the Sekondi yard resulting in lower productivity
- there appears to be a substantial repair market which cannot currently be exploited to the full. This is a loss both to the country and to the division.

We recommend:

- (i) that every effort be made to reduce the work in progress, and to sell off any completed hulls and boats for which no specific buyer is yet known. This will help ease the cash position, and will also make space in the yards.
- (ii) a study of the possible market for and competition in new fishing boats, 30' to 70', in Ghana.
- (iii) a similar study for boat repair in Ghana.
- (iv) a financial appraisal to assess capital and other resource requirements, as part of a comprehensive plan for rehabilitation following the market study.
- (v) a comprehensive programme of production work as described in Part D paragraph 7.1.

4. Brick and Tile Division

4.1 History and Size

Brick and Tile Division consists of a single plant, sited on the western outskirts of Accra. It was built in 1962 and currently employs 62 plus about 37 labourers. 1974 turnover was only ₵31,000 on which it made a loss of ₵152,000.

4.2 Plant

The plant consists of a single wood-fired Hoffmann kiln with 32 chambers taking 6,000 bricks each. There are three lines of clay conditioning and extrusion machines, which make green bricks. Only one of these lines is in working order, and it has certain defects so far as the hard local clay is concerned. There are also three presses for making roofing tiles.

From the extrusion machines, the green bricks are transported on the remains of an electric tramway system to 8 open sided drying sheds. Each of these has a capacity of 70,000 common bricks.

The claywinning equipment consists of a modern Liebherr 901 hydraulic excavator and 933 Traxcavator, but transport from the clay pit to the plant is by a single elderly dumper.

There is also a large and miscellaneous quantity of heavily corroded machinery in and around the plant. Much of it is of no obvious relevance to the existing plant, and serves only to obstruct operations.

The kiln has a steel chimney and had been supplied with a locally manufactured extractor fan to improve combustion. Unfortunately the fan rotor is out of balance and causes so much vibration on the kiln that it is unusable in its present state.

The kiln operates continuously, but the clay lines only on day shift.

4.3 Products

- (i) Hollow Bricks: 6" x 9" x 3"; 6" x 9" x 12"; 4" x 9" x 12"
- (ii) Facing Bricks: solid and perforated
- (iii) Roofing Tiles: 17½" x 11"; 17½" x 5½"
- (iv) Screening Blocks.

There is no adequate information on the relative demand for the various products.

4.4 Output

4.4.1 Actual

Plant capacity has been quoted as 3,000 bricks a day, and Table 7 below gives recorded output figures for recent years:

Table 7 Output of bricks, blocks and tiles

Year	Number 000's	Rate per day
1972	983	2,700
1973	915	2,500
1974	675	1,820

4.4.2 Theoretical

- each of the clay lines is claimed to have a production rate of 1 brick/second or 3,600 bricks an hour
- the kiln operates continuously on a 15 day cycle of which 5 days are heating, 5 cooling and 5 for loading and unloading. There are 32 chambers of 6,000 bricks. Thus the theoretical annual kiln capacity is 4.68m bricks which is equivalent to nearly 12,800 bricks a day

- the eight drying sheds, some of which are currently in use as storage for miscellaneous equipment, each have a capacity of 70,000 bricks. Thus assuming an attainable average kiln throughput of 10,000 bricks a day there would be sufficient drying capacity to allow an eight-week drying cycle.

4.5 Quality

The quality of bricks produced by the plant in its present state is unsatisfactory. Up to 35/40% of the green bricks put to the kiln are substandard after firing. Various factors may contribute to this:

- unsuitable clay preparation machinery
- poor condition of extrusion machines
- unsatisfactory nature of existing air drying arrangements, e.g., seasonal variations in humidity, inadequate drying period, mishandling, etc.
- unregulated firing arrangements, e.g., variable nature
 - of wood-fuel, lack of controlled draught by chimney or fan.

Technical advice is badly needed to ensure that any new developments have the fullest possible beneficial effect.

4.6 Market Considerations

4.6.1 Competition

At present there is no effective direct competition in clay building products. Most domestic buildings use concrete blocks and to reach any substantial market bricks would have to compare in price with these.

There is a general understanding by Government of the desirability of using brick building materials. Considerable investigation has been done by BRRI into the possibility of

rural brickworks throughout the country, and this has culminated in plans for the establishment initially by the Bank of Ghana of four brickworks in Cape Coast, Ho and Accra (2), each of 6m units annual capacity.

4.6.2 Constructional Skills

A consequence of the unavailability of bricks for building is the lack of workmen skilled in laying bricks. Any significant development of brick manufacture for facing purposes would necessitate a training programme for bricklayers. Similarly there would need to be a general change of attitude by architects and builders.

4.6.3 Foreign Exchange

Bricks are made from locally dug clay. Foreign exchange is required only if imported fuel oil is used and for the brick making machinery. This is not the case with cement which is an important ingredient of concrete blocks and which is currently all imported in an unground state as clinker. Thus other things being equal, bricks should be a more economic building item for Ghana than concrete blocks, at least in the large towns, and therefore to be encouraged by Government policy.

4.6.4 Short Term Demand

For the next two years, much or all of the output of the GINOC brickworks is assigned to the Bank of Ghana as payment for the loan described in paragraph 4.9.1 below. These bricks would be used to build the kilns for the brickworks mentioned above. Beyond this, deposits have been taken for a further 3m bricks for private customers.

4.7 Maintenance

Maintenance facilities and the success of former maintenance staff have been quite inadequate. The evidence of this is in the state of the machinery (see paragraph 4.2.2) and the many broken parts everywhere in evidence.

4.7.1 Maintenance Staff

This now consists of:

- 1 mechanical engineer (since May 1975)
- 5 fitters
- 3 electricians
- 1 electrical technician
- 2 welders

In addition there are 8 bricklayers, 1 plumber, 2 carpenters.

The combination of theoretical qualification and experience of the maintenance staff gives rise to some problems. Improvement of the general standard of maintenance staff must be an essential to any long-term policy for the brickworks.

4.7.2 Maintenance Facilities

There is a dirty and cluttered area with benches, and an absence of machine tools. There is no proper storage for spare parts and areas which could be used for this are not properly roofed and are full of worn out equipment. If the rehabilitated machinery is to be kept in good working order, this situation must be rectified as a matter of some urgency.

4.8 Finance

The division has not made a profit since 1968. It has by now accumulated losses of £482,000, employs negative net capital and has borrowings of £498,000.

Table 8 below shows an accelerating rate of loss and declining turnover.

Table 8 Turnover and Profits, 1972-74

Year	Turnover £000	Pretax profit (loss) £000
1972	73	(67)
1973	54	(122)
1974	31	(152)

Over the past three years the loss, taking into account direct costs only, has risen from 4p to 20p per piece, and after adding in selling and administrative expenses the net loss is very much larger. Costs rose from £164,000 in 1972 to £180,000 in 1974 yet receipts in the same period declined from £73,000 to £31,000. This was mostly because of sharply reduced output, but also because of quality problems.

The capital position of the division has deteriorated with the losses, as indicated in Table 9 below.

Table 9 Capital and Borrowings, 1972-74

Year	Capital			Borrowings			
	Capital a/c	Acc. (loss)	Net Capital	Overdraft	GIHOC Recurrent	Buyers Deposits	Total
1972		(205)	46	28	56	35	119
1973	251	(328)	(77)	28	220	77	327
1974		(482)	(231)	31	380	87	498

The financial implications of the Bank of Ghana order mentioned above and of £75,000 of deposits taken from builders are serious.

These orders will take up to two years to work off at current rates. Yet they are at fixed prices, during a period when inflation is at the rate of 20% a year, and when costs are already far in excess of revenue. They could seriously aggravate the division's financial problems.

The crucial matter is the plant's saleable output. Unless this can be increased by the first stage of rehabilitation (see Paragraph 4.9 below) to approaching 10,000 pieces a day, we do not believe that further substantial expenditure on the existing plant is justifiable.

In that event for GINOC to remain in the business of making fired clay products at an economic price would necessitate more fundamental redevelopment along the lines already contemplated (see paragraph 4.9.2).

4.9 Developments

4.9.1 Short Term

Bank of Ghana have lent \$100,000 to be repaid by the supply of 800,000 bricks over the next two years which will be used to build kilns for the Bank's new brickworks (see paragraph 4.6.1 above). This loan is to be used to:

- buy essential spares and rehabilitate two clay conditioning/extruding machines
- buy and install oil firing equipment for the existing kiln.

The oil firing equipment is to be installed by August 1975, and the installation of the new equipment on the first clay line by October/November 1975.

The oil firing is intended to improve control of the firing and thereby reduce the amount of substandard products. It should also result in increased output as a result of reduced firing time.

4.9.2 Medium/Long Term

There is a plan for a much more comprehensive development involving a new oil fired continuous kiln, new conditioning/ extruding machinery and new drying plant heated by waste fuel gases from the kiln, with a nominal capacity of 600,000 pieces a month. Such a development could not cost less than £4m but no recent accurate estimate of cost is available. Although the the concept is clear and logical enough, there is less certainty about the actual market in Accra for fired clay building products, and before entering on such a large investment, the costings should be reviewed. In any event since capital would have to be sought outside GIHOC and possibly outside Ghana an updated feasibility study will be essential.

4.10 Summary of Findings

- (i) The existing plant is old, badly rundown and quite uneconomic at existing levels of output.
- (ii) The limited developments now in progress should improve this situation, but will not reverse it unless output and sales can be increased three fold. This depends on greatly improved quality and it has yet to be demonstrated that this can be achieved within the limitations of the money expended.
- (iii) In the long run major redevelopment remains the likeliest policy for GIHOC if it intends to remain in the brick industry. This will necessitate an up-to-date feasibility study.

4.11 Recommendations

The division should be assisted by:

- (i) A study of the brick market in Greater Accra
(this has already been done: see survey in Appendix VII)

- (ii) provision of technical assistance to ensure that clay preparation, drying and firing are properly understood, and that processes are balanced to give a high quality product.
- (iii) reappraisal of the feasibility of a major redevelopment of brickmaking additional to the present plant.
- (iv) provision of advice and assistance in:
 - identifying and sorting out-of-use plant so as to
 - a) repair what is reusable
 - b) scrap the remainder
 - the means of repairing reusable parts and in getting repairs done
 - the procurement of improved maintenance facilities
 - the training and development of resident engineering staff
 - setting up proper spares procurement and stocking routines and planned maintenance system.
- (v) provision of assistance to works management in organising production; at the same time maintaining a proper quality of product and ensuring that the plant is kept in proper repair.

It is envisaged that the training aspects of the assistance mentioned above might involve a limited amount of foreign study for key personnel, but the greatest emphasis should be put on training on the job.

5. Cannery Division

5.1 History and Background

The division was formerly the State Cannery Corporation. It consists of three plants: at Naawan, 20 miles north of Accra; at Wenchi in the Brong Ahafo region; and at Pwalugu in the Upper Region near Bolgatanga.

The plants were erected from 1966 onwards to process tomatoes and pineapples, but these have never been available in sufficient quantity to keep the factories occupied. The division has had to diversify into other products to remain solvent, notably into alcoholic drinks which now account for nearly 80% of turnover. The two branches have not run at all, or only for short periods, but are seemingly in good condition.

They currently employ the following approximate numbers of staff:

Naawan	-	300
Wenchi	-	80
Pwalugu	-	20 (care and maintenance)

Plus, casual labour as required.

In 1974 on a turnover of \$3.44m the division made \$47,000 profit.

5.2 Plants

5.2.1 Naawan

There is a modern and well maintained line for canning pineapples or citrus fruit at the rate of about 1 ton of canned fruit per hour (i.e. an input of about 1½ tons/hour). There is also recently rehabilitated machinery for making cans of various sizes from imported tinplate. However, most of the cans used have hitherto been bought in flattened form. In addition there is older and less specialised equipment in a separate building for preparing and making a variety of other products.

5.2.2 Wenchi

The emphasis is on processing tomatoes (51%). Existing plant has only run for 2 years and is in good order. Theoretical capacity 50 tons/24 hours. Runs 2 shifts/ 6 days in the season.

There is can making and sealing equipment for a variety of cans from 8oz to 5kg, in good order. Other products are made from mangoes (18%), beans (11%), aubergines (8%), peppers (4%).

5.2.3 Pvalugu

The plant was laid out on a larger scale than Wenchi, also to process tomatoes, but it has never operated effectively and is still idle due to supply difficulties.

5.3 Supplies

At all three factories there are supply problems, fundamentally because the fresh market can and does absorb the bulk of the pineapple /tomato output. Except at the peak of the season the market "mummies" can outbid the cannery for available supplies.

Currently CINOC pays:

Tomatoes \$2.50 per 40lb crate
Oranges \$2.50 per 100
Lemons \$1.50 per 100

Moreover, the main produce even when drawn from different localities is available only for a limited part of the year because of seasonal cultivation patterns. This will always be so while the plants depend on small farmers cultivating in the traditional manner.

5.4 Product Groups

Table 10 below shows the complete dependence of the division on Schneppe manufacture.

Table 10 Turnover of Cannery division, by raw material, 1974

Product	Turnover	
	€000	%
Alcoholic drinks	2,700	82.5
Pineapple products	240	7.3
Tomato products	237	7.2
Citrus products	62)	
Pepper	20)	3.0
Others	16)	
Total	3,275	100

The raw materials are processed in a variety of ways e.g. whole, as puree, as juice, in slices, as jam.

5.5 Marketing Considerations

5.5.1 Competition

They have a monopoly in Ghana on the canning side, except for one or two small private concerns which can vegetables. One competitor (Mkulenu) makes marmalade and jam. Their Bramco schnapps is in direct competition with the cheaper grades of spirit produced by Distilleries division and private distilleries.

5.5.2 Domestic Market for Preserved Fruit and Vegetable

Ghana is so rich in fresh products that there is unlikely to be a large domestic market for cans or bottles of plain preserved items. Exceptions to this general rule are:

- bulk supplies to institutions such as schools and hospitals, e.g. large cans of pineapple
- products processed to a form where they are more readily available than the fresh product, e.g. small tins of concentrated tomato puree
- seasonal products for which there is a year round demand.

The size of domestic market for such products is not known but a crude indication is given by the product list in Appendix IX. Final indications will depend on a market sector survey, and this should indicate the appropriate sizes of can to use for each product.

5.5.3 Export Market

There has been no consistent achievement in exporting canned goods so far. Although there have been enquiries and orders for a number of products, these have in most cases not been fulfilled for a variety of reasons. However, the quality of Ghana pineapples is excellent, and there are justifiable aspirations to export these as well as tomato puree, if supply problems can be solved. Work will be required to identify suitable markets and agents, to allocate consistent supplies for processing and to design packaging for the product which will enhance its value. Existing packaging standards would not be adequate.

5.5.4 Distribution

Ten large distributors account for 43% of sales, as indicated by Table 11 below. However, cash sales at 33% are also a significant item.

Table 11 Principle Customers in 1974 for Canned Products by Value

Customer	Sales, cedis	
a. <u>Credit sales</u>		
Afro Enterprise, Takoradi	308,034	
Rexy Distributors, Accra	307,320	
GWTC, Accra	134,853	
Adomako	132,313	
Agyei Sundries	103,020	
Antwi Boasiko	99,126	
Wadaso	81,897	
A and D	75,194	
K. Boateng	69,048	
J. Aboagye	67,713	
Other credit sales	852,133	2,230,651
b. <u>Cash Sales</u>		1,045,629
TOTAL		<u>3,276,280</u>

All goods are sold on an ex-factory basis and customers collect in their own transport.

5.5.5 Pricing

Prices are controlled by the Prices and Incomes Board.

5.6 Finance

The division has been profitable and has accumulated reserves of ₦1.39m; net capital employed is ₦3.1m and it has no significant borrowings. However, the revenue trend gives cause for concern as indicated in Table 12 below.

Table 12 Turnover and Profit, 1972-74

Year	Turnover ₦000	Pretax Profit ₦000
1972	1527	198
1973	2010	140
1974	3439	47

Profits declined sharply in 1974 despite the increase in turnover. Moreover the manufacture of Schnapps conceals the real economics of the canning operation.

5.7 Developments

Efforts have been exerted towards ensuring a regular supply of the crucial raw materials to the factories and have reached the following stage:

- (i) At Nevaam there is an experimental 20 acre pineapple plantation, using high yielding strains of plant. Theoretical yields with correct cultivation and using fertilizer are claimed to be 20 tons/acre.
- (ii) At Wenchi the Ministry of Agriculture are developing an irrigated market garden near the cannery. They have agreed to allocate 200 acres of this area for GINOC to grow tomatoes on.

(iii) At Pwalugu, 400 acres of irrigated land have been allocated to GINOC for tomato growing near the Via reservoir.

At Munchi and Pwalugu GINOC have been negotiating for joint Ghanaian/Yugoslav participation in the projects. No agreement has yet been reached, and GINOC are meanwhile proceeding on their own initiative.

5.8 Conclusions and Recommendations

The overriding problem of the division is raw material supplies. The two product groups for which there is a substantial local demand - pineapples and tomatoes - are in direct competition with and losing out to the needs of the fresh markets. Other canned products do not yet contribute much to turnover.

This situation has caused diversification into alcoholic spirits to the point at which the division is primarily a bottling plant. The turnover from this latter activity obscures the failure of the division yet to secure adequate supplies of fruit and vegetables for preserving. Problems of production and maintenance are as yet relatively unimportant.

We recommend:-

- (i) that it should be a first priority of the division to find secure sources of raw materials for canning. Policy should continue to be directed to that end.
- (ii) that the bottling of Schnapps ought, in the long run to be done more economically at Distilleries division, and policy should be directed to that end.
- (iii) that an Export Marketing Campaign be conducted for selected products, starting with pineapples.

(iv) that detailed assistance be given on marketing at tactical level, e.g. product development, pricing policy, packaging, publicity.

6. Distilleries Division

6.1 History and Size

The division was founded in 1961 as the State Distilleries Corporation for two purposes:

- to produce satisfactory and cheaper alternatives to imported alcoholic products
- to produce a healthier alternative to local crude spirits,

It operates from a single plant in Accra, and now employs about 320 people. It is profitable, and in 1974 had a turnover of ₵6.9m on which it made profits of ₵851,000.

6.2 Plant and Processes

The plant consists of a still, a rectifying column, water treatment plant, blending facilities and four bottling lines. The capacities of these are out of balance. The largest bottling line has not operated recently because its bottle washing machine has been defective. Formerly the plant re-distilled crude alcohol bought from the villages and it has no capacity to ferment its own alcohol. It now normally buys pure alcohol from the State Sugar Corporation in bulk and operates as a blending, diluting and bottling operation. It makes its own demineralised water and also its own concentrates for two of the products on a batch basis, using local materials. Otherwise all concentrates are imported. The plant operates on single shift except at peak seasons.

6.3 Output

Output has increased steadily over the last 3 years as shown in Table 13 below.

Table 13 Output of alcoholic drinks, 1972-74

Year	Output 000's of cases	
	Year	Average Per month
1972	113	9.4
1973	150	12.5
1974	253	21.1

Monthly sales have fluctuated between 5,800 in November 1973 and 33,400 (on two shifts) in November 1974. In 1974 there were 5 months in which output was over 20,000 cases. The effective actual capacity of the plant is not known.

6.4 Products

These may be divided according to the source of raw materials into five groups. Table 14 below shows the sales volume for the main groups. More detail is given in Appendix X.

Table 14 Sales of main product groups, 1974

Group	Material Imported	Source	Sales, Cases	Sales, % by Volume
		Local		
A	Flavourings	Alcohol Water	189,956	75.7
B	NIL	Flavourings Alcohol Water	40,931	16.3
C	High-proof Spirits	Water	16,096	6.4
D	Actual Product in Cask	Nil	4,078	1.6
TOTAL			251,061	100

Note: All water is distilled and de-ionized

6.5 Market Considerations

6.5.1 Competition and Market Share

Divisional staff claim a market share of 65%. The remaining 35% is thought do be divided as shown in Table 15 below.

Table 15 GIHOC's competitors and estimated market share

Company	Estimated Share %	Products
Paramount	20/25	Gin, Schnapps, Brandy
West African Enterprise	5/7	Gin, Schnapps, Brandy
Cannery Division	3/5	Schnapps
Mountain View)		
Bacchus)	2/3 each	Gin, Brandy
Naroda)		Arrack, Gin

6.5.2 Market Size

This is not known although there are claims of a large unsatisfied demand. Output has hitherto been limited by the amount of import licences available to buy concentrates. The effect on spirit sales of the price and availability of beer is not known.

6.5.3 Sales Pattern

Demand fluctuates, but with a marked seasonal peak in November/December. Claims of a smaller peak at Easter are hardly justified by the available figures.

6.5.4 Distribution

There are five categories of distributors as follows:

	Size	Number	Theoretical Approx. Sales %
a) National	100 cases/week	8	25
b) Regional	70-100	24	28
c) District	40- 70	33	24
d) Wholesalers	25- 40	36	13
e) Mini markets	25	47	10
		<u>148</u>	<u>100</u>

There is no differential pricing between these groups.

6.5.5 Prices

These are controlled by the P.I.B. and the margins between ex factory, wholesale and retail prices are relatively narrow. For example, 'Lawyer' gin costs.

	Cedis/case	Margin
Ex Factory	21.20	-
Wholesale	22.20	4.5%
Retail	23.40	5.1%

The margins on the foreign brands are higher than on the local ones, so product mix can significantly affect divisional profitability.

6.6 Maintenance Arrangements

A limited number of spare units are stocked including filling heads for the different products. There were indications of preventive maintenance being accepted as a concept as shown by a schedule of maintenance tasks to be performed on one machine. However, the longstanding idleness of one of the bottling lines because of the defect of its associated bottle washing plant indicates a lack of more fundamental engineering understanding.

6.7 Laboratory

There is an adequately equipped laboratory which performs these functions:

- quality control of raw materials
- quality control of products
- development of local essences to replace, ultimately, imported concentrates.

6.8 Developments

Two schemes have been approved and finance is available for:

- construction of a larger warehouse for finished products. This will enable more efficient production from longer runs.

- installation of a higher capacity bottling line complete with bottle washing machine. This will enable the highest foreseeable demand to be met at least on the bottling side.

6.9 Financa

The division has a steady record of profits which have roughly kept pace with increasing turnover. It has accumulated reserves of £4.26m.

The last 3 years have seen a rising trend of turnover and profits, as shown in Table 16 below.

Table 16 Turnover and profit, 1972-74

Year	Turnover £000	Pretax Profit £000
1972	3166	445
1973	3930	506
1974	6906	828

6.10 Summary and Recommendations

The division is profitable and had a very sharp increase in output and sales in 1974. It would, however, be a mistake to assume that this rate of growth would continue. Actual rates of output fall far short of measured bottling capacity.

Priorities for work would be:

- (i) to obtain more information on the size and segmentation of the market for spirits.
- (ii) to determine the real, rather than theoretical, capacity of the existing plant and develop production control to take full advantage of this capacity, within the limitations of import licences and alcohol supply.
- (iii) to review the arrangements for procurement and stocking of spares, and for maintaining the plant.

7. Electronics Division

7.1 History

The division was founded in 1965 as the State Electronic Products Corporation to assemble Philips radios under licence and operates from a single site in Tema.

Since then it has increased the range of products to include telephones, TV's and other items, but the main product is still radios. Sony equipment as well as Philips is now assembled.

It employs about 280 people. In 1974 it had a turnover of ₵2.84m. and made profits of ₵460,000 before tax.

7.2 Main Products: Capacity and Output

The quoted productive capacity and actual output for 1974 are given in Table 17 below.

Table 17 Output and capacity by product

Product	Quoted Capacity	Output 1974
	Number	Number
Radios: single band	160,000)
3 - band	6,000)
4 - band	6,000	) 25,528
6 - band	4,000)
TV's 12", 20", 24"	2,400	1,028
Telephone handsets	2,400	6,305
Cassette players	n.a.	4,300
Fluorescent tubes	5,000/ month	12,300
Others: loudspeakers, refrigerators, hifi sets, etc.	small	n.a.

Turnover has varied between the product groups as shown in Table 18 below.

Table 18 Turnover value and proportion by group

Product Group	1972		1973		1974	
	£000	%	£000	%	£000	%
Radios	569.5	64	1,187.1	55	936.4	64
TV's	107.6	12	400.5	19	373.6	26
Telephones	144.1	16	469.6	22	19.7	1
TMS fittings	68.2	8	9.7	-	35.6	2
Cassette players			92.9	4	89.8	6
Total	889	-	2,160		1455	

More detail is given in Appendix XI.

7.3 Plant, Equipment and Storage

There are 2 large injection moulding presses, in good condition and heavily under-utilised. By the nature of the assembly operations involved, relatively little plant is required. They have a number of jigs and fixtures and testing arrangements. There is a maintenance/experimental workshop with oscilloscopes and other diagnostic gear.

There is a shortage of storage space, possibly due to poor inventory management. Inventory value is more than 1 years' usage, yet shortages still occur.

7.4 Production

- (i) Workshops were untidily laid out and rate of output apparently low. The lines were stopped when visited due to shortage of some components.
- (ii) Technical quality of assembly seemed adequate. Main reason for low output was said to be difficulties in procuring all necessary components, but it was noted that stockholding and parts allocation procedures were quite unsuitable to assembly operations of this nature.

7.5 Marketing Considerations

7.5.1 Competition

GIHOC assembles Philips and Sony under their own brand name of AKASANOMA (talking bird). The main competitor is Sanyo (also founded about 1965) as a joint Ghanaian/Japanese venture.

There are also directly imported products in the higher price brackets.

All Afra Electric also assemble fluorescent tubes. No reliable information is available on market size and share.

7.5.2 Distribution

97% of sales are through four main outlets as shown in Table 19 below.

Table 19 Turnover by outlets, 1974

Outlet	Value €000	Proportion %
Technoa (SCOA)	1,715	70
Ghana Pan Electric	342	14
Ghana Armed Forces Inst.	188	8
GWTC	123	5
Others	7	3
TOTAL	2,441	100

7.5.3 Exports

Products are known to be smuggled to neighbouring countries. Existing fiscal/currency arrangements are said virtually to preclude legal exports.

7.6 Finance

The division has accumulated reserves of \$ 1.17m, and borrowings of \$ 1.35m. Table 20 below shows how this situation has developed in recent years.

Table 20 Capital and Borrowings, 1972-74

Year	Capital			Borrowings		
	Net Capital £000	Reserves £000	Net Capital £000	Overdraft £000	GINOC Recurrent £000	Total £000
1972)		264	1,252	-	821	821
1973)	888	435	1,423	-	1,782	1,782
1974)		1,170	2,158	-	1,352	1,352

The revenue position has been more erratic as shown in Table 21. Despite a steady increase in turnover, profits have fluctuated widely.

Table 21 Turnover and Profit, 1972-74

Year	Turnover £000	Pretax Profit (Loss) £000
1972	1,450	68
1973	2,130	3
1974	2,840	460

7.7 Conclusions and Recommendations

- (i) The whole procurement/stocking/production control function needs to be revised. In particular it is essential to separate:
 - a) matched sets of parts for assembly from
 - b) individual items required for breakages, losses and spares.

- (ii) Product policy needs careful consideration, at least in respect of the variety of production attempted until the main lines are working smoothly.

- (iii) The underutilisation of the injection moulding machines is glaring. They are valuable machines, and the true cost to the country of their underutilisation is high.

We recommend:

- (i) a comprehensive programme of work to improve the production control as detailed in Part D paragraph 7.4**
- (ii) review of the need for both of the injection moulding machines, followed by plans either for proper utilisation or sale.**

8. Fibre Bag Division

8.1 History and Size

The division was formerly the Fibre Bag Manufacturing Corporation and consists of a single factory at Kumasi. It was put up in 1962 to make cocoa bags from imported jute, and originally had 48 looms but was later greatly extended. Latterly it has been manned wholly by Ghanaians, but at no time has it approached the manufacturer's claimed output of 12m. bags.

The division employs about 1,530. In 1974 its turnover was \$4.93m., on which it made a pretax profit of \$119,000.

8.1 Plant and Processes

The plant was supplied by James Mackie of Belfast. It is fully integrated and balanced to produce finished bags and hessian cloth from a mixture of long fibre jute and cuttings.

The plant is now in many cases in poor condition owing to inadequate maintenance and unavailability of spares.

Theoretical capacity of the plant working 2 shifts 6 days a week is 12m. bags a year, and in addition 2m. yards of hessian cloth. The plant is currently operating 2 shifts/5 days and output for the past 3 years has never been more than 6m. bags as shown in Table 21 below.

Table 21

Output of Jute Bags 1972-74

Year	Annual Output tons
1972	4,481
1973	4,464
1974	5,877

Note: 1 ton = about 1,000 bags

In addition they make about 200,000 yards of hessian cloth.

8.3 Operating Practices

- (i) The plant operated briefly on 3 shifts, but this was found to be uneconomic since the productivity on the third shift was very low. It is not clear if this was due to poor supervision, poor maintenance or a combination of the two.
- (ii) It now works on 2 shifts, for which theoretical capacity is 9.6m. bags. Thus the plant is currently producing at about 65% of capacity while it is working.
- (iii) No maintenance is done during the night hours although the availability of certain machines is a known constraint of production.
- (iv) When the plant was observed operating on day shift, the rate of working did not appear unduly low. The inference is that low output was due mostly to machine down time and not to wrong machine setting. Figures were subsequently obtained by sampling to substantiate this view (see Appendix XII).

8.4 Raw Materials

The mill is currently using blends of long jute, grade BMD, and cuttings, grade BNCB, bought from Bangladesh. These are lower grades than production management would prefer to use. There is a strong feeling that the cuttings supplied recently are well below the proper standard for the grade ordered and paid for, and that this has resulted in increased down time and heavier wear and tear on the machinery.

There has been pressure to substitute kenaf, a cheaper fibre, for the long fibre jute. A sample shipment of kenaf, supposedly grade 'A', was supplied from Thailand, but on arrival proved to be of substandard quality. There are hopes of growing kenaf in Ghana, but despite incentives and exhortations by government, no significant quantity of locally grown kenaf is yet available. The quality is uncertain and on present prices it is likely to be appreciably more expensive than imported jute (see Appendix XIII).

8.5 Marketing Considerations

8.5.1 Competition and Demand

GINOC are monopoly suppliers of jute bags and cannot satisfy demands. Currently these are estimated as:

Bags : Cocoa Marketing Board: 7-9 million bags
: miscellaneous agricultural: 2½-3 million bags
Messian : ½ million yards

Sack/bag plants exist in Zambia and Nigeria; they have not so far affected Ghana, and are unlikely to do so.

8.5.2 Substitution

The natural fibre jute bag is well suited to cocoa and other fresh crops since it does not permit the contents to sweat like a plastic bag. There seems little danger in the short/medium term, therefore, of any collapse in demand by the major customer in favour, say, of plastic sacks.

8.5.3 Pricing

Prices are strictly controlled by the Prices and Income Board. Currently the average selling price by GINOC is about C\$52 per ton.

8.5.4 Distribution

This causes no difficulty, since customers collect from the factory, and Cocoa Marketing Board have warehouses for storage.

8.6 Maintenance

8.6.1 Machinery

There is a well equipped machine shop with lathes, milling machine, shaper, drilling machine etc. But knowledge and availability of the proper materials and methods to use for making spare parts is badly lacking, and without this much time and trouble can be spent for no return.

8.6.2 Spares

Spares are housed in an adequate store, but procedures for ordering, procuring, storing and allocating the spares need complete revision. The stores hold a significant number of redundant items, which should be disposed of.

8.6.3 Methods

Until recently no preventive maintenance was being done and in consequence machine availability was deplorably low. Initial work in introducing regular maintenance to a few crucial machines (the 6 teaser carding engines) has had a noticeable effect in reducing unscheduled stoppages, (see Appendix XIV) and this work needs to be continued and extended.

8.6.4 Raw Materials

The effect of inferior raw materials on the machinery is not immediately apparent, but it is unlikely that lower grades result in the long run in significantly lower total cost. All that is done is to transfer an element of cost from raw materials to spare parts (both require foreign exchange) and to reduce throughput owing to the increased number of stoppages. Experiments with the kenaf supplied so far have had a most damaging effect on mill output.

8.7 Finance

The division is the most heavily capitalised of all. Net capital employed is \$10.4m. and it has modest accumulated reserves of \$1.92. It has no large borrowings. Return on capital employed has been very low, and in the last two years it has made an operating loss as shown in Table 12 below.

Table 22

Turnover and Profits 1972-74

Year	Turnover		Operating Profit (loss) £000	Pretax Profit £000
	Quantity tons	Value £000		
1972	4,359	3,679	282	439
1973	4,955	3,803	(150)	94
1974	5,789	4,972	(187)	119

It will be noted that the division improved its output but profits declined despite this.

8.8 Conclusions and Recommendations

- (i) A continuing major problem of the division is its inability to satisfy demand for its products.
- (ii) The problem of output cannot be comprehensively tackled until the condition of the machinery is improved to the extent that machine breakdown ceases to be an important cause of lost output.
- (iii) Machine availability will be improved by a concerted attack as follows:
 - urgent rehabilitation of the existing machines, probably involving replacement of some
 - complete review of future spares requirements dividing them into those which can be locally made and those that need to be bought from abroad
 - complete review of procedures for handling spares from initial procurement, to stock holding, to issuing to the shop floor

- ensuring that storage space and conditions for spares are adequate, and that properly trained staff are available at all the stages mentioned above

- ensuring that machinery when rehabilitated is kept in good condition.

(iv) When machine availability has ceased to be a major problem, increased output becomes a question of production management. At this stage the quality of supervisors and superintendants is seen to be crucial. Without adequately trained and motivated supervisors, it will not be economic to run a night shift. Yet this is required if the demand for bags is to be met.

(v) Raw material quality has a significant effect on output. Permanent means must be found to ensure that supplies are to specified quality. Kenaf of less than the highest quality causes greater loss of output than would be justified even with a low price.

We recommend, therefore:-

(i) that arrangements are made for independent quality control of raw material at the country of shipment, by experienced and technically qualified agents

(ii) a comprehensive programme of production assistance as detailed in Part D, paragraph 7.5, covering the following points:

- rehabilitation of machinery
- review of spares needs and systems
- improvement of maintenance
- supervisor training

9. Footwear Division

9.1 History and Size

The division has a single plant in Kumasi, which was built for the State Footwear Corporation on a grand scale between 1962 and 1966, supposedly to supply the whole of Ghana. Actual demand for their products has never approached this level, and about half of the original buildings have been devoted to other purposes. The division employs about 620 people. In 1974 its turnover was \$1.83m. on which it made a loss of \$670,000.

9.2 Plant and Processes

The plant is laid out with four lines suited to medium to large batch production of staple products, and uses machinery which is rapidly becoming obsolete. This is important from the aspect of quality as well as rate of output. The main stages are:

- cut uppers on clicking presses
- make uppers
- make soles (usually rubber), or buy in
- assemble uppers to soles on lasts.

The materials for manufacture including the lasts are still mostly imported but upper leather is now obtainable from a local tannery. Some rubber for soles is reprocessed in a mixing plant.

In addition to the main lines, they also make small numbers of fashion shoes and pilot batches of new lines in a separate workshop.

9.3 Output

The total of pairs sold and their value is given in Table 23 below.

Table 23

Volume and Value of Output 1970-74

Year	Pairs sold 000's	Value \$000
1970	360	1,205
1971	234	1,030
1972	222	1,100
1973	240	1,487
1974	280	1,837

It will be seen that output has been relatively static since competition was introduced in 1970/71.

The proportions of the output divided between the main product groups in 1974 were as follows:

- sandals 36%
- shoes 60%
- boots 4%

More detail is given in Appendix XV. Currently 47 different lines are produced (at one time it was 140).

9.4 Market Considerations

9.4.1 Market Size

The size and configuration of the market are not known with any precision. One estimate places the total Ghana market as 3 - 5m. pairs a year. This would suggest GINOC have a market share of not more than 10%.

9.4.2 Competition

There are 30 registered shoe factories, of which 10 are significant competitors. In addition small workshops and individuals must cause appreciable competition on sandals.

9.4.3 Pricing

Pricing policy is unrelated to costs. GIHOC's costs are excessive, and the competition determines the price at which products are saleable. Arrangements for allocating costs to the various products need reconsidering - this is referred to later in Part D paragraph 4.7.2.2.

9.4.4 Distribution

The main channels of distribution are indicated in Table 24 below.

Table 24 - Value and Proportion of Sales by Distribution

	₹000	%
Passbook holders	1,550	85
Large institutions	152	8
Bata	130	7

9.4.5 Design

There is acceptance that shoes are a fashion business and that competition necessitates up to date designs. Two designers are employed and there are facilities for making prototypes quickly. However, high fashion shoes are never likely to account for large volumes of business.

9.4.6 Maintenance

There are well equipped metal and wood workshops. The latter is principally for mending lasts, which are now tending to be made in plastic not wood.

Because there has always been an excess of machinery, maintenance has been on the basis of exchanging units, which are then overhauled at leisure in the workshop. This situation cannot be expected to continue and a complete reassessment is needed of the factory's future machinery needs and the necessary minimum of spares and maintenance facilities to support it.

9.5 Finance

The division has been consistently unprofitable. Accumulated losses have reached \$2.15m. and borrowings \$2.76m., as shown in Table 25 below.

Table 25 Capital and Borrowings 1972-74

Year	Capital			Borrowings		
	HQ capital \$000	Accumulated losses \$000	Net capital \$000	Overdraft	GIHOC Recurrent \$000	Total \$000
1972	5,946	(1,144)	4,802	-	28	28
1973	5,946	(1,481)	4,465	-	2,097	2,097
1974	5,973	(2,151)	3,822	-	2,759	2,759

The revenue picture is no better. Table 26 shows a rising trend of losses, and there is no knowledge of any decisive action being taken to arrest these losses.

Table 26 Sales, Turnover and Profit 1972-74

Year	Sales 000's of pairs	Turnover \$000	Pretax Profit (loss) \$000
1972	222	1,100	(362)
1973	240	1,486	(328)
1974	280	1,832	(670)

9.6 Conclusions and Recommendations

The unprofitability of the division is largely due to the severe imbalance between demand and the resources provided. Sales are quite inadequate to support the overheads.

A solution will require difficult policy decisions, and we therefore recommend:

- (1) A market study, to establish the size of the market and what share GINBC might hope to obtain.

- (ii) Assessment of resources required to satisfy the attainable demand.

The results of these studies should be following by a policy decision leading to:

- (iii) Plans to bring resources into line with demand.
- (iv) Marketing assistance towards attaining the identified market share.
- (v) Comprehensive production work, as indicated in Part D, paragraph 7.6, including production control, spares scheduling and procurement, preventive maintenance.

10. Glass Manufacturing Division

10.1 History and Background

The division consists of a single plant situated at Aboso, in the mining part of the Western region. The plant was supplied from Germany in 1963/65 to the Glass Manufacturing Corporation and was intended to make sheet and hollow glass. The sheet glass section has not operated since 1966 and the hollow glass section has never attained its rated output.

The unsatisfactory performance of this plant both in output and cost terms has led to a review of Ghana's needs for glass as a result of which the whole plant is to undergo major rehabilitation. Thus the comments below have to be read against the knowledge of the new plant that is to be installed.

In 1974 it had a turnover (own manufacture only) of £1.47m. on which it made a loss of £1.58m.

10.2 Location and Size

A number of factors influenced the location of the plant at Aboso amongst them the relative availability of industrial labour, local supplies of sand and good rail communications to Kumasi and Takoradi. The plant currently employs about 740.

10.3 Plant and Processes

The present hollow glass plant consists of:

- 2 x 16 ton glass melting furnaces each with two Putsch bottle forming machines and annealing lehrs
- 1 x 5 ton glass melting furnace, used with manual dipping, for wide mouthed jars
- two-colour bottle printing plant.

The furnaces are oil-fired, and are automatically charged as the glass level drops. The charge is prepared by weighing the materials into a batch which is then well mixed before charging. Operations are continuous on four rotating shifts.

10.4 Raw Materials

71% by weight of the raw materials are obtained locally:

- sand of improved quality now comes from Half Assini
- oyster shells from coastal deposits near Battor.

The remaining raw materials, of which soda ash and albite together account for about 25% by weight, are imported.

In terms of cost, the largest constituents in 1974 were:-

Soda ash	53.6%
Albite	15.0%
Sand	8.2%
Borex	7.8%
Oyster Shell	7.1%
Barium Carbonate	5.5%
Sodium Sulphate	2.2%
Others	0.6%
	100.0%

10.5 Products

Table 27 below shows the distribution of main products by value.

Table 27 Sales Value and Proportion, by Product, 1974

Product	Sales	
	000	%
Spirit Bottles	947	61.5
Soft Drink Bottles	255	16.6
Cosmetic Jars	221	14.3
Other Clear Bottles	104	6.7
Beer Bottles	15	0.9
TOTAL	1,542	100.0

They make in green, flint and amber.

10.6 Marketing Considerations

10.6.1 Competition

GINOC is the monopoly manufacturer of glass in Ghana. It also acts as the agent for all imported glass containers.

Competition thus is confined at present to:

- imported glass
- substitution by containers of different materials

10.6.2 Market Size

Some studies of the Ghana glass market were done as part of the feasibility study for the capital development mentioned above, and arrived at an annual demand of 16,000 tons of hollow ware. Existing theoretical plant capacity is about 10,000 tons/year, but it has never attained much more than 5,000 tons/year. Table 28 below gives imports in the last 3 years.

Table 28 Sales of Imported Glass, 1972 - 1974

Year	Imports, Value £000	% of all Sales
1972	735	38
1973	544	23
1974	1100	44

10.6.3 Quality

The existing operation has had problems of maintaining a satisfactory grade of product. This has at times resulted in very high levels of recirculating cullet and customer dissatisfaction. It will be essential for the new plant to work to the highest quality standards if the potential market is to be satisfied.

10.6.4 Diversity

Because the existing plant has been able to supply only a fraction of the demand, it has been able to be selective about what it would supply. This will not apply to nearly the same extent with the new plant and this could introduce complications with a multiplicity of products and moulds, in terms of distribution and storage.

10.6.5 Pricing

Prices are controlled by the Prices and Income Board.

10.7 Supporting Facilities

10.7.1 Laboratory

There is a quality control laboratory for testing raw materials and the finished products. Despite its work the quality of the product has not always met with the customers' approval.

10.7.2 Drawing Office

There is a drawing office, which prepares drawings for moulds as well as site alterations. However, on average only 10 new moulds a year are required and at the existing output levels the drawing office can hardly be fully occupied.

10.8 Maintenance

There is a well equipped machine shop, with lathes, milling machine, shaper etc. This has two functions - to machine the simpler cast iron moulds (the moulds are imported either as castings or fully machined) and to manufacture the simpler spare parts.

10.9 Finance

The division has been consistently unprofitable. It has accumulated losses of \$4.9m. and has borrowings of \$5.7m. Table 29 overleaf shows how the situation has developed.

Table 29 Capital and Borrowings, 1972 - 1974

Year	Capital			Borrowings		
	Net Capital (\$000)	Accum. Losses (\$000)	Net Capital (\$000)	Overdraft (\$000)	GINC Recurrent (\$000)	Total (\$000)
1972	6,304	(2,707)	3,597		1,047	1,047
1973	6,304	(3,279)	3,105	-	1,612	1,612
1974	6,933	(4,904)	2,029	-	5,725	5,725

The revenue situation is bad and deteriorated sharply in 1974. Table 30 shows this and also the large share of turnover represented by imported bottles.

Table 30 Turnover and Profit 1972 - 1974

Year	Sales					Pre-tax Profit (loss) (\$000)
	Own Products		Imported		Total	
	(\$000)	%	(\$000)	%	(\$000)	
1972	1,191	62	735	38	1,926	(835)
1973	1,837	72	944	28	2,781	(694)
1974	1,472	56	1,180	44	2,652	(1,581)

The sales figures relate to a domestic output of 10/11m. bottles a year.

10.10 Development

Approval has been given and finance arranged for a complete rehabilitation of the hollow ware plant. There is no immediate proposal to reactivate the sheet glass plant which will be dismantled.

The new plant will consist of:

- 1 x 60 and 1 x 40 ton electrically heated melting furnaces, new bottle forming machines and associated annealing lehrs. Its nominal capacity will be about 20,000 tons a year, and a large finished goods warehouse will be built.

10.11 Conclusions and Recommendations

(i) Reasons for New Investment

This has been undertaken

- to provide increased capacity and thereby save foreign exchange used in importing bottles
- to economise in imported fuel and thereby also save foreign exchange
- to improve the quality of product and reduce wastage.

Its size has been calculated to supply the whole Ghanaian hollow ware market estimated in the feasibility study, (16,000 Tons) and the ratings assume this can be achieved. Some changes to existing practices will be necessary for this.

(ii) Reasons of Existing Plant

The poor performance of the existing plant has been blamed on a number of different factors, for example:

- poor furnace design
- inadequate instrumentation
- difficulties in maintenance.

It is not possible to be sure how far these or other factors have in fact been major causes, but careful attention needs to be given in the new plant to see that past errors are not repeated.

(iii) Design Considerations

In making arrangements for the design and procurement of new plant, as well as the major parameters of output and running levels, particular attention needs to be paid to:

- maintenance arrangements for the plant as a whole and the bottle forming machines in particular
- instrumentation and other arrangements for keeping close control of the glass quality as it enters the bottle forming machines.

Before making a decision on what equipment should be bought, we strongly recommend that visits are made to see the proposed equipment and plant in operation, preferably in a developing country with similar levels of skilled labour and maintenance facilities.

(iv) Priority Needs - Management

Even if the plant itself is adequately designed, there must be adequate supporting facilities if it is to operate efficiently. The need for good operating and maintenance practices will be increased by the size of the new plant.

The areas where we see particular need for attention are:

- assessment of market needs sector by sector and translation into production programmes
- production control - balancing material supplies, production facilities and the demand for various products so as to satisfy the customers in the most economic manner
- procurement, storage and stock control of raw materials, including consumables like refractories
- procurement, storage and stock control of spare parts, including parts made locally
- planning and implementing maintenance on a preventive basis, including the provision of adequate arrangements for making the simpler spares locally

- arranging quality controls in such a way as to minimise the quantity of defective output

- improved information for production and general management.

We recommend that P-E and the technical consultants work together to ensure that the managerial aspects of operating and maintaining the new plant are fully considered at the design stage.

11. Marble Works Division

11.1 History and Size

The division was originally a private company and was brought into public ownership in 1962. It imported and worked marble, principally for gravestones. Since then the division has built up a business also in terrazzo. It employs about 70 people, of which 25 are staff. In 1974 it had a turnover of £141,000, and made a loss of £21,000.

11.2 Plant and Processes

There is plant for cutting, polishing and lettering stone, some of which has latterly been allowed to fall into disrepair. The consequent inability to process the larger blocks of marble has necessitated importing slabs which are liable to breakage.

The division has diversified into manufacture of terrazzo, which is polished in situ, and for which there is a greater demand.

11.3 Products

(i) marble faced tombstones

(ii) terrazzo flooring

They contemplate making terrazzo sink units and marble decorative ware.

11.4 Output

In 1974 the division's turnover was as follows:

Tombstones	£ 25,000
Terrazzo	£116,000
	<hr/>
	£141,000

At about £850 per tomb, this turnover only represents 30 sales a year.

11.5 Market Considerations

11.5.1 Competition

They have no direct competition in the marble tombstone business. For terrazzo there are several active competitors who are believed to have the majority of the in situ market.

The main companies in the field are:-

A Lang)	
Tessano	)	- precast and in situ
CAT terrazzo)	

In addition other small companies make in situ terrazzo but have no polishing facilities.

11.5.2 Market Size

The tombstone market is limited by the high price and there is little prospect of growth so long as imported marble has to be used. The terrazzo market is not yet known.

11.5.3 General Considerations

Growth for the division must involve finding an opportunity for its skills, where the market is not yet saturated. This might, but is unlikely to, involve export, if high quality local stone could be located and worked.

11.6 Maintenance

Past maintenance has been inadequate to the extent that the marble sawing machine has been out of order. In consequence large blocks of marble have remained as dead stock, while premium marble had to be imported.

11.7 Finance

The division has been consistently unprofitable. It has accumulated losses of £187,000, but has no major borrowings. Operating results as shown in Table 31 below show an increasing turnover but no proportionate reduction in the rate of losses.

Table 31 Turnover and Profit 1972 - 74

Year	Turnover £000	Pretax Profit (loss) £000
1972	66	(26)
1973	103	(6)
1974	141	(21)

11.8 Developments

There is granite and marble in Ghana, as yet unworked, but the domestic market could hardly support a large operation. Hopes for future development of these resources would therefore have to depend on the highly competitive export market.

11.9 Conclusions and Recommendations

The division is not in the main stream of GINOC operations. Tombstones are a low volume luxury product with little growth potential. Terraces is a competitive market and, laid in situ, requires managerial skills which are not industrial. The division has made consistent losses since 1968.

We recommend that GINOC seriously consider whether retention of this division is in line with its long term strategy.

12. Meat Product Division

12.1 History and Size

The division has two factories. The larger one, at Zuarungu near Bolgatanga in the Upper region, was constructed in 1965 to produce corned beef. The other and smaller unit is a slaughterhouse at Tema which formerly was managed by Tema Development Corporation.

The function of the division is now primarily one of supplying fresh meat to the Accra and Kumasi markets; the manufacture and sale of corned beef has been relegated to a minor activity.

Behind this change of function lies a long history of problems in procuring an adequate supply of cattle. These have resulted in low productivity, high overheads and serious financial difficulties. The supply problem has not yet been resolved, and the financial difficulties remain although some progress has been made in operational matters.

The division employs about 250 people. In 1974 it had a turnover of \$1.09m. on which it made a loss of \$872,000.

12.2 Raw Materials

Both plants depend on cattle which are normally bought from cattle dealers at the border with Upper Volta, but may have originated also from Niger, Mali, or Togo. Supplies have been scarce and erratic for reasons which are still not clearly understood. The price paid, and the slow means of payment adopted are thought to be factors inhibiting a larger supply. Ghensian cattle have not been available. The division formerly acquired its cattle from the Cattle Development Board but latterly it has had permission to buy its own. In 1974 it bought 1220 as compared with CDB's purchases of 47,000. (Appendix XVI shows the erratic pattern of supply.)

In theory there is no reason why sheep and goats should not supplement the cattle but this is not at present economic. However Bolgatanga has reared small numbers of pigs for slaughter.

12.3 Capacity and Output

The capacity of Bulgotanga is said to be 100 cattle a day, and of Tomu 40 cattle a day. There are restraints such as water supply which would probably limit the output if this was not constricted more severely by cattle supplies. There is also a dilemma for management as to whether to use the cattle they do buy for fresh meat or corned beef. Table 32 below indicates how the available cattle were used.

Table 32 Distribution of Cattle Purchased

Type of Usage	Total 1974	Number per Day
Slaughtered at Tomu	182	2.4
Bulgotanga	138	5.4
Total	320	12.8
Carcasses used for corned beef and local consumption	110	1.2

Appendix XVII gives more detail. It will be apparent that corned beef production is currently a mere 12% of capacity.

12.4 Marketing Considerations

Fresh meat is sold directly to the consumer from meat cottages owned by GIBEC. Corned beef is distributed solely by GIBEC. A limited market study has shown that at the present price levels the market absorbed nearly 1 1/2 lb. of corned beef over the last 2 years. Of this GIBEC supplied less than 1%, the remainder being imported.

12.5 Manufacturing

There is a workshop with basic machine tools at Bulgotanga and this caters to small quantities of subcontract work.

12.6 Finance

The division has been consistently unprofitable. By now its accumulated losses amount to \$3.03m and it employs negative net capital. It has substantial borrowings of \$1.8m. The way this situation has developed in recent years is shown in Table 33 below.

Table 33 Capital and Borrowings, 1972 - 74

Year	Capital			Borrowings		
	Net Capital \$000	Accum. Losses \$000	Net Capital \$000	Overdrafts etc. \$000	GINOC Recurrent \$000	Total \$000
1972	)	(1,481)	(27)	170	661	831
1973	) 1,454	(2,154)	(700)	127	852	979
1974	)	(3,026)	(1,572)	377	1,429	1,806

The revenue situation is deteriorating further as shown in Table 34. Turnover has remained fairly static but losses have increased in 3 years by over 50%.

Table 34 Turnover and Profit, 1972 - 74

Year	Turnover \$000	Pretax Profit (loss) \$000
1972	1,011	(525)
1973	960	(670)
1974	1,000	(872)

12.7 Summary of Conclusions

Little useful contribution can be made to this division, and it is likely to remain unprofitable, until some fundamental policy decisions are taken.

A plant which was set up to produce corned beef is in practice largely occupied in producing fresh beef for Accra and Kumasi. Elsewhere in the country the Cattle Development Board supplies beasts to local butchers and slaughterhouses. The division's difficulties stem from the shortage of cattle, and there is no evidence to show that this shortage is likely to disappear within the next few years, despite the work now being done by the Ghana Livestock Company.

The division needs to have from headquarters a clear definition of its objectives, and in arriving at that definition several possible strategies might be considered. If upon reconsideration its original objective of producing corned beef is regarded as still valid, then this suggests that all the cattle they can procure should be used for this at Bolgatanga. The Tema unit is irrelevant to this objective and does not obviously fit with GINOC's other industrial and processing operations and could possibly be sold off.

An alternative view is to say that since cattle supplies are short all the emphasis should be on satisfying the demand for fresh meat. Again there is no particular reason why Accra and Kumasi should be supplied by a State slaughterhouse and the rest of the country otherwise. But, if the policy is that GINOC should continue to have this responsibility, then the economics of concentrating production at one only of the two units must be seriously examined. Bolgatanga has better facilities and for that reason alone might be favoured.

These expedients however will not cure, although they may help, the problem of inadequate throughput. Further efforts must be made to improve supplies in total for example by improving purchasing terms (notably by speeding payment) or at least to investigate whether some of the fresh meat supplies for the rest of the country could not be provided by subcontracting to GINOC the work of slaughtering.

We recommend:

- (i) discussions with the Bank of Ghana to achieve a quicker secure way of paying for imported cattle

- (ii) investigation of the supply situation and factors affecting it for cattle to Ghana and her competing neighbours.

This study should contribute to:

- (a) reconsideration of the present policy of splitting production between fresh and corned beef
- (b) urgent reconsideration of the benefits of concentrating production at one plant only.

13. Metal Industries Division

13.1 History and Size

The division operates in Accra from a constricted site adjacent to Distilleries division. It originated before 1960 as a private concern, and now employs about 270.

In 1974 its turnover was ₵1.6m. and on this it made a small loss.

13.2 Main Products and Output

The products fall into two groups, machine products and fabrications.

- (i) Machine products: Common wire nails
 Roofing nails
 Paper clips
 Hairpins
- (ii) Fabrications: Playground equipment - swings, slides
 Agricultural equipment - wheelbarrows,
 battery cages, troughs
 Household items - record racks, tongs,
 bottle openers.

Output of the main lines in order of value is given in Table 35 below.

Table 35 Distribution of Turnover by Product, 1974

Product	Sales ₵000
Wire nails	1,517
Roof nails	36
Playground equipment	7
Battery cages	5
Hairpins	5
Others	35
TOTAL	1,605

13.3 Plant and Equipment

Most of the division's turnover is from nails. It has 26 nail presses of which 19 are new. The policy is to replace all the older machines. There are also 2 machines for making paper clips and hair pins.

13.4 Personnel

Present staff levels are a legacy of past administrations. The machinery is said only to require about 100, and unrelated work has to be found for the remainder. This largely consists of light fabrications which only account for 3% of the turnover.

13.5 Production Supplies

All the main products are based on steel wire. Availability of this is a constraint on the division's output. Subsidiary products such as playground equipment also use imported material but this is bought locally as needed.

13.6 Marketing Considerations

13.6.1 Competition and Market Share

There are two other nail making firms in Accra and two in Kumasi. The division considers it has about 70% of the available market.

13.6.2 Market Size and Growth

The nail market is thought to be about \$2m. and to be nearly saturated, but no reliable market study is available. Growth will therefore need to be sought from diversification, and potential is seen in two areas:

- builders hardware
- light fabrications

13.6.3 Sales Pattern

There is a marked autumnal sales peak for the building products.

13.6.4 Pricing

Prices for miscellaneous products are set by the Production Manager, but there is no accurate measure of costs. On some products the men are paid piece rates. The price of nails is controlled by the Prices and Income Board.

13.7 Maintenance

There is a workshop adequately equipped with basic machine tools, as well as special purpose grinders for sharpening the wearing heads on the nail machines. In addition there are hardening furnaces and hardness testing machines, and staff competent to use this equipment. There is a small store for spare parts which currently houses many redundant items. Arrangements for procurement and tendering could with advantage be reviewed.

13.8 Finance

The division has not been very profitable. It still has small accumulated losses of £59,000 and it has borrowings of £207,000.

The revenue position has fluctuated in recent years as indicated in Table 10 below.

Table 10 REVENUE AND PROFIT 1972-74

Year	Turnover (£000)	Profit (Loss) (£000)
1972	770	10
1973	1,317	66
1974	1,605	(6)

Despite increasing turnover the division moved into loss in 1976.

12.9 Summary and Recommendations

In some respects this division impressed. There is a good appreciation of production machinery and the need to keep it well maintained, but the uncertainties of raw material supply make the planning of output difficult. The labour intensive group of fabricated products offers a useful way of employing otherwise surplus labour but does not yet contribute significantly to turnover and the relative profitability of the two groups of products needs to be determined.

Work useful to the division would include:

- (i) Market studies for nails and builders hardware
- (ii) Technical advice and assistance in relocating machines and improving material handling. On the congested site this could be valuable by delaying the need to find other accommodation
- (iii) Design and installation of spares control system
- (iv) Review of raw material stock control procedures.

14. Paints Division

14.1 History and Size

The division was originally the State Paints Corporation and consists of a single factory at Tona.

It employs about 220, and in 1974 had a turnover of nearly £4m. on which it made a profit of (£33,000).

14.2 Plant and Processes

The plant makes a variety of paints largely (90%) from imported raw materials. The process consists of blending pigments, solvents and liquid (resin, water, resins) and milling the mixture until the particle size is sufficiently small to ensure smoothness and uniformity. Colour matching is done by eye.

The mills, which control the rate of output and the quality of the product are as follows:

	Charge	Theoretical Cycle Time
3 roller mills	500 lb	1 hour
1 ball mill	1,200 lb	24 hours
1 Wetton ball mill		500 gallons day

All three only the Wetton ball mill is now in a condition to produce a top quality product without reworking. In the case of the roller mills Autogrey paint has to be reworked 1/3 time to achieve the necessary standard. In addition there is a wetting machinery, theoretically capable of 2,000 + 1 gallon - one a day. The automatic comes in out of water wetting open parts. Larger ones are filled manually in 1 weighing scales. There is an automatic filler for 1 and 1 gallon cans, but it is said to be unreliable. It is not clear whether this is because of machine design or its present condition.

Quality control is maintained by checks for viscosity, gravity, glass, hardenability, colour, drying rate and light fastness.

14.3 Supplies

About 400 different items have to be imported and this poses problems in balancing their requirements. Arrangements for procurement and stock control are probably inadequate to cope with this range. Lead times are long and interruptions to supply occur. Attempts are being made to find local clays suitable to replace some of the imported fillers.

14.4 Products

The main products, with 1974 volumes in thousands of gallons, are:

	<u>Volume</u>
Household paint - emulsion	155.1
- glass	140.7
Auto paints	17.0
Anti-rusts	9.6
Special (various)	0.3

Other Sales Channels

Imports

There are 5 competitors, mainly in the household paint sector:

- ICI Industries, York
- Toms & Allied Chemicals (Ipswich) Chemicals
- Borden, Ipswich (Ipswich)
- The British Co., Ipswich
- Dow Chemicals, Ipswich

14.5.2 Market Size

There is no accurate knowledge of market size but GIBEC believe they have about 60/65%. Although some paint is imported from Togo, this may only reflect temporary shortage due to supply interruptions.

14.5.3 Packaging

Mostly in cans, made for the cheaper paints of reject grade tin plate. Small quantities of emulsion are sold in 1 gallon plastic containers. Labels are of poor quality.

14.5.4 Customers and Sales Volume

The largest customers in 1974 were:

	(\$1000)
P. U. D.	220
GIBEC Building Materials	100
A. Long Ltd.	100
Other GIBEC	150
Super Paints stores	100
	<hr/>
	670
Rest of customers	1,000
Balance	1,000
	<hr/>
Total Sales	2,670

All sales are made on factory.

14.5.5 Quality Control

The original National Standards of Quality were based on GIBEC's product at that time. GIBEC's machinery is now worn and obsolescent, allegedly making it difficult to maintain quality at an economic cost. This will be affected by the level of demand and the extent to which material constraints limit production. The influence of these factors has still to be assessed.

14.5.6 Prices

These are controlled by the Prices and Incomes Board.

14.6 Production

Facilities at the factory are minimal, and consist of little more than a fitting bench. The inability of the roller mills to maintain quality is likely to be due to wear of the rollers, and it is possible that regrinding of these would largely solve that particular quality problem.

14.7 Finance

The division has been consistently and increasingly profitable. It has by now accumulated reserves of £2 1/2m. and has no large borrowings. Net capital employed is £3.42m.

The revenue position is not quite as strong as might appear at first sight. Gross profitability has not kept pace with increasing turnover. This is demonstrated by Table 17 below.

Table 17 REVENUE AND PROFIT 1972-74

Year	Sales Turnover (a)	Pre-tax Profit (Loss) (b)	%
1972	1,000	300	30.0%
1973	1,200	400	33.3%
1974	1,500	500	33.3%

14.8 Development

There is a small research section, which is investigating novel materials such as clay and cement oil for use in paper. In addition the division is heavily contemplating manufacture of printers ink from novel gums and dyes, and prospects seem promising.

The General Manager sees the division as being in surface coatings, not in the narrower field of paints.

14.9 Summary and Recommendations

The division has made increasing profits, but this is due to increased turnover rather than increased profitability. Certain aspects of its operations could be improved with advantage and this suggests the following areas of assistance:

- (i) Establishing the size and scope of the paint market, as a necessary prerequisite to investment in newer and higher capacity milling machinery, and future production policy.
- (ii) Advice and assistance in rehabilitating or replacing the milling machinery, and reviewing production policy.
- (iii) Installing improved procedures for control of procurement and inventory of raw materials.
- (iv) Drawing up arrangements for preventive maintenance, including spare provisioning and storage.

1. Legal Government Division

1.1 MADEIRA and SIA

The division has a single plant in Taborda. This was built in 1959/61 and later extended to make corrugated cases. The division employs about 120. In 1976 it had a turnover of \$7.5m. and pretax profits of \$203,000.

1.2 Plant and Processes

The main operation (80% by value) is the conversion of imported draft paper into corrugated boards and subsequently its manufacture into cases. The plant involves the following processes:

- corrugating
- slitting
- printing
- stapling

Other, mostly smaller, plants make domestic products such as tissues, napkins, toilet rolls. A third category of product is small containers, e.g. chipboard boxes, full-lined cardboard containers, paper and plastic bags. For these products, the processes involve simple cutting, forming and gluing operations.

The existing plant is arranged in two shops and there is some imbalance in the auxiliary machinery (e.g. stapling) for the corrugated cases. There is no finished goods warehouse.

Virtually all raw materials are imported e.g. draft paper, soft tissue, chipboard.

19.3 **Capacity and Output**

19.3.1 **Capacity**

The rated capacity of the corrugator is 24 tons per shift, but actual output is an average 100 tons per week i.e. 10 tons a shift. At present they work 10 shifts a week. Actual output is less than rated capacity because of restrictions on auxiliary operations, and excessive numbers of setting changes on the machines.

19.3.2 **Output**

Production for 1972 to 1974 is shown in Table 10 below.

Table 10 Quantities of Products 1972-74

Product	1972 Quantity. 1972	1973 Quantity. 1973	1974 Quantity. 1974
Industrial Products:			
Corrugated paper	7,200	8,000	8,100
Chipboard boxes	11	87	80

Product	1972 Number	1973 Number	1974 Number
Consumer Products:			
Toilet rolls	5.5M	5.0M	5.0M (1)
Paper napkins	1.6M	2.1M	1.6M
Paper bags	10.5M	11.0M	1.5M (2)
Plastic bags	1.5M	1.5M	1.5M
Tinned containers	70,000	60,000	120,000

- Notes: 1. A competitor entered the market
 2. The relevant machines have been awaiting spare parts.

13.4 Market Characteristics

13.4.1 Competition

The division has a monopoly in production of corrugated cases, but there is competition in some of the other products, notably toilet rolls, where GINNE claim 65 - 75% of the market.

Their market could be vulnerable to different methods of packing and transport, for example palletisation.

13.4.2 Market Size

Demand exceeds supply for their main product, corrugated cases, and has to be augmented as required by imports. There is no accurate knowledge of total unrestricted demand, and the restriction is aggravated by the variable demands of some major customers, e.g. State Fishing Corporation.

13.4.3 Exports

Small quantities of corrugated cases are already exported to Egypt and there have been other enquiries within West Africa. The possibility of such exports should not however be a major factor in determining the capacity of proposed new plant.

13.4.4 Pricing

The division operates a differential pricing policy depending on the volume of turnover and the size of orders. Prices are controlled by the Price and Income Board.

13.4.5 Distribution

Production is virtually hand to mouth, due to lack of storage space and inadequate production capacity. Sales are on factory.

15.4.4 Quality

Selecting handling and storage arrangements for the kraft rolls are inadequate. If the division were not a monopoly they would result in more serious loss of saleable output. Competition in the other products will necessitate higher standards of quality being introduced and maintained.

15.4.5 Maintenance

There is a small workshop with lathes, drilling machine and welders. Routine inspection and maintenance are done on Saturdays but despite this breakdowns still occur. Spares are ordered usually, based on past usage, but the procurement and stock control systems currently in use have not avoided serious loss of output.

15.4.6 Finance

The division has generally been profitable and has built up reserves of \$1.7m.

Summary results for the past 3 years are shown in table 10 below.

Table 10 Income and Profits 1972-74

Year	Turnover (\$000)	Pre-tax Profit (Loss) (\$000)	Operating Profit (Loss) (\$000)
1972	4,740	1,004	681
1973	3,335	681	733
1974	7,630	303	(130)

During 1974 there were major increases in the price of imported raw materials and in the cost of overheads, which outweighed the permitted increase in selling prices and resulted in an operating loss of \$0.13m.

15.7 Recommendations

(i) There is a plan to:

- build a raw materials/finished goods warehouse
- install a second corrugating machine and auxiliary equipment, capacity 45 tons/shift

If the scheme is approved and finance made available the plant should be operating by 1977/78. The warehouses would be built first.

(ii) The possibility of reusing waste paper is being examined.

15.8 Summary and Recommendations

This plant, in general, made a good impression, although there were some areas to be improved. As an example, the plant which could be operated continuously on a 1 shift basis only with a low, while demand remains uncontrolled. It appears that the main reason for this is the lack of reliable supervisors.

The following areas could benefit from attention:

- preventive maintenance
- production control and scheduling
- spare procurement and stock control
- supervisory training

16. Pharmaceutical Division

16.1 History and Rise

The division operates from a spacious site on the northern outskirts of Accra. The factory was built in 1966 and after initial difficulties in arranging for suitable management was taken over by GIMDC in 1970.

Since then, with the help of a UNIBD team, very considerable progress has been made. Capacity has been increased and the division supplies a substantial proportion of the public sector's drug requirements. It has operated increasingly profitably.

It employs about 420, and in 1974 made a profit of \$2.18m on a turnover of \$7.24m.

16.2 Processes

The main activity is making tablets and injectable solutions from medicinal chemicals bought in bulk from abroad. The processes are in outline as follows:

(i) Tablets: Active chemicals, lubricants, disintegrants, coatings etc., are dried, then granulated, and finally compressed into tablets.

(ii) Injectables: Active chemicals, stabilizers etc., are dissolved in deionised and deaerated water. The injectables are filled into ampoules, sealed, sterilised and tested.

A quality control laboratory maintains the required standards of purity, sterility etc., by testing samples at all stages from the receipt of the raw materials onwards.

The tableting section works on 1 shift, the remainder of the production on 2 shifts.

10.3 Capacity and Output

The original and enlarged capacities of the factory are as follows:

	Original Capacity	Enlarged Capacity
Tablets	100m	700m
Ampoules	1m	20m
Capoules	-	5m

Actual output of tablets in recent years has been:

Year	Output of Tablets
1972	22m
1971	15m
1974	640m

10.4 Marketing Considerations

10.4.1 Competition in Market Share

Nearly 60% of the division's output goes to satisfy the public sector's drug requirements. The Ministry of Health is a tied customer for those products which the division is capable of supplying. However, there is strong competition in the private sector both from imported and locally manufactured proprietary drugs. The division is believed to have about 20% of the total drug market by value, but it is not known how this market is divided up.

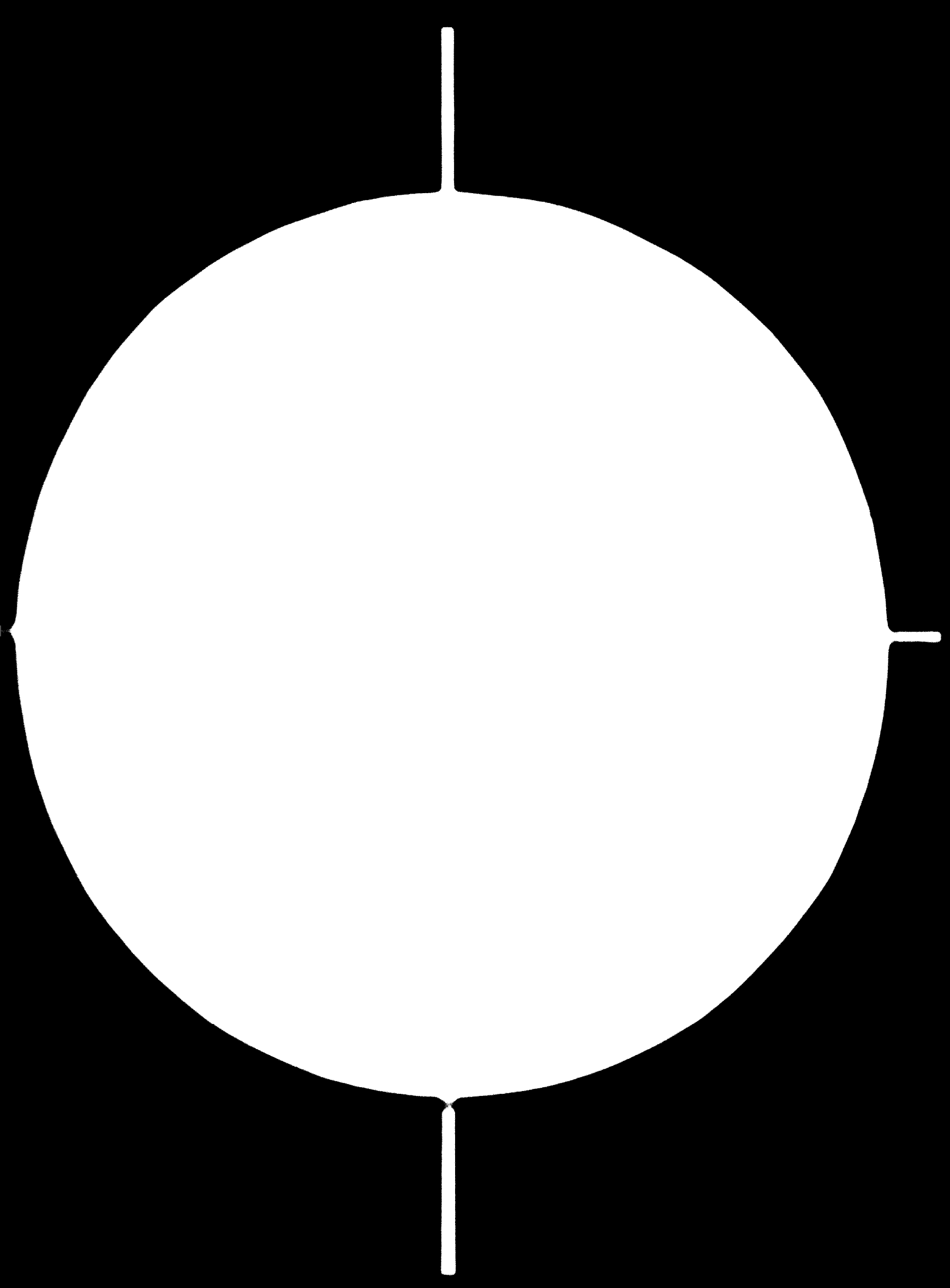
10.4.2 Range of Products

The division is not able to produce drugs in the form of syrups, suspensions, creams, pastes etc., and these are just the areas that the private companies find most profitable. The current product list includes nearly 60 items selected primarily on the basis of Ministry needs. Entry into the private sector on any substantial scale will demand a different approach.

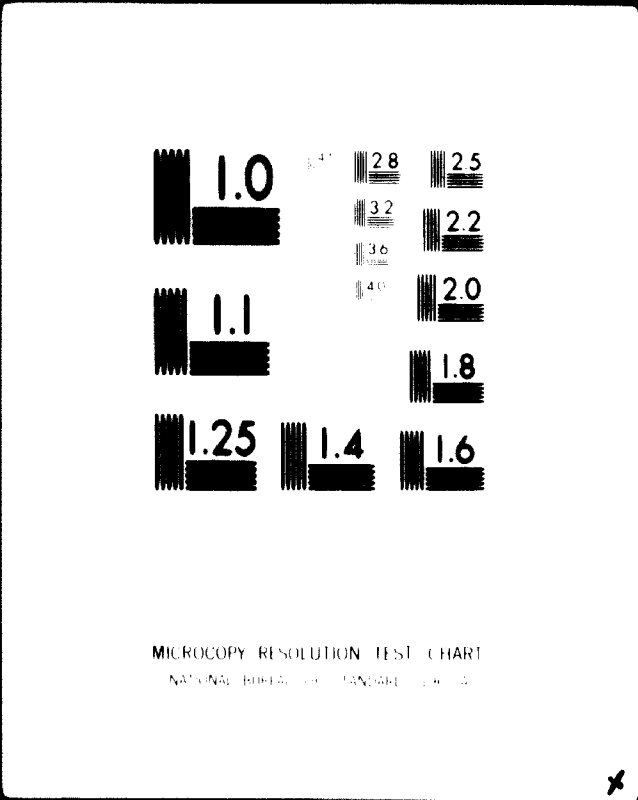
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16.4.3 Prices

These are controlled by the Prices and Incomes Board.

16.4.4 Distribution

This is either centrally to the Ministry depot or, for the private sector, by way of the larger retail drug houses and chemists.

16.5 Maintenance Arrangements

The production machinery is maintained according to preventive routines. A system of plant history cards has been instituted to assist in judging spares provisioning and the proper time for plant replacement.

16.6 Finance

The division has made increasing profits since GINOC took over. It has accumulated reserves of £3.57m, but also has borrowings of £2.98m. Table 40 below shows how the situation has developed.

Table 40 Capital and Borrowings 1972-74

Year	Capital			Borrowing		
	HQ Capital £000	Reserves £000	Net Capital £000	Overdraft £000	GINOC Recurrent £000	Total £000
1972	1,621	467	2,088	-	196	196
1973		1,420	3,041	1,933	181	2,114
1974		3,568	5,189	2,822	162	2,984

The revenue position is also satisfactory as shown in Table 41 below.

Table 41 Turnover and Profit, 1972-74

Year	Turnover (a) £000	Pretax Profit (b) £000	Ratio b/a %
1972	1,996	n.a.	n.a.
1973	3,999	951	23.8
1974	7,240	2,181	30.1

16.7 Developments

There are plans to expand production of existing lines and to enlarge the product range as follows:

- (i) Expand production to 2000m tablets, 100m ampoules, and 25m capsules a year.
- (ii) Buy equipment to produce powders, creams, aerosols, vials and syrups.

In addition new warehouses will be built for raw materials and finished products.

16.8 Summary and Recommendations

The division is profitable, but it is dangerously dependent on its major customer, the Ministry of Health. It has the productive ability now to compete more strongly in the private sector but is limited by its plant to the less lucrative products. Detailed knowledge of private sector requirements is lacking.

If the greatly expanded capacity envisaged is to be properly utilised, there needs to be much more attention paid to market requirements, particularly in the private sector: for example, quantities, qualities, product range, availability, packaging and presentation. It would be desirable to review raw material and spares procurement to ensure that the systems were reasonably compatible with the rest of GINOC.

We recommend:

- (i) assistance in determining the size and sectors of the market.
- (ii) limited work to ensure that new GINOC systems e.g. of production control are compatible with Pharmaceutical division's requirements.

17. Steelworks Division

17.1 Background and Size

The division was formerly the Tema Steelworks Corporation. It was built as part of a large turn-key contract about 1962 and has never produced near to its alleged capacity. The real capacity of the plant as installed was possibly about 10,000 tons a year, but output recently has never been more than 8,500 tons.

Major rehabilitation work has been in progress during Stage 1 and the comments made below should be read with that in mind.

The division employs 760 and in 1974 it made a pretax profit of \$913,000 on a turnover of \$4.85m.

17.2 Plant and Process

The plant is currently based on indigenous supplies of iron and steel scrap, and consists of two 10 ton electric arc furnaces and the appropriate ancillaries and mills to produce light sections. Output has been almost entirely mild steel. The plant as supplied was not new and was badly balanced and laid out. Current developments are intended to rectify the worst features.

17.3 Products and Output

The division now only makes $\frac{1}{2}$ " to 1" reinforcing bars. The total output in the last 3 years has been as follows:

1972	6,790 tons
1973	8,358 tons
1974	8,488 tons

Previously small quantities of other sections were made.

17.4 Raw Materials

The plant has been drawing scrap from the most readily accessible sources: the mines, the railways and the Accra/Tema area. Nearly all other consumables have to be imported although experiments are in hand to see if some items can be obtained or made locally.

The substantial increase in output contemplated from 8,000 tons/year to about 25,000 tons/year casts doubt over the availability of adequate scrap supplies.

17.5 Marketing Considerations

17.5.1 Market Size

A study in 1971 indicated a market for reinforcing bar of 47,000 tons a year in 1975. A more realistic figure would seem to be 20 - 25,000 tons as follows:-

3/4" diameter	-	4,000 tons
3/4" "	-	6,000 "
3/4" "	-	4,500 "
3/4" "	-	2,000 "
3/4" "	-	2,750 "
1" "	-	1,250 "

17.5.2 Competition

There is another mill reputedly working from imported coils which latterly has concentrated on 3/4" and 3/4" sizes while GINOC has made the 3/4", 3/4" and 1". Their output has been about 6,000 tons a year.

In addition there have been imports, particularly in the 3/4" and 3/4" sizes.

17.6 Maintenance

There is a substantial workshop with a good range of basic machine tools. It operates on all 3 shifts. There are difficulties in procuring the correct spares and manufacture in Ghana of some of the larger items is not easy, and often results in undesirable expedients in terms of material used or production methods.

17.7 Finance

The division had in 1972 accumulated losses of \$2.1m. but since then as shown in Table 42 overleaf has reduced these to \$0.15,000. It has substantial borrowings of \$3.2m.

Table 42 Capital and Borrowings 1972 - 74

Year	Capital			Borrowing		
	HQ Capital \$000	Accum. Losses \$000	Net Capital \$000	Overdraft \$000	GIHOC Recurrent \$000	Total \$000
1972)		(2,055)	1,712	-	2,345	2,345
1973)	3,767	(1,742)	2,025	-	2,660	2,660
1974)		(815)	2,952	542	2,676	3,220

The revenue position is shown in Table 43, which shows a sharp improvement to profit both in 1973 and 1974.

Table 43 Turnover and Profit 1972 - 74

Year	Turnover \$000	Pretax Profit (loss) \$000
1972	1,652	(614)
1973	3,402	147
1974	4,847	913

17.8 Developments

Current developments are designed to increase melting capacity to nearly 30,000 tons, and to make appropriate improvements to mill machinery and layout to use this larger volume of billets. Production is scheduled to restart in August/September 1975.

17.9 Miscellaneous

There are a number of operations unconnected with steelmaking which are performed on the site - experiments with refractories, metal chair manufacture, the casting of iron cooking pots etc. To the extent that these divert scarce management effort from the main objective it is doubtful if they earn a proper return. Separate cost figures were not obtained in respect of these operations.

17.10 Summary and Recommendations

Despite the clear evidence of past difficulties we have no doubt that the developments now under way will result in considerable improvement in performance.

The major item in doubt is the availability of adequate supplies of raw material. Without these operational improvements are of little use. There is need also for improvements in stock control and maintenance.

We therefore recommend:

- (i) that a study be undertaken of the availability, sources and cost of scrap, bearing in mind the capacity of the rehabilitated plant.
- (ii) a programme of production and engineering work as described in Part D paragraph 7.11.

18. Vegetable Oil Mills

18.1 History and Size

The division now consists of three operational mills as follows:

Esiama for copra (dried coconuts)

Tamale for groundnuts

Atebubu for groundnuts.

A fourth mill at Denu is idle for lack of its main raw material, copra. Two other small mills at Bawku and Assewa have been cannibalised for spare parts. All the plants were built in 1962, and raw materials have never been available in sufficient quantity at prices low enough to permit economic operation. The division has made losses every year since 1968.

It employs 490; its turnover in 1974 was £ 4.68m and resulted in a loss of £165,000.

18.2 Plant and Process

At all plants the processes are essentially similar, consisting of batch pressing the dry raw material through filters to extract the crude oil.

The filtrate is then heat treated in two stages to produce either refined oil, or refined and deodorised oil. Solid residues from the pressing are sold for cattle feed.

The plant is now 12/15 years old, and replacement of some or all of it will need consideration in the next few years.

18.3 Capacity and Output

The theoretical capacity of the plants on 5 day working is:-

Mill	Raw Material	Input	Output	
Esiama	Copra	12000 tons	Crude 7200T	Refined/Deodorised 1440 tons
Tamale Atebubu	Groundnuts	3360 tons	1344T	2160 tons

Actual production in 1974 was 5670 tons in all.

18.4 Supplies

Raw materials have been a chronic problem, particularly at Esiana where the mill still works far below its rated input capacity of 12,000 tons per year. There is competition for available supplies from the traditional processors and Crystal Oil Mills. There have also been problems in getting dry copra during the wet season. Various steps have been taken to overcome the problems: management of farms, extension services, pilot plantations, installation of drying plant. But it cannot be said that a solution has yet been found. At Tamale and Atebubu the mills have latterly been working nearer their capacity of 3,400 tons of raw groundnuts.

18.5 Marketing Consideration

18.5.1 Competition

A variety of imported cooking oils is available. Crystal Oil Mills compete with copra oil, and the traditional processors produce crude coconut oil. The division therefore would be restricted on what it could charge, regardless of price control. Competition for the available domestic market has increased.

18.5.2 Exports

At present the copra cake is sold abroad, on consignment.

18.5.3 Customers and Sales

The main products are sold:

Copra oil: for industrial use (soap and margarine)
Copra and
groundnut oil: for domestic consumption
Expeller cake: for animal feed.

The table below shows the sales of the different products.

Table 44 Sales by Products, 1974

Product	Market	Quantity, Tons
Crude coconut oil	Domestic Industrial	2,606
Makola cooking oil	Domestic Industrial	257
Groundnut oil (refined)	Domestic	279
Groundnut oil (refined and deodorized)	Domestic	516
Copra cake	(Export)	1,079
Groundnut cake	(Industrial)	1,117
Total all products		5,854

By volume the largest sales are in crude coconut oil, followed far behind by 'Goldnut' refined and deodorised oil.

18.6 Finance

The division has been consistently unprofitable. It has accumulated losses of \$2.07m. and employs negative net capital. It has borrowings of \$5.3m.

The way this situation has developed is shown in Table 45 below.

Table 45 Capital and Borrowings 1972-74

Year	Capital			Borrowings		
	Headquarters Capital €000	Acc. losses €000	Net Capital €000	Bank Loan €000	GINOC Recurrent €000	Total €000
1972	} 358	(1,169)	(570)	836	1,244	2,080
1973		(1,896)	(1,297)	861	2,354	3,215
1974		(2,071)	640	2,529	2,774	5,303

The large increase in borrowings in 1974 was a loan to fund purchases of raw material for pressing. The revenue position has fluctuated and is shown in Table 46.

Table 46 Turnover and Profits 1972-74

Year	Turnover \$000	Pretax Profit (Loss) \$000
1972	3,035	(126)
1973	2,531	(779)
1974	4,678	(165)

18.7 Summary and Recommendations

The problems of this division revolve round the question of raw material supplies. The difficulties are partly due to past errors of judgement in the siting and capacity of the mills. Management recognises that unless the present mills can work at a higher average level of output, the division is unlikely to become profitable. Increased production, however, may lead to saturation of traditional markets.

The present mills are nearing the end of their normal economic life span. We therefore recommend:

- (i) that steps are taken to consider long term policy with regard to rebuilding or resiting the mills (a feasibility study of this sort is not within P-E's current terms of reference, but P-E would assist with the necessary work preparatory to such a study).
- (ii) that P-E provide tactical marketing assistance to the division; quantifying the domestic market sectors; advising on such matters as packaging, presentation and promotion; locating and helping to set up appropriate contacts for exports.
- (iii) a limited programme to improve stock control and maintenance procedures.

19. Scope for Assistance

As noted above, divisional performance measured by profitability varies widely. Only Paints and Pharmaceuticals have made steady increases in profits over the years. Consequently GINOC have been able to show only limited progress towards satisfying their responsibility under the foundation decree to earn a fair return on their operating assets. This is partly because certain matters affecting profits are outside their control. Past and present Government policies, on pricing, employment, location of plants may all have their effect on profitability and this may be so large as to make operating practices almost irrelevant. In these circumstances a detailed programme of management assistance, for example, to improve production methods, may be quite inappropriate.

These considerations have led us to group the divisions according to how far we think detailed tactical assistance relevant, irrespective of major policy decisions. The groupings are as follows:-

19.1 Divisions where external limitations, for example of supply, are dominant

Policy decisions are necessary if these divisions are to improve their performance significantly and we see little scope meanwhile for P-E to help at divisional level, at least on production work. Studies preliminary to policy decisions, for example to clarify the issues involved or to assess the supply situation, are of greater importance and we refer to these later.

Meat Products
Vegetable Oil Mills
Cannery

19.2 Divisions where policy issues are involved, but where there may also be a need for detailed assistance

P-E can help by market studies to assist policy decision and, after policy is decided, by detailed work within the divisions.

Bestyards
Brick and Tile
Footwear
Marble

A limited study of this nature has already been done for Brick and Tile division and is summarized in Appendix VII.

10.3 Divisions where policy decisions are not now involved

P-E can help to a greater or lesser extent at divisional level.

a) Lower work content

Electronics
Fibre Bag
Steelsheets

b) Lower work content

Distilleries
Glass Manufacturing
Metal Industries
Paints
Paper Conversion
Pharmaceuticals

Based on these broad groupings, we list in Part D the work we believe to be required, both generally and in individual divisions. It remains to consider the performance of headquarters and UMBC as a whole.

20. Performance of UMBC

Previous sections have noted the salient facts about each division, but it is necessary also to consider the performance of UMBC as a whole before determining a full program of assistance for management.

Appendix VIII shows the annual profits of the divisions and of GINOC. It is evident at a glance that GINOC as a whole has not made a large improvement in its profitability over the years, and that divisions which were unprofitable in 1968 are mostly still in the same position. Financially, therefore, GINOC is in the position of having its performance dragged down by a minority of loss making divisions.

However, GINOC has managed since 1968 to avoid subventions from Government in respect of its sixteen divisions, and during that time has made undoubted progress in developing its managerial skills.

There is a need now to build on what has been already achieved and two areas will be crucial to this, namely the relationship between GINOC and Government and between GINOC's headquarters and its divisions. These have been referred to earlier in the report, and our conclusion from the work of Stage 1 is that improvement is desirable in both.

21. General Conclusions

GINOC's divisions vary very widely: from small units with 70 people to large factories employing over 1,500 people on shift; turnover ranges from a mere \$30,000 to \$7½m.; some divisions have never made a profit, others have shown continuous financial progress.

In the appraisals we have attempted to bring out the important points in each case. For example, divisions are described as technically insolvent which have exhausted their capital. These only survive on borrowing from GINOC headquarters and if at any time GINOC were to be broken up, they would automatically founder, since on their past record no bank would lend them the money for further operation. However, GINOC as a whole is solvent and taking one year with another it has made profits, even if these have not been large in relation to the capital employed (less than 3% in 1973), and are not therefore adequate to satisfy the requirements of the foundation decree.

21.1 Management Improvement

The corporation has some good managers now and in our view there is no reason why the majority of the divisions should not be capable of earning better profits if their management practices are further improved. It is true that in some cases, if the decision had been ours, we would not have recommended the creation of a factory of the present size or in its present location. But these are past decisions and even now something can often be done to help matters.

21.2 Effect of External Policies

Whatever the success in improving divisional management, it will have a limited effect on GIHOC's results unless there is in addition a willingness on the part of GIHOC's Board and of Government to take the policy decisions which will permit economic operation. In the extreme case of a plant which has minimal prospects of profitable operation, to continue it in being indefinitely implies a concealed subsidy to the customers and employees of that division, and in the long run this cannot be beneficial to the country. There are other situations where the profitability of an enterprise is severely affected by employment and pricing policies. We do not of course believe that a division in a monopoly situation should be allowed to operate purely on a cost-plus basis, and where there is competition the market will impose its own price levels. But unrealistically set price levels or external constraints on relating manpower to the requirements of the tasks to be performed can together remove all incentive from management to operate efficiently.

In our view therefore, a reconsideration of the policies applicable to some of the divisions together with a concerted effort at developing GIHOC's management should by the end of the project take the corporation a long way towards earning a fair return on its operating assets.

Against this general background the next part of the report describes our findings and proposals for management assistance.

PART D - FINDINGS AND RECOMMENDATIONS

1. Introduction

The facts and impressions gained during the survey of the divisions have made it clear that the work needed can not be done piecemeal in each division. It will need to be guided and controlled centrally at least for a time. In considering how this is to be done we have been mindful of the proper functions of a headquarters as discussed above in Part C and have considered what resources are already available.

Our conclusion is that certain necessary functions are totally absent from headquarters and others are unduly restricted in their present interpretation. The functions in question are:

- finance and audit
 - marketing
 - production functions
- | | |
|---|------------------------|
| } | production control |
| | maintenance |
| | supervisor development |

Our proposals involve the creation of small project teams to work from headquarters under the guidance of the Director of Development. They would consist initially of the consultants and their counterparts only, with divisional staff coopted as required. There is no wish, and no argument, for creating a large monolithic unit out of touch with divisional realities. Nor, it should be stressed, should there be any attempt to manage divisional affairs from headquarters. The role of the teams would be to advise and guide.

The following sections of the report discuss first the need for assistance in corporate matters and then in turn the functions mentioned above setting out the defects of the current situation, justifying the need for changes to rectify matters and describing the work to be done in the divisions.

2. Organisation

The additional headquarters staff will have two main functions. They will be a source of the more specialised type of technical and professional advice to senior management, thereby providing a sounder base for policy decisions than has hitherto been possible. Assistance in preparing and evaluating prefeasibility and feasibility studies would be one of their tasks. In addition they will have a major responsibility in developing divisional skills by example and guidance. They will thus in no sense be in a position of directing. Their function will be advisory and in this respect they will be similar to consultants. Appropriately then they may be

regarded as the nucleus of an internal consulting capability, available both to headquarters and divisional management as required. In such a role we believe that they should properly be responsible to the Director of Development at least for the first few years.

3. Corporate Work

We noted above the importance of Governmental policies on GIHOC's operations. Most notably this is to be seen in the continuation of virtually all the original enterprises taken over on vesting day to the extent that no coherent corporate strategy for GIHOC is apparent. Insolvent divisions are permitted to continue in being, usually because of real or implied Government requirements. Yet Government and GIHOC have not identified and quantified the non-commercial factors which are felt to necessitate their preservation. We believe that this needs to be done and that GIHOC needs to develop a more studied approach to its future, so that it can develop its capabilities and its profitability overall. Without this its future will be limited to that of caretaker of a random selection of relatively unprofitable enterprises, which present criteria might not even regard as justifiable investments.

The more active stance for GIHOC implied by those statements should enable it to contribute to Ghanaian development by investing men and money in more promising ventures, which would eventually generate the profits to finance further development. Since capital and industrial management are both at present very scarce resources in Ghana, the continuation of unprofitable ventures effectively means a withdrawal of funds from other potentially more profitable or desirable activities.

It will therefore be a principal role of the Team Leader to act as counsellor in the development of policy and corporate plans for GIHOC and an early task would be to prepare policy papers for certain of the problem divisions, setting out their circumstances, the factors affecting their poor financial performance and the possible courses of action to get them on to a sound footing, including where necessary identification of the need for further detailed work - for example, a feasibility study. An important additional function will be helping to ensure that GIHOC's relations with Government and other outside bodies are based on a true understanding by each party of the others' views and to ensure that the implications of current and proposed Governmental policies for GIHOC are clearly understood. Within the broad framework so created, we believe it will be easier for divisions to develop steadily and coherently in the future.

4. Finance

4.1 Work done

During Stage 1 the financial consultant and his counterpart completed the following outline programme:

- together with the team leader the first six weeks were spent visiting the sixteen divisions of the corporation to get an overall picture of their operations
- thereafter they prepared for each division an analysis of the accounts for the past three years using the audited accounts for 1972 and 1973 and the draft final accounts for 1974 together with a summary sheet of 1974 monthly operating results. This information was as much for the use of our colleagues as ourselves and is given in Appendix IV, Divisional Financial Analysis
- the financial team then revisited all divisions and, where appropriate, operational branches of the divisions to investigate the staffing positions, training needs, and systems in use in the accounting departments. In terms of the latter we have been particularly concerned to look at the costing systems or such procedures as are used to arrive at the pricing of products.

We conclude as follows:

4.2 The Role of Central Financial Control

In financial terms GINOC exists primarily as a group of divisions, The headquarters is there to monitor and advise but, apart from the straightforward recording of central administrative expenses and the central funds control, the corporation's financial success will be achieved only in terms of the divisions.

At the moment GINOC's activities are limited to its present divisions and therefore the main responsibilities of the central financial function are:

- the recording of central accounts and expenses
- central funds control
- advice to divisions on funds management and funds raising

- comment on the financial performance of the divisions in the light of divisional reports
- internal audit including management audits.

The financial control work at headquarters is therefore dependent on the systems of management accounting and the resultant management returns from divisions. Therefore unless divisions operate sound management accounts and make returns which, coupled with their own commentary and report, give a clear picture of the divisions' financial state, together with its cause, probable effects and the action management has taken, central management will be unable to judge the validity of their actions.

In view of the above, the main programme should concentrate initially on divisional accounts and costs. Once this has been completed, we envisage a major programme with headquarters staff to train them to appreciate the broad issues raised by the improved financial reporting of the divisions.

4.3 Headquarters Organisation and Responsibilities

The central accounting and financial control function of GINOC reporting to both the Director of Finance and Chief Accountant is divided into two wings:

- Central Book-keeping
- Central Financial Control

A third wing "Internal Audit" reports direct to the Managing Director.

4.3.1

The Central Book-keeping system is confined to maintenance of head office accounting records and the inter-divisional accounts. Seven clerks work in this section under a Divisional Accountant and two Accounts Managers.

4.3.2

The Central Financial Control function consists of three financial analysts, graded as Accounts Manager or Assistant Accounts Managers, reporting direct to the Chief Accountant and the Director of Finance. This section has the following responsibilities:

- consolidation of the divisional branch accounts to produce the Group accounts
- monthly analysis of divisional financial returns
- central cash planning
- assistance as necessary in providing funds for divisions and appraisal of ad hoc divisional proposals for expansion etc.

4.3.3

The Internal Audit section reports to the Managing Director (as required by the original decree setting up GINOC). The staff consists of the Head of Internal Audit supervising eleven auditors plus two trainee auditors. The responsibilities of the auditors, of which there should be one at each division and main branch and one at head office supported by junior clerical staff attached to them by the divisions, are to conduct continuous internal audits in each division in accordance with a programme and to report their findings quarterly.

4.4 Proposals for Central Accounting Section

This section which uses some machine accounting has a relatively straightforward task. However we propose to look in more detail at the systems used to see if they can be made more efficient. There is also a need to give basic training to more junior levels and to provide management accounting training at the more senior levels.

4.5 Proposals for Central Financial Control Section

4.5.1 Current returns

The bases of the day to day financial management of GINOC are four reporting statements as follows:

- the monthly operating returns
- the quarterly operating returns
- the half yearly accounts
- the annual accounts.

The first two statements are produced in standard format for every division, the quarterly statement being a total of the three months to date and also including in some instances additional reports on capital expenditure or particular areas where special information is required.

A copy of the returns most usually sent in by all divisions is attached. (Exhibit "A").

4.5.2 Findings

On examination of the processing of the returns and the returns themselves we found the following:

- returns at present do not result in effective inventory control. The examples quoted later of high inventory (e.g. Electronics division) are marked by a 1974 increase for GIHOC of £12m. in inventory over 1973 (see Appendix XVIII) in a year when fixed capital investment was only £5½m.
- the returns, being standard, are in our view too restrictive to cover the multifarious activities of GIHOC. We propose to extend these to provide a presentation of the financial facts which will be more meaningful e.g. we should like to see the contribution of each main product group in divisions where more than one product is made
- the present returns are incomplete, in that there is no regular reporting of capital expenditure, and no division submits regular balance sheets.
- the reports are not accompanied by any covering explanation by divisional management. Originally the financial analyst team were themselves producing a note highlighting the least favourable variances in the monthly and quarterly reports. More recently they have been visiting divisions to secure the reasons which lie behind these variances
- figures that should agree from one statement to another did not

- the three months latest cash forecast was in most instances a restatement of the original budget
- important items of information, e.g. production and sales quantities were omitted
- on some statements the cost of sales was described as cost of production
- there was no concept of cost per unit. Thus cost savings resulting purely from reduced output were interpreted as favourable without looking further
- fixed expenses are included under variable cost headings
- draft final accounts differed substantially from operating statements.

4.5.3 Proposals

Our intention in this area is to attack the problem from the divisional end, where we are proposing to introduce new costing systems and revised divisional reports designed to provide more pertinent returns for both divisions and headquarters. The consulting programme in headquarters will concentrate on management counselling, and training the financial analysts to interpret these new and more meaningful returns.

4.5.4 Budgets

Over and above operating returns, we also looked at the budgeting system. Budgets are prepared annually and for one year only. The budget consists of profit and loss, cash flow, and capital expenditure. In our general work on management accounting we will be seeking to extend the budget to a five year forecast. We would also advise the introduction of five year funds flow forecasts and budgeted balance sheets in order to provide for better capital planning especially of working capital. A major problem in budgeting is insufficient involvement of all management in budget preparation. This can result in budgets which are unrelated to production and marketing realities. We would therefore like to see the introduction of formal quantitative budgets, prepared by divisional marketing and production management, for submission and agreement with headquarters, which would only then be converted into financial terms by the divisional accountants.

4.5.5 Staffing

We consider the staff of this section (three financial analysts) to be sufficient bearing in mind that the work of this section receives more direct supervision of the Director of Finance and the Chief Accountant. Added to this is the expectation that once the divisional systems programme has been completed the two counterparts' work will be also mainly in the area of central financial management.

4.6 Internal Audit

4.6.1 Organisation and staffing

The Internal Audit department is considerably under strength. There are only eleven auditors where a minimum of 22 would be required with the present organisational pattern to service the divisions and their major branches. Each auditor is expected to have two assistants which means that a further 44 are required of which about 23 are currently assisting auditors.

However we question the present organisation of audit in GIHOC, and in doing so are supported by the internal auditor himself who has already submitted to management a report which goes some way towards the proposals we ourselves would make.

4.6.2 Operation

The present operation of the audit department may be summarised as follows:

- auditors are attached to each division, by which they are paid. They may remain there for an indefinite period
- auditors at divisions are required to accede to the General Managers' requests to do specific work for them
- auditors are supported in their work by audit clerks provided by the division and on its pay
- auditors are required to report quarterly, after discussing their findings with the General Manager, to head office.

4.6.3 Findings

From an examination of audit reports and in discussion with divisional financial management we observed the following:

- audit reports did not confine themselves to a narrow field. In some instances they reported on areas quite outside the financial side. For example, the majority of a recent report on Footwear division expanded at great length on the unsuitability of product design for the market, assumed to be the cause of lines not selling, because marketing management could not demonstrate any satisfactory means by which they were assessing market design preference. The fact that the system of product costing and pricing left much to be desired, as revealed by our own survey, was not investigated.
- auditors do not appear to be working to an audit programme (although one does exist)
- auditors were not systematically reporting progress on the previous report's recommendations in all instances
- there were few, if any, comments on the costing systems in use or lack thereof
- some divisional financial management complained that auditors did not as a rule discuss findings and recommendations with them before reporting to headquarters
- divisional management did not formally respond to audit reports
- the audit programme does not include an internal control questionnaire nor does there appear in the audit reports a regular system check. (One has since been introduced)
- auditors were in some divisions pre-vouching certain items and thus becoming themselves part of the systems of internal control on which they have to report.

In examining the staffing of the audit sections we found that the qualifications and general experience level of the audit staff was not at par with the divisional senior accounting staff.

4.6.4 Conclusions

We therefore conclude as follows:

- under the present organisation, internal auditors are too directly involved with, and attached to, a particular division to remain truly objective in their work
- their work is presently too unsystematic, they do not follow programmes and internal control questionnaires have not been used. The programme should be followed and more regular supervision given to ensure this takes place
- in order to assess and report on the financial control in divisions the auditors must have a thorough professional knowledge and be able to meet on an equal professional footing with divisional staff. We feel that higher grade staff should be employed, probably at a more senior level
- audit reports every quarter are not in our view necessary. The present approach appears to be one of completing a total audit once annually with more frequent checking of certain items. Over frequent reporting tends to devalue the auditors' reports and the report should result from a comprehensive audit conducted in a shorter period
- the internal audit service should be one which is used to maintain and develop management accounting systems throughout the group as part of its regular task.

In order to achieve the above it will be necessary for the audit department to move away from the present organisation of static divisional auditors to a more fluid one controlled by and paid by headquarters. As a start we support the acting head of Internal Audit's suggestion of the introduction of regional audit managers. We would recommend that, as better staff are recruited, regional teams may be formed working independently of divisions and directly under regional audit managers. These teams would move round the divisions conducting a full audit twice annually of each division, or branch of a division, within their region. Under such a system we would expect overall staff numbers to be reduced, but individuals to be of higher calibre.

4.6.5 Summary of proposals - headquarters work

To conclude, the headquarters work for the project will be as follows:

- systems development of headquarters accounts to improve data processing efficiency, including the introduction of a revised group coding system
- extension and development of the budgeting system
- on the job training of financial analysts and counterparts
- management counselling on broad corporation financial policies and strategies
- assistance to audit department in developing an improved audit service and in setting up and developing an independently based organisation
- supervision of training programme and conducting of training courses for non-financial managers

4.7 Divisional Work

The survey of divisional accounting organisations has revealed that work is necessary in all divisions covering the following main areas:

- Accounts records and systems
- Costing systems
- Management information and reports
- Staff training

4.7.1 Accounting Records and Systems

We have not looked in depth at the basic financial records kept by divisions. However the following general points were noted.

4.7.1.1 Productivity

Investigations included a documentation survey based on the following documents:

- number of cheques issued
- number of stores issue notes processed
- number of purchase invoices
- number of sales invoices

The payroll work was added to give a broad indication of the variety of work load in divisions, expressed as a number of records per man month. The degree of spread between divisions was from 85.5 up to 296.3 records per man month. Whilst much of this differential may be due to varying staff calibre, and thus indicates a need for further training, some up-country stations achieved better throughput than some Accra/Tema divisions, despite the fact that they had not the same access to qualified staff. We conclude therefore that systems deficiencies are also partly to blame.

4.7.1.2 Systems

Specific systems shortfalls were observed in divisions. Few divisions were maintaining itemised quantity value records for stores. Thus accounts department were not equipped to monitor their inventory levels properly. Even where such records existed the levels of maximum/minimum stocks and reorder levels were not recorded.

A second general area was in fixed asset recording where few divisions had proper asset registers and such systems as were in use were extremely cumbersome. For example, large fixed leaf analysis books were used where loose leaf binders or harden would have made recording easier.

4.7.1.1 Adjustments

An examination of the final accounts revealed that in most divisions a substantial series of adjustments for previous years have been required. The expense analysis frequently varied from year to year, and in several instances, major revision of allocation of expenses had taken place. There were also instances where fixed capital goods had been included in working capital stock accounts.

An examination of the operating statements also revealed that expenditures were on occasions missed out, and cumulative totals had to be adjusted later in the year.

4.2.1.4 Effect of Mechanization

Certain divisions do use machine accounting. However the documentation study showed that adoption of machine accounts did not necessarily result in staff savings, in that those using machines were not necessarily those achieving the highest throughput per sq. inch.

4.2.1.5 Conclusions

We conclude from the above that the basic accounting systems will require careful review with the following objectives in mind:

- to provide a better throughput of accounting data
- to review the need for or use of accounting machinery and recommend future policy
- to establish proper coding systems to ensure correct expense allocations
- to set up proper records when these are missing e.g. stock records and asset registers.

4.2.2 Costing

4.2.2.1 General findings

During our survey of the divisions, particular stress was laid on the systems of costing in use. In general terms it was found that the majority of divisions had no costing system designed to control costs. Such costing as did exist was almost all in memorandum form and used exclusively for the following two purposes:

- to value work in progress and finished goods stocks;
- to arrive at selling prices on an ad hoc basis

In calculating selling prices from time to time divisions were affectively providing themselves with standard cost data, but in no instance were divisions regularly comparing these standards with actual costs to see if they were valid.

4.7.2.2 Specific failings

In certain instances costings in use were actually misleading to management. Examples of these are as follows:

a) The Boatyards division, Tema branch, was recovering overheads by applying an oncost of 50% of labour and 12½% of materials on hull cost only. Engines and winches etc. were charged separately and not subject to either overhead recovery or profit margin. An examination of their 1974 accounts revealed that at this overhead recovery rate, less than 50% of the overheads would in fact be recovered. Thus, no matter how accurately the division originally estimated its costs, contracts were bound to be accepted at a loss. Doubtless this has contributed to the critical financial state of the division referred to in Part C and demonstrated in more detail by the figures given in Appendix IV - 1. Rather more strangely we were informed at Sekondi yard that different rates were in use namely, 100% of labour and 50% of materials, which would in fact recover overheads.

b) The Footwear division uses a system for allocating labour and overheads to product costs (used for pricing only) which purports to be based on the comparative cycle time to manufactura main groups of product lines. These cycle times supplied by production department, are expressed as percentages of an eight hours day. The percentages are applied to the total budget figura for labour and overheads and are allocated to product groups accordingly. The budget pairage is then divided into the total cost allocated to each group to arrive at the unit cost. Apart from the coincidence of the cycle times adding up to a complete 8 hour day the accountants have failed to realise that although one product may have a low standard cycle time for unit production, planned output may

be such that it will absorb a much higher proportion of the production facilities than any other. The example given in Appendix XIX illustrates how this system can distort costs.

Added to this built-in source of error was a final readjustment of overhead oncosts, done to bring costings more in line with market prices. This entailed reallocating overheads from low added value lines to high added value lines, and then expressing the result as the cost of the product.

c) In the Distilleries division the cost sheets for individual products (prepared for pricing purposes only) revealed several anomalies which gave us little faith in the system being used. For example,

- no one had noticed that on one line the neck label costs and bottle costs had been reversed, despite the fact that one is only a fraction of the other.
- overheads on costs are calculated on the basis of cycle times (as supplied by production department and themselves of doubtful value). They should therefore have a direct relationship with labour costs. However we found examples where products having a larger labour cost than others attracted a lower overheads loading.
- costing is geared to a volume unit of liquid. Thus the effect on the cost structure is that the cost per gallon should increase the smaller the bottle size used. However we noticed several blend costings where this was not the case and received no explanation.

d) In the Cannery Division it was noted that packaging costs for each product line were calculated on the volume required with no allowance for wastage which must take place to some extent.

e) Certain divisions were using a basis for costing stores issues differing from the standard required in the accounting manual (i.e. first in first out).

4.7.2.3 Conclusions

The above observations were made in divisions where at least some costing took place, if only to calculate prices. There were other divisions, notably Brick and Tile, where costing did not exist. This fact added to the above observations has led us to conclude that every division requires work on costing and in many instances this will need to be the design and introduction of an entirely new system.

4.7.3 Reports and Management Accounts

4.7.3.1 General Practice

Few of the divisions are producing for management any more than the basic operating statements required by headquarters. Given the quantity of costing information available this was only to be expected.

Our earlier remarks on the deficiencies of these statements apply equally to their use in the divisions. In particular, managements' failure to support returns with the covering explanations they so patently require, and their acceptance of the inadequacy of the statements, indicates how little they are regarded at divisional level. It must be said that headquarters have not until quite recently encouraged divisional management to adopt a different attitude, in that there has in the past been virtually no response to the figures submitted.

4.7.3.2 Objectives and changes required

The ultimate aim of developing new accounting and costing systems in the divisions will be to provide new and more meaningful management returns for submission to headquarters as well as for divisional management's own use.

We will endeavour to retain the concept of a standard summary of operations which will facilitate consolidation, and to this end intend assisting GINOC to introduce a revised accounts coding system on a group basis. However, the new supporting documents must in our view contain the following features not present at the moment:

- monthly balance sheets reported against budgeted balance sheets
- monthly reports of the capital expenditure against the budgeted programme
- operating statements which truly mirror the cost structure (fixed and variable) of the individual divisions; that identify the contributions made by different product lines, or at least groups of lines; that provide greater variance analysis so that management appreciate the true nature of total variances against budgets.

Coupled with the improved management returns must be a greater involvement by all management in establishing divisional budgets. We have already recommended that formal quantitative budgets should be introduced. We intend to back this up by providing short appreciation courses for non-financial management so that they can learn to use the new information at their command.

4.7.4 Staffing and Training

4.7.4.1 Senior staff

There has been a steady endeavour at GINOC to upgrade the senior accounting staff in divisions and progress has obviously been made. It is appreciated that at senior level full qualifications are difficult to obtain locally and all the four qualified divisional accountants obtained their training overseas. The period required for a full accounting course leading to an internationally recognised qualification is three to five years, and thus the upgrading of present senior staff will be time consuming.

Whilst the desire of accountants to obtain full professional status is understandable we saw no real evidence that fully qualified men were in fact managing their accounting departments better, and consider that priority should be given in the immediate future to on the job training and practical experience.

It is our intention to upgrade the accounting and costing systems in all divisions during the first twelve months of the programme, which will necessitate senior staff to be present to take part in designing the system, and to be responsible for its implementation. This exercise in itself will form a major programme of on the job practical training which may be supplemented later by formal training. We would however recommend that a scheme is introduced whereby greater assistance is given to meet fees etc. for private correspondence courses.

4.7.4.2 Clerical staff

At clerical level, staff calibre was stated in many instances to be low. This was supported by the sample documentation survey mentioned above. Knowledge of costing was almost non-existent and such formal training as clerks had undertaken was confined to relatively basic book-keeping courses done by correspondence courses in their spare time. We consider that a vigorous exercise in retraining all clerical staff in basic book-keeping to trial balance level is necessary. The aim would be to give clerks a better overall knowledge of accounts which will enable the clerk to understand his colleagues' work better and therefore do his own more effectively.

We therefore envisage mounting an intensive basic book-keeping course of 4 - 5 weeks duration at which one or two clerks from each division would receive training. The total staff at this level are about 225. Assuming that some larger divisions are able to release more than one, a course of 25 pupils could enable all the staff to be given this training within 12 months. Selected staff should also be sent on costing courses in preparation for the costing exercises. Again we would envisage a five week intensive course and we would aim to train at least two clerks for each division.

In order to mount these courses we intend to make use of the local institutions as far as possible. This principle is being adopted not only for convenience and cost reasons, but also to assist these institutions to develop practical courses. Course content would be agreed by the consultant and we would insist on feed back on pupils performance.

4.7.5 Conclusions and Programme

In conclusion, our divisional work will entail mounting assignments in all sixteen divisions. The individual requirements for each division have not been quantified but we have allowed between 1½ to 2 months work in each by consultants and counterparts. The aim will be to design and agree new systems for each division which will be implemented by divisional staff under the supervision of the project team.

The divisional programme will start with initial systems development in three divisions, the consultants working double handed with counterparts. Thereafter the first financial consultant will spend his time supervising financial work both in divisions and at headquarters, his counterpart continuing division systems development single handed. The second team after completing three divisions double handed will split up and do the remainder of their programme single handed.

The aim is to complete divisional systems development by the end of year one utilising 17 consultant months and 21 months work of counterparts. Thereafter the first financial consultant will continue over a period of a further twelve months, to superviss the follow up to the financial programme mainly undertaken by counterparts.

The total financing input required for this programme would therefore be 27 man-months of consultant work and 48 man-months of counterparts.

5. Marketing

5.1 The Market Environment in Ghana

The Ghanaian market is regarded by most domestic manufacturers as a sellers market - i.e. one in which the producer can sell anything he can make.

This attitude derives from past protection of the home industries against foreign imports. It leads towards a lack of concern as to the quality of goods the buyer wants and to shortsightedness as to how the future demand patterns will develop.

It is paradoxical that the "sellers market syndrome" should have developed at a time when the per capita spending power in Ghana is declining in real terms. Private consumption expenditure is particularly severely affected as a result of the currently high rates of inflation in Ghana, the comparative inefficiency of large scale manufacturing industry in adding value and the highly diffuse and speculative channels of distribution in Ghana.

The concept of marketing is not generally seen to be relevant to the current economic circumstances of the country. Marketing is at an early stage of development in Ghana, and GINOC is no exception to this general statement.

5.2 The Need for Marketing

Against the general view in Ghana we believe that marketing is badly needed by GINOC for two reasons. The first is that without knowledge of the size and shape of the market which it is intended to supply there is no proper basis for fixing plant capacity or financial and manpower resources. The consequence is frequently very poor utilisation resulting from unbalanced equipment, insufficient raw materials or an inadequate market. Footwear division and Meat Products division are obvious examples.

Secondly, the comfortable situation of a sheltered market outlined above will not continue forever. One day GIHOC will come under increasing pressure of competition and this could occur quite suddenly, as it did to Footwear division in 1970/71. Competition is most likely to come first from private enterprise in the hitherto protected home market and ultimately imports could also be freer. More immediately Governmental pressure for exports could force Ghanaian companies at brutal speed into the highly competitive world of international commerce. To enable GIHOC to anticipate the pressures brought about by competition the general standard of marketing in GIHOC needs to be raised.

5.3 Headquarters Unit

We believe therefore that a small but effective marketing unit should be set up at headquarters to initiate the necessary improvements. The reasons for choosing this solution, rather than working directly within divisions are varied but may be summarised as follows:

- some work relates only to headquarters functions such as policy determination
- some work transcends any single divisional interest;
- a single source of expertise is required as a nucleus from which divisional marketing may be developed.

5.4 Tasks of the Unit

Such a unit would work partly for headquarters and partly for and with the divisions. For headquarters it would primarily concentrate on work contributing to senior management's policy decisions:

- advising the Director of Development on future areas of industrial growth suitable for GIHOC to invest in
- helping to co-ordinate the work of the divisions where products or images overlap, so as to avoid conflict or wasted effort
- assessing the suitability of products and markets for export
- providing a bank of economic and market data to help in forecasting economic trends, as well as more detailed data on markets which are common to several divisions.

In addition it would provide divisions with guidance and practical help in marketing. Their need for this is indicated by the fact that at the time of the survey most of them did not know the size of their market how it was moving, nor what their share of it was.

The first divisional task therefore of the marketing unit will be to guide divisions in assessing what their share of the market was and how they could increase that share profitably; alternatively, if no potential was identified for improving the market share, help would be given to investigate other and possibly more lucrative markets.

The second task is to help them prepare for increasing competition. Divisions will need to find out what the consumer wants in terms of quality and also what he is prepared to pay. Marketing can help divisions gauge the questions so that they can adapt their products to what the market wants and thereby profitably increase their market share.

Help with exports is the third main task. Ghana has a desperate need for exports. The Government is to decree that companies shall export part of their production. Indeed, Cannery division has even been asked to devote its entire production to export, having in the past exported little or nothing. GINOC then is in danger of being driven by pressure of political need. So marketing must guide and help divisions in preparing carefully considered, selective export market plans. These tasks cannot yet be done by the divisions themselves and are ones with which a small specialised team can help them.

5.5 Establishing a Marketing Function

The first consideration in establishing an effective marketing function throughout GINOC must be a general acceptance of its value. For this it is vital that the marketing unit wins the co-operation and respect of the divisions at an early stage. If it fails to do this, it will wither and die. It is essential therefore to show General Managers that marketing is not just a sterile paper exercise at headquarters but can give them practical help in running their business profitably.

To this end our approach will concentrate on:

- doing practical project work for and with divisions
- involving existing marketing and other staff from divisions in the projects as much as possible
- building on such constructive marketing work as has already been done in the divisions and using the evidence of completed market surveys to win over those General Managers who are not yet convinced.

The first priority is for the marketing unit to prove itself by useful field work. Since the reactions of the divisions will depend on their individual circumstances and attitudes, it is not possible at this stage to know exactly how the unit will need to develop, nor the best mode of organisation. But we believe it should always remain small, and by the end of Stage 2 should comprise no more than 3 men:

- a senior marketing executive
- an export marketing manager
- an analyst

In summary therefore the picture we have obtained of marketing in GINOC is that lip service has been paid to setting up the elements of a marketing function in some areas but that to date little effective or lasting has emerged. As a result of this conclusion we have already begun to do work which should contribute to establishing the function in a more effective and consequently more lasting way. We describe this below.

5.6 Marketing Progress

The marketing unit has so far done the following work:

- (i) It has completed two market studies, both aimed at providing a basis for policy decisions. The questions involved were:
 - (a) continuation of corned beef production at Bolgatanga, and the possibility of diversification from beef to other meats.

(b) the potential for expansion of GINOC's brick making capacity at Kaneshie

(ii) Assembly of a bank of economic and market data is well under way

(iii) An export promotion campaign has been planned, in co-operation with the Export Promotion Officer and as part of it a pilot scheme to export garden eggs (auberginas) and pineapples has been launched.

We believe that the two completed studies have already yielded a useful input to policy decisions on the future operations of the Brick and Tile and Meat Products divisions and are an indication of the sort of practical help a marketing unit can give. A summary of the Brick and Tile study is given in Appendix VII.

The pilot export study should provide pointers for the wider Export Promotion Campaign and the bank of statistical data should be a firm basis for the divisional market studies contemplated for later in the year.

5.7 Programme of Work

Priority marketing tasks for the next stage of the work have already been agreed with Senior Management. They are market studies leading to market plans for the following four divisions:

- Boatyards
- Footwear
- Pharmaceuticals
- Metal Industries

These studies would be conducted in the next 3/4 months and ought to be finished by the middle of December. Meanwhile a wider Export market study would be initiated, based on Cannery division, designed to indicate the most promising products and markets. Appendix XX indicates the suitable areas of enquiry. Work would continue on assembly of statistical data. At the end of October, the team will also check the divisions' budgeting plans for export sales and identify further areas where Export Market studies are needed.

In November and December the team will use practical case studies, such as the Vegetable Oil Mills market plan and completed studies by the team itself, to show General Managers, probably at a seminar, the practical application of marketing principles. The seminar is tentatively planned for the New Year.

At the end of the year the success of the marketing work so far carried out will be reviewed. We feel that such a review is vital in view of the fact that the marketing team has a substantial task to convince certain divisional managers about the value of marketing to the profitable operation of their business. It would be rash to undertake work with the less convinced General Managers until a successful record has been built up. Hopefully, marketing will have established a useful and recognised role in GINOC by the year end.

Early in 1976 we should have learnt enough of the role which headquarters and the divisions require of Marketing to be able to define in more detail the organisation and responsibilities of the central marketing operations.

In our initial visits we identified in all divisions opportunities for marketing support and made a preliminary assessment of priorities. In the New Year we plan to review the long term assessment of the divisions not mentioned above with a view to demonstrating that there is useful marketing work which we can carry out with them to help their operations.

Finally, the techniques of enquiry normally used in a marketing study are also relevant to supply studies. In one particular division, Meat Products, a study of live cattle supplies is, we believe, important in deciding future policy. We propose therefore to conduct such a study early in 1976. For Steelworks division the availability of scrap is a crucial factor in the economics of its operation. We believe therefore that a limited study to determine the likely sources and volume of scrap would be valuable. We would propose to conduct such a study also in 1976.

3.6 Marketing Input

The programs as outlined allow for 15 man-months of consulting work, and 40 man-months of counterpart work. This would be made up of a full-time marketing consultant until the middle of 1970. The work of the consultant would be primarily to train and supervise the counterparts, and not himself to conduct studies. Thereafter there would be servicing visits to supervise the continuing work of the counterparts. During the first period there would, in addition to the work of the full-time consultant, be a limited input from a specialist marketing consultant.

0. Production

0.1 Production Control

0.1.1 Need for Production Control

We believe it is necessary to introduce Production Control as a headquarters function for a period of at least five years for the following reasons:

(i) The subject is crucial to the operation of each division since:

- production cannot proceed without an adequate and balanced supply of the necessary materials.
- maintenance of machinery cannot be done without a supply of the necessary parts all of which can be quickly and easily found in the relevant stores.
- large sums of money can be wasted by the holding of unnecessary and useless stocks or unnecessarily large stocks. Equally important, the holding of inadequate stocks can result in whole factories lying idle for lack of materials or spare parts.

During our survey we have observed deficiencies in all these areas to a greater or lesser extent. Indeed, the scientific and logical approach to the subject of the control and management of stocks seems to be almost unknown throughout GEC. The initial start in this field must therefore be made by setting up a small skilled team who will apply their knowledge throughout the company. The training of this team will have to be the consultants' responsibility.

(ii) The application of the older aspects of production control may involve the collection of data from the divisions and must therefore be a headquarters function. It includes the balancing of all production plants against requirements, day plant control in order to make the best use of plant and factory personnel, and the establishing of programming routines for enough to advance to be useful, through regular re-estimation of supplies from the other GEC divisions and elsewhere.

(iii) Many of the functions of production control impinge upon outside bodies, especially where licences for obtaining supplies and spares are concerned. In this area the same standard of excellence and format should apply throughout the GINOC divisions and this further justifies a headquarters team.

4.1.2 Findings in the divisions

In arriving at our decision we observed a number of unsatisfactory situations within divisions. In the paragraphs that follow we quote examples and comment on what we found.

4.1.2.1 Plant Balance

Almost throughout GINOC, plant and machinery installations are unbalanced. For example in Distilleries division the output of the two bottle washing machines is less than the intake of the 3 filling machines even when the bottling machines are working without breakdown. Such built-in imbalances are frequently aggravated by maintenance problems and in total result in appreciable and avoidable loss.

4.1.2.2 Plant Utilization

There is an apparent lack of machine loading procedures in many divisions. Production is labour intensive. For example, Boat-yards management is requesting the purchase of new machinery. An expensive woodworking machine which was lying idle in another division has been sent there. Yet during the study, that machine was out of use while work was being done by hand that could have been done on that machine. To overcome this poor utilization machines need to be scheduled so that the situation of alternate overloading and under utilization is avoided. Only when this is done can management rightly tell whether they need more machines or not.

4.1.2.3 Material Control

Preproduction planning is very important, whether in manufacturing processes such as in Fibre Eng and Distilleries divisions or assembly processes such as Electronics division.

Production stoppages because of shortage of some of the materials are a common occurrence. The cost of this to GINOC is obvious.

The problems frequently stem from treating items as individual raw materials instead of marshalling them as sets of inputs for a particular product. This concept of sets needs to be stressed in all divisions. Without all the items required, production cannot be completed. Thus for any division to achieve satisfactory output, careful and effective material management is essential. All those responsible for the obtaining or handling of materials including those responsible for licences should be aware of the importance of maintaining and never breaking up balanced sets of parts.

A particularly severe example is the case of Electronics where by the nature of the process, goods are required as complete sets for assembly. However the packages are currently opened and items are taken for service and other needs. Consequently the factory runs short of items that are needed to sustain production. The effect of such practices was that in December, 1974 production halted due to shortage of parts. Yet at the same time the value of their total material stock was more than a year's usage.

6.1.2.4 Spare parts Control

Without exception, the provision and stocking of spare parts in GINOC divisions is unsatisfactory. To elaborate on this statement, it is useful to take the example of Fibre Bag division, not because it was the worst example or exceptional, but because a more detailed study was made there and the lessons to be learned apply to all other divisions. At Fibre Bag, the layout of the stores did not ensure quick identification of required spares. The parts for various types of machines were kept in the same racks giving rise to confusion. The problem was made worse as the stores in some cases identified the parts differently from the maintenance department.

There is a section in the stores identified as the Obsolete Rack but it does not only contain obsolete parts; it also has slow moving items. The problem is further aggravated in that no one in the stores knows which parts are obsolete and which are just slow moving. Why obsolete parts are being retained in any case is not explained.

In addition, the maintenance department does not know what parts are available, and when a part is required the practice is that a maintenance fitter has to search the racks to see if the required part is in stock. Apart from being wasteful in the time of a skilled man, it also is against the normal security practices of stores.

In theory, maximum and minimum stock levels are kept; in practice this facility was not used. Many stocks never reached minimum stock levels, and in other cases, the levels were not defined.

There were cases where staff had been sent into Kumasi to buy consumable items only to discover at a later date that the item was available in the stores all the time.

One further general observation to be made is that the store-keepers would appear to be in sole charge of the stores with no guidance or control from senior management. These men have not the necessary knowledge or capability to run efficient stores by themselves. A senior member of management staff must have the necessary knowledge to be able to control and advise on the stores function.

Without proper spare parts control, maintenance departments and production departments cannot be expected to run efficient operations. It is essential therefore for the present situation throughout GIHOC to be improved.

In order to improve the general stores function, we propose the following action:

- stores layout must be studied and new layouts and location systems developed to ensure the proper and efficient identification of parts within the stores.

- proper re-order techniques must be developed
- routines must be developed for the disposal of obsolete parts.

6.1.3 The Duties of the Headquarters Team

The headquarters team should have three main activities when it has been set up and effectively trained, as detailed below:

6.1.3.1 Principles of Production Control

The first duty will be to establish the best principles of production control within the divisions and we should obviously seek to implement these first in the divisions where the need is greatest. These will be indicated later in our divisional proposals.

6.1.3.2 Divisional returns

Their second duty will be to set up a system of divisional returns to headquarters which will enable them to judge the effectiveness with which the production control of each division is being maintained and developed. This information system will have to be co-ordinated where relevant with other activities, notably accounting and engineering.

It must however be emphasised very strongly that this information system should be set up as a basis for action. Data must therefore be brief and to the point. Departures from expected and budgeted norms must be clearly recognisable at an early stage. Finally the return to headquarters must be used as a basis of action to put problems right, and the papers should be not filed away until all necessary steps have been taken. The documents must therefore be treated as live information demanding activity not dead paperwork seeking a quiet resting place.

6.1.3.4 Future developments

The final main heading under which the production control team's work comes is that of future developments. Their work will thus include the adoption of new production control procedures over the years to come. These are required to meet changing conditions, of which the most important will be the rate of production of existing and future products. The establishment of these rates as well as

the rest of the work of the headquarters team will have to be done in the closest co-operation with the divisional managers and their staff.

This forward view of production levels will enable an appraisal to be made of the correct capacity of new machinery which is proposed and an assessment to be made of the ability of current plant to meet production. In this way balanced manufacturing facilities will be established and maintained over the coming years, and there will be more economical use of available development funds.

6.1.4 Conclusions

To sum up, profitability in the divisions can be greatly improved if production planning and control procedures are instituted for all divisions.

This will involve establishing:

- policies and procedures to agree realistic production standards so that arbitrary targets are not set by divisions
- policies for ensuring that men and machines are scheduled properly
- policies and procedures for the control of inventory and re-ordering of raw materials.
- similar policies and procedures for control of spare parts.

It is our belief that these important functions should be the responsibility of someone of managerial calibre who can:

- be held responsible for maintaining correct levels of materials. This may entail establishing the post of Production Controller in some divisions.
- establish policies which will ensure reliable production systems so that targets are achieved at divisions
- set up a proper management information system enabling GINOC headquarters to advise the divisions on planning and control. This information will supplement the monthly operating statements.

It is only by attention to the above points and in the awareness that somebody is watching their weekly production and calling for explanations of variances, that production at the division can be raised to rated standards. The aim is to get the best use of men, machines and materials and the money invested in stock. These principles will be applied during Stage 2 of the assignment.

6.2 Maintenance

Proper maintenance is essential if plant, machinery and equipment are to remain in good working condition, functioning reliably and ready for use when they are required. It is an expensive function, but failure to maintain is even more so.

The value of efficient maintenance arrangements goes far beyond the direct costs involved and the penalties of failure effect almost every aspect of business. Like all other management activities, it must be planned and controlled.

The direct costs of maintenance are made up of:

- the wages of the maintenance labour force;
- the cost of spares and other materials used;
- the overheads of the maintenance department itself.

The return on these high costs can be derived in two ways and can amount to many times the outlay:

- from the "stitch in time effect" where simple action now prevents major repairs later;
- from reduction of the losses resulting from stoppage of plant and machinery, and of the costs of scrap and faulty work due to breakdown.

In the paragraph that follows the adequacy of arrangements for maintenance is considered from two angles; the methods used and the facilities available.

6.2.1 The Methods of Maintenance

In general, the majority of divisional maintenance is performed on a breakdown or corrective basis, resulting in a level of machine availability that is unacceptable.

Some divisions have introduced a simple form of planned maintenance, covering mainly the areas of routine lubrication and cleaning, and basic routine inspection; the improvement resulting from this simple step is demonstrated in Appendix XIV. However, much work remains to be done before maintenance procedures are at an acceptable standard.

We believe that in order to develop, and in many cases introduce, planned maintenance routines throughout all divisions of GIHOC, an initiation team must be set up, which can be justified as follows:

- central control is necessary to ensure that proper standards are set;
- training will have to be given by P-E to all concerned in the implementation of the techniques of planned maintenance;
- adequately trained engineering staff in the divisions are lacking.

We envisage that this particular team will be required over the next two years to work under the direction of P-E staff, and that thereafter the way in which these functions are to be performed may need to be reviewed.

The team will, for each division, carry out the following:

- assess the existing maintenance routines and resources;
- develop and agree with divisional management the planned maintenance routines, objectives and requirements;
- assist with the implementation of the agreed solutions.

The complexity of the necessary maintenance procedures will, of course, vary from division to division, but the overall concept of a properly designed and controlled maintenance function throughout GIHOC divisions remains universal.

6.2.2 Maintenance workshops

In all divisions at present, there are maintenance workshops of varying qualities, ranging from workshops with only one or two fitters' benches to fairly well equipped workshops with a good range of machine tools.

Ideally, all spare parts should be obtained from the manufacturer of the plant and machinery. However, with the problems of obtaining import licences and the current restrictions on foreign exchange, many parts have to be repaired or manufactured locally.

Some divisions already do this where possible and other parts are manufactured or repaired by agencies outside GIHOC.

6.2.2.1 Defects of current situation

We believe that GIHOC should be encouraged to expand its current ability to manufacture and repair. However, two aspects must be taken into consideration and these are:

- (i) while throughout GIHOC there is a wide range of machine tools and maintenance equipment, no division has the capability to make all the parts it needs. It would be uneconomic for all of them to have the necessary equipment for this.
- (ii) there is an absence of production engineering knowledge in all the divisions. Some of the methods used to manufacture spare parts were unusual to say the least and the materials used were, in many cases, incorrect for the duty required.

6.2.2.2 Centralised workshops

In order to make best use of the resources available, we believe that two or three centralised workshops should be developed to serve all the divisions of GIHOC. It is not proposed that divisions should be stripped of all maintenance plant, but should retain these items of maintenance equipment that are peculiar to that division, and also basic equipment such as simple lathes, drills and welding equipment.

The more specialised equipment, such as gear grinders, long-bed lathes, hardening furnaces and possibly also simple casting facilities would be available at the centralised workshops to carry out the more difficult repairs and manufacture for the divisions within its area. The shops will, however, only be successful if they can demonstrate to the divisions that they are capable of producing good quality work, within an acceptable delivery period, and at an economic price.

Each centralised workshop would need to be headed by a suitably qualified production engineer who must have the ability to instal the correct methods of manufacture and know the proper materials to be used for each job. It is envisaged that one of the engineers would be appointed in overall charge of all the centralised workshops as well as being in charge of one of them.

This concept of centralised workshops would also have the advantage of being an excellent training ground for engineers and maintenance staff because of the wide range of skills required and could ultimately be the nucleus on which to grow an enlarged workshop capability to supply spares outside GIHOC.

It is possible that two workshops would be in the Accra/Tema and Kumasi regions and might be based upon the workshops of Steel and Fibre Divisions. The third, if thought necessary could be based in the west of the country to serve Aboso/Takoradi areas. However if the centralised workshops were at the divisions they would not be under the control of divisional management, but under an engineer.

P-E would supply a production engineer to assess the available resources and to draw up plans for the proposed centralised workshops and implement the agreed plans. The production engineers to run the workshops would have to be appointed from the start to work with P-E in the planning stages and to receive the necessary training.

6.3 Findings in the divisions

As stated earlier, the majority of maintenance throughout GIHOC's divisions is done on a breakdown basis. This results in excessive downtime and adversely affects output. There are however, some examples where the introduction of simple planned maintenance procedures has resulted in an improvement in machine availability.

6.3.1 Example of a division

Again the example of Fibre Bag divisions serves to illustrate the problems applying throughout GIHOC's divisions.

The average output performance of the plant in the mill is in the order of 60%. In order to obtain a clearer picture of the situation, a four day activity sample was taken at the end of June, covering two sections (see Appendix XII). Analysis of the results showed that almost 20% of available production time was lost due either to breakdown or planned maintenance. Approximately 12% of this lost time was due to the lack of availability of spare parts - they had to be manufactured first in the machine shop.

However, the situation is improving. Some six months ago, a simple form of planned maintenance was introduced covering routine lubrication, cleaning and inspection in the main. The downtime caused by maintenance on one section, namely the Teaser Cards, was analysed for the period from the end of January up to June. At the start of the period, the downtime accounted for 40-45%, but by June this had been reduced to 30%. This is shown graphically in Appendix XIV which shows the weekly average and a four week running average.

This improvement is an indication of the value of planned maintenance and, by the application of similar techniques this improvement can be maintained and improved upon not only at Fibre Bag division, but also at other divisions.

Another problem already touched upon and shown up by the activity sample is the availability of spares. We have already discussed the stores aspects but there is also the problem of manufacture of parts by the divisions.

Several problems in this area have come to light and these are:

- there is little attempt to manufacture parts prior to their being required;
- incorrect methods of repair or manufacture are often being used. This is partly due to lack of equipment and partly due to lack of knowledge of production engineering techniques;
- the wrong materials are being used for the manufacture of parts.

6.3.2 Changes required

The problems discussed above can be minimised in the divisions by the following:

- introduction of appropriate planned maintenance procedures
- analysing the spares requirements and identifying those spares that can be manufactured or repaired locally. Relevant stock holdings would also be established
- making available to all divisions as wide a range of maintenance equipment as possible, if necessary by centralised workshops.

- making available a range of suitable materials for the manufacture of spare parts
- making available the techniques of production engineering.

6.4 Supervisor Development

Good management, well-maintained plant and well designed control procedures will not, by themselves, produce a high performance.

The most important link in the management chain is first line management, that is the supervisors, foremen and chargehands; one of the common complaints of managers in the divisions was that the general quality of supervision was poor. GIHOC must encourage and assist their supervisors to develop themselves and to help their staffs do their jobs better.

In many areas there is a lack of training routines for operators and supervisors do not appear to take an interest in upgrading the skills of their staffs. We do not believe that theoretical training away from the plant will have the desired effect of upgrading the supervisory skills, but that on the job training will be required, backed by a little classroom training at the plant.

We expect the in-plant training would include the following subjects:

- Motivation
- Planning and Control of production
- Self management
- Communication

We recommend therefore that, with P-E's assistance, a headquarters team should be set up and the following steps be taken:

- appraisal of the training needs of the supervisory staffs of all divisions;
- development of training routines for the divisions;
- implementation of the developed routines in the divisions, with the aid of divisional personnel departments.

7. Detailed Proposals for Production Work

This section gives our conclusions on the production work needed in the divisions. The term production includes as before every function directly concerned with producing goods and maintaining the physical resources to do so. It thus includes maintenance, stock control, spares systems and supervisor training. Finance and Marketing have been covered already in Sections 4 and 5 of Part D and do not in any event involve such a degree of divisional variation. We refer below to production needs identified for certain particular divisions. However, some matters for example stock and spares control systems are common to all, and the fact that they are not mentioned specifically for all should not be taken to imply that divisions not mentioned will be neglected in these respects.

7.1 Boatyards

7.1.1 We indicated above in Part C that there were serious doubts about the market in Ghana for the larger wooden boats, and this lay behind the decision to make a market study for Boatyards among the highest priority marketing jobs.

The proposals for production work that follow assume that the outcome of such a study is a policy decision to continue new construction at Tema. An alternative decision to concentrate on repair work, would alter the balance of our recommendations, but not remove the need for substantial work.

7.1.2 Currently there is a serious multiplicity of hulls laid down in the Tema yard resulting in difficulties of control and movement and causing an excessive amount of money to be tied up.

Our first action will therefore be to:

- institute a strategy for laying down hulls which bears a close relationship to the availability of components and major items and also to the date when payment can be expected

- develop from this strategy a tight yard control procedure, directing and controlling labour both to new construction and repair work as profitably as possible.

7.1.3 There is a very large amount of work with electrical machinery. The machinery which exists is not fully utilized. We will therefore:

- carry out an assessment of the advantages of greater mechanization
- establish procedures to ensure the optimum use of all installed equipment and plant

7.1.4 There is some lack of effective stock control in the yard resulting in excessive stocks of some items and shortages of others. We will therefore:

- institute effective stock control of all items
- set up special procedures to gather all requirements into 'best lots' so as to ensure optimum use of all stocks whether major items purchased from overseas, or lesser items obtained locally.

This concept of lots will extend to all activities including applications for licences.

An additional requirement for work in the backyards will be a review of organization at all levels with special reference to the floor control.

7.2 Bricks and Tiles

7.2.1 The plant and machinery in Brick and Tile Division is virtually all in a deplorable state of disrepair. Substantial effort and expenditure will therefore be required to bring the plant's production capability up to a normal level, and before embarking on major expenditure it is necessary to be sure of an adequate demand for the bricks. A preliminary market study (Appendix VII) has confirmed that there is adequate demand to justify rehabilitation of the existing brickworks.

7.2.2 Assuming that the construction of the market study described above are accepted, or recommended:

(A) that a policy is decided on what future production facilities will be desired, the alternatives are:

- (a) full rehabilitation of the existing plant, or
- (b) purchase and installation of new equipment

(AA) that facilities are provided and arrangements are made for maintenance, that will ensure the plant will never again be allowed to deteriorate to such a poor condition. This action is required irrespective of which of the above alternatives is chosen.

7.2.3 If new equipment is to be obtained, a careful study should be made of the most suitable plant should be made. If however the decision is to rehabilitate the existing plant a detailed survey will be necessary of the parts required, and the skills required to repair the plant successfully.

7.2.4 Some rehabilitation of the existing plant is already under way, consisting of conversion of the bit from used to oil firing and the installation of a new lay line. It shall appreciate the advantages of the converted bit when it is back to operation, but this should not preclude reconsideration of whether the installation of a complete new bit and equipment might not be the best solution.

7.2.5 Emphasizing methods to the decision and reconsideration. For example the methods of obtaining and transporting lay and/or drying the bit.

The work set out in the above paragraphs requires the advice of a competent operator, and it would appear that for, if any, people in Ghana could do it. It would have a specialized operator which would be able to undertake the work. It is recommended therefore the employment of a specialist to undertake the work.

(A) conduct feasibility studies on the relative merits of
rehabilitating parts of the existing plant, or

- installing complete new equipment, so as to aid a policy decision.

(iii) advise on technical matters concerning the operation of the partly rehabilitated plant.

7.2.6 There is an unusually wide range of products. We recommend that a study should be made of the advantages and disadvantages of reducing the variety of products.

7.3 Planting

The proposed programme of production work has been sub-divided into three sections:

- Engineering/Maintenance
- Production/Stock Control
- Additional work

7.3.1 Engineering/Maintenance

The present capacity of the division is not known to an acceptable degree of accuracy resulting in inaccurate production standards. Also, because of the availability of spare equipment, the maintenance function is very informal in its approach. Therefore we propose the following work:

- An accurate assessment of the present plant from the point of view of output capabilities using the techniques of work measurement
- The development and implementation of an appropriate planned maintenance system
- From the assessment done above and considering the long-term production targets as well as the availability of raw materials, the future plant requirements would be evolved and programmed.

7.3.2 Production/Stock Control

Due to the inaccuracies of the present production targets, proper control of production is impossible, let alone any reliable product costing. The introduction of planned maintenance will require a suitable system for stock and order level control of spare parts. At present, production targets are set weekly and depend on the stock levels of consumables such as bottles, labels, caps, cartons etc. and not on the sales requirements. This would indicate that the present system of stock and order level control is inadequate. We therefore propose the following work:

- Development and implementation of an appropriate production control system
- Appraisal of the spare parts requirements and the implementation of a stock and order level control system for spare parts
- Design and implementation of a stock and order level control system for other items used in production
- Establishment of capacity balancing routines.

7.3.3 Additional Work

In addition to the above, there should be an appraisal of the present organisation of the production, maintenance and technical functions.

7.4 Electronics

7.4.1 As already described, the production control routines in Electronics division need careful revision in order to ensure that the current high levels of stocks are reflected in high levels of assembly and sales.

We therefore recommend:

(i) a very careful appraisal of the production control routines with special reference to:

- purchase of whole sets of parts and the retention of those sets as such in store
- stock control documentation. This was not being correctly completed or used, resulting in poor forward ordering of supplies of parts
- allocation of items for repair ensuring that no production sets are raided for this purpose
- assessment of excess usage during assembly and the subsequent replacement of these items
- programming and ordering of items for spares and their subsequent storage apart from production items.

(ii) the development of a new integrated production control procedure which will cope with spares demands and shop losses.

7.5 Fibre Bag

The proposals for production work have been sub-divided into four sections:

- Engineering/Maintenance
- Inventory Management
- Raw Material
- Additional Work.

7.5.1 Engineering/Maintenance

Currently, in the finishing section of the mill there is a significant number of machines not available for production due to shortages of spare parts. Excluding these machines, the production efficiency of the mill is approximately 60%. One of the main causes of this is inadequate maintenance resulting from poor maintenance procedures and lack of immediately available spare parts. Following from this, the proposed programme of work is:

- List and obtain immediate spare parts requirements
- Budget future spare parts requirements
- Develop planned maintenance procedures
- Balance capacity and develop future plant requirements
- Develop skills in the production engineering field to enable manufacture of spares requirements.

7.5.2 Inventory Management

The present stores systems are inadequate for the purposes of Fibres Bag division, particularly in the area of control of spare parts. The proposed programme of work therefore covers the following:

- Develop suitable paper work procedures for stock cards, location cards and parts identification, also for proper communication within purchasing
- Develop suitable stock and order level control procedures with particular emphasis on spare parts control
- Study the layout and organisation of the stores
- Implement the resulting agreed proposals
- Train the staff in the use of the applied techniques.

7.5.3 Raw Material

There are plans to substitute kenaf for long jute in an attempt to reduce the importation costs of raw materials and eventually to use Ghanaian kenaf. Preliminary cost comparisons are made in Appendix XIII and these indicate a small advantage for imported kenaf over imported jute, but a large excess cost for Ghanaian kenaf over imported jute.

- (i) A system must be devised to ensure that all imported raw materials, whatever their source, are of the correct quality for the grade purchased. This would probably require the appointment of an agent in the country of origin.
- (ii) Before kenaf is substituted for long jute, carefully controlled and monitored production runs, through all sections of the mill, should be carried out to assess possible production problems.
- (iii) A detailed cost analysis of the net potential saving from the substitution should be carried out.

7.5.4 Additional Work

In addition to the above proposals there will also need to be:

- an investigation into the most suitable organisation for the production function including the maintenance/engineering function and stores
- development of supervisor training

7.6 Footwear

Output at this division is currently very low. A provisional figure of 12 man-months for production consulting work has been entered with the idea of doing this work starting about September, 1976, when policies concerning the demand for shoes have been established.

The proposed work would be as follows:

- Production studies, carried out with a view to capacity balancing
- Implementation of planned maintenance procedures
- Implementation of new stock control procedures covering spare parts and production items.

7.7 Glass Manufacturing

Currently the glassworks is about to have a programme of rehabilitation. With respect to the new plant P-E Consulting Group will undertake the responsibility of ensuring that optimum arrangements are made for its maintenance, covering the fields of:

- planned maintenance
- storage and stock control of components

This work will be done in close co-operation with the manufacturers of the new plant and the consultants working on the project.

There is some imbalance in raw material stocks. We will therefore:

- set up optimum holdings of each item
- instal routines to ensure these holdings are maintained.

7.8 Metal Industries

The proposals for this division are set out under the following headings:

- Engineering/Maintenance
- Inventory Management

7.0.1 Engineering/Maintenance

At present, all maintenance, except for the nail cutters, is on a breakdown basis. As the machines work at high speed and have a number of wearing parts. Tightly controlled planned maintenance procedures are therefore essential.

The present material handling procedures for nails and for raw materials are inadequate. Nails are produced from the machines directly onto the shopfloor and the wire coils are currently stored in random heaps.

Raw materials have always been in short supply, and therefore without capacity planning, the true potential of the present plant is not known and future plant requirements cannot be accurately assessed.

The proposed programme of work is as follows:

- Assessment of the planned maintenance requirements of the plant and development and implementation of suitable procedures
- Assessment of the material handling needs and implementation of improvements
- Introduction of capacity planning.

7.0.2 Inventory Management

No formal raw material stock control appears to exist. There are also many spare parts that are unused and unsorted. Therefore tighter control over the stock and order level control is required.

The proposed programme of work should provide:

- an improved stock and order level control system
- introduction of proper schedules of spare parts and order level procedures.

7.9 Points

The proposals for this division are set out under the following headings:

- Inventory Management
- Maintenance

7.9.1 Inventory Management

Currently some 400 items are imported and the division has great difficulty in balancing its overall requirements. Because of this, they get into the position where they run out of important ingredients and production stops. Therefore the following proposals are made:

- Introduction of suitable procedures for forecasting future requirements of raw materials
- Design and implementation of the necessary stock and order level control system.

7.9.2 Maintenance

The plant is basically simple in design, but the division has problems with worn machinery, especially in the milling section, which reduces production capacity considerably. To overcome this they are intending to purchase a new roller mill to increase the output of the milling section. There must be a much better justification for any new machines in the present circumstances.

The programme of work should include:

- assessment of the maintenance procedures and the possibility of repairing the present plant where required
- the introduction of simple planned maintenance procedures
- a capacity balance, and assessment of future plant requirements.

7.10 Paper Conversion

Paper Conversion in general is a well run plant from the production point of view and has identified its main problem areas, namely raw material storage and finished goods storage. However, as it is a flow process industry, particularly on the corrugated paper side, inadequate maintenance procedures could affect production output.

In addition the production control procedures appeared loose as indicated by the fact that the rated capacity of the plant was considerably exceeded on the production schedules.

The proposed programme of work is as follows:

- Identify the spares requirements and introduce a stock and order level control system for spare parts
- Design and implement planned maintenance procedures
- Investigate the present production control procedures and implement any adjustments to the system thought necessary.

7.11 Steelworks

The proposed programme of work is set out under the following headings:

- Engineering/Maintenance
- Stock Control
- Additional Work

7.11.1 Engineering/Maintenance

Steelworks has one of the best equipped engineering workshops within GINOC, and at present repairs and manufactures a range of spare parts. However, there is no policy on what to make and without qualified and experienced production engineers the methods and materials used to manufacture parts are often incorrect.

Some planned maintenance has been introduced particularly on the maintenance of cranes, relining of furnaces etc., but detailed instructions are not given. Without these, the maintenance is, of necessity, not of the standard that must be attained if best possible use is to be made of the rehabilitated plant. Our proposed programme of work is therefore as follows:

- Set up a production engineering function, to decide on the policy of spares manufacture and repair and to ensure that the best methods and materials are being used
- Assess the total maintenance needs of the plant and institute proper planned maintenance procedures.

7.11.2 Stock Control

The present situation of spare parts stock levels is unsatisfactory. There is no policy on what to stock and in what quantities.

The stock control of other consumable items is also in the same state. In theory, stock control is on an order level control basis, but in practice stocks never appear to reach the order level. No delivery programme is in operation and the subject of availability is not understood. Therefore our proposed programme of work is as follows:

- Budget the future spares requirements
- Institute a practical system of stock and order level control of spare parts
- Institute the forecasting of future requirements of materials and consumable items
- Devise a suitable method of stock and order level control for raw materials and consumables.

7.11.3 Additional Work

As the plant has not been working due to the current rehabilitation programme, it has not been possible to comment on its operation. However, once the new plant is in operation, a capacity balance should be carried out, so that checks can be made of the proposed further developments to ensure that a proper balance is kept, in terms of output and future requirements of output, throughout all sections of the operation.

The fields of responsibility in some cases were ill-defined, for example in the area of refractory ordering.

Therefore our proposals must include:

- capacity balancing of all main line plant and ancillary equipment including the future developments
- investigation into present areas of responsibility of managerial staff and redefinition of responsibilities where necessary.

7.12 Centralised Workshops

The problems of repair and manufacture of spare parts and the justification for centralised workshops providing a service to all of GINOC's divisions have already been discussed.

The proposed programme of work is as follows:

- Appraisal of all maintenance equipment available within GINOC
- Assessment of the equipment needs of the proposed centralised workshops in order that they might provide a comprehensive service
- Assessment of the individual equipment requirements of each division

- Assessment of the raw material needs for the manufacture of spare parts
- Appraisal of the location, staffing and organisation requirements of the proposed workshops
- Provision of necessary training in the required production engineering techniques.

In addition to the above proposed outline of work, it will be necessary to 'sell' the whole concept to the divisions. Unless the proposals have the confidence and backing of the individual divisions, the workshops will fail.

7.13 Exclusions

We have allowed in these detailed proposals for production work, nothing specifically for Meat Products, Cannery and Vegetable Oil mills. Indeed as we saw above in Part C, all are so severely affected by supply difficulties that production problems are relatively minor. Rather different considerations apply to Marble and Pharmaceuticals. The former's size and type of business offers little scope, and in the latter the recent UNIDO assignment has, we understand, left a smooth running unit. Our programme of production work would however allow time to ensure that any systems introduced elsewhere were compatible also with these divisions.

7.14 Priorities

We have drawn up a chart (see Appendix III) showing the priorities as we see them for production work in each division. It should be noted that the chart does not pretend to indicate the priorities for starting work as between divisions, which is a matter still to be fully discussed and agreed, nor for marketing or supply studies which may be essential precursors.

2. General Comments for Division

There are two further general proposals applicable to all divisions:

The first has already been mentioned, the subject of training. As previously explained the need for in-plant supervisor training should be assessed, and a programme drawn up followed by implementation in all divisions. It should of course be stressed that, during the implementation of all the proposals made, whether in the fields of engineering, accounting or production, on the spot training will continue to be given to all levels of management and staff.

The second point is that of information systems. Managers, whether production managers, general managers or headquarters managerial staff, cannot assess the performance of their areas of operation without accurate production, commercial and economic data. Information systems will, therefore, be developed in all divisions to inter-compare with the financial control systems described above.

We have made due allowance for the consulting input required for these additional proposals.

SECTION 1 - SUMMARY OF RESULTS AND CONCLUSIONS

This part contains the reports required to substantiate the work described in Part 2 above, and is intended to be prepared in the same manner as the other parts of the program, and will also be subject to the same review and approval requirements.

1. Summary of Results

In view of the fact that the availability of facilities, the production and other the target areas, in addition to a requirement of 10 man-months of maintenance and 14 of construction for the financial and staff work of maintenance work and 14 for construction. The latter figure is large because of the large number of maintenance activities in and full the other part of the maintenance activities include the rest of the assignment. In the summary table, this work also shows a limited amount of work in terms of man-months, as well as 11 man-months of maintenance work and 14 for construction, the other work is reported part of the maintenance and of the assignment.

In addition to the above mentioned reports to production maintenance, the reports to this day and date and the following: 1. 11 man-months maintenance, 14 for the rest of the work under of 17 man-months, which work is reported separately in separate reports affecting the state of work, as well as the construction and assignment of the project work.

Summary of work for project and project total results:

maintenance. 10 man-months

construction. 14 man-months

A few other work items are given in Appendix B.

2. Summary

In view of the program for work in and in relation to the state of work including this is working for this work in summary, as follows: the work is working under in a few, according to this work in the other work items and in relation to the working work.

in Ghana, and a strictly limited amount of foreign training for a few specialists and supervisors, where appropriate Ghanaian training is not available.

The foreign training we estimate would amount in all to 100 man-months and Appendix XIII details our proposals.

There would in addition be the formal accountancy training courses held in Ghana as mentioned in Part B paragraph 4.7.4.2.

1. General Principles

The work which has been described presents a formidable task, and it involves a major series of changes to undertake at one time. Great care will have to be taken to see that the value of the work is wholeheartedly accepted by those concerned and this applies most obviously to the General Managers and their staffs as well as to the headquarters personnel. If these managers are not fully convinced of the desirability of the work we are instituting there is every likelihood that the end of the assignment will see a rapid deterioration in the value of any work done.

A major part of P-8's activity will therefore require to be detailed discussion of our proposals with all levels of management. During this process we have no doubt that improvements to the proposals will be developed and the changes that are finally implemented will have been jointly developed between management and the consultants.

The changes proposed and the programme of work should therefore be studied as widely as possible by all managers likely to be involved. Such a study of the actual application of management theory and technique provides better training and development for those concerned than any theoretical course in management. This is not of course meant to preclude the idea of formalized theoretical training, but rather that theoretical training without the observation of and participation in practical management is of small value.

Furthermore, it is our view that all of those who participate in the work of implementation should have enough time made available to them to ensure that they have mastered the fundamental theory and practice of what

is being done. Only thereby will the management of GINOC succeed in developing and refining as they become necessary the basic changes which have been made during this assignment. This ability to react, and develop is essential if management is to remain effective regardless of the future changes of environment and circumstances.

From these comments on implementation it should be clear that the consultants will not themselves implement any change. All changes and developments will be made by way of the counterparts and GINOC management supported, advised and directed by the consultants. It will thus be essential for GINOC to absorb and master every change in order to implement it. This will impose a heavy burden on management, but the reward will be improved operation of the divisions, as well as the development of management skill.

The implications of this approach are that about 7 counterparts in all will be required, distributed as follows:-

Marketing	-	2 men
Accounting	-	2 men
Production	-	3 men.

We would stress however that to achieve the objectives just described we shall need considerable participation by management, particularly in the divisions, during the periods of investigation and change. This matter has already been discussed with GINOC who have agreed in principle to make available the necessary personnel despite the burden that it will impose on management.

4. Review Arrangements

The proposed programme of work is estimated to last 24 months, and during this time changes will undoubtedly be required to the detailed action now proposed.

In order that all parties may keep in touch with the progress of the assignment and adjust the programme as and when required, it is assumed that meetings would be held every 6 months alternately in Vienna and Anvers. At this time the consultants would submit an account of progress in the previous 6 months and submit their forward programme for consideration.

3. Conclusions

We believe that the first stage of the assignment has gone well. There is general agreement within GINOC on the steps necessary to assist their management, and we for our part would like to record our gratitude for the co-operation and assistance we have had during this time. We look forward to a constructive programme working with and for GINOC over the next two years.

Submitted for P-S Consulting Group Limited

by

R. J. BAKER

R. J. BAKER

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(2 of 2)

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FORM 10-K

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FOR THE YEAR ENDED DECEMBER 31, 2017

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FORM 10-K

October 1979

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10-K
10/19/79

Corporate Strategy Practice

THE UNITED STATES INDUSTRIAL DEVELOPMENT CORPORATION

STATEMENT OF WORK

STATEMENT ADDRESSED TO THE SENATE INDUSTRIAL DEVELOPMENT SUBCOMMITTEE

STATE CONTRACT NO. 72-2 PROJECT NO. 82/IND/1A/001

TABLE I. FINAL STATE

TABLE I - ATTACHED

ATTACHED

- ATTACHED I** **ADDENDUM TO SENATE INDUSTRIAL DEVELOPMENT CORPORATION**
- ATTACHED II** **LIST OF CONSULTANTS - STATE I**
- ATTACHED III** **DEVELOPMENT OPERATING STATISTICS 1972-73**
- ATTACHED IV - 1** **ANALYSIS OF ANNUAL ACCOUNTS**
RESEARCH DIVISION
- ATTACHED IV - 2** **ANALYSIS OF ANNUAL ACCOUNTS**
IRON AND STEEL DIVISION
- ATTACHED IV - 3** **ANALYSIS OF ANNUAL ACCOUNTS**
STEEL DIVISION
- ATTACHED IV - 4** **ANALYSIS OF ANNUAL ACCOUNTS**
STEELWORKS DIVISION
- ATTACHED IV - 5** **ANALYSIS OF ANNUAL ACCOUNTS**
STEELWORKS DIVISION
- ATTACHED IV - 6** **ANALYSIS OF ANNUAL ACCOUNTS**
STEEL DIVISION

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APPENDIX IV - 7	ANALYSIS OF ANNUAL ACCOUNTS FOREIGN DIVISION
APPENDIX IV - 8	ANALYSIS OF ANNUAL ACCOUNTS GLASS MANUFACTURING DIVISION
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APPENDIX IV - 10	ANALYSIS OF ANNUAL ACCOUNTS HEAT TREATING DIVISION
APPENDIX IV - 11	ANALYSIS OF ANNUAL ACCOUNTS IRON INDUSTRIES DIVISION
APPENDIX IV - 12	ANALYSIS OF ANNUAL ACCOUNTS LUMBER DIVISION
APPENDIX IV - 13	ANALYSIS OF ANNUAL ACCOUNTS MOTOR MANUFACTURING DIVISION
APPENDIX IV - 14	ANALYSIS OF ANNUAL ACCOUNTS PAPERMANUFACTURING DIVISION
APPENDIX IV - 15	ANALYSIS OF ANNUAL ACCOUNTS STEELWORKING DIVISION
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APPENDIX V	GENERAL PLAN FOR THE YEAR END - 1950-51
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APPENDIX 25	WORLD MARKET/CONSUMPTION WOOD
APPENDIX 26	WORLD MARKET FOR WOOD CASE CLOSURE

"MANAGEMENT OF CHINA INDUSTRIAL HOLDING CORPORATION"

ISSUED - Phase II - 07/08A/12/0000

26 September 1974

WORK OF MANAGEMENT

1. Explanation of Project

This project represents a continuous programme of assistance with CHINA. The first phase of work, which was directed primarily towards technical problems at the division/factory level, was terminated in September 1972. Related to the findings and recommendations of a CHINA Advisory Mission of 1974, the primary objectives of this project may be noted as follows:

- (i) To develop action plans and an implementation schedule for a comprehensive management improvement programme in the various CHINA Divisions and at Head Office;
- (ii) To upgrade management practices and systems in selected CHINA Divisions and at Head Office;
- (iii) To develop within CHINA an internal maintenance capability so that the management improvement programme may be continued after the project is terminated;
- (iv) To advise and assist CHINA staff in the preparation of performance feasibility studies;
- (v) To provide general management counsel and advice to the Managing Director of CHINA and the General Managers of the various CHINA Divisions.

The main activities associated with this project can be expected to involve the following steps:

Phase I. Preliminary Activities (6 months)

- a) To advise and assist in conducting a comprehensive review of each of the Divisions and Head Office with the objective of determining a management improvement programme for each of the units so considered.
- b) To define, segregate and select those management needs which justify a priority claim of technical assistance resources with the objective of optimum deployment of available resources to assist in improving GINOC's overall profit and management performance.
- c) To draw up a detailed management improvement programme and action plans with the objective of specifying
 - i) priority problem areas; and
 - ii) required management resources (both Ghana and expatriate to be so utilized), time scale for action, results expected, procedures for feedback, reporting and follow-up.

Phase II. Management Improvement Programme

Subsequent to Phase I, an action oriented management improvement programme would be finalized within the prescribed framework:

- a) At the headquarters level to cover:
 - i) general management policies, practices and procedures; and
 - ii) Head Office staff services especially in the areas of general management consulting and business strategy, corporate planning, programming, scheduling, marketing (domestic and export), profit improvement, new business development/project studies and appraisal.
- b) At Division level to cover general and operational management and to cater for technical needs especially as concerns the establishment, design and implementation of an inventory control system in a raw materials, goods in process, production planning and control system, design forms and operational procedures, manuals, supervision of changeover to new systems

APPENDIX I
(Continued)

c) Related to the aforementioned project objectives full consideration and coordination will be made of on-the-job management development and training activities such as

- i) understudy training
- ii) associate consultant training
- iii) senior consultant training

• Note: When the project was activated the reference became DP/CMA/74/003.

LIST OF CONSULTANTS - GENERAL I

NAME	NAME	APPROX. DATE
Team Leader	D.J. McEach	April 1975
Financial Consultant	A.B. Cottrell	March 1975
Marketing Consultant	G.H.B. Nayer	June 1975
Production Consultant	S.A. Grutchank	May 1975
Specialist Consultant	E.G. Soames	May) 1975 July)
Specialist Consultant	B. Wadner	May 1975

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

- The various figures which illustrate the results of the various tests are given in the following tables:

STATE OF ALABAMA

GENERAL STATUTES

CHAPTER 100

ARTICLE 10

	1901		1902		1903	
	1901	1902	1901	1902	1901	1902
Section 100-1-1	100-1-1	100-1-1	100-1-1	100-1-1	100-1-1	100-1-1
Section 100-1-2	100-1-2	100-1-2	100-1-2	100-1-2	100-1-2	100-1-2
Section 100-1-3	100-1-3	100-1-3	100-1-3	100-1-3	100-1-3	100-1-3
Section 100-1-4	100-1-4	100-1-4	100-1-4	100-1-4	100-1-4	100-1-4
Section 100-1-5	100-1-5	100-1-5	100-1-5	100-1-5	100-1-5	100-1-5
Section 100-1-6	100-1-6	100-1-6	100-1-6	100-1-6	100-1-6	100-1-6
Section 100-1-7	100-1-7	100-1-7	100-1-7	100-1-7	100-1-7	100-1-7
Section 100-1-8	100-1-8	100-1-8	100-1-8	100-1-8	100-1-8	100-1-8
Section 100-1-9	100-1-9	100-1-9	100-1-9	100-1-9	100-1-9	100-1-9
Section 100-1-10	100-1-10	100-1-10	100-1-10	100-1-10	100-1-10	100-1-10
Section 100-1-11	100-1-11	100-1-11	100-1-11	100-1-11	100-1-11	100-1-11
Section 100-1-12	100-1-12	100-1-12	100-1-12	100-1-12	100-1-12	100-1-12
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Section 100-1-14	100-1-14	100-1-14	100-1-14	100-1-14	100-1-14	100-1-14
Section 100-1-15	100-1-15	100-1-15	100-1-15	100-1-15	100-1-15	100-1-15
Section 100-1-16	100-1-16	100-1-16	100-1-16	100-1-16	100-1-16	100-1-16
Section 100-1-17	100-1-17	100-1-17	100-1-17	100-1-17	100-1-17	100-1-17
Section 100-1-18	100-1-18	100-1-18	100-1-18	100-1-18	100-1-18	100-1-18
Section 100-1-19	100-1-19	100-1-19	100-1-19	100-1-19	100-1-19	100-1-19
Section 100-1-20	100-1-20	100-1-20	100-1-20	100-1-20	100-1-20	100-1-20

CHAPTER 100 CONTAINS 20 SECTIONS

ARTICLE 11

	1901		1902		1903	
	1901	1902	1901	1902	1901	1902
Section 110-1-1	110-1-1	110-1-1	110-1-1	110-1-1	110-1-1	110-1-1
Section 110-1-2	110-1-2	110-1-2	110-1-2	110-1-2	110-1-2	110-1-2
Section 110-1-3	110-1-3	110-1-3	110-1-3	110-1-3	110-1-3	110-1-3
Section 110-1-4	110-1-4	110-1-4	110-1-4	110-1-4	110-1-4	110-1-4
Section 110-1-5	110-1-5	110-1-5	110-1-5	110-1-5	110-1-5	110-1-5
Section 110-1-6	110-1-6	110-1-6	110-1-6	110-1-6	110-1-6	110-1-6
Section 110-1-7	110-1-7	110-1-7	110-1-7	110-1-7	110-1-7	110-1-7
Section 110-1-8	110-1-8	110-1-8	110-1-8	110-1-8	110-1-8	110-1-8
Section 110-1-9	110-1-9	110-1-9	110-1-9	110-1-9	110-1-9	110-1-9
Section 110-1-10	110-1-10	110-1-10	110-1-10	110-1-10	110-1-10	110-1-10
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Section 110-1-15	110-1-15	110-1-15	110-1-15	110-1-15	110-1-15	110-1-15
Section 110-1-16	110-1-16	110-1-16	110-1-16	110-1-16	110-1-16	110-1-16
Section 110-1-17	110-1-17	110-1-17	110-1-17	110-1-17	110-1-17	110-1-17
Section 110-1-18	110-1-18	110-1-18	110-1-18	110-1-18	110-1-18	110-1-18
Section 110-1-19	110-1-19	110-1-19	110-1-19	110-1-19	110-1-19	110-1-19
Section 110-1-20	110-1-20	110-1-20	110-1-20	110-1-20	110-1-20	110-1-20

CHAPTER 110 CONTAINS 20 SECTIONS

SECRET

SECRET

In the above profile analysis furnished and these items to the extent
for 1974 as an illustration can be given. Other items for 1975 and 1976 are
principally those pertaining to interest and action of other states.

In view of past experience it will be noted that current status of the
situation in the area of interest is still from a longer perspective of
what was done in 1974 after a further look at the past recorded in 1973
to the extent this can be done as an illustration in the situation of
-again within current and administrative methods.

SECRET

SECRET

	1974	1975	1976
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STATE OF TEXAS

1950		1951	
Item	Amount	Item	Amount
State Office	1.00	State Office	1.00
Supplies	0.50	Supplies	0.50
Printing	0.25	Printing	0.25
Travel	0.10	Travel	0.10
Postage	0.05	Postage	0.05
Telephone	0.05	Telephone	0.05
Light	0.05	Light	0.05
Water	0.05	Water	0.05
Gas	0.05	Gas	0.05
Repairs	0.05	Repairs	0.05
Insurance	0.05	Insurance	0.05
Interest	0.05	Interest	0.05
Debt Service	0.05	Debt Service	0.05
Contingencies	0.05	Contingencies	0.05
Unassigned	0.05	Unassigned	0.05
Total	2.00	Total	2.00

SECRET

1. **Introduction**

During the course of the project, the following data was collected and analyzed in order to determine the effectiveness of the program. The results are presented in the following table.

	1960	1961	1962
Number of participants	100	120	150
Cost of program	1000	1200	1500
Cost of travel	500	600	750
Cost of housing and transportation	300	400	500
Food	200	250	300
Medical costs	100	150	200
Cost of other	50	100	150
Cost of program materials	50	100	150
Unrecovered program	0	0	0
Net cost	1000	1200	1500
Cost per person	10	10	10
Cost per hour	100	100	100

The data in this table shows that the cost of the program has increased over the three-year period. This is due to a number of factors, including an increase in the number of participants, an increase in the cost of travel and housing, and an increase in the cost of food and medical services. The cost of program materials and unrecovered program costs remain constant over the period.

It is concluded that the program is a cost-effective means of providing training and education to participants. The cost per person and cost per hour are relatively low, and the program has been successful in providing a high quality of training and education to participants.

SECRET

The United States has provided the necessary aid to our people
throughout the war and will continue to do so until we have
won the peace.

There is no doubt that the cooperation of our people is essential
to our success in the war. We must continue to work together
and to support our government in the most efficient manner possible
until we have won the peace.

GENERAL INFORMATION

NAME OF THE PARTY

NAME OF THE PARTY

NAME OF THE PARTY

	NAME	AGE	SEX	RELATION	OCCUPATION	EDUCATION
NAME OF THE PARTY						
NAME OF THE PARTY						
NAME OF THE PARTY						

[Illegible]	[Illegible]	[Illegible]	[Illegible]	[Illegible]
	[Illegible]	[Illegible]	[Illegible]	[Illegible]
	[Illegible]	[Illegible]	[Illegible]	[Illegible]
	[Illegible]	[Illegible]	[Illegible]	[Illegible]

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<p>SECRETARY OF DEFENSE</p> <p>OFFICE OF THE SECRETARY</p> <p>ATTENTION: [illegible]</p> <p>DATE: [illegible]</p> <p>FROM: [illegible]</p> <p>SUBJECT: [illegible]</p>	<p>[illegible]</p>	<p>[illegible]</p>	<p>[illegible]</p>
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	1951	1952	1953
Total Assets	100	100	100
Cash	10	10	10
Accounts Receivable	20	20	20
Inventory	10	10	10
Fixed Assets	50	50	50
Total Liabilities	100	100	100
Accounts Payable	10	10	10
Long-Term Debt	90	90	90
Total Equity	100	100	100
Common Stock	100	100	100
Retained Earnings	0	0	0
Total Assets	100	100	100
Total Liabilities	100	100	100
Total Equity	100	100	100
Total Assets	100	100	100
Total Liabilities	100	100	100
Total Equity	100	100	100
Total Assets	100	100	100
Total Liabilities	100	100	100
Total Equity	100	100	100
Total Assets	100	100	100
Total Liabilities	100	100	100
Total Equity	100	100	100

SECRET

1.1 **General Accounting**

Description	1974			1975			1976		
	Code	Qty	Value	Code	Qty	Value	Code	Qty	Value
Building	01	1	100	01	1	100	01	1	100
Furniture	02	10	200	02	10	200	02	10	200
Equipment	03	5	150	03	5	150	03	5	150
Travel	04	100	500	04	100	500	04	100	500
Salaries	05	100	1000	05	100	1000	05	100	1000
Utilities	06	10	100	06	10	100	06	10	100
Supplies	07	100	100	07	100	100	07	100	100
Insurance	08	1	100	08	1	100	08	1	100
Interest	09	1	100	09	1	100	09	1	100
Depreciation	10	1	100	10	1	100	10	1	100

Statement of Assets and Liabilities

	1964	1965
Assets		
Cash	10	10
Accounts receivable	100	100
Inventory	50	50
Fixed assets	100	100
Total Assets	260	260
Liabilities		
Accounts payable	100	100
Notes payable	100	100
Other liabilities	60	60
Total Liabilities	260	260

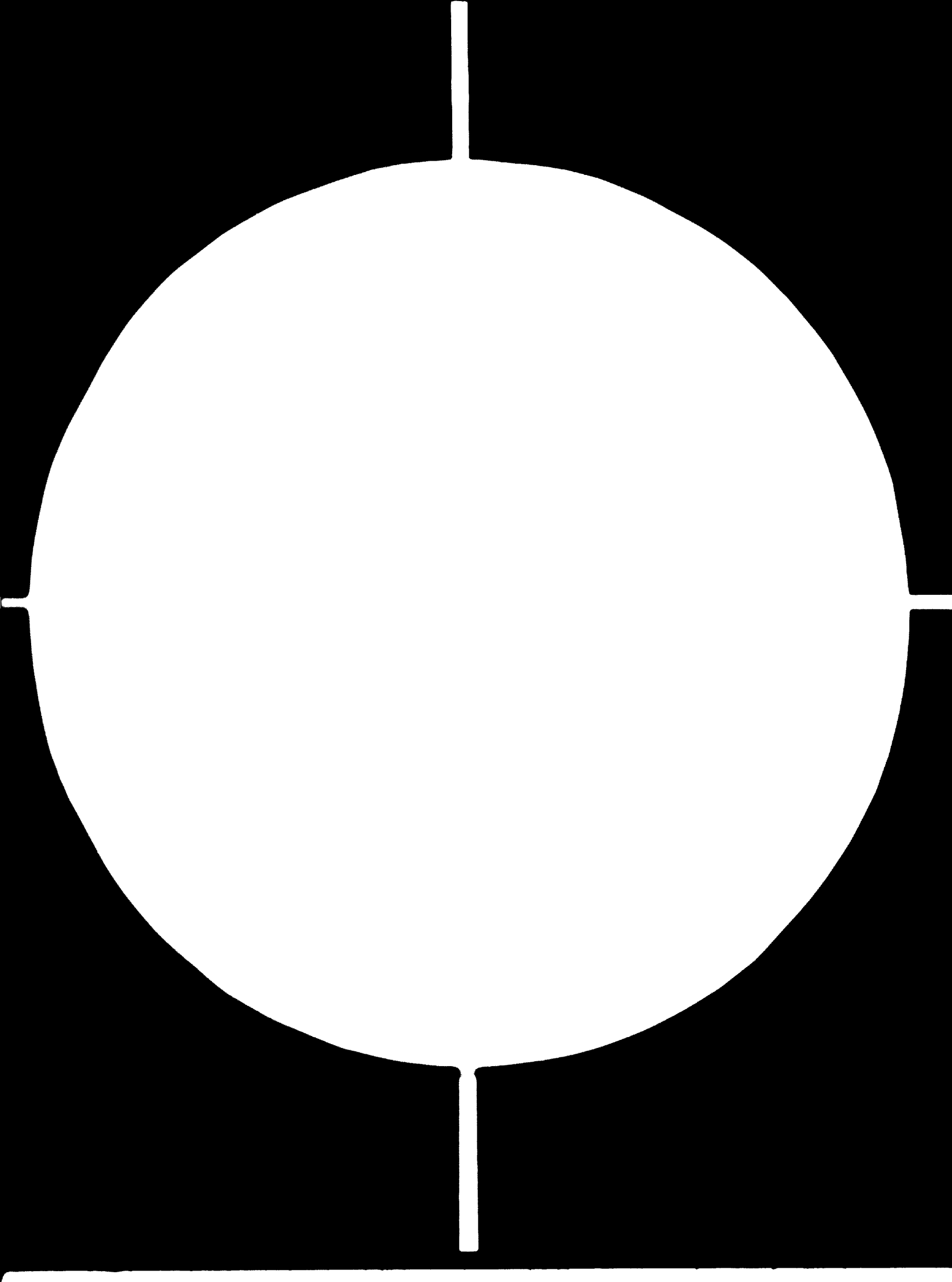
This statement is prepared in accordance with the provisions of the Internal Revenue Code and is intended to provide information regarding the taxpayer's financial position as of the end of the year. It is not intended to be used for any other purpose.

The taxpayer certifies that the information furnished herein is true and correct and that the taxpayer is not aware of any material omissions.

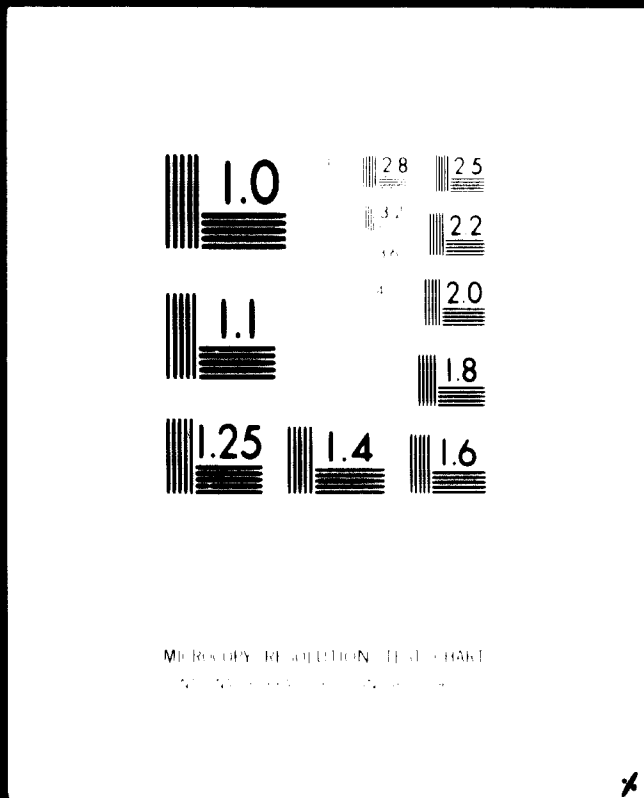
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ANALYSIS OF ANNUAL ACCOUNTSCANNERY DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	₱000	%	₱000	%	₱000	%
Turnover	3439	-	2010	-	1527	-
Expenses:						
Raw Materials Used	2582	69.2	1087	60.1	712	59.5
Direct Labour	168	4.5	118	6.5	71	5.9
Direct Overheads	297	8.0	89	4.9	809	9.1
TOTAL Direct Costs	3047	81.7	1294	71.5	892	74.5
Administrative Expenses	450	12.1	302	16.7	160	13.4
Selling and Distribution Expenses	61	1.6	136	7.5	118	9.9
Depreciation	171	4.6	78	4.3	26	2.2
TOTAL COSTS	3729	100.0	1810	100.0	1196	100.0

1.2 Profit Analysis

	1974 £000	1973 £000	1972 £000
Overall Profit before Tax	47	140	198
Less non trading items: Sundry Income	34	35	20
Total	13	105	178
Operating Profit (Loss)	13	105	178

Notes

Profitability has fallen substantially in the years under review. The Division has diversified particularly into alcoholic beverages manufacture which in 1974 accounted for 82% of turnover but the effect of this on profitability is not known. Direct costs have certainly increased out of proportion to the turnover generated and further examination will be needed to see if this is the result of cannery activities or whether the diversification lines are in fact yielding too little contribution.

1.3 Comments on Profit and Loss Account

Factory Overheads

Factory overhead expenses rose by €208,000 (234%) between 1973 and 1974. The main areas where expense increases occurred were as follows.

	Increase €000	% on 1974
Salaries and Wages including Social Security	102	463
Vehicle Repairs	19	513
Fuel Consumed (Plant)	18	55
Repairs to Machinery	14	84
Consumable Expenses	13	New Item
Fuel Consumed (Vehicles)	12	429
Electricity and Water	8	200
Licence and Insurance (Vehicles)	6	New Item
	<hr/> 192 <hr/>	

Administrative Overheads

Administrative overheads increased by €148,000 or 49% during 1973/74. The main areas were as follows:

	Increase €000	% over 1973
Salaries and Wages, etc.	56	46
GIHOC Head Office	33	165
Printing and Stationery	17	243
Bank Charges	11	37
Sporting Expenses GIHOC	10	New Item
General Expenses	9	346
Rent and Rates	6	222
	<hr/> 143 <hr/>	

The above increases have been offset by two significant reductions, €11,000 or 51% and fuel for vehicles €8,000 (46%). It would appear from the above that some of the Expense levels have altered because of reallocation of expenses between Production and Administrative Expenses.

Selling and Distribution Expenses

Between 1973 and 1974, Selling and Distribution expenditure fell by ₦75,000. The falls in expenditure occur across the board but there are some indications, notably salaries, where expenses have been differently allocated within main overhead expense headings. The major decreases took place in the following areas:-

	Reduction ₦000	% on 1972
Commission and Discount	28	64
Salaries and Social Security	23	82
Advertising	20	49
Fuel Consumed (Vehicles)	8	80
	<u>79</u>	<u>—</u>

The above was compensated by an increase of ₦4,000 (167%) in the cost of Motor Vehicle repairs.

2. Balance Sheet Summaries

	1974	1973	1972
	€000	€000	€000
<u>Fixed Assets</u>			
as per schedule at cost	2192	1550	575
Less Acc. Depreciation	486	322	208
Farm Projects		18	367
<u>Current Assets</u>			
Stocks	1718	1641	907
Sundry Debtors	327	237	353
Staff Debtors	7	28	12
GIHOC Deposit	127	127	318
Current Account	19	8	8
Prepayments	185	8	7
Loans	15	-	-
Deferred Expenses	-	81	-
Suspense Accounts	-	21	-
Cash at Bank	55	161	185
Cash in Hand	1	10	2
	2465	2331	1793
<u>Current Liabilities</u>			
Creditors	365	153	173
Bills Payable	283	507	-
Provision and Accruals	70	4	2
Letter of Credit Account H.Q.	86	-	-
Provision for Further Studies	60	40	20
Suspense Account	33	-	-
Staff Welfare Fund	12	-	-
Other Credit Balances	216	84	74
Car Loan	4	-	-
	1069	788	269
	1386	1454	1524
Nett Capital Employed	3110	2771	1891
<u>Represented by:</u>			
GIHOC Capital	1711	1301	542
Income Surplus a/c	1395	1470	1346
Research Grant	4	-	3
	3110	2771	1891
Pretax Profit	47	140	198
Return on Capital	1.5%	5%	10.5%

2.1 Fixed Assets Schedule

Description	1974 €000			1973 €000			1972 €000		
	At Cost	Dep.	Nett	At Cost	Dep.	Nett	At Cost	Dep.	Nett
(1) <u>NSAWAM</u>									
Freehold Land Buildings	291	86	203	135	71	69)	268	63	205
Bungalow Buildings	192	17	155	168	8	161)			
Plant and Machinery	526	124	422	184	100	84	150	91	59
Motor Vehicles	293	110	183	200	64	136	116	42	74
Factory Furniture and Equipment	16	8	8	16	7	9	16	6	10
Office Furniture and Equipment	55	8	47	15	5	10	10	4	6
Bungalow Furniture	31	4	27	30	3	27	13	2	11
Canteen Furniture and Equipment	2	-	2	2	-	2	-	-	-
Tools	8	-	8	4	-	4	2	-	2
	1394	357	1037	755	258	497	575	208	367
(2) <u>WENCHI</u>									
Land and Buildings including Pepper Mill	153	15	138	153	8	145	153	-	153
Plant and Machinery	196	39	157	196	20	176	196	-	196
Vehicles	9	4	3	9	2	7	9	-	9
Factory and Canteen Furniture etc.	3	-	3	2	-	2	2	-	2
Office and Bungalow Furniture etc.	5	1	4	5	-	5	5	-	5
	366	59	307	365	30	335	365	-	365
(3) <u>PWALUGU</u>									
Land and Buildings	210	21	189	210	21	189	210	-	210
Plant and Machinery	188	37	151	188	37	151	188	-	188
Motor Vehicles	25	10	15	25	10	15	24	-	24
Factory and Bungalow Equipment	9	2	7	9	2	7	9	-	9
	432	70	362	432	35	397	431	-	431

3. Source and Application of Funds

1973/74		€000	1972/73		€000
<u>Funds Inflow:</u>			<u>Funds Inflow:</u>		
Adjust Profit for the year	37		Adjust Profit for the year	120	
Add Depreciation	171	208	Add Depreciation	78	198
<u>Working Capital</u>			<u>Working Capital</u>		
Reduction in Debtors	21		Reduction in Debtors	116	
Suspense A/c adj.	55		Reduced GIHOC Deposits	192	
Cash at Bank	115		Cash at Bank	16	
Reduced Creditors	212		Increased Bills payable	507	
Accruals	6		Increased Accruals	22	
Increased Letters of Credit	86		Increased Other Creditors	10	863
Increased Staff Welfare	12				
Increased Other Creditors	136	643			
<u>Fixed Capital</u>			<u>Fixed Capital</u>		
Increases in GIHOC Investment		410	Increased GIHOC Investment		759
Total Inflow		1261	Total Inflow		1830
<u>Funds Outflow</u>			<u>Funds Outflow</u>		
Fixed Assets		649	Fixed Assets	180	
Farm Projects		18	Pwalugu and Wenchi Assets transferred from R.Q.	759	939
<u>Working Capital</u>			<u>Working Capital</u>		
Increased Stocks	78		Increased Stocks	734	
Increased Debtors	90		Increased Sundry Debtors	16	
Increased GIHOC	11		Prepayments	2	
Increased Prepayments	176		Deferred Expenses	88	
Car Loans	15		Suspense	21	
Reduction in Bills payable	224	594	Reduced Creditors	20	881
Total Outflow		1261	Total Outflow		1820

3.1 Comment on Funds Position

During the two years reviewed the transfer of fixed assets and increased purchases of fixed assets were mainly funded by increase in the fixed investment by GIHOC. Working capital has changed little in total terms but there have been a multitude of small changes within the working capital accounts. The only major increase in this area was that of stock holdings in 1973.

The majority of this increase is for stocks of raw materials. These however reduced slightly in 1974 on a larger turnover whilst finished goods stocks increased in value. The general material supply difficulties of this division will tend to lead to stock fluctuations and provided there is some interchange between raw materials and finished goods stocks at a reasonably constant level, as is the case for 1973 - 74, then this should not cause undue concern.

ANALYSIS OF ANNUAL ACCOUNTSDISTILLERIES DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover	6906	-	3930	-	3166	-
Expenses:						
Raw Materials Used	4940	81.2	2594	77.6	1881	73.3
Direct Labour	190	3.1	118	3.5	98	3.8
Direct Overheads	108	1.8	63	1.9	20	0.8
TOTAL Direct Costs	5238	86.1	2775	83.0	1999	77.9
Administrative Expenses	522	8.6	357	10.7	220	8.6
Selling and Distribution Expenses	171	2.8	139	4.2	207	8.1
Others	-		-		23	0.9
Depreciation	150	2.5	70	2.1	117	4.5
TOTAL COSTS	6081	100.0	3341	100.0	2566	100.0

1.2 Comparison of Key Rates 1972/74

	Year	Cartons Sold	Receipts £000	Rate £ per Carton
Sales Receipts	1972	124,831	3,166	0.025
	1973	146,705	3,930	0.026
	1974	247,321	6,906	0.027

Product Costs	Year	Cartons Produced	Costs £000	Rate £ per Carton
Raw Material	1972	113,445	1,881	0.016
	1973	150,023	2,594	0.017
	1974	252,691	4,940	0.019
Direct Labour	1972	113,445	98	0.001
	1973	150,023	118	0.001
	1974	252,691	190	0.001
Direct Overhead	1972	113,445	20	-
	1973	150,023	63	0.001
	1974	252,691	108	0.001

	Year	Average Sale Price £ per Carton	Average Direct Cost £ per Carton	Gross Margin £ per Carton
Gross Margin	1972	0.025	0.017	0.008
	1973	0.026	0.019	0.007
	1974	0.027	0.021	0.006

1.3 Profit Analysis

	1974 ₹000	1973 ₹000	1972 ₹000
Overall Profit Before Tax	851	677	445
<u>Less non trading items:</u>			
Sundry Income	46		4
Interest on Loan	-	147	2
Sale of Fixed Assets	1 47	— 147	— 6
Total	804	530	439
*Add Sundry Expenditure	(24)	24	-
Operating Profit (Loss)	828	506	439

Notes:

* Sundry expenditure item of ₹24,000 was advertising charges for 1973 included in 1974 Accounts.

1.4 Comment on Profit & Loss Account

Raw material costs have increased both as a proportion of total production costs and as a rate per case in 1973 and 1974. Other direct cost elements have also risen but not enough to affect the cost per case significantly. The production and works expenses were up by ₹116,000 or 63%, Administration expenses increased by ₹165,000 or 42% and selling and distribution expenses by ₹32,000 or 21.6% on 1973. The main items of expense which contributed to the increases were:-

Production and Works

	Increase (₹000)	% on 1973
Salaries and Wages	20	17.5
Laboratory Expenses	3	150.0
Sundry Shipping Expenses	22	104.8
Rent, Rates and Water	3	75.0
Casual Labour	50	1250.0
Sundry Expenses	2	50.0
Motor Vehicles - Repairs, etc.	2	200.0
Sundry Production Expenses	<u>12</u>	<u>120.0</u>
	<u>114</u>	<u>63.0</u>

Administrative Expenses

	Increase \$000	% on 1973
Salaries and Wages	50	41.0
Insurance	10	62.5
Staff Training and Uniform	9	69.2
Stationery and Printing	13	162.5
Bank Charges	(71)	(78.0)
Canteen Expenses	8	61.5
Contribution to Head Office	122	488.0
Annual Bonus	(7)	(31.8)
Rental - NCR Machine	<u>16</u>	<u>1600.0</u>
	<u>150</u>	<u>42.0</u>

Selling and Distribution Expenses

	Increase \$000	% on 1973
Salaries and Wages	9	20.5
Motor Vehicle Running Expenses	<u>23</u>	<u>766.7</u>
	<u>32</u>	<u>21.6</u>

2. Balance Sheet Summaries

	1974 £000	1973 £000	1972 £000
Nett Fixed Assets (See schedule overleaf)	561	486	474
Current Assets			
Stock	1629	1420	886
Deposits on LCs	119	119	119
Trade Debtors	688	585	946
Prepayments	503	371	185
Staff Debtors	35	32	17
Deposits/Head Office	2240	1790	1490
Ghana Comm. Bank	234	434	550
Cash in Hand	398	522	362
Head Office Current A/c.	163 6009	163 5437	- 4556
	6570	5923	5029
Current Liabilities			
Trade Creditors	254	482	240
Accruals	140	113	118
Customers Deposits	4	4	4
GINDC Divisions	- 398	- 599	53 415
Nett Capital Employed	6172	5324	4614
Represented by:			
Head Office Capital	1911	1911	1911
Income Surplus Account	4261	3414	2706
	6172	5325	4617
Pre Tax Profit	851	677	445
Return on Capital	13.8%	12.7%	9.6%

2.1 Fixed Assets Schedule

Description	1974			1973			1972		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Canteen Building	59	21	38	59	18	41	59	15	44
Other Building	343	281	62	341	264	77	341	246	95
Farm	5	-	5	1	-	1	-	-	-
Plant & Machinery	672	498	174	643	431	212	534	374	160
Furniture & Equipment	94	54	40	80	45	35	72	37	35
Bungalow Equipment	6	3	3	5	2	3	2	1	1
Underground Tank	6	6	-	6	5	1	6	5	1
Lab. Equipment	30	14	16	28	11	17	28	9	19
Library Books	2	1	1	2	1	1	2	-	2
Canteen Furniture	12	9	4	11	7	4	11	5	6
Fixtures & Fittings	40	18	22	27	14	13	22	12	10
Kiosk	1	-	-	1	-	1	-	-	-
Factory Equipment	3	-	3	1	-	1	-	-	-
Loose Tools	4)			3)			3	3	
Tarpaulins	6)	6	4	4)	4	3			
Documentary Films	6	3	3	6	2	4	6	1	5
Surfacing Compound	6	-	6	-	-	-	-	-	-
Factory Walls	5	-	5	-	-	-	-	-	-
Musketeers Room	-	-	-	-	-	-	-	-	-
Motor Vehicles	371	196	175	228	156	72	199	128	71
Moulds							31	31	-
Neon Advertising Sign							24	24	-
Construction in progress							25	-	25
	1671	1110	561	1446	961	486	1365	891	474

3. Source and Application of Funds

	1973/74 €000		1972/73 €000	
<u>Funds Inflow:</u>				
Profit Adjustment Previous Yr.	-		31	
Profit for the Year	850		677	
Depreciation	<u>150</u>	1000	<u>70</u>	778
<u>Working Capital</u>				
Decrease Deposit G.C.B.	200		116	
" Cash in Hand	124			
Increase in Accruals	<u>26</u>	350		
Decrease in Trade Debtors	-		361	
Increase Trade Creditors			<u>242</u>	<u>719</u>
Total Inflow		<u>1350</u>		<u>1497</u>
<u>Funds Outflow</u>				
Purchase of Fixed Assets		225		81
<u>Working Capital</u>				
Increase in Head Office Current Account			163	
" in Head Office Deposit	450		300	
Decrease Trade Creditors	228			
Increase in Stock	209		534	
" in Debtors	103			
" Other Debtors	132		186	
" Staff Debtors	3	<u>1125</u>	15	
" in Cash			160	
Decrease Accruals			5	
" Sundry Creditors - GIMOC Divisions			<u>53</u>	<u>1416</u>
Total Outflow		<u>1350</u>		<u>1497</u>

3.1 Comment on Funds Position

The main sources of funds have been operational profits in 1973 and 1974. In 1973 decrease in Debtors £361,000, Deposit with Ghana Commercial Bank £116,000 and increase in trade creditors of £242,000 were significant sources and in 1974 reduced deposits with Ghana Commercial Bank and reduced cash in hand provided further inflows. Application of funds were increases in Fixed Assets due to constructional works, build-up of stocks and substantial increases in Head Office Deposits. Financially the Division is in a sound position at the end of 1974 and has substantial reserves to cover Plant and Machinery replacement which may be required in 3 or 4 years time.

Finally the return on nett capital employed in 1974 of 13.8% appears to be encouraging since actual cash and Deposits form about 50% of the Capital Employed and earn an interest of about 10% based on 1973 figures.

(No interest on Deposits has been included in the 1974 Draft Accounts yet and Construction works figures appears to have been wrongly debited to Plant and Machinery).

ANALYSIS OF ANNUAL ACCOUNTSELECTRONICS DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover	2840	-	2130	-	1450	-
Expenses:						
Raw Materials Used	1415	61.5	888	59.5	1284	65.4
Direct Labour	222	9.6	153	10.2	150	7.6
Direct Overheads	38	1.7	58	3.9	119	6.1
TOTAL Direct Costs	1675	72.8	1099	73.6	1553	79.1
Administrative Expenses	317	13.8	197	13.2	166	8.5
Selling and Distribution Expenses	65	2.8	39	2.6	17	0.9
Financial Charges	179	7.8	97	6.5	172	8.8
Depreciation	65	2.8	61	4.1	54	2.7
TOTAL COSTS	2301	100.0	1493	100.0	1962	100.0

1.2 Profit Analysis

	1974 €000	1973 €000	1972 €000
Overall Profit Before Tax	460	3	68
Less non trading items:			
Sundry Income	38	8	
Interest Receivable		2	2
Laboratory Service Charge		26	8
Profit on Sale of Fixed Assets	— 38	2 38	— 10
Total	422	(35)	58

Note: There is no breakdown of individual product output and costs. Thus cost per unit cannot be calculated in a meaningful way.

1.3 Comment on Profit & Loss Account

The proportional constituents of the total direct cost to total cost inputs has not changed very much from 1973. The percentage raw material used went up by 2% and this was matched by a decrease in the direct overhead on 1973 of just over 2%. The main expenses which accounted for the reduction (€20,000) in direct overhead were,

<u>Factory Overheads:</u>	Decrease or Increase €000	% on 1973
Royalties on Production	(23)	82.1
Repairs to Buildings	(9)	100.0
Fire Insurance	4	133.3
Consumables	3	75.0
Repairs to Machinery	3	300.0
Electricity and Water	2	50.0
	<u>20</u>	<u>100.0</u>

Administrative expenses have gone up by €120,000 or 60.9% on 1973 figure. The following accounted for the principal items of the increase.

	Increase €000	% on 1973
Salaries and Allowances	32	45.1
Canteen Expenses	14	233.3
Repairs - Motor Vehicles	11	110.0
Contribution to Head Office	36	171.4
Staff Training	6	600.0
Motor Running Expenses	5	62.5
Travelling & Transport Allowance	4	33.3
Printing, Stationery, Postage, etc.	5	50.0
	<u>113</u>	<u>94.2</u>

Selling and Distribution Expenses

The two main items which accounted for the increase of €26,000 or 66.7% on 1973 figure were Packing etc. and Advertising and Sales Promotion. The relative increases on 1973 are shown below:

	Increase €000	% on 1973
Packing Materials and Labels	12	100.0
Advertising and Sales Promotion	12	54.5
	<u>24</u>	<u>92.3</u>

Financial Charges

Amounts payable under Financial charges became a major item of expenditure in 1974. The increase on 1973 figure was €82,000 or 84.5% mainly due to interest on letters of credit as shown below:

	Increase €000	% on 1973
Interest on Letters of Credit	77	81.9
Bank Charges	4	100.0
	<u>81</u>	<u>98.8</u>

The effect of depreciation charge on the total operational cost is minimal.

2. Balance Sheet Summaries

	1974 £000	1973 £000	1972 £000
<u>Nett Fixed Assets</u> (See schedule overleaf)	646	647	625
<u>Current Assets</u>			
Stock	2438	1814	2032
Goods in Transit	-	12	-
Trade Debtors	812	892	583
Staff Debtors	44	14	12
Prepayments & Deposits	157	217	7
Head Office Loan	29	29	-
Cash and Bank	26 3505	215 3193	196 2830
	4151	3840	3455
<u>Current Liabilities</u>			
Overseas Creditors	65	59	518
Trade Creditors	78	48	139
Sundry Creditors	498	528	725
GIHOC Current	1352 1993	1782 2417	821 2203
Nett Capital Employed	2158	1417	1252
Represented by:			
GIHOC - Capital	888	888	888
Deferred Liability	100	100	100
Income Surplus (Deficit)	1170	435	264
	2158	1423	1252
Pre Tax Profit	460	3	68
Return on Capital	21.3%	0.2%	5.4%

2.1 Fixed Assets Schedule

Description	1974			1973			1972		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Leasehold land and Buildings	455	74	381	444	63	381	443	51	392
Machinery, Tools & Instruments	343	193	150	307	158	149	304	128	176
Motor Vehicles	110	50	60	107	38	69	50	48	2
Furniture etc.	113	63	50	103	55	48	100	45	55
Clinic under construction	4	-	4						
Carpentry shop machine	1	-	1						
	1026	380	646	961	314	647	897	273	625

3. Source and Application of Funds

	1973/74		1972/73	
	£000		£000	
<u>Funds Inflow:</u>				
Operating Profit	460		3	
Depreciation	66		61	
Profit adjustment Previous Yr.	<u>276</u>	802	<u>168</u>	232
Depreciation Adjustment				(19)
<u>Working Capital</u>				
Decrease in Stock			218	
Increase Head Office Current			<u>961</u>	<u>1179</u>
" Trade Creditors	30			
Decrease in Goods in Transit	12			
" in Debtors	80			
" Prepayment & Deposits	60			
" Cash and Bank	189			
" Overseas Creditors	<u>6</u>	<u>377</u>		
Total Inflow		1179		1392
<u>Funds Outflow:</u>				
Nett addition to Fixed Assets		65		64
<u>Working Capital</u>				
Increase Goods in Transit			12	
" Trade Debtors			309	
" Stock	624			
" Staff Debtors	30		2	
" Prepayments & Deposits			210	
" Head Office Loan			29	
" Cash and Bank			19	
Decrease in Overseas Creditors			459	
" Trade Creditors			91	
" Other Creditors	30			
" Head Office Current	<u>430</u>	<u>1114</u>	<u>197</u>	<u>1328</u>
Total Outflow		1179		1392

3.1. Comment on Funds Position

Funds requirements for both 1974 and 1973 were mainly due to increased working capital needs. In 1973 increased Debtors, Prepayment and Deposits, and reduction in both Overseas and Local Creditors were the main funds flow whilst increases in stocks and reduction in Head Office Current accounted for the bulk of the application of funds in 1974. The substantial investment in stocks needs further investigation as total stocks are substantially larger than total annual production costs.

Favourable operational results, reduction in stocks and cash injection from Head Office to finance Letters of Credit formed the main sources of funds in 1973. 1974 also saw favourable operating results and a substantial reduction in cash to finance stocks and to repay part of Head Office Facilities. The substantial prior year adjustment was for Head Office L/c facilities charged against 1973 costs.

ANALYSIS OF ANNUAL ACCOUNTSFIBRE BAG DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	₹000	%	₹000	%	₹000	%
Turnover	4,932		3,808		3,679	
Expenses: Raw materials used	2,155	42.0	1,723	44.1	1,630	46.7
Direct Labour	777	15.1	489	12.5	465	13.3
Direct Overheads	1,117	21.7	744	19.1	524	15.0
TOTAL Direct Costs	4,049	78.8	2,956	75.7	2,619	75.0
Administrative expenses	414	8.1	292	7.5	226	6.5
Depreciation	673	13.1	657	16.8	645	18.5
TOTAL COSTS	5,136	100	3,905	100	3,490	100

1.2 Comparison of Key Rates 1972/74

	Year	Tons Sold	Receipts £000	Rate, £ per ton
Sales Receipts	1972	4,359	3,679	844
	1973	4,955	3,803	801
	1974	5,789	4,972	852

Product Costs	Year	Tons Produced	Costs £000	Rate, £ per ton
Raw Material	1972	4,481	1,630	363
	1973	4,464	1,723	386
	1974	5,877	2,155	367
Direct Labour	1972	4,481	465	104
	1973	4,464	489	110
	1974	5,877	777	132
Direct Overhead	1972	4,481	524	113
	1973	4,464	744	167
	1974	5,877	1,117	190

	Year	Average Sale Price £ per Ton	Average Direct Cost £ per Ton	Gross Margin £ per Ton
Gross Margin	1972	844	579	265
	1973	801	633	168
	1974	852	697	155

1.3 Profit Analysis

	1974 \$000	1973 \$000	1972 \$000
Overall Profit Before Tax	119	94	439
Less non-trading items:			
Sundry income	366	261	157
Less Kenaf Project	60 306	17 244	- 157
Total	(187)	(150)	282
Operating Profit (Loss)	(187)	(150)	282

Notes

Both labour and variable overheads are in fact fixed expenses. Although output has increased it has not done so sufficiently to cover increased fixed costs and gross margin has suffered. The following are the principal items accounting for the increase of \$373,000 or 50% in direct overheads for 1974 over 1973.

	<u>Increase \$000</u>	<u>% 1973 Cost</u>
Salaries and Wages	150	52.1
Travelling and Transport	71	202.8
Canteen Expenses	36	36.0
Repairs and Maintenance	25	27.8
Bonus	21	39.6
Motor Vehicle Expenses	20	200.0
Staff Uniforms	17	53.1
Medical Expenses	<u>15</u>	<u>57.7</u>
	<u>355</u>	<u>47.7</u>

Administrative expenses have risen by \$122,000 or 42% on the 1973 figure.
Of this the following accounted for the majority of the increase:

	<u>Increase \$000</u>	<u>% 1973 Cost</u>
Head Office Contribution	58	152.6
Salaries and Wages	30	25.2
Canteen expenses	15	60.0
Printing and Stationery	8	133.3
	<u>111</u>	<u>38.0</u>

Depreciation has risen marginally but now forms a lower % of total costs.

2. Balance Sheet Summaries

	1974 €000		1973 €000		1972 €000	
Fixed Assets						
Kenaf project		51		36		-
Land and Buildings	3,454		3,402		3,340	
Less Depreciation	1,203	2,451	1,068	2,334	935	2,405
Plant and Machinery	4,943		5,008		5,008	
Less Depreciation	4,243	700	3,794	1,214	3,299	
Office Furniture & Equipment	142		94		76	
Less Depreciation	78	64	68	26	65	11
Motor Vehicles	176		150		126	
Less Depreciation	87	89	53	97	26	100
Nett Fixed Assets		3,155		3,707		4,225
Less adjustments in respect of previous years						18
						4,207
Current Assets						
Stocks	2,881		1,151		704	
Debtors and Payments	2,422		3,138		1,639	
GLMC Recurrent			-		1,137	
Deposits	4,884		4,124		3,404	
Cash	504	10,691	246	8,659	120	7,004
		13,846		12,365		11,211
Current Liabilities						
Trade Creditors	48		34		5	
Other Creditors	1,806		1,334		954	
Accrued Expenses	84		18		11	
GLMC Current A/c	1,471	3,409	704	2,090	-	970
Nett Capital Employed		10,437		10,276		10,241
Represented by:						
GLMC Capital A/c		8,517		8,517		8,539
Accumulated Profit (Loss)		1,920		1,759		1,702
		10,437		10,276		10,241
Pre-tax Profit		119		94		439
Return on Capital		1.14%		0.9%		4.29%

3. Source and Application of Funds

1973/74 €000			1972/73 €000		
<u>Funds Inflow</u>			<u>Funds Inflow</u>		
Profit & Loss Adjust- ment previous years	42		Profit & Loss previous years	(58)	
Profit	119		Profit	94	
Depreciation	<u>674</u>	835	Depreciation	<u>657</u>	693
<u>Working Capital</u>			<u>Working Capital</u>		
Reduction in trade debtors	928		Reduction other debtors	56	
Increase in Creditors	<u>551</u>	1,479	Increased Creditors & Accruals	<u>417</u>	473
<u>Borrowing</u>			<u>Borrowing</u>		
Increase in GIHOC a/c	767		Increase in GIHOC a/c		<u>1,121</u>
Less Reduction GIHOC Deposits	650	<u>117</u>			
Total Inflow		<u>2,431</u>	Total Inflow		<u>2,287</u>
<u>Funds Outflow</u>			<u>Funds Outflow</u>		
<u>Working Capital</u>			<u>Working Capital</u>		
Increase in Stocks	1,730		Increase in Stocks	447	
Increase in Sundry & Staff Debtors	211		Increase in Trade Debtors	1,555	
Increase in other Deposits	110				
Increased Cash on Hand	<u>258</u>	<u>2,309</u>	Increase Cash on Hand	<u>126</u>	2,128
<u>Fixed Capital</u>			<u>Fixed Capital</u>		
Increase in Fixed Assets	61		Fixed Assets	104	
Increase in Kenaf Project	15		Kenaf Project	36	
Adjustments previous years	<u>46</u>	<u>122</u>	Adjustment	19	159
Total Outflow		<u>2,431</u>	Total Outflow		<u>2,287</u>

Funds requirements for both 1973 and 1974 were mainly due to increased working capital needs. In 1973 increased debtors were the main reason whilst in 1974 increased stocks were the major cause. In 1973, the funds were mainly acquired by increased GIHOC borrowing, from profits and depreciation and from increased suppliers credit. In 1974, however, the funds inflow came primarily from reduction in debtors and further increases in suppliers credit, Profit and depreciation providing the bulk of the remainder.

Three further points arise as follows:-

1. Fixed capital replacements are well below the annual depreciation charge despite the obvious age of the machinery.
2. Although there have been major additional fund requirements, the cash position has marginally improved.
3. Machinery has now been almost completely written off and may be coming to the end of its useful life. Reserves are insufficient to cover the cost of replacement but the company does have substantial deposits which should, in theory, be available for replacing fixed assets.
4. The most recent increase in stocks has taken raw material inventory to almost the level of annual raw material usage. Compared with previous years this appears excessive.

ANALYSIS OF ANNUAL ACCOUNTSFOOTWEAR DIVISION1. Profit and Loss Account1.1 Turnover and Expense Analysis

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover	1,832	-	1,487	-	1,100	-
Expenses: Raw materials used	940	37.7	847	41.3	498	32.5
Direct Labour	282	11.3	192	9.4	183	11.9
Direct Overheads	312	12.5	296	14.4	241	15.7
TOTAL Direct Costs	1,534	61.5	1,535	65.1	922	60.1
Administrative expenses	491	19.7	348	16.9	292	19.3
Development & Design	62	2.5	31	1.5	28	1.8
Selling Expenses			166	8.1	105	6.8
Distribution Exp.	221	8.9	16	0.8	40	2.6
Depreciation	185	7.4	156	7.6	144	9.4
TOTAL COSTS	2,493	100	2,052	100	1,535	100

1.2 Comparison of Key Rates 1972/74

	Year	Pairs Sold (000)s	Receipts €000	Rate € per Pair
Sales Receipts	1972	260	1,100	4.23
	1973	240	1,487	6.19
	1974	280	1,832	6.54

Product Costs	Year	Pairs Produced €000	Costs €000	Rate € per Pair
Raw Material	1972	335	498	1.48
	1973	310	847	2.73
	1974	240	940	3.91
Direct Labour	1972	335	183	0.54
	1973	310	192	0.61
	1974	240	282	1.17
Direct Overhead	1972	335	241	0.71
	1973	310	296	0.95
	1974	240	312	1.30

	Year	Average Sale Price € per Pair	Average Direct Cost € per Pair	Gross Margin € per Pair
Gross Margin	1972	4.23	3.39	0.84
	1973	6.19	4.68	1.51
	1974	6.54	5.93	0.61

1.3 Profit Analysis

	1974 €000	1973 €000	1972 €000
Overall Profit Before Tax	(670)	(328)	(362)
Less non trading items:			
Sundry Income	24	8	5
Rent Renewable	28	26	28
Profit on Sale of Fixed Assets	8	10	3
Sale of Materials	<u>11</u> 71	— 44	— 36
Total	(741)	(372)	(398)
Operating Profit (Loss)	(741)	(372)	(398)

1.4 Comment on Profit and Loss Account

There was no expense schedule attached to the Draft Account for 1974. On the whole the proportionate constituents of direct costs in production have been erratic and in particular reasons for a very high proportion of material in 1973 production cost are not clear. An increase in Finished Stocks of over €211,000 in 1973 might have partly or wholly contributed to this. As with other Divisions inconsistencies in allocation and apportionment of expenses make judgment on trends difficult.

2. Balance Sheet Summaries

	1974 \$000	1973 \$000	1972 \$000
<u>Net Fixed Assets</u>	3,178	3,289	3,390
<u>Current Assets</u>			
Stock & Work in Progress	2,546	2,477	2,228
Goods in Transit	739	637	55
Trade Debtors	619	618	640
Other Debtors	91	80	34
Staff Debtors	52	25	17
Deposits	269	81	35
Deferred Expenses	1	3	15
Prepayments	21	6	6
Cash and Bank	262 4,600	182 4,109	243 3,273
	7,778	7,398	6,663
<u>Current Liabilities</u>			
Trade Creditors, Foreign	36	153	1,178
Trade Creditors, Local	841	398	216
Other Creditors	320	285	439
GINOC Current	2,759 3,956	2,097 2,933	28 1,861
Nett Capital Employed	3,822	4,465	4,802
Represented by:			
GINOC - Capital	5,973	5,946	5,946
Income Surplus/Deficit	(2,151)	(1,481)	(1,144)
	3,822	4,465	4,802
Pre-tax Profit (Loss)	(670)	(328)	(362)
Return on Capital	-	-	-

2.1 Fixed Assets Schedule

Description	1974			1973			1972		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Freehold Land & Buildings	2443	414	2029	2443	341	2102	2442	292	2150
Plant & Machinery (active)	538	417	121	538	364	174	538	310	228
Plant & Machinery (idle)	533	78	455	546	82	464	548	82	466
Motor Vehicles	138	68	70	103	45	58	97	56	41
Factory Furniture etc.	252	122	130	218	105	115	201	83	118
Office Furniture etc.	58	29	29	53	25	28	51	22	29
Bungalow Furniture etc.	40	22	18	39	20	19	42	20	22
Canteen Furniture etc.	16	8	8	13	7	6	12	6	6
Clinic Furniture etc.	3	2	1	3	1	2	3	1	2
Fire Service Furniture	4	1	3	2	1	1	2	1	1
Engineering Equipment	2	-	2	1	-	1	1	-	1
Development Expenses	347	35	312	347	28	319	347	21	326
	4374	1196	3178	4306	1016	3289	4284	894	3390

3. Source and Application of Funds

	1973/74 €000		1972/73 €000	
<u>Funds Inflow:</u>				
GINOC Capital Adjustment	26			
<u>Working Capital</u>				
Decrease in Trade Debtore	-		22	
Decrease Deferred Expenses	2		12	
Decrease Cash and Bank	-		61	
Increase in Creditore, Local	443		182	
Increase in Head Office Current	662		2,069	
Increase in Other Creditors	35	1,142	-	2,346
Total Inflow	1,168		2,346	
<u>Funds Outflow:</u>				
Net additions to Fixed Assets	68		54	
Loss for the Year	670		337	
Less Depreciation	180	490	155	182
<u>Working Capital</u>				
Increase in Stocks	69		249	
Increase Goods in Transit	102		582	
Increase Other Debtore	11		46	
Increase Staff Debtors	27		8	
Increase Deposits	188		46	
Decrease in Creditors, Foreign	117		1,025	
Decrease in other Creditors	-		154	2,110 2,346
Increase Trade Debtors	1			
Increase Prepayments	15			
Increase Cash and Bank	80	610		
Total Outflow	1,168		2,346	

3.1 Comment on Funds Position

The main sources of funds were from Head Office, increases in local creditors and provision for depreciation which were mainly utilised to finance letters of credit, boost up stocks, and finance operational losses. There was also an increase in deposits from the Division to redeem capital in 1974 of €259,695.15. The substantial increase in goods in transit between 1972/73 followed by a further increase in 1973/74 require further investigation. Stock levels generally are very high. The value of stocks of raw materials in store exceed the 1974 raw materials usage. 1974 goods in transit, which must be primarily raw materials, are nearly 78.7% of raw material usage, and work in progress stocks represent 49.1% of total direct production costs.

ANALYSIS OF ANNUAL ACCOUNTSGLASS MANUFACTURING DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover (own products)	1472		1837		1191	
Expenses:						
Raw Materials	325	9.7	214	10.7	314	14.8
Labour	372	10.0	292	14.5	338	15.9
Factory Overheads	1491	44.7	800	39.8	651	30.6
TOTAL Direct Costs	2148	64.4	1306	65.0	1303	61.3
Administrative Expenses	905	27.2	262	13.0	378	17.8
Selling and Distribution	81	2.4	89	4.4	94	4.4
Depreciation	199	6.0	353	17.6	351	16.5
TOTAL COSTS	3333	100.0	2010	100.0	2126	100.0
<u>Total Turnover</u>						
Own Manufacture	1472	54.2	1837	74.9	1306	66.0
Imported Bottles	1180	43.5	544	22.2	667	33.7
Moulds	63	2.3	73	2.9	5	0.3
TOTAL SALES	2715	100.0	2454	100.0	1978	100.0

Moulds income is included in other income in 1974.

1.2 Comparison of Key Rates 1972 - 74

	Year	Sales, 000 pieces	Total Receipts, £000	£ per 000 pieces
Sales, Local Production	1972	13,350	1,191	89.40
	1973	13,150	1,837	39.70
	1974	10,121	1,472	145.44

Product Costs	Year	Output, 000 pieces	Total cost £000	£ per 000 pieces
Raw Materials	1972	11,100	364	28.3
	1973	11,400	214	18.8
	1974	10,000	325	32.5
Labour	1972	11,100	338	30.5
	1973	11,400	292	25.6
	1974	10,000	332	33.2
Factory Overheads	1972	11,100	651	58.6
	1973	11,400	800	70.1
	1974	10,000	1,491	149.0

	1974 £ per 000	1973 £ per 000	1972 £ per 000
Revenue	145.44	139.70	89.14
Less Direct Cost	216.78	143.95	102.85
Gross Margin (Loss)	(71.34)	(4.25)	(13.71)

1.3 Profit Analysis

	1974 £000	1973 £000	1972 £000
Nett Pretax Profit (Loss)	(1581)	(494)	(835)
<u>Add</u> Profit on Sale of Imported Ware	154	130	24
Other Income	172 326	137 267	32 56
Loss on Manufacture	(1907)	(761)	(891)

1.4 Comments on Profit and Loss Accounts

After a slight improvement in 1973 the gross loss for 1974 has increased, contributing substantially to the company's deteriorating performance. Both output and sales have fallen at a time when costs have increased. Fuel costs have risen substantially together with wages and salaries costs. Although a slight increase in selling price was achieved this was insufficient even to cover the increase in Direct Expenses, and given increased overheads the loss sustained for the year was substantially higher than that for 1973.

Factory Overheads

The charging of individual expenses between direct overhead, administrative overheads and selling and distribution expenses has not been the same for 1973 and 1974. Thus expenditure is difficult to compare. However of the ₹691,000 (86.4%) increase in factory overheads the following have been the main causes:-

	Annual Increase ₹000	% on 1973
Fuel Oil	401	103
Staff Salaries and Wages	220	133
Canteen Expenses	14	100
Travelling Expenses	12	100
Uniform, Training etc.	9	150
Building Repairs	8	267
Electricity and Power	8	17
Medical Expenses	7	78
Plant and Machinery Repairs	7	19
	<hr/> 686 <hr/>	

As opposed to the above, motor vehicle repairs decreased by ₹22,000 or 58%.

Administrative Overheads

Administrative overheads rose by ₹643,000 or 254%. The major items were as follows:-

	Annual Increase ₹000	% on 1973
Finance Charges and Audit	563	(₹3,000 in 1973)
Wages and Salaries	45	40
Bad Debts	34	100
Travelling	9	100
Canteen Expenses	7	47
Repair to Plant and Machinery	7	233
Staff Uniforms, Welfare and Training	6	150
Stationery	5	83
	<hr/> 676 <hr/>	

The bulk of the ₹38,000 excess above actual increase is accounted for by the allocation of certain expenses differently between the two years' accounts.

Selling and Distribution Expenses

Selling and Distribution expenses fell by \$7,000 or 8% in 1974. Within this figure however there was a significant rise in Head Office contribution of \$11,000 or 61% and 100% fall in excise duty, \$22,000 being charged in 1973 and none apparently being incurred in 1974.

Balance Sheet Summaries

	1974 \$000	1973 \$000	1972 \$000
Fixed Assets, as per attached schedule			
At Cost	7945	7820	7676
Less Depreciation	(507)	(347)	(294)
Add Capital Work in Progress		8	5
Total Fixed Assets	7438	4481	4687
Current Assets			
Raw Materials	100	189	291
Work in Progress	8	29	76
Finished Goods	80	13	220
Non-Trade Stocks	1	837	837
Trade Debtors	1	708	618
Staff Debtors	8	1	35
Advance Tax	1	1	6
Prepayments and other	1	1	1
Reserve Fund Account	1	181	108
Cash at Bank	1	11	108
Cash in Hand	1	1	1
Total Current Assets	190	91	295
Current Liabilities			
Trade Creditors	40	20	113
Expense Creditors	119	647	881
Bank Current Account	(125)	(63)	(667)
Total Current Liabilities	64	524	427
Net Working Capital	1264	(176)	(1090)
Net Capital Employed	6174	4657	5777
Represented by			
Share Capital Account	1000	6084	6084
Less Accumulated Losses	(400)	(1279)	(2787)
	600	4805	3297
Balance	(181)	(495)	(815)

2.1 Fixed Asset Analysis

APPENDIX IV - 8
(Continued)

Asset Type	Dep. Rate	1974 €000			1973 €000			1972 €000		
		At Cost	Dep.	Nett	At Cost	Dep.	Nett	At Cost	Dep.	Nett
Active Buildings and Roads	3%	1803	610	1193	1788	556	1232	1788	503	1285
Redundant Buildings and Roads	3%	1788	556	1232	1788	556	1232	1788	503	1285
Active Plant and Machinery	5%	1879	1047	832	1755	944	811	1639	768	871
Redundant Plant and Machinery	5%	1875	999	876	1875	999	876	1875	999	876
Water Supply Plant	5%	289	120	169	289	119	170	289	104	185
Loose Tools	50%	14	7	7	14	-	14	-	-	-
Vehicles	20%	236	153	83	279	119	160	252	110	142
Office Furniture and Equipment	2%	15	1	14	10	1	9	6	-	6
Bungalow Furniture and Equipment	2%	44	9	35	40	8	32	38	7	31
Canteen Furniture and Equipment	5%	2	0.2	2	2	-	2	1	-	1
Total		7945	3502	4443	7840	3302	4538	7676	2994	4682

3.1 Comment on Funds Position

Funds flow for the two years primarily came from GIHOC borrowing coupled with reduced manufacturing stocks, and in 1974 a reduction in Trade Debtors. They were utilised primarily to find increased Working Capital in the form of non-trade stocks and other debtors and reduction in suppliers' credit and in 1974 a further substantial outflow was caused by heavy losses.

Whilst recent heavy losses are a disturbing drain on funds there seems no reason why increased pressure should also be allowed to arise due to increased inventory and debtors. In the case of these trade stocks 1974's increased inventory was primarily caused by increased fuel oil and general stores stocks. The fuel stock increase is to be expected, although a rise from £32,000 to £172,000 seems excessive. In the case of general stores stocks the figures are as follows:-

1973	A total of	£782,000 (No Breakdown given)
1974	General Stores	£442,000
	Moulds Stocks	£600,000
	Refractories	£171,000
	Decoration Materials	£62,000
		<u>£1,275,000</u>

The increase of £500,000 cannot be identified exactly as the previous year's figure does not show any breakdown. However the requirements for moulds and refractories should be looked into. One would expect such stockholdings to be supported by substantial materials consumption in production expenses but there are no expense headings which would indicate a large consumption in this area. The most likely items which may include usage of refractories and moulds are as follows:-

Consumable Materials	£22,118
Plant Repairs and Maintenance	£29,152
	<u>£51,270</u>

It will be seen that these two items together do not represent an annual expenditure to warrant the stockholdings presently in being since at that level the company would have over 15 years' supply. The increase in non-trade debtors is primarily caused by three new items in the debtors' schedule as follows:-

Bill Payable	€271,000
Bills of Lading Indemnity	€598,000
Sinking Fund Account	€344,000
	<hr/>
	€1,213,000
	<hr/>

This is balanced by an item for €332,000 described as Finance House Rate Account which does not appear in the 1964 accounts. Given the new requirements for financing imported goods these rises are not unexpected, especially bearing in mind the substantial turnover in imported bottles.

ANALYSIS OF ANNUAL ACCOUNTSMARBLE DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	£000	%	£000	%	£000	%
Turnover	141	-	103	-	66	-
Expenses:						
Raw Materials used	77	40.7	45	34.6	28	30.4
Direct Labour	26	13.8	17	13.1	25	25.0
Direct Overheads	16	8.5	15	11.5	12	13.0
TOTAL Direct Costs	119	63.0	77	59.2	63	68.4
Administrative Expenses and selling, etc.	56	29.6	39	30.0	25	27.2
Financial Charges	9	4.8	9	6.9	2	2.2
Depreciation	5	2.6	5	3.9	2	2.2
TOTAL COSTS	189	100	130	100	92	100

1.2 Profit Analysis

	1974 £ 000	1973 £ 000	1972 £ 000
Overall Profit Before Tax	(21)	(6)	(26)
Less non trading items:			
Sundry income	9	4	-
Rent Income	19	17	-
Total	(49)	(27)	(26)
Operating Profit (Loss)	(49)	(27)	(26)

Comment on Profit and Loss Account

Selling and Administrative Expenses

	Increase £ 000	% Increase on <u>1973</u>
Salaries, Wages and Social Security	4	12.9
Telephone and Cables	1	100
Ground Rent	3	300
Head Office Contribution	3	300
Housing Allowance	2	200
Sundry Expenses	<u>2</u>	<u>200</u>
	<u>15</u>	<u>88.2</u>

The cost structure of the Division has fluctuated substantially over the three years with direct costs dropping in significance in 1973 only to increase again in 1974. Selling and administration expenses exceeded the 1973 figure by 43.6% and the main items of increase with their relative percentage increases are shown above. However, as a proportion of total costs this item has not altered significantly. The Company does not break down sales and costs for each main product line and so one cannot tell whether product mix is the main reason behind the cost structure changes.

APPENDIX IV - 9
(Continued)

	1974 £000	1973 £000	1972 £000
<u>Nett Fixed Assets</u>	30	16	8
<u>Current Assets</u>			
Stock and WIP	143	131	76
Trade Debtors	58	50	44
Staff Debtors	6	4	2
Prepayments	1	1	1
Sinking Fund		-	-
Cash at hand and Bank	1	9	4
GIHOC Current	<u>84</u> <u>293</u>	<u>38</u> <u>233</u>	<u>135</u> <u>262</u>
	<u>323</u>	<u>249</u>	<u>270</u>
<u>Current Liabilities</u>			
Trade & Expense Creditors	36	21	18
Other Creditors	4	9	3
Deposits	-	14	37
Head Office l/c's	<u>94</u> <u>134</u>	- <u>44</u>	- <u>58</u>
Nett Capital Employed	<u>189</u>	<u>205</u>	<u>212</u>
Represented by:			
GIHOC - Capital	376	376	376
Income deficit	(187)	(171)	(165)
	<u>189</u>	<u>205</u>	<u>211</u>
Pretax Profit (Loss)	(21)	(6)	(26)
Return on Capital	-	-	-

2.1 Fixed Assets Schedule

Description	1974 £ 000			1973 £ 000			1972 £ 000		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Freehold Land & Buildings							-	-	-
Plant & Machinery	168	152	16	155	149	6	148	48	-
Motor Vehicles	13	7	6	12	5	7	8	3	5
Office Equipment	10	5	5	8	5	3	6	4	2
Loose Tools & Spares				2	2	-	2	1	1
Bungalow & Canteen Equip.	4	1	3						
	195	165	30	177	161	16	164	156	8

3. Source and Application of Funds

	1974/73 £000	1973/72 £000
<u>Working Capital</u>		
Decrease in cash	8	-
GIHOC Current	-	97
Increase in Creditors	15	3
Increase in other creditors	-	6
Increase in H.O. LCS	94	-
Total inflow	117	106
<u>Funds Outflow:</u>		
Adjusted loss for the year	16	7
Less depreciation	5 11	5 2
Additions Fixed Assets	19 30	3 15
<u>Working Capital</u>		
Increase in stocks	12	55
Trade Debtors	8	6
Staff Debtors	2	2
Increase GIHOC current	46	-
Increase Cash and Bank	-	5
Decrease in other Creditors	5	-
Decrease Deposit	14 87	23 91
Total Outflow	117	106

3.1 Comment on Funds Position

For the year 1972/73 the divisions' main funds needs were generated by increased stocks whilst repayment of deposits and fixed asset purchases also contributed significantly. The source of funds was central borrowing from GIHOC head office. In 1973/74 the other principal requirement came from letters of credit opened by head office on their behalf. Although the division makes losses these are relatively small and more careful capital planning may at least stop this division being a drain on central resources.

ANALYSIS OF ANNUAL ACCOUNTS
MEAT PRODUCTS DIVISION

1. **Profit and Loss Accounts**

1.1 **Turnover and Expense Analysis**

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover	1,090		980		1,033	
Expenses:						
Raw materials used	1,098	55.1	1,077	64.1	975	62.0
Direct labour	112	5.6	184	10.9		
Direct overheads	149	7.5	50	3.0		
TOTAL Direct Costs	1,359	68.2	1,311	78.0	975	62.0
Administrative expenses	235	11.8	187	11.1	578	36.8
Selling & Distribution	213	10.7	3	0.2	-	-
Finance charges	39	2.0	21	1.2	19	1.2
Depreciation	146	7.3	157	9.4		
TOTAL COSTS	1,992	100	1,679	100	1,572	100

1.2 Comparison of key rates 1972/74

	Year	Tons Sold	Receipts £000	Rate per ton
Sales Receipts	1972	-	-	
	1973	634	980	1,546
	1974	652	1,090	1,672
Product Costs	Year	Tons Produced	Costs £000	
Raw Material Cost	1972	-	-	
	1973	647	1,077	1,665
	1974	666	1,098	1,649
*1 Direct Labour Cost	1972	-	-	
	1973	647	184	284
	1974	666	112	168
Direct Overhead Cost	1972	-	-	
	1973	647	50	77
	1974	666	149	224
	Year	Average Sale Price £ per ton	Average Direct Cost £ per ton *2	Gross Margin £ per ton
Gross Margin	1972	-	-	-
	1973	1,546	2,026	(480)
	1974	1,672	2,041	(369)

*1 It is suspected that 1973 included substantial administrative salaries in production costs.

*2 Cost of sales is taken as Cost of production as no stock breakdown was available and tonnage differential was small.

1.3 Profit Analysis

	1974 €000	1973 €000	1972 €000
Overall Profit Before Tax	(872)	(670)	(525)
Less non trading items:			
Sundry income	30	15	14
Profit on Sale of Asset	- 30	14 29	- 14
Total	(902)	(699)	(539)
Operating Profit (Loss)	(902)	(699)	(539)

1.4 Comment on Profit and Loss Account

There has been a substantial change in the basis of allocation of Expenditure in the accounts in the three years under review. Meaningful comparison of variance in expenses levels cannot therefore be made. However, it should be noted that in both 1973 and 1974 total raw material costs exceeded turnover. Management have for sometime maintained that present fixed meat prices are unrealistic and this tends to support that view.

2. Balance Sheet Summaries

	1976 (Rupees)	1975 (Rupees)	1972 (Rupees)
<u>Nett Fixed Assets as per attached schedule</u>	874	861	884
<u>Current Assets</u>			
Sinking fund investment A/C	117	64	
Stocks	195	206	202
Trade Debtors	619	591	502
Staff Debtors	16	12	5
Prepayments	15	15	14
Suspense accounts	43	30	36
Car loan advances	4		
Salary advances	7		
General & Technical Stores	183		
Goods for resale	1		
Cash at Bank	85	81	20
Cash in Hand	31	7	11
	1,116	1,107	995
<u>Current Liabilities</u>			
Trade Creditors	694	680	661
Sundry Creditors	1,170	710	788
Accruals	37		
Deposits	11	10	6
GINOC Current Account	1,429	852	861
Agricultural Dev. Bank Loan	174	125	
Letters of Credit (Head Office)	14		
Bank Overdraft	2	1	1
	2,221	1,608	1,603
<u>Nett Working Capital</u>	(2,306)	(1,501)	(1,611)
<u>Nett Capital Employed</u>	(1,572)	(700)	(717)
<u>Represented by:</u>			
GINOC Capital Account	1,634	1,634	1,634
<u>Accumulated Loss to date</u>	(3,206)	(2,334)	(1,651)
	(1,572)	(700)	(717)
<u>Pre-tax Profit (Loss)</u>	(872)	(670)	123
<u>Return on Capital</u>			

2.1 Plant Assets Schedule

Description	At Cost (\$'000)	Accumulated Depreciation (\$'000)	Net Book Value (\$'000)
Land and Buildings	874	197	677
Grading ramps	11	1	10
Plant and Machinery	511	11	500
Motor Vehicles	110	100	10
Dungaloa furniture and fittings	16	0	16
Office furniture and fittings	62	18	44
Canteen furniture and fittings	4	0	4
Pig sty			
	1,578	326	1,252
Development Costs	16		16
Debit to Bill	15		15
Total	1,609	326	1,283

3. Source and Application of Funds

	1973/74 £000		1972/74 £000
<u>Funds Inflow</u>		<u>Funds Inflow</u>	
Reduction in Stocks	101	Reduction in Debtors	1
Increased Credit	451	Reduced Suspense Account	17
Increased Accruals	37	Increase Trade credit	499
Increased Deposits	1	Increased Sundry Creditors	13
Increased GIHOC Borrowing	591	Increased Deposits	2
Increased Dev. Bank Borrowing	250	Increased GIHOC Borrowing	191
	1,431	Increased Dev. Bank Borr.	125
Total Inflow	1,431	Total Inflow	848
<u>Funds Outflow</u>		<u>Funds Outflow</u>	
Loss for the year	872	Loss for the year	670
Less Depreciation	146	Add previous year adj.	3
	726		673
		Less Depreciation	140
			533
<u>Working Capital</u>		<u>Working Capital</u>	
Reduced Trade Credit	266	Increased sinking fund	64
Increased sinking fund	73	Increased stock	9
Increased Trade Debtors	28	Increased Debtors	7
Increased Staff Debtors	15	Prepayment	1
Suspense Account	4	Increased cash balance	49
Increased general stores	184	Reduced Bank overdraft	168
Cash Balances	26		298
	596		
Increase in Fixed Assets	109	Increase in Fixed Assets	17
Total Outflow	1,431	Total Outflow	848

Note: In 1973 funds inflow came primarily from increased trade credit and central borrowing. It was used mainly to fund losses. Ordinary Bank overdraft was replaced by borrowing from the Agricultural Development Bank. In 1974 borrowing from both GIHOC and the development Bank provided a major part of inflows with additions from other trade credit. The major use was again to fund losses but significant amounts were spent reducing the previous years trade creditors, increasing general stores inventory, and purchasing fixed assets. Unless the Company's present losses can be reversed it will continue as a major drain on central funds.

ANALYSIS OF ANNUAL ACCOUNTSMETAL INDUSTRIES DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	£000	%	£000	%	£000	%
Turnover	1,605		1,217		778	
Expenses:						
Raw materials used	960	61.8	331	66.2	365	49.5
Direct Labour	156	10.0	127	10.1	127	17.2
Direct overheads	84	5.4	68	5.4	50	6.8
TOTAL Direct Costs	1,200	77.2	1,026	81.7	542	73.3
Administrative expenses	184	11.8	126	10.0	106	14.4
Selling & Distribution	45	2.9	26	2.1	18	2.4
Financial Charges	66	4.2	33	2.6	33	4.5
Depreciation	60	3.9	45	3.6	38	5.2
TOTAL COSTS	1,555		1,256		737	

1.2 Comparison of key rates 1972/74

	Year	1cwt Cases Sold 000	Receipts £000	Rate £ per cwt
Sales Receipts	1972	44	778	17.7
	1973	44	1,217	27.7
	1974	43	1,605	37.2

Product Costs	Year	1cwt Cases Produced 000	Costs £000	Rate £ per cwt
Raw Material Cost	1972	-	365	-
	1973	47	831	17.7
	1974	39	960	24.6
Direct Labour Cost	1972	-	127	-
	1973	47	127	2.7
	1974	39	156	4.0
Direct Overhead Cost	1972	-	50	-
	1973	47	68	1.4
	1974	39	84	2.2

	Year	Average Sale Price £ per cwt.	Average Direct Cost £ per cwt	Gross Margin £ per cwt.
Gross Margin	1972	17.7	13.6	4.1
	1973	27.7	21.3	6.4
	1974	37.2	29.5	7.8

1.3 Profit Analysis

	1974	1973	1972
	£000	£ 000	£ 000
Overall Profit Before Tax	(4)	44	18
Less non trading items:			
Sundry income	5		
Profit on sale of assets	3	1	
Profit on sale of Steel wire	3	1	
Rent Receivable	3	3	
Transport Charges etc.	<u>1</u> 15		
Miscellaneous Income	-	<u>3</u> 8	<u>2</u> 2
Total	(19)	36	16
Operating Profit (Loss)	(19)	36	16

1.4 Comment on Profit and Loss Account

Though sales have decreased in volume by 2% on 1973 the sales revenue actually went up by ₦388,000 or 32% on 1973. Nevertheless the benefits of sales price increase was absorbed in increases in expenditures.

Raw material cost per ton was up by ₦6.90 per cwt. or 39% and Direct Labour Cost ₦1.30 per cwt. or 48% on 1973. Overheads also recorded some upward trend on 1973. Factory overhead increased by ₦0.80 per cwt. mainly due to charging the total cost of ancillary products including raw materials to this account instead of to the raw materials account.

Administrative expenses up by ₦58,000 or 46%; Financial charges by ₦33,000 or 100% and Selling and Distribution expenses increased by ₦20,000 or 73%.

The main areas where increases occurred and their relative % increases on 1973 are shown below:

<u>Administrative Expenses</u>	Increase (₦000)	% 1973 Cost %
Management salaries - S.S. Fund	24	36.9
Head Office Contribution	20	166.7
Vehicle Maintenance	6	100
Printing and Stationery	2	40
Staff Welfare and Training	<u>2</u>	<u>200</u>
	<u>54</u>	<u>93.1</u>
 <u>Selling and Distribution Expenses</u>		
Salaries and S.S. Fund	4	90.0
Running and Maintenance of Motor Vehicles	11	220.0
Insurance Motor Car	2	200.0
Discount allowed	<u>2</u>	<u>200.0</u>
	<u>19</u>	<u>95.0</u>

Depreciation Figure increased on 1973 by ₦15,000 or 33% and forms about 4% of the total production cost.

2. Balance Sheet Summaries

	1974 £000	1973 £000	1972 £000
<u>Nett Fixed Assets</u>	392	373	179
<u>Current Assets</u>			
Stock	441	638	317
Pre-payment etc.	59	84	6
Trade Debtors	298	282	102
Staff Debtors	60	55	42
Cash and Bank	<u>202</u>	<u>67</u>	<u>100</u>
	<u>1060</u>	<u>1126</u>	<u>567</u>
	1452	1499	746
<u>Current Liabilities</u>			
Trade Creditors and Deposits	132	123	18
Other Creditors	332	203	167
Head Office Current	<u>607</u>	<u>871</u>	<u>298</u>
	<u>1151</u>	<u>1197</u>	<u>483</u>
Nett Capital Employed	301	302	263
Represented by			
GINOC - Capital	360	360	360
Accumulated loss	(59)	(58)	(97)
	301	302	263
Pretax Profit (Loss)	(4)	44	18
Return on Capital	-	14.6%	6.8%

2.1 Fixed Assets Schedule

Description	1974			1973			1972		
	Cost	Dep	Nett	Cost	Dep	Nett	Cost	Dep	Nett
Factory building	106	47	59	106	42	64	92	37	55
Staff Bungalow	15	7	8	15	7	8	15	6	9
Plant and Machinery	475	207	268	408	172	236	202	148	54
Office Equipment	31	15	16	25	12	13	20	10	10
Bungalow Furniture and Equipment	12	7	5	11	6	5	11	5	6
Motor Vehicles	73	44	29	76	36	40	73	28	45
Tarpauline	4	2	2	4	1	3	-	-	-
Loose Tools	5	-	5	5	-	5	-	-	-
	716	320	392	650	276	373	413	234	179

3. Source and Application of Funds

<u>Funds Inflow</u>	1974/73 £000	1973/72 £000
Profit adjustment previous year	(3)	(5)
Profit for the year	(4)	43
Depreciation	<u>60</u> 53	<u>45</u> 83
Disposal of Fixed Assets	9	5
<u>Working Capital</u>		
Decrease in Stocks	197	
Decrease in repayments	25	
Decrease in Cash		33
Increase in Creditors	9	105
Increase in other Creditors	129	36
Increase in Head Office Current	<u>-</u> 360	<u>573</u> 747
Total Inflow	422	835
<u>Funds Outflow</u>		
Purchase of Fixed Assets	82	214
Purchase of Tools and Tarpaulins		9
Plant and Machinery adjustment previous year		<u>19</u> 242
<u>Working Capital</u>		
Increase in Debtors	16	181
Increase in staff Debtors	5	13
Increase in cash Debtors	135	
Decrease H/O Current	184	
Increase in Stock	-	321
Increase Prepayments	<u>-</u> 340	<u>78</u> 593
Total Outflow	422	835

The main sources of funds have been depreciation, reduction in stock and increase in creditors especially non-trading creditors whilst increase in cash and bank balances and reduction in Head Office current have been the major application of funds.

There has also been a significant decrease in inventory on 1973 figures, which might affect the operations of the Division in 1975 if they were to run out of stock of any item.

ANALYSIS OF ANNUAL ACCOUNTSPAINT DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	€000	%	€000	%	€000	%
Turnover	3,998		3,103		1,816	
Expenses: Raw Materials used	2,864	80.0	2,233	82.7	1,049	70.1
Direct Labour	52	1.5	33	1.2	36	2.4
Direct Overheads	177	4.9	113	4.2	90	6.0
TOTAL direct Costs	3,093	86.4	2,379	88.1	1,175	78.5
Administrative expenses	263	7.3	186	6.9	186	12.4
Financial Charges	41	1.1	9	0.3	9	0.6
Selling and Distribution expenses	127	3.6	84	3.1	84	5.6
Depreciation	55	1.6	44	1.6	43	2.9
TOTAL COSTS	3,579	100.0	2,702	100.0	1,497	100.0

1.2 Comparison of Key Rates 1972/74

	Year	Tons Sold	Receipts £000	Rate £ per ton
Sales Receipts	1972	1,243	1,816	1.46
	1973	2,341	3,103	1.32
	1974	2,232	3,998	1.79

Product Costs	Year	Tons Produced	Costs £000	Rate £ per ton
Raw Material	1972	2,245	1,049	0.46
	1973	2,341	2,233	0.95
	1974	2,409	2,864	1.18
Direct Labour	1972	2,245	36	0.01
	1973	2,341	33	0.02
	1974	2,409	52	0.02
Direct Overhead	1972	2,245	90	0.04
	1973	2,341	113	0.05
	1974	2,409	177	0.07

	Year	Average Sale Price £ per ton	Average Direct Cost £ per ton	Gross Margin £ per ton
Gross Margin	1972	1.46	0.94	0.52
	1973	1.32	1.01	0.31
	1974	1.79	1.35	0.44

1.3 Profit Analysis

	1974 £000	1973 £000	1972 £000
Overall Profit Before Tax	533	447	364
Less Non trading items:			
Sundry income	28	32	32
Profit on sale of Asset	1	-	-
Interest on loan H/O	- 29	6 38	- 32
Total	504	409	332
Operating Profit (Loss)	504	409	332

1.4 Comment on Profit and Loss Account

Sales volume in tons decreased in 1974 by 109 tons on 1973 figures. However, the sales revenue was up by £895,000 or 28.8% which is due to an increase in selling prices. Despite increased costs Gross Margin also improved in 1973, but did not recover to the 1972 figure.

Raw material cost went up on 1973 figures by £230 per ton or 24%.

Labour cost per ton remained static whilst direct overhead cost increased by £64,000 (i.e. £20.00 per ton or 40%) on 1973. The main increases in Direct overhead cost were:-

<u>Production Overhead Cost</u>	Increase £000	%1973 Cost
Salaries	33	45.2
Insurance	2	66.7
Factory Sundries including water, electricity etc.	19	211.1
Canteen Expenses	9	64.3
	63	

Administrative expenses, financial charges and selling and distribution expenses have gone up by £76,000, £32,000 and £43,000 respectively. The major items of increase on 1973 are shown below as follows:-

Administrative Expenses

	Increase (£000)	%1973 Cost
Salaries	17	35.4
Provision for Bad Debts	(14)	(93.3)
Medical expenses	3	150.0
Staff Training	15	1,500.0
Social Security	9	45.0
H/O Contribution	49	158.1
Christmas Bonus	(3)	23.1
	<hr/> 76	

Financial Charges

	Increase (£000)	% 1973 Cost
Cash Discounts	3	100
Bank Charge	29	483.3
	<hr/> 32	

Selling and Distribution Expenses

	Increase (£000)	% 1973 Cost
Salaries and Wages	9	33.3
Advertising	13	37.1
Motor Running Expenses	9	128.2
Repairs & Maintenance	7	87.5
Freight Outward	2	66.7
	<hr/> 40	

Depreciation figure of £55,000 was up by 25% on 1973 mainly due to inclusion of Deferred Revenue Expenditure (amount written off £13,000.00). However the total depreciation forms only 1.5% of the total 1974 production cost.

2. Balance Sheet Summary

	1976	1975	1974
Net Fixed Assets	770	810	700
Current Assets			
Stocks	1,010	1,000	1,000
Trade Debtors	800	750	750
Staff Debtors	50	50	50
Cash Margin L/Cs	0	10	10
Head Office Deposits	100	100	100
Prepayments & Deposits	20	20	20
Cash at Bank and in Hand		25	25
Head Office Borrowing A/C			1,000
Less Current Liabilities			
Trade Creditors	100	100	100
Head Office L/Cs	100	100	100
Other Creditors	100	100	100
Accrued Charges	0	0	0
Bank Overdraft	100	100	100
Net Capital Employed	1,000	1,000	1,000
Represented by			
Head Office Current A/C	100	100	100
Add Accumulated Profits	1,000	1,000	1,000
Total	1,000	1,000	1,000
Profit	100	100	100
Return on Capital	10%	10%	10%

The Division has maintained a healthy financial position for the past 3 years.

Fixed Assets Schedule

DESCRIPTION	1976			1977			1978		
	Cost	Dep	Net	Cost	Dep	Net	Cost	Dep	Net
Buildings	261	101	171	289	88	201	280	82	198
Fleet & Machinery	110	100	10	110	100	10	110	97	13
Factory Fixtures & Equipment	17	10	7	17	14	3	15	10	5
Kitchen Fixtures & Office Furniture & Equipment	11	1	10	10	1	9	10	1	9
Deferred Revenue Liabilities	1	1	0	1	1	0	1	1	0
Other	10	10	0	10	1	9	11	10	1
Deferred Revenue Liabilities	10	11	1	10	1	9	10	11	1
Total Fixed Assets	416	234	182	426	202	224	428	201	227

3. Source and Application of Funds

	<u>1973/74</u>		<u>1972/73</u>	
	<u>0000</u>		<u>0000</u>	
<u>Funds Inflow</u>				
Profit & Loss Adjustment in respect of previous year			(24)	
Profit for the Year	533		447	
Depreciation	<u>57</u>	590	<u>44</u>	467
<u>Working Capital</u>				
Decrease Goods in Transit	-		3	
Decrease Cash Margin L/C	-		79	
Cash in Hand and Bank	223		204	
Increase in Creditors	200		118	
Increase H/O Recurrent a/c			282	
Increase Other Creditors	80		<u>101</u>	787
Decrease in Debtors	101			<u>787</u>
Decrease Prepayments	4			
Bank overdraft	<u>120</u>	820		
Total Inflow		<u>1,410</u>		<u>1,254</u>
<u>Funds Outflow</u>				
Purchase of Fixed Assets		10	23	
Deferred Revenue Expenditure			26	
<u>Working Capital</u>				
Increase in Stock	1,313		937	
Increase in Debtors	-		210	
Increase in H/O Deposit a/c			5	
Increase in Staff Debtors	20		13	
Increase Prepayment & Deposits			<u>50</u>	<u>1,200</u>
Increase Cash Margin L/Cs	37			
Decrease in Accrued Charges	<u>1</u>	<u>1,220</u>		
Total Outflow		<u>1,410</u>		<u>1,236</u>

Comment

The main sources of funds apart from profits are decrease in cash in hand and banks, decrease in debtors, increase in creditors and bank overdraft of £126,000 and these invariably have been used to finance stocks (mainly raw materials, work in progress and finished goods) which have gone up in 1974 about 100% on 1973 figures.

ANALYSIS OF ANNUAL ACCOUNTSPAPER CONVERSION DIVISION1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	£000	%	£000	%	£000	%
Turnover	7450	-	335	-	4246	-
Expenses:						
Raw Materials Used	6128	72.9	3503	74.3	2469	70.6
Direct Labour	318	4.0	179	3.8	170	4.9
Direct Overheads	406	5.2	326	6.9	221	6.2
TOTAL Direct Costs	6852	87.1	4008	88.0	2860	81.7
Administrative Expenses	567	7.2	330	7.0	208	5.9
Selling and Distribution	128	1.6	100	2.1	136	3.9
Finance Charges	17	0.2	8	0.2	31	0.9
Depreciation	300	3.9	267	5.7	264	7.6
TOTAL COSTS	7846	100.0	4713	100.0	3499	100.0

1.2 Comparison of Key Rates 1972/74

	Year	Tons Produced	Receipts, (000)	Rate, £ per ton
Sales Receipts	1972	8288	4246	512.3
	1973	9138	5335	583.8
	1974	9048	7450	832.4

Product Costs	Year	Tons Produced	Costs (000)	Rate, £ per ton
Raw Material Costs	1972	8288	2469	297.9
	1973	9138	3503	383.4
	1974	9048	6128	677.3
Direct Labour Cost	1972	8288	170	20.5
	1973	9138	179	19.6
	1974	9048	318	35.1
Direct Overhead Cost	1972	8288	221	26.7
	1973	9138	326	35.7
	1974	9048	638	70.5

	Year	Average Sale Price £ per ton	Average Direct Cost £ per ton	Gross Margin £ per ton
Gross Margin	1972	512.3	365.1	147.2
	1973	583.8	515.7	68.1
	1974	832.4	737.1	95.3

1.3 Profit Analysis

	1974		1973		1972	
	(\$000)		(\$000)		(\$000)	
Overall Profit before tax	411		881		1034	
Less non trading items:						
Sundry income						
Interest received	317		100		-	
Other	202	519	37	140	101	101
Total	(216)		715		881	
Operating Profit (Loss)	(216)		715		881	

1.4 Comments on Profit and Loss Account

Due to lack of comparative figures the above gross margin analysis has been estimated on the basis of sales value of production rather than cost of sales. Given that finished goods stock change has been fairly constant and is less than 1% of direct cost of production, this analysis is considered a reasonable guide.

The above cost per ton analysis shows a marked increase in direct costs. Although compensated by some increase in selling value this has not been enough, given a corresponding rise in fixed overheads, to keep the company as profitable as in previous years. The dramatic rise in raw material costs can be compared in the paper industry and the same material rise is likely not to be unreasonable given the doubling of their unit price in 1974.

Overhead increases have been very substantial and the major cost change increases have occurred as follows.

Production Overhead

Production overhead costs between 1971 to 1974 are (\$1,200) at 1971 significant cost increases in 1974 are also seen.

	1970	1971
Wages and Salaries	39	36.8
Vehicle Maintenance	15	48.0
Factory Sundries	15	166.6
Fuel Oil	15	71.4
Travelling and Transport	10	123.0
Harbour Expenses	10	900.0
Rent and Rates	7	25.0
	111	

There were however significant cost reductions as follows:-

	1970	1971
Plant Maintenance	21	60.6
Building Maintenance	8	61.5
Staff Welfare and Training	5	60.0
	34	

ADMINISTRATIVE EXPENDITURE

Administrative expenditure for 1970 was by £217,000 and 1971 significant cost reductions were as follows:-

	1970	1971
Head Office Contribution	83	170.2
Wages and Salaries	48	48.0
Subsistence Fund	30	30.0
Equipment General	14	140.0
Electricity	11	70.0
Travelling and Transport	7	70.0
Building Maintenance	7	70.0
	209	

WAGES AND SALARIES EXPENDITURE

Wages and Salaries expenditure for 1970 was by £39,000 and 1971 was by £36,800. The significant cost reductions were as follows:-

	(000)	£
Salaries and Wages etc.	17	37.0
Advertising	12	150.0
Vehicle Repairs	5	62.5
	<u>34</u>	<u> </u>

There were significant reductions however as follows:-

	(000)	£
Carriage outwards	6	98.8
Building Maintenance	5	64.1
	<u>11</u>	<u> </u>

2. Balance Sheet Summaries

	1974 (000)	1973 (000)	1972 (000)
<u>Fixed Assets as per attached schedule</u>			
Cost	1709	1287	1111
Depreciation	2062 1647	1762 1525	1495 1616
<u>Current Assets</u>			
Stock	5889	7188	1109
Trade Debtors	175	1210	927
Staff Debtors	76	19	18
Prepayments	56	12	7
Treasury Bills	12	12	7
Deposit Account	45	2650	7
Cash in Hand	268	721	191
Banking Balance Account	181	11	11
Reserve Account	1	1	1
	11216	11653	5189
<u>Liabilities and Capital</u>			
Reserve Account	1	1	1
Banking Balance Account	1	1	1
Trade Creditors	199	1	1
Staff Creditors	1	19	1
Prepayments	1	1	1
Deposits	1	1	1
	6157	1	112
<u>Working Capital</u>			
Net Working Capital Employed	101	1183	1178
<u>Capital Resources</u>			
Share Capital	101	1183	1178
Reserve Account	1	1	1
	102	1184	1179
<u>Capital Resources</u>			
Share Capital	101	1183	1178
Reserve Account	1	1	1
	102	1184	1179
<u>Capital Resources</u>			
Share Capital	101	1183	1178
Reserve Account	1	1	1
	102	1184	1179

2.1 Fixed Assets Schedule

	1974 \$000			1973 \$000			1972 \$000		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Land and Building	1546	872	674	1534	796	738	1500	719	781
Factory Plant and Machinery	1596	966	630	1432	812	620	1427	669	758
Factory Equipment and Fittings	197	29	168	108	13	95	46	3	43
Office Furniture and Fittings	71	32	39	68	28	40	50	5	45
Wagon Furniture and Fittings	27	7	20	11	3	8	7	4	3
Canteen Fittings	25	6	19	9	2	7	104	2	102
Motor Vehicles	246	150	96	143	81	62	6	3	3
	1708	2162	1646	1376	811	1526	1116	721	1111

3. Source and Application of Funds

1973/74		€000	1972/73		€000
<u>Funds Inflow</u>			<u>Funds Inflow</u>		
Adjustments from previous years	(41)		Adjustments from previous years	(394)	
Profit	303		Profit	861	
Depreciation	300	562	Depreciation	267	734
<u>Working Capital</u>			<u>Working Capital</u>		
Reduction in Debtors	655		Reduction in Stock	121	
Reduction in Cash	453		Increase GIBOX		
Increased Trade Credits	232		Borrowing	433	
Increased Other Credits	1823	3001	Increase Other Creditors	4	308
Total Inflow		5865			1372
<u>Funds Outflow</u>			<u>Funds Outflow</u>		
Increase Stocks	4801		Increase in Debtors		
Increase Sundry Debt	101		Increase in deposit		
Increase Deposits	325		Increase cash in hand	128	
Sinking Fund	130		Sinking Fund contribution	335	
Supplier Account			Reduction Creditors		
Increase Foreign Creditors	178		Supplier Account		
Increase in GIBOX Account	88	3001			
<u>Funds Needs</u>			<u>Funds Needs</u>		
Funds Needs Increase		102	Funds Needs Increase		30
Total Inflow		5865			1372

The table requirements for 1973 are evenly spread over a number of increased debtors, deposits, cash in hand, sinking fund contributions and decrease of liabilities which is relatively small compared to funds needs.

Cash flow provided the majority of funds coupled with increased borrowing from GINOC. 1974 has shown a dramatic increase in working capital requirements occasioned by an increase in stocks of \$4,601,000, the major portion of which is raw materials. The principal sources of funds were substantial increases in supplier and other credit. It should be noted that the 1974 Bank of Ghana balance of \$1,147,000 has been transferred from schedule 7 creditors to schedule 6 to make the figures comparable with 1974. Allowing for this adjustment, the major increase on sundry creditors arose as follows:

	\$000
Foreign Bills	1220
Local Bills - Ghana Comm. Bank	877
Increase Sundry Creditors	275
	<u>2372</u>

Other creditors and accruals also rose sharply. The major items are as follows:-

	\$000
Customs Duty	1721
Sales Tax	88
Excise Duty	19
	<u>1828</u>

Given that the increased funds flow was for working capital the net working capital change has been minimal, and the short borrowing will hopefully be liquidated as accumulated stocks are converted into sales. The stock figure itself is somewhat disturbing representing as it does two months raw material usage.

ANALYSIS OF ANNUAL ACCOUNTS

PHARMACEUTICAL DIVISION

Profit and Loss Accounts

1.1 Turnover and Expense Analysis

	1974		1973		1972	
	0000	%	0000	%	0000	%
Turnover	7240		3999		1996	
Expenses						
Raw Materials Used	2649	62.5	1760	64.3	730	58.8
Direct Labour	163	3.9	66	2.4	49	3.9
Direct Overheads	374	8.8	136	5.0	93	7.5
TOTAL Direct Costs	3186	75.2	1962	71.7	872	70.2
Administrative Expenses	138	8.0	296	10.8	120	9.0
Selling and Distribution Expenses	26	0.6	29	1.0	16	1.3
Finance Charges	683	10.2	355	9.3	100	8.0
Head Office Charges	165	3.5	60	1.5	20	1.6
Depreciation	110	2.6	155	3.7	110	8.8
TOTAL COSTS	4388	100.0	2757	100.0	1268	100.0

1.1 **Summary of the Data 1972/73**

Total Sample	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 1	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 2	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 3	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 4	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 5	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

Sample 6	1972	1973	1974	1975
	1976	1977	1978	1979
	1980	1981	1982	1983

1. **FIELD DATA:**

	1	2	3
Number of plants per site			
Number of flowering plants			
Number of seeds			
Number of fruits			
Number of fruits per plant			

The number of plants per site was counted by walking the transect and recording the number of plants in each 10m x 10m quadrat. The number of flowering plants was counted by walking the transect and recording the number of flowering plants in each 10m x 10m quadrat. The number of seeds was counted by walking the transect and recording the number of seeds in each 10m x 10m quadrat. The number of fruits was counted by walking the transect and recording the number of fruits in each 10m x 10m quadrat. The number of fruits per plant was calculated by dividing the number of fruits by the number of plants.

The number of seeds per plant was calculated by dividing the number of seeds by the number of plants. The number of fruits per plant was calculated by dividing the number of fruits by the number of plants. The number of seeds per fruit was calculated by dividing the number of seeds by the number of fruits. The number of fruits per seed was calculated by dividing the number of fruits by the number of seeds.

Production Methods between 1971 and 1974

Production was estimated by counting the number of seeds per plant and multiplying by the number of plants. The principal findings which are related to this study are:

**Cost
Analysis**

1 May 1971

Material and Supply
Support and Substitution

100
100

Other reductions in expenses are as follows:

**Cost
Analysis**

1 May 1971

Other reductions in expenses
Material

10
10

Material

Expense charge increased to \$1,000,000 in 1971

in 1971

**Cost
Analysis**

1 May 1971

Cost of other and material
Cost charge
Cost material

10
10
10
10

GENERAL INVESTMENT

	1971	1972	1973
PLANT AND EQUIPMENT			
Construction	14.20	14.00	12.00
Acquisition	1.00	1.00	1.00
Disposal	1.00	1.00	1.00
Net Change	14.20	14.00	12.00
INVESTMENT IN SECURITIES			
Government	1.00	1.00	1.00
Corporate	1.00	1.00	1.00
Municipal	1.00	1.00	1.00
Foreign	1.00	1.00	1.00
Other	1.00	1.00	1.00
Net Change	5.00	5.00	5.00
NET INVESTMENT	19.20	19.00	17.00
FINANCING			
Debt	1.00	1.00	1.00
Equity	1.00	1.00	1.00
Net Change	2.00	2.00	2.00
NET CHANGE	21.20	21.00	19.00
Balance, 1/1/71	1.00	1.00	1.00
Balance, 12/31/73	22.20	22.00	20.00

Income and Expenses of Funds

Fund 1001		Fund 1002	
Account	Amount	Account	Amount
Income		Income	
State of Michigan	1000	State of Michigan	1000
Local Government	500	Local Government	500
Private Contributions	100	Private Contributions	100
Total Income	1500	Total Income	1500
Expenses		Expenses	
Salaries and Wages	800	Salaries and Wages	800
Travel	100	Travel	100
Printing and Reproduction	50	Printing and Reproduction	50
Telephone	20	Telephone	20
Postage	10	Postage	10
Supplies	10	Supplies	10
Professional Fees	10	Professional Fees	10
Interest	10	Interest	10
Depreciation	10	Depreciation	10
Other	10	Other	10
Total Expenses	1020	Total Expenses	1020
Net Income	480	Net Income	480
Fund 1003		Fund 1004	
State of Michigan	1000	State of Michigan	1000
Local Government	500	Local Government	500
Private Contributions	100	Private Contributions	100
Total Income	1500	Total Income	1500
Expenses		Expenses	
Salaries and Wages	800	Salaries and Wages	800
Travel	100	Travel	100
Printing and Reproduction	50	Printing and Reproduction	50
Telephone	20	Telephone	20
Postage	10	Postage	10
Supplies	10	Supplies	10
Professional Fees	10	Professional Fees	10
Interest	10	Interest	10
Depreciation	10	Depreciation	10
Other	10	Other	10
Total Expenses	1020	Total Expenses	1020
Net Income	480	Net Income	480

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STATE OF NEW YORK

DEPARTMENT OF TAXATION

INCOME TAX RETURN

For the year ending December 31, 1964

Description	1964		1963		1962	
	Income	Exemptions	Income	Exemptions	Income	Exemptions
Wages	10,000	0	10,000	0	10,000	0
Dividends	500	0	500	0	500	0
Interest	200	0	200	0	200	0
Capital Gains	1,000	0	1,000	0	1,000	0
Retirement	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total	11,700	0	11,700	0	11,700	0

Signature: _____
Date: _____
Address: _____
City: _____ State: _____ Zip: _____

Table 1

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28

29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44

1970-1971

1. Total Population	1,000	1,000	1,000	1,000
2. Male Population	500	500	500	500
3. Female Population	500	500	500	500
4. Total Employment	1,000	1,000	1,000	1,000
5. Male Employment	500	500	500	500
6. Female Employment	500	500	500	500
7. Total Unemployment	1,000	1,000	1,000	1,000
8. Male Unemployment	500	500	500	500
9. Female Unemployment	500	500	500	500

1970-1971

1. Total Population	1,000	1,000	1,000
2. Male Population	500	500	500
3. Female Population	500	500	500
4. Total Employment	1,000	1,000	1,000
5. Male Employment	500	500	500
6. Female Employment	500	500	500
7. Total Unemployment	1,000	1,000	1,000
8. Male Unemployment	500	500	500
9. Female Unemployment	500	500	500

TABLE 1.1 - THE ECONOMIC SITUATION IN THE REPUBLIC OF SOUTH AFRICA

1994-1995

The following table shows the main components of the national accounts for the period 1994-1995. The figures are in million Rand and are preliminary estimates.

Component	1994	1995
Gross Domestic Product	100	100
Government consumption	10	10
Private consumption	70	70
Investment	20	20
Exports	10	10
Imports	10	10
Net Exports	0	0
Government saving	10	10
Private saving	60	60
Net saving	70	70
Net investment	10	10
Net capital formation	10	10
Net financial investment	0	0
Net foreign investment	0	0
Net international investment position	0	0

TABLE 1.2 - THE ECONOMIC SITUATION IN THE REPUBLIC OF SOUTH AFRICA

The following table shows the main components of the national accounts for the period 1994-1995. The figures are in million Rand and are preliminary estimates.

Component	1994	1995
Gross Domestic Product	100	100
Government consumption	10	10
Private consumption	70	70
Investment	20	20
Exports	10	10
Imports	10	10
Net Exports	0	0
Government saving	10	10
Private saving	60	60
Net saving	70	70
Net investment	10	10
Net capital formation	10	10
Net financial investment	0	0
Net foreign investment	0	0
Net international investment position	0	0

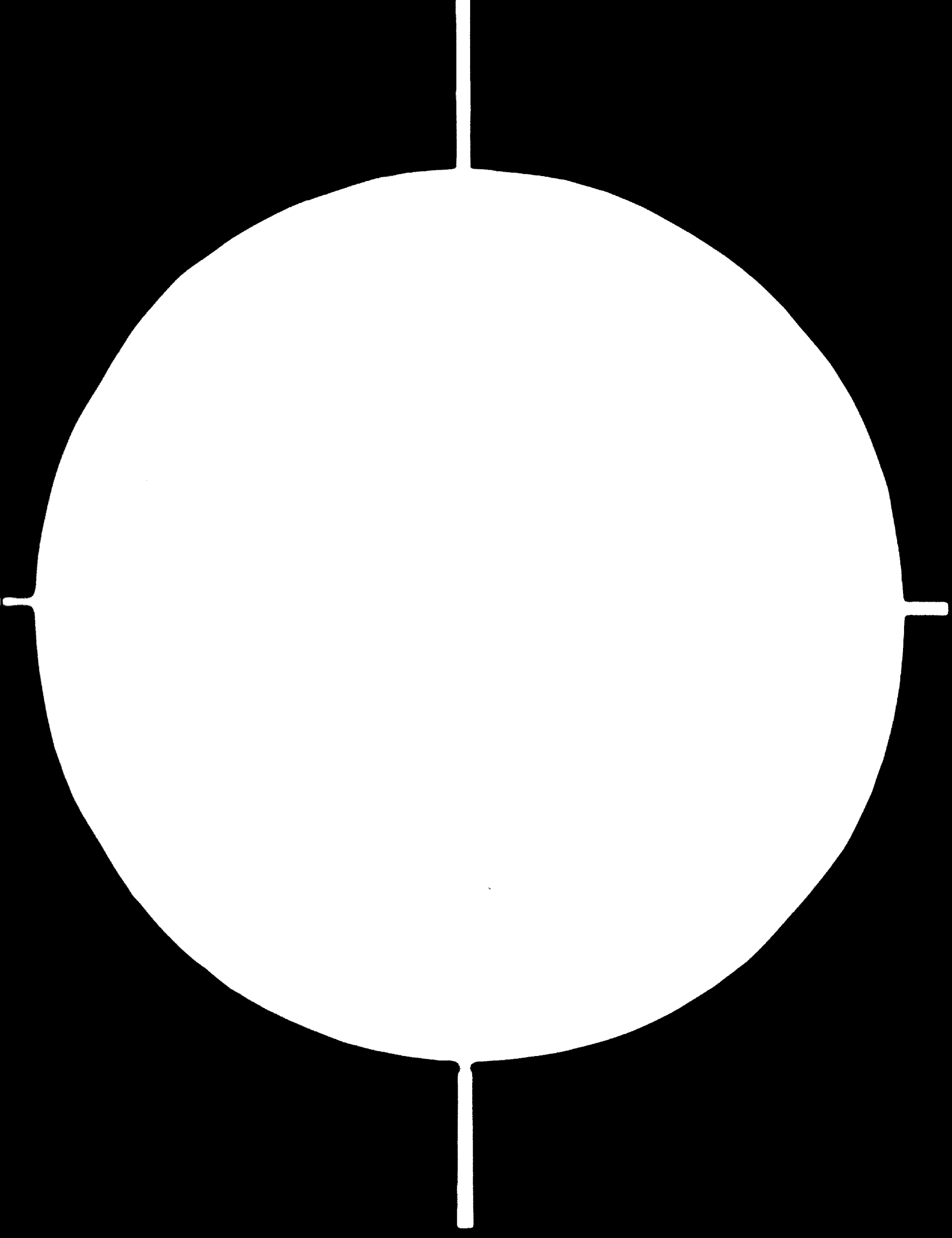
The following table shows the main components of the national accounts for the period 1994-1995. The figures are in million Rand and are preliminary estimates.

Component	1994	1995
Gross Domestic Product	100	100
Government consumption	10	10
Private consumption	70	70
Investment	20	20
Exports	10	10
Imports	10	10
Net Exports	0	0
Government saving	10	10
Private saving	60	60
Net saving	70	70
Net investment	10	10
Net capital formation	10	10
Net financial investment	0	0
Net foreign investment	0	0
Net international investment position	0	0

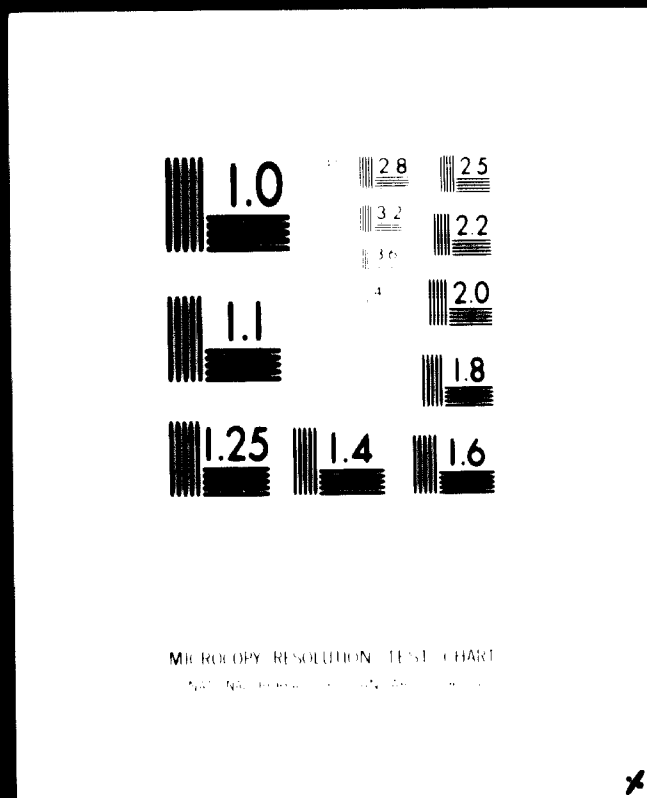
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4 OF 4



24x E

Administrative Expenses

Administrative overheads rose by £152,000 or 67% between 1973/74. The principal factors accounting for this were as follows:

	Increase £000	% over 1973 Cost
Salaries and Wages	56	54
Transport	28	147
Canteen	19	146
Sundry Materials	15	300
Travelling and Transport	10	125
Public Relations	8	New item
Spares expenses	6	100
Workers Compensation	6	300
Overseas Training	6	New item
	<u>154</u>	

The above increases were counterbalanced by an item for £17,000 provision for doubtful debts for which no equivalent charge has been made in the 1974 draft accounts.

Selling and Distribution Expenses

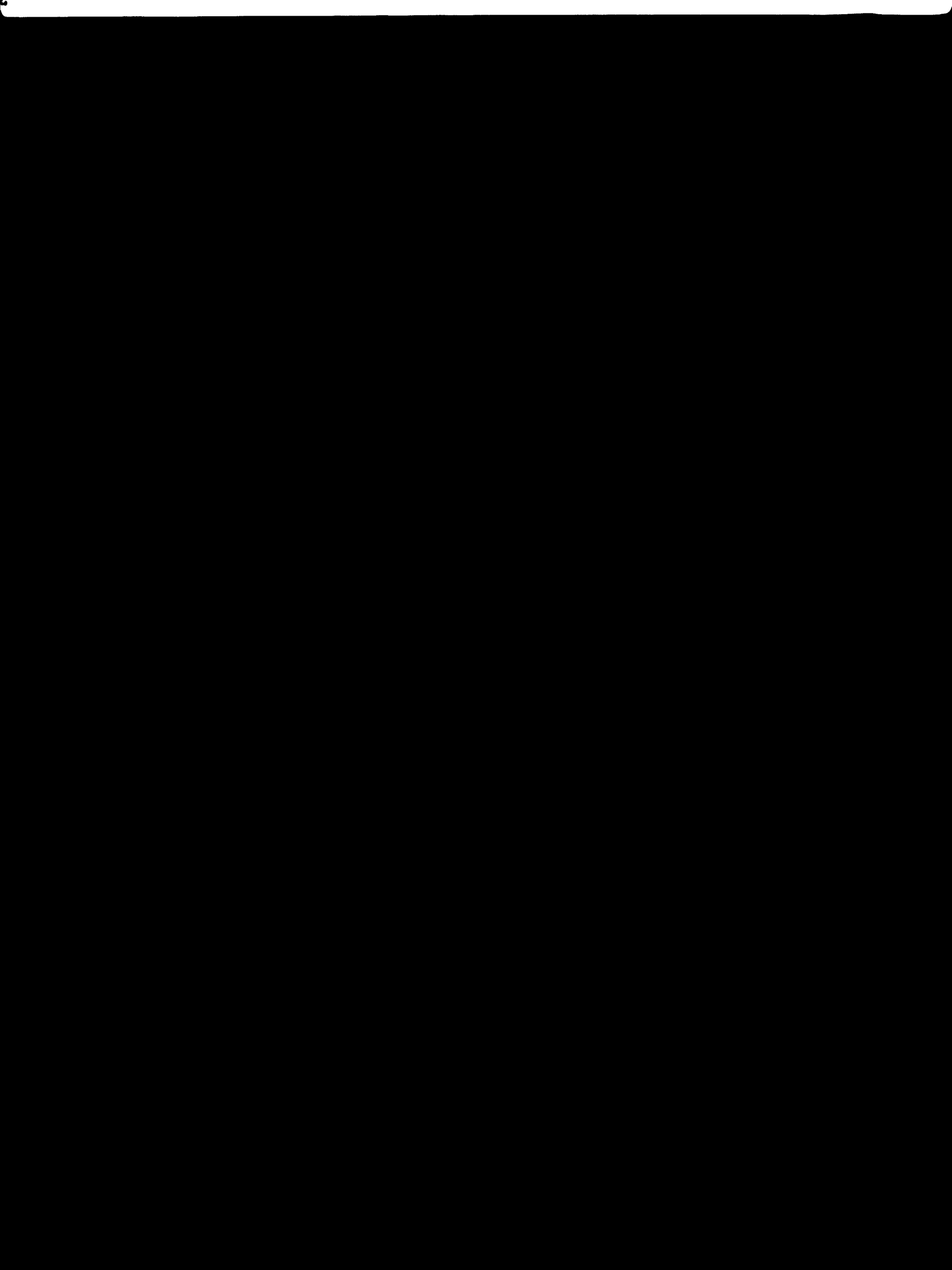
Selling and Distribution expenses fell by £12,000 or 22% during 1973/74. The majority of changes in this area were marginal, the following being the major items. Hire of Equipment fell by £10,000 or over 77% and Sales promotion and advertising fell by £4,000 or 150%. Principal rises were salary and wages £2,000 (13%) and printing and stationery £1,000 (50%).

2. Balance Sheet Summaries

	1974	1973	1972
	€000	€000	€000
Fixed Assets as per attached Schedule. At cost	5197	4371	4139
Less Depreciation	<u>2115</u> 3082	<u>1837</u> 2534	<u>1586</u> 2553
Add Capital Work in Progress	2103		
Current Assets	<u>5185</u>		
Stocks	1941	1566	1208
Trade Debtors	380	411	500
Other D' Balances and prepayment	596	244	42
Staff Loans and Advances	123	70	77
Cash at Bank and on Hand	<u>66</u> 3106	<u>305</u> 2596	<u>103</u> 1930
Current Liabilities			
Bank Overdraft	544	-	
Trade Creditors	162	71	98
Other Creditors	1957	374	328
H.Q. Current account	(745	(729	(414)
H.Q. Loan account	<u>(1931)</u> 5339	<u>(1931)</u> 3105	<u>(1931)</u> 2771
NETT Working Capital	(2233)	(509)	(841)
	<u>2952</u>	<u>2025</u>	<u>1712</u>
Represented by:			
GIHOC Capital Account	3767	3767	3767
Accumulated Losses	815	1742	2055
Capital Employed	<u>2952</u>	<u>2025</u>	<u>1712</u>
Pretax Profit (loss)	913	147	(614)
Return on Capital	30.9%	7.2%	

2.1 Fixed Asset Schedule

	At Cost	1974 Depre- ciation	Nett	At Cost	1973 Depre- ciation	Nett	At Cost	1972 Depre- ciation	Nett
Land and Buildings	1,095	216	879	1,095	195	900	1,075	175	900
Land and Buildings Work-in-Progress	75	-	75	7	-	7	-	-	-
Plant and Machinery	2,361	1,463	898	2,258	1,325	933	2,246	1,177	1,069
Sundry Equipment	892	244	648	706	179	527	604	134	470
Fixtures and Fittings	10	10	-	10	9	1	9	9	-
Motor Vehicles	761	182	579	295	129	166	205	91	114
Sport Equipment	3	-	3	-	-	-	-	-	-
	5,197	2,115	3,082	4,371	1,837	2,534	4,139	1,586	2,553
Capital Work-in-Progress	2,103	-	2,103	-	-	-	-	-	-
	7,300	2,115	5,185	4,371	1,837	2,534	4,139	1,586	2,553



3. Source and Application of Funds

1973-74 \$000		1972-73 \$000	
<u>Funds Inflow</u>			
Adjusted Pretax Profit	927	Adjusted Pretax Profit	313
Add Depreciation	<u>277</u> 1204	Add Depreciation	<u>251</u> 564
<u>Working Capital</u>		<u>Working Capital</u>	
Reduced Trade Debtors	31	Reduced Trade Debtors	89
Cash in Hand	239	Reduced Staff Debtors	7
Increased Bank O/D	544	Increased Other Crs.	46
Increased Trade Credit	91	Increased GIHOC Current	<u>315</u> <u>457</u>
Additional GIHOC Current	<u>16</u> <u>2504</u>	Account	
Total Funds Inflow	<u>3708</u>	Total Funds Inflow	<u>1021</u>
<u>Funds Outflow</u>		<u>Funds Outflow</u>	
<u>Working Capital</u>		<u>Working Capital</u>	
Increased stocks	375	Increased stocks	358
Increased other Debtors	352	Increased other Debtors	202
Increased Staff loans	53	Increased Cash in Hand	202
	<u>780</u>	Reduced Trade Credit	<u>27</u> <u>789</u>
Increase in Fixed Assets	825	Fixed Assets Increase	<u>232</u>
Capital Work in Progress	2103 <u>2928</u>		
Total Funds Outflow	<u>3708</u>	Total Funds Outflow	<u>1021</u>

3.1 Comments on Funds Position

The draft accounts have been adjusted by transferring £2.1 million from stocks to capital work in progress. The main feature of the capital structure is the substantial increase in fixed capital investment currently in progress. A total funds requirement of almost £million was devoted to capital works during 1974 but the funds inflow was primarily generated from increased creditors. Of this increase £1.2 million was deposits by customers for orders placed. The company has therefore raised funds short to make long term investment. Urgent action may be required to replace this short term financing with medium to long term loans.

A recent feature within the stock accounts is the substantial increase in refractory stocks as follows:

Year	£000
1972	192
1973	479
1974	608

On the basis of the accounts one can find no items of expenditure large enough to warrant such heavy stock holdings. It is assumed that the indirect materials item under melting shop overheads, being the largest single item of expenses listed, contains the annual usage of refractories. For 1972/73/74 this figure was £000 - 43/113/124 respectively. Taking the most recent figure as average future annual usage, the current stock represents 4 to 5 years usage. A physical check would seem desirable.

ANALYSIS OF ANNUAL ACCOUNTS
VEGETABLE OIL MILLS DIVISION

1. Profit and Loss Accounts1.1 Turnover and Expense Analysis

	1974		1973		1972	
	£000	%	£000	%	£000	%
Turnover	4,678	-	2,531	-	3,035	-
Expense: Raw materials used	3,472	70.2	2,019	63.6	1,727	63.4
Direct Labour	389	7.9	269	8.5	242	8.9
Direct Overheads	339	6.8	267	8.4	218	8.0
TOTAL Direct Costs	4,200	84.9	2,555	80.5	2,187	80.3
Administrative Expenses	214	4.3	177	5.6	138	5.1
Selling & Distribution Expenses	179	3.6	306	9.6	302	11.1
Financial Charges	206	4.2	-	-	-	-
Depreciation	147	3.0	138	4.3	95	3.5
TOTAL COSTS	4,946	100.0	3,176	100.0	2,722	100.0

1.2 Comparison of Key Rates 1972/74

	Year	Tons Sold	Receipts £000	Rate £ per Ton
Sales Receipts	1972	6,613	3,035	458
	1973	4,395	2,531	575
	1974	5,901	4,678	792
Product Costs		Produced	Costs £000	
Raw Material Cost	1972	6,720	1,727	256
	1973	4,519	2,019	446
	1974	5,672	3,472	612
Direct Labour Cost	1972	6,720	242	036
	1973	4,519	269	059
	1974	5,672	339	068
Direct Overhead Costs	1972	6,720	218	032
	1973	4,519	267	059
	1974	5,672	339	059
Gross Margin	Year	Average Sale Price £ per Ton	Average Direct Cost £ per Ton	Gross Margin £ per Ton
	1972	458	376	082
	1973	575	556	019
	1974	792	700	092

1.3 Profit Analysis

	1974 £000	1973 £000	1972 £000
Overall Profit Before Tax	(165)	(779)	(126)
<u>Less</u> non trading items:	17	17	13
Sundry Income	19	12	32
Carriage		2	14
Sale of Empty Bags	11	9	
Export Bonus	30		
Loss on Farm Project	<u>(38)</u> 39	<u>(20)</u> 20	_____ 59
Total	(204)	(799)	(185)
Operating Profit (Loss)	(204)	(799)	(185)

1.4 Comments on Profit and Loss Account

Overall performance has improved between 1973 and 1974 primarily due to improved Gross Margin. Costs have risen substantially but a compensating price rise has also been achieved. A noticeable feature has been rather better control of direct overhead expenses than appears in other divisions.

Factory operating expenses increased by £72,000 on 1973 and vehicle expenses alone accounted for over £62,000. Major increases or decreases are shown below with their relative percentages on 1973 figures.

Factory Operating Expenses

	Increase £000	% on 1973
Excise Duty	6	12.2
Vehicle Expenses	62	79.2
Bank Charges	3	50.0
Medical and Sanitation	6	200.0
Factory Insurance	(2)	(66.7)
Building Repairs & Maintenance	<u>(6)</u>	<u>(66.7)</u>
	<u>69</u>	<u>95.8</u>

Administration and General expenses also went up by £36,000 on 1973 as a result of a substantial increase in the contribution to Head Office. Analysis of increases and decreases were:

Administration and General Expenses

	Increase £000	% on 1973
Printing and Stationery	(5)	(41.7)
Medical and Sanitation	(3)	(75.0)
Motor Vehicle Expenses	9	81.8
Contribution to Head Office	57	237.5
Import Levy	(9)	(100.0)
Audit Fees	(11)	(100.0)
Maintenance	<u>(3)</u>	<u>(30.0)</u>
	<u>35</u>	<u>97.2</u>

Selling and distribution expenses decreased by over £127,000, mainly due to decreases in the Provision for Doubtful Debts (£85,000) and Sales Promotion and Advertisement expenses (£29,000).

The following are the principal items accounting for the decreases.

	Increase €000	% on 1973
Provision for Doubtful Debt	(85)	(100.0)
Sales Promotion and Advertisement	(29)	(65.9)
Stores and Depot Rent	(8)	(50.0)
Travelling and Transport	<u>(3)</u>	<u>(60.0)</u>
	<u>125</u>	<u>98.4</u>

Another factor which has contributed substantially to increase in expenditure is the Financial charges of €206,000. These reflect large increases in the overdraft facilities, to be employed as working capital, and that of the Head Office current account for letters of credit.

The breakdown is as follows:

	€000	
Bank charges	19	
Interest on Loan	84	
Interest on Letters of Credit	87	
Discount on Bills Receivable	<u>15</u>	<u>206</u>

2. Balance Sheet Summary

	1974 \$000		1973 \$000		1972 \$000	
Nett Fixed Assets as per schedule	1,255		1,280		1,173	
Current Assets						
Stocks and Stores	2,149		1,398		513	
Goods in Transit	6		-		-	
Trade Debtors	305		166		331	
Farm Development	29		-		-	
Staff Loans	29		33		23	
Other Debtors	91		15		-	
Prepayments	37		93		73	
Cash in Transit	20		26		-	
Cash and Bank	985		316		469	
Sinking Fund	177	3,828	69	2,116	-	1,409
	5,083		3,396		2,582	
Current Liabilities						
Sundry Creditors	185		94		888	
Other Creditors	80		123		178	
Provisions for Accruals	26		-		6	
Sundry Deposits	129		40		1	
Bank Overdraft	2,529		86		836	
GINOC Current	2,774	5,723	2,354	4,693	1,244	3,152
NETT Capital Employed	(640)		(1,297)		(570)	
Represented by:						
GINOC Capital	358		358		358	
Capital Surplus	832		-		-	
Government Grant	241		241		241	
Deficit	(2,071)		(1,896)		(1,169)	
Pretax Profit (Loss)	(165)		(779)		(125)	
Return on Capital	-		-		-	

Pre-GINOC Creditors Account of \$832,000 has been capitalised in 1974.
(Capital Surplus Account \$832,000).

2.1 Fixed Assets Schedule

Description	1974			1973			1972		
	Cost	Dep.	Nett	Cost	Dep.	Nett	Cost	Dep.	Nett
Motor Vehicles	383	227	156	343	166	177	291	108	183
Tables and Equipment	43	26	17	36	22	14	33	18	15
Furniture, etc.	97	60	37	93	50	43	72	42	30
Plant and Machinery	964	570	394	95	507	451	612	448	164
Uninstalled Plant	277	-	277	277	-	277	483	-	483
Factory Building	401	106	295	390	98	292	381	90	291
Plant under Construction	33	-	33	-	-	-	-	-	-
Farm Tools, etc.	42	3	39	21	2	19			
Development Expenses	7	-	7	7	-	7	7	-	7
	2,247	992	1,255	2,125	844	1,280	1,879	706	1,173

3. Source and Application of Funds

	1971/72	1972/73
	₹ 00	₹ 00
<u>Funds Inflow</u>		
Adjustment Previous Year Profit		
Depreciation		
Net Adjustment on Capital Account	812	
<u>Working Capital</u>		
Decrease in staff loans	4	
Decrease in Prepayments	56	
Decrease in Cash in Transit	6	
Decrease in Trade Debtors		165
Decrease in Cash in Hand		61
Increase in Creditors		153
Increase Deposits		400
Increase in Bank Overdraft	1,668	25
Increase Revenue Accruals	25	
Increase in GINOC Current	419	1,110
Total Inflow	3,010	1,914
<u>Funds Outflow</u>		
Nett Addition to Fixed Assets	122	246
Operating Loss (adjusted)	174	726
Less Depreciation	147	130
500	27	
<u>Working Capital</u>		
Decrease in Deposit	171	
Decrease Other Credits	48	30
Decrease Trade Creditors	764	5
Provision for Accruals	-	
Increase - Stocks	51	685
Increase Goods in Transit	6	
Increase Trade Debtors	39	
Increase Farm Development	29	
Increase Other Debtors	76	15
Increase Cash in Hand	140	-
Increase Sinking Fund	68	69
Increase Staff Loan	-	10
Prepayment	-	20
Cash in Transit	-	29
Total Outflow	1,914	1,914

3.1 Comments on Funds Position

The two main sources of funds are the Head Office current and a substantial increase in the overdraft facilities which have been used to finance working capital and operational losses.

The increases in stocks for both years 1973 and 1974 have been substantial because of importation of large quantities of tallow (animal fats, etc for soap making) and purchases of large stocks of groundnuts and copra from the local suppliers who have hitherto refused to sell to the Division with its low purchase prices. Producer prices of both groundnuts and copra were increased in 1973 and 1974.

Furthermore some spare parts which were not valued before 1973 were being brought into the books as and when new values are found.

EXTRACTS FROM NLC DECREE 207 - 19.1.67

2. (1) The objects of the Corporation are the establishment and the operation (whether established by the Corporation or not) of manufacturing and commercial enterprises in or outside Ghana in an efficient and profitable manner.

5. (1) The Corporation may be organised in such units to be known as divisions and the Board may disestablish or effect any change in any division of the Corporation or establish new or additional divisions or effect changes in the designation of the said units.

(2) The Board may group the units of the Corporation - - - - as it may think fit according to the nature of the industries carried on by such units and may add to or diminish the size of any group or disestablish any such group or may otherwise carry out any change in the grouping of such units.

(5) - - - - "the statutory corporations specified in the Schedule to this Decree shall, - - - - thereafter, subject to the provisions of this Decree, constitute divisions of the Corporations - - - - -

9. (1) It shall be the duty of the Corporation to conduct its affairs on sound commercial lines, and in particular, so to carry out its functions - - - - as to ensure that its revenues are sufficient to produce on the fair value of its assets a reasonable return, measured by taking its net operating income as a percentage of the fair value of its fixed assets in operation, plus an appropriate allowance for its working capital.

(2) In determining what constitutes a reasonable return, all pertinent economic and financial considerations shall be taken into account, including, but not limited to, the need for net operating income in an amount sufficient -
 - (a) to meet interest payment on borrowings
 - (b) to provide for repayments to be made each year in respect of loans incurred by the Corporation to the extent that such repayments exceed the year's provision for depreciation charged to revenue account

- (c) to provide a reasonable proportion of the funds needed for expanding the Corporation's activities and improving its working
- (d) to provide reserves for replacement, expansion or other purposes if and to the extent that the Board deems it necessary to establish such reserves - and
- (e) to make such reasonable repayments to the Consolidated Fund from time to time as may be authorised - - - -

(3) - - - - "the words "net operating income" mean the amount of income remaining after subtracting from total operating revenues all charges which in the normal conduct of business are proper to be charged to revenue account, including provision for adequate maintenance and straight line depreciation of assets, but before deducting interest and other charges on borrowings.

SCHEDULE

(Excluding divisions since disposed of)

1. State Boatyards Corporation
2. State Brick and Tile Corporation
3. State Cannary Corporation
4. State Distilleries Corporation
5. State Electronic Products Corporation
6. Glass Manufacturing Corporation
7. State Marble Works Corporation
8. State Metal Industries Corporation
9. State Paints Corporation
10. Vegetable Oil Mills Corporation
11. Fibre Bag Manufacturing Corporation
12. Tema Steelworks Corporation
13. Paper Conversion Corporation
14. State Footwear Corporation
15. State Meat Products Corporation

HISTORY AND STATUS OF GIHOC

1. History

GIHOC was set up by decree No. 207 (19.9.67) of the National Liberation Council to take over the management of 19 industrial enterprises which had been set up or acquired by the State since independence. Initially some enterprises had been wholly or partly owned subsidiaries of the Industrial Development Corporation (IDC). This has been inaugurated before independence in 1954 and survived until 1961, when it was dissolved. The Ministry of Industries temporarily took over direct responsibility but after a few months the State Enterprises Secretariat (SES) was set up and made responsible for their management.

Before the inauguration of GIHOC the relevant enterprises operated independently under their own Boards of Directors, with the IDC and SES having overall control of policy and management performance. During these early years the changes were not confined to organisational matters and Governmental policies at different times were based on philosophies ranging from complete faith in state socialism to a considerable degree of laissez-faire. For these and other reasons management of the enterprises had limited success and the performance of the individual units was considerably less good than it should have been.

The creation of GIHOC, then, was the response to a need for a different and more practical framework, in which each enterprise could achieve its full potential by drawing on the advice and support available from headquarters and elsewhere in the organisation.

2. Interpretation of Decree

GIHOC began to operate in 1968 as a holding corporation with a number of divisions. The terms of the original decree are wide (see Appendix V) and suggest that in place of the former piecemeal emphasis on individual State enterprises the intention was to adopt a more pragmatic and flexible approach which would allow the holding corporation room for manoeuvre at divisional level, but require it as a whole to earn a fair return on its assets. This interpretation suggests that GIHOC should balance its portfolio of operations so as to meet its statutory obligations, and this

could involve disposing of or acquiring enterprises accordingly. Since then GIHOC have disposed of four divisions by sale or otherwise and have acquired one more (Pharmaceuticals division) so that sixteen now remain.

However, these dispersals have fostered a belief in certain quarters that GIHOC's function is to bring its divisions to a viable state and then dispose of them. Ultimately then it would cease to exist. Such a narrow interpretation is clearly incorrect but since there has been no formal revocation of the original concept and since rumours of a policy of divestment persist it seemed desirable in the context of the present study to reconsider GIHOC's status.

3. Justification for a Holding Company

The narrow interpretation of the vesting decree described above carries with it certain implications. Some divisions may never become profitable enough to be sold off and may be too small to be viable on their own either in terms of attracting the necessary finance or staff. Yet they may be providing a valuable service to Ghana which would not otherwise be available.

There is, then, an argument for Government having GIHOC or some comparable organisation to act as an umbrella under which diverse but valued operations may be developed or maintained. The large size of such an organisation permits the attraction of better staff and the ability to support particular operations, which are temporarily in difficulty, until they can be self-sustaining

Such an organisation needs to be of adequate size to resist the common wish (in all countries) of the executive or legislature to interfere in the detailed management of parastatal enterprises. But it must not be so large, or so constituted, that it ceases to be subject to Government policies. Particular examples of the interference mentioned above were the pressures that were put on certain divisions of GIHOC, when they were separate enterprises, to recruit excessive and unqualified staff. Such pressures are more easily resisted from a head office in Accra than from some smaller regional town.

APPENDIX VI
(Continued)

A further argument is based on making the best use of limited resources. Developing nations have a grave shortage of people who are both academically qualified and also experienced enough to put their qualifications to the best use. Ghana is no exception and does not yet have enough experienced engineers, accountants, industrial managers etc. for all her needs. One way of making better use of those who exist is to have them in a large organisation like GIHOC where their talents are available to every division, rather than confining them to a medium sized operation such as a single division. To dismember GIHOC would preclude the possibility of this.

A third factor hinges on government policy for development. Capital is scarce and it is difficult to attract risk capital for new ventures, whether within Ghana or from abroad. A larger operation with an established reputation, stands much more chance of convincing possible lenders than does a small and possibly so far struggling enterprise on its own.

We are therefore in no doubt that for all these reasons the concept of a holding corporation was and is the correct one, and that no change of status is likely.

A STUDY OF THE MARKET FOR BRICKS IN ACCRA

1. Objective

The object of the study was to provide a basis for a policy decision by GINOC senior management as to whether an expansion in the operations of the Brick and Tile division was likely to be worthwhile.

2. Summary of Conclusions

- (i) demand for bricks should comfortably support rehabilitation of the Kaneshie brickworks to a capacity of 3¼m. bricks a year.
- (ii) product quality will generally determine the rate of growth beyond 1977.

3. Method

Two methods were used:

- desk research
- interviews.

Relevant statistical data was obtained for the construction industry in general and on housing in particular. This was supplemented by interviews with key respondents involved either in the design and building of houses or in the provision of finance for them.

Among our key respondents were the State Housing Corporation, the Bank of Ghana, Bank for Housing and Construction and Architectural Associates.

4. General Findings

- key respondents agree that demand for bricks has been severely constrained by shortages of supply

- both the State Housing Corporation and Tema Development Corporation who have built on the average 1,000 and 600 houses per annum respectively said they would be prepared to use bricks if supplies were secure, prices competitive and quality good
- recently foreign exchange problems have urged Government to encourage development of an indigenous brick industry exploiting existing clay deposits.

All cement has hitherto had to be imported as clinker at considerable foreign exchange cost. It has been in short supply and the use of bricks for houses would release cement for heavy construction projects. Most key respondents think that in the longer term as brick supplies improve the Government will foster demand by directing that houses should, where circumstances allow, be built in bricks.

5. Factors Influencing Demand

Two important factors are quality and price. Well-made bricks are likely to be of stronger and more consistent quality than most sandcrete blocks. Furthermore a fired brick is weather resistant without further coating, whereas a sandcrete block is not.

A study carried out by the Building and Road Research Institute in 1973 indicated that it was as much as 25% cheaper to build by bricks than by sandcrete blocks. Since then no fundamental changes have been observed in the relative costs of brick and sandcrete block built structures.

6. Supply Situation

GIHOC's brick factory is being rehabilitated so as to return its capacity to 3.6 million bricks per year. In addition two brick factories are planned for Accra by the Bank of Ghana, each with 6 million bricks capacity. It is likely, therefore, that when the three factories are fully operational - present estimates are 1976 - they will supply up to 15.6 million bricks per annum.

7. Demand Situation

It is estimated that between 1975 and 1980 over 32,000 houses will be constructed in the Greater Accra area. Annual construction will therefore be about 5,000 houses. The average number of rooms in a house, according to the 1973 BRRI Housing Survey, is estimated as 3 (excluding kitchen, bathroom and toilet), and a 3 roomed house needs about 30,000 bricks.

In the first year's full operation of the three Accra brick factories, it can be reasonably assumed that, on the strength of their competitive qualities stated above, bricks could penetrate the sandcrete blocks market to 10%.

10% of annual houses built is 500 houses. This should create a demand for about 15 million bricks. This figure matches closely the 15.6 million rated capacity of the three Accra brick works.

8. Conclusion

- (i) there would appear to be adequate demand for the rehabilitation of the Brick factory at Kaneshie.
- (ii) continuing demand for housing and increasing acceptability of bricks as they become more available should be sufficient to sustain further increases in capacity.

It is necessary to emphasise that the degree to which bricks will further penetrate the sandcrete blocks market will depend on their remaining competitive with blocks on price, on quality, and on availability.

ANNUAL PROFITS OF DIVISIONS AND HEADQUARTERS

(after adjustments)

Divisions	Annual Profits €000						Returns on Capital 1973
	1968	1969	1970	1971	1972	1973	
Boatyard	113	30	113	(65)	(326)	(131)	-
Brick and Tile	(15)	(29)	(31)	(57)	(68)	(122)	-
Cannery	29	500	598	71	203	140	5.0%
Distilleries	558	888	443	426	476	677	12.7%
Electronics	52	77	(285)	380	236	3	0.2%
Fibre Bag	459	126	129	490	402	94	0.9%
Footwear	61	(559)	75	(307)	(370)	(328)	-
Glass Mfg.	(717)	(711)	(470)	(60)	(834)	(494)	-
Marble	(18)	(38)	(39)	(42)	(26)	(6)	-
Meat Products	(268)	(61)	(319)	(317)	(526)	(670)	-
Metal Industries	51	(68)	(129)	75	13	44	14.6%
Paint	53	122	349	347	340	447	18.0%
Paper Conversion	28	50	226	1189	660	861	15.5%
Pharmaceutical	-	(126)	5	95	501	951	31.3%
Steelworks	(75)	(353)	(107)	(680)	(447)	147	7.2%
V O M	(133)	(165)	(228)	(509)	(74)	(779)	-
GIHOC HQ	105	219	552	94	(73)	77	5.1%
TOTAL	283	(98)	882	1036	87	911	2.2%

Capital employed 1973 € 41.7m. Profit on capital employed 2.2%

Source: GIHOC Consolidated Accounts.

APPENDIX IX

TURNOVER OF CANNERY DIVISION PRODUCTS
BY RAW MATERIAL - 1974

		Turnover		
		₦000	%	
(i) <u>Alcohol</u>	Bramco Schnapps	2,457		
	Aperitif	242		
	Moke Liqueur	<u>1</u> 2,700	82.5	
(ii) <u>Pineapple Products</u>	Whole	2.5		
	Sliced	1.7		
	Pieces	27.0		
	Juice	94.6		
	Jam	<u>114.1</u> 240	7.3	
(iii) <u>Tomato Products</u>	Whole	53.4		
	Puree	156.3		
	Juice	11.1		
	Ketchup	<u>16.1</u> 237	7.2	
iv) <u>Citrus Products</u>	Orange: juice	22.1		
	squash/syrup	1.3		
	marmalade	7.1		
	Lemon: juice	.2		
	squash/syrup	.5		
	marmalade	20.8		
	Lime: juice	<u>9.5</u> 62		
	(v) <u>Mango Products:</u>	Concentrate	3.2	
	Jam	<u>2.7</u> 6		
			3.0	
(vi) <u>Miscellaneous:</u>	Vegetables -(Beans	2.1		
	(Okro	0.3		
	(Aubergines	7.9 10		
(vii) <u>Spices:</u>	Pepper, powder and puree	20.2 20		
	Total All Products	<u>3,275</u>	100.	

SALES OF DISTILLERIES PRODUCTS - 1974

Group (a) Imported: flavourings
Local: alcohol
demineralized water

	Wholesale Price/Case	1974 Sales
	Cedis	Cases
Kaiser Schnapps	44.00	50,180
Lawyar Gin	22.20	94,685
Castle Bridge Gin	46.40	6,380
Chevaliar Brandy	44.00	25,932
Old Barrel Whisky	51.00	2,067
McFrasar Whisky	69.00	711
Buccaneer Rum	38.00	4,496
Soranto Vermouth	27.00	5,505
Total		189,956

Group (b) Local: alcohol
flavourings
demineralized water

Real Muakatears Gin	22.80	38,285
Pedro Veliki Vodka	27.00	2,646
Total		40,931

Group (c) Imported: high proof spirits
Local: demineralized water

Gordon's Gin	90.00	8,333
Mackias Whisky	96.00	1,401
Highland Clan Whisky	96.00	1,915
Grants Whisky	111.00	2,439
100 Pipers Whisky	108.00	2,008
Total		16,096

Group (d) Imported: Spirits in stainless casks, bottled locally

Martall Brandy	153.60	2,957
Hannessy Brandy	153.60	1,121
Total		4,078

TURNOVER OF ELECTRONICS DIVISION BY PRODUCTS - 1972-74

Product	Year		
	1972 Cedis	1973 Cedis	1974 Cedis
Radios:			
Akasanoma Mk. II	412,461	668,672	452,731
Mk. III	79,344	106,151	34,554
Mk. III T	25,000	30,980	77,825
Mk. IV	75,660	117,541	-
Sony Mk. II	-	128,670	284,774
Mk. III	-	135,063	46,961
Car Radio	-	-	39,562
Sub Total	569,465	1,187,077	936,407
TV's:			
12"	16,940	5,151	10,054
20"	29,590	94,325	39,863
24"	4,437	291,232	323,695
24" S/D	56,675	9,770	-
Sub Total	107,642	400,478	373,612
Telephones:			
Electrophone	41,400	358,322	2,114
Handsets	92,500	108,700	17,572
C.B.	10,195	2,563	-
Sub Total	144,095	469,585	19,686
Players etc:			
Cassette Players	-	65,979	6,419
Radio/Cassette	-	26,944	64,386
Mini radiogram	-	-	18,989
Sub Total	-	92,923	89,794
TMS Fittings			
120	28,000	4,145	2,075
140	40,152	5,597	32,487
Sub Total	68,152	9,742	34,562
GRAND TOTAL	889,354	2,159,805	1,454,061

Increase Staff Loan	-	10
Prepayment	-	20
Cash in Transit	2,091	20
Total Outflow	2,091	1,000

APPENDIX AII

FIRM NO. DIVISION

ACTIVITY SAMPLE RESULTS

1. Introduction

The Batching Section of the mill was the subject of an activity sample taken over four days and covering both shifts from 24th to 27th June. The machines observed during the sample were the six Teaser Cards and the six Breaker Cards (Heavy Side).

The study was performed by two staff from each of the production and maintenance departments, Messrs. Tsumasi, Boahene, Kotey and Agyemang. Observations were recorded every five minutes for each of the 12 machines.

The results of the study and a number of conclusions are recorded in this report. Additional information covering the recorded output and recorded lost time has been taken from the 'Teaser Card Daily Efficiency Report' for the period covered by the study.

2. Results

The results of the study are given below in tabular form, and we comment as follows:

A. Teaser Cards

1. Running Time

The overall recorded running time was 61.9% of the total available time. This percentage was made up of 29.0% running with the hopper feeders attached and 32.9% running while being hand fed.

2. Lost Time

2.1 Materials

8.7% of the total time was lost due to causes that can be credited to poor material, improper preparation of material, poor operation, poor maintenance and material shortage.

The major items observed in this category were:

- (a) Machine jammed due to bumps in material (30%)
- and (b) Machine locked up (37%).

2.2 Operation

The 8.4% lost time in the 'Operator Codes' category was satisfactory and, indeed, might well have been expected to be greater. A figure of around 10% is normally regarded as acceptable.

2.3 Preventive Maintenance

The time spent on the preventive maintenance category averaged out at approximately 21 minutes/machine/shift. As this includes necessary cleaning away of waste, the figure is lower than should be expected of machines of this type.

2.4 Breakdown

Lost time due to breakdown was the largest of the lost time categories, 15.4%. Of this percentage, approximately 80% was due to 'Awaiting Maintenance'. The main cause of this large proportion of down time was due to the maintenance department having to manufacture required spare parts before making good the machines.

3. Output per Running Hour

During the study this averaged 845lbs/hour. For the hopper fed machines it was 802lbs/hour and for the hand fed machines 814lbs/hour. In the two weeks previous to the study the average output per running hour was 761lbs/hour. This apparent improvement in productivity while the machines were running is probably due to the extra attention to the job that close observation of operators causes.

B. Breaker Cards

The general points made about the Teaser Card results can be applied to the Breaker Card results. However, there is one comment that can be made on these results.

The observed lost time due to material shortage was 7.5%. that is, approximately 36 minutes of lost time per machine per shift for this reason. This shortage is to be expected where the average running time is greater than that of the Teaser cards where the theoretical outputs of the two sections have been balanced.

3. General Comment

Care should be taken when drawing conclusions from these results as activity sampling is not common practice in the mill and therefore special attention would naturally be given to the observed sections by the maintenance department, operators and production supervisors. The effect of this special attention could be that the observed lost time, particularly in the 'improper use' and 'operator' categories, is an underestimate of normal working conditions.

Although the apparently limited time spent on preventive maintenance has been commented upon, it is only fair to point to the reduction in the lost time due to breakdown since the end of January. Approximately six months ago, the maintenance department introduced a simple form of preventive maintenance programme. Analysis of the lost time in the Teaser Card section since the end of January shows a marked improvement. In February, the average machine running percentage was approximately 55%, and by June the average was almost 70%. The indication is that the preventive maintenance programme in operation is gradually showing results. A graph of the average weekly running percentage and the four weekly running average for the Teaser Cards is given in Appendix XIV.

Results of Activity Sampling

Exercise - Fibre Bag Division

ACTIVITY CODES	TEASER CARDS		BREAKER CARDS	
	No. of Obs.	% of Total	No. of Obs.	% of Total
<u>Running Codes</u>				
R	1,337	29.0	3,042	66.0
RM	1,516	32.9	NIL	-
Sub-Total	2,853	61.9	3,042	66.0
<u>Not Running Codes</u>				
<u>(a) Improper Use</u>				
MM	4	0.1	NIL	-
LM	120	2.6	72	1.6
LL	NIL	-	NIL	-
LC	7	0.2	2	-
OP	NIL	-	NIL	-
MG/RS	60	1.3	NIL	-
MP	37	0.8	NIL	-
WL	NIL	-	NIL	-
SM	8	0.2	345	7.5
OL	14	0.3	137	3.0
LU	145	3.2	59	1.3
Sub-Total	395	8.7	615	13.4
<u>(b) Operator Codes</u>				
MB	237	5.1	204	4.4
MO	134	2.9	196	4.2
CO	18	0.4	18	0.4
Sub-Total	389	8.4	418	9.0
<u>(c) Planned Maintenance</u>				
SC/L	69	1.5	41	0.9
PM	80	1.7	73	1.6
DM	49	1.1	60	1.3
Sub-Total	198	4.3	174	3.8

APPENDIX XII
(Continued)

ACTIVITY CODES	TEASER CARDS		BREAKER CARDS	
	No. of Obs.	% of Total	No. of Obs.	% of Total
(d) Breakdown Maintenance				
SP	NIL	-	NIL	-
FS/GR	23	0.5	59	1.3
MF	22	0.5	NIL	-
AM	573	12.4	169	3.7
RO	80	1.7	67	1.4
FR	15	0.3	10	0.2
Sub-Total	713	15.4	305	6.6
(e) Others				
TE	60	1.3	54	1.2
Sub-Total	60	1.3	54	1.2
TOTALS	4,608	100.0	4,608	100.0

ACTIVITY CODE INDEX

<u>Code</u>	<u>Activity</u>
R	Machine running
RM	Machine running with hand feed (Teasers only)
WM	Machine jammed due to wet material
LM	Machine jammed due to lumps in material
LL	Machine stopped due to lack of lubrication
LC	Machine jammed due to lack of cleaning
OF	Machine jammed due to over feeding
MG/RS	Machine jammed due to misalignment of gear and roller setters
MG	Machine not running due to misalignment of feed sheet
WL	Fuse blown because weight on motor not lifted
SM	Machine not running due to shortage of material
OL	Machine stopped due to overlapping
LU	Machine locked up
MB	Meal break
NO	No operator to run machine
CO	Machine stopped during change over of shifts
SC/L	Machine stopped for cleaning and lubrication
PM	Machine stopped for preventive maintenance inspection
DM	Machine stopped while waste being drawn from under machine
SP	Machine jammed due to worn out stove pins
F/CR	Fuse blown because fault developed in switch gear
MF	Motor burned out due to heavy friction in machine
AM	Awaiting maintenance to be carried out
RO	Roll former not operating
FR	Fault on relay
TE	T.U.C. Election

MATERIAL COST OF WOVEN SACK CLOTH

All sack cloth is made from a mixture of heavy and light yarn, usually in proportions 60/40 by weight. The table below shows the effect on direct cost of different combinations of raw material. It should not however be taken for granted that factory productivity will be the same for all material combinations, so the actual cost of sacks may be affected in a different manner.

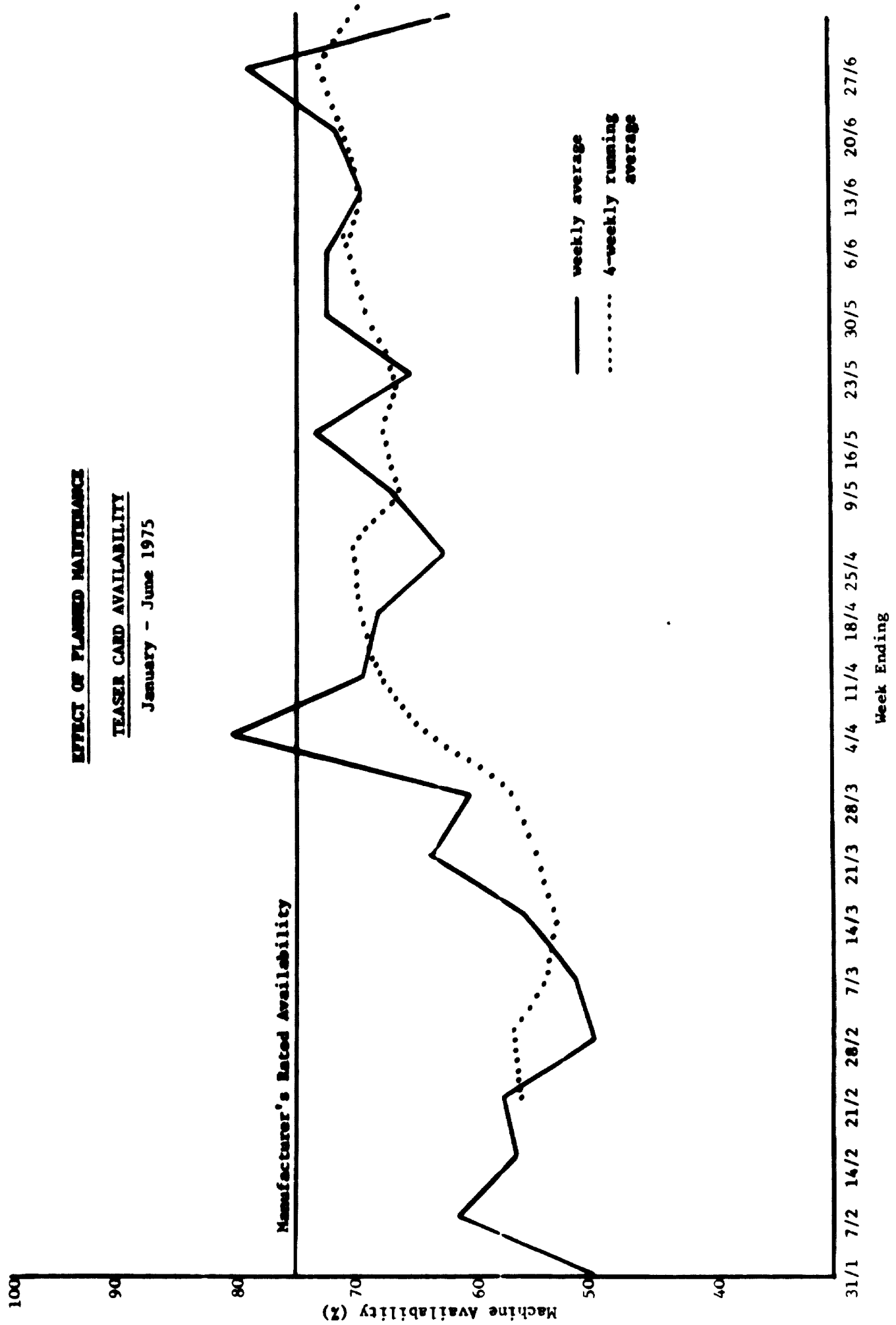
Material Blend	Rate per ton		Cost of material per ton		Material Cost of Cloth per ton
	Long jute/ kenaf	Cuttings	Heavy yarn	Light yarn	
	£	£	£	£	£
BWC Long BWCB Cuttings	190	79	101.20	140.05	114.54
BWD Long BWCB Cuttings	180	79	99.20	134.55	113.34
Imported Kenaf 'A' BWCA Cuttings	110	86	90.80	105.20	96.56
Ghana Kenaf BWCA Cuttings	280	86	124.80	241.20	171.36

- Notes:
1. Heavy yarn is a mixture of 80% cuttings and 20% long jute or grade A kenaf.
 2. Light yarn is at present 45% cuttings and 55% long jute. Using kenaf, the mixture requires to be 20% grade A cuttings and 80% grade A kenaf.

EFFECT OF PLANNED MAINTENANCE

TEASER CARD AVAILABILITY

January - June 1975



FOOTWEAR DIVISION

SALES OF FOOTWEAR 1972-74

Product	Sales					
	1972		1973		1974	
	pairs	%	pairs	%	pairs	%
Mens' shoes	34653		27183		30435	
Ladies' "	19159		22728		30480	
Children's "	21632		38966		39006	
Total Shoes	75444	34.2	88877	37.0	99981	35.8
Mens' sandals	54128		55627		62768	
Ladies' "	26851		23872		25904	
Children's "	57041		53291		78687	
Total Sandals	138020	62.6	132790	55.3	167359	60.1
Boots	7196	3.2	18467	7.7	11402	4.1
Total All Sales	220660	100	240134	100	278742	100

LIVE CATTLE IMPORTS BY CATTLE DEVELOPMENT BOARD

Period	Source				All Sources
	Niger	Mali	Upper Volta	Togo	
Jan. '74	2164	150	2288	167	4769
Feb.	879	-	2457	-	3336
Mar.	2433	1028	1295	201	4957
Apr.	2069	1570	1762	-	5401
May	502	1064	1103	106	2775
Jun.	183	1027	580	-	1790
Jul.	895	1118	756	11	2780
Aug.	177	438	1745	-	2360
Sep.	701	663	1953	55	3372
Oct.	1358	746	1929	144	4177
Nov.	2562	858	2327	2759	8506
Dec.	1067	95	1430	506	3098
Total '74	14990	8757	19685	3949	47381
Jan. '75	1860	115	1634	145	3754
Feb.	1052	114	1018	-	2184
Mar.	354	-	1306	-	1660
Apr.	-	-	721	-	721
May	-	-	-	-	-
Jun.	-	-	-	-	-
Total Jan/June 75	3266	229	4679	145	8319

- Notes:**
1. Total CDB imports in 1973 were 38901 live cattle.
 2. In 1974 GINOC Meat Products Division imported in addition 3220 live cattle; in Jan./June 1975, 1060.

DISPOSAL OF CATTLE AND PIGS HANDLED ATBOLGATANGA BY GIHOC 1974

The cattle purchased by GIHOC may be slaughtered either at Bolgatanga or at Tema.

Those slaughtered at Bolgatanga may be used for processing into corned beef, or may be transported as chilled carcasses to Kumasi or Accra. The numbers of beasts allocated to each category are shown below:

Distribution of Slaughterings between Tema & Bolgatanga

Month	Total turnover of Cattle	Live to Tema for slaughter	Slaughtered at Bolgatanga	Pigs slaughtered at Bolgatanga
	Number	Number	Number	Number
January	630	325	305	94
February	298	100	198	1
March	310	175	135	63
April	361	194	165	1
May	490	322	168	2
June	6	-	6	10
July	-	-	-	31
August	122	32	90	69
September	2	-	2	-
October	230	175	55	26
November	383	295	88	24
December	390	244	146	40
TOTAL 1974	3,220	1,862	1,358	361

How the cattle slaughtered at Bolgatanga were allocated is shown below:

Allocation of Cattle Slaughtered at Bolgatanga 1974

Month	For Kumasi	For Tema	Locally and to Cannery	Total
January	114	88	101	305
February	88	84	26	198
March	130	57	-	135
April	35	46	-	165
May	98	74	-	168
June	-	-	-	6
July	-	-	-	-
August	-	69	21	90
September	-	-	2	2
October	-	20	35	55
November	53	32	3	88
December	30	50	66	146
TOTAL 1974	528	520	310	1,358

In 1974 the cannery processed a maximum of 310 cattle - less than 10% of available supplies. This amounts to just over one beast per working day.

GINOC DIVISIONS

CONSOLIDATED SOURCE AND APPLICATION OF FUNDS

1973/74

	1973/74			1972/73 figures on same basis
	€000	€000	€000	€000
<u>Funds Inflow</u>				
Increased fixed Capital from GINOC			1,817	759
Nett Self generated funds			4,456	2,984
<u>Working Capital</u>				
Increase in supplies and other Credit	7,345			
Less: reduction in supplies and other Credit	2,258	5,087		(418)
Reduction in Debtors	3,293			
Less: increase Debtors	2,923	370		(5,553)
Increased Customs Deposits		1,419		563
Increased GINOC Borrowing	5,575			
Less: repayments, deposits and sinking fund	4,065	1,510		9,223
Increases in outside borrow- ing or deducted Deposits	3,796			
Less: repayments	412	3,384	11,770	1,969
Total Nett inflows to Divisions			18,043	9,527
<u>Funds were used for:</u>				
Increases in stocks	12,889			
Less: stock reduction	635	12,254		6,905
Increased cash in hand	1,621			
Less: reduced cash balances	1,367	254	12,508	(228)
Purchase of fixed Assets			5,535	2,850
Total Nett outflows from Divisions			18,043	9,527

GINOC DIVISIONSCONSOLIDATED SOURCE AND APPLICATION OF FUNDS1972/73

	0000	0000	0000
<u>Funds Inflow</u>			
Increased fixed capital from GINOC			759
Nett Self generated funds			2,984
<u>Working Capital</u>			
Increased GINOC Borrowing	10,559		
Less: repayments Deposits and Sinking fund	1,336	9,223	
Increased Customs Deposits		563	
Increased Other Borrowing	2,137		
Less: repayments of outside Loans	168	1,969	
Reduced Cash balances	1,153		
Less: Increased Cash in hand	925	228	11,983
Total Nett Inflows to Divisions			15,726
<u>Funds were used for:</u>			
Increase in stocks	8,034		
Less: stock reductions	1,129	6,905	
Increase in Debtors	6,461		
Less: reductions in Debtors	908	5,553	
Reduced Supply Credit	2,722		
Less: increases in supply Credit	2,304	418	12,876
Purchase of Fixed Assets			2,850
Total Nett outflows from Divisions			15,726

FUTURES DIVISION

ILLUSTRATION OF SYSTEM OF COSTING

1. IDENTIFY MODEL & PRODUCTS

<u>Product Code</u>	<u>I Cycle Time</u>	<u>Units/Per MW</u>	<u>Estimated Output</u>
A	40	192	6,000
B	30	144	12,000
C	20	96	45,000
D	10	48	72,000
		<u>480</u>	<u>130,000</u>

2. ESTABLISH COSTS:

Total:	Labour	...	\$200,000
	Overheads	...	\$400,000
			<u>\$600,000</u>

3. FUTURE COSTS OF APPORTIONMENT

	A	B	C	D
Cycle time I	40	30	20	10
Total apportionment	\$240,000	\$180,000	\$120,000	\$60,000
Cost per unit	\$40	\$15	\$2.66	\$0.83

4. REVISED BASIS

	TOTAL	A	B	C	D
Cycle time for production	100 MW	11,500	17,000	43,200	28,300
Percentage	100.00	10.0	10.0	40.0	30.0
Total apportionment	\$600,000	\$64,000	\$97,000	\$263,000	\$176,000
Cost per unit	\$100,000	\$5.56	\$5.70	\$6.09	\$6.20

TYPICAL QUESTIONS FOR EXPORT MARKET STUDY

Which canned products will we be able to sell most profitably?

Which countries offer the best selling prospects?

Are GINOC's export prices competitive?

Should GINOC brush up its packaging to compete with the highest international standards?

What about quality? How do GINOC fruits and vegetables measure up on quality with, say, other West African countries, Brazil, Spain, Israel?

What sort of shipping and distributive arrangements will be of most benefit, e.g. by offering special concessions?

How should GINOC promote its products? And what should be spent on promotion?

What about agents and buyers? and what sort of terms on price and delivery will they find acceptable?

What are the implications for the export drive of international trade arrangements like the Lomé Convention and ECOWAS, and coming promotional events such as the International Trade Fair to be held early next year.

Are there secure supply sources and adequate production capacity to meet sales commitments and so to satisfy customers?

PRODUCTION WORK PRIORITIES
WITHIN DIVISIONS

WORK TO BE DONE DIVISION	PRODUCTION CONTROL	STOCK CONTROL OF SPARES ITEMS	STOCK CONTROL OF PRODUCTION ITEMS	PLANNED MAINTENANCE	PLANT AND EQUIPMENT ASSESSMENT CAPACITY BALANCE	PRODUCTION ENGINEERING	ORGANISATION OF THE PRODUCTION FUNCTION
Boatyards	1		3		1		3
Brick and Tile				1	1		
Canmery							
Distilleries	3	3		3	2		3
Electronics	1		1				
Fibre Bag		1	2	2	1	1	3
Footwear		3	3	3	3		
Glass		2	2	2			
Marble							
Meat Products							
Metal		3	3	3	3		
Paint			2	3	3		
Paper	3	3		3			
Pharmaceuticals							
Steelworks		2	1	2	2	1	3
Vegetable Oil Mills							

Legend: 1 - Highest Priority
2 - Medium Priority
3 - Lower Priority

Note: A blank does not necessarily mean that no work is to be undertaken.

PROPOSED CONSULTANT/COUNTERPART* INPUT
 (* including divisional management)

A. Divisional Work

	Work Input, Man-Months					
	Production		Accounting		Marketing	
	P-E	GIHOC	P-E	GIHOC	P-E	GIHOC
Boatyards	12	12			1	1
Brick & Tile	3	3				
Cannery	2	2			1	1
Distilleries	3	3			1	1
Electronics	12	12			1	1
Fibre Bag	18	18			-	-
Footwear	11	12			1	1
Glass Manufacturing	3	3			-	-
Marble	-	-			-	1
Paint	-	-			-	-
Metal Industries	2	2			1	1
Paint	2	3			-	1
Paper Conversion	2	2			-	-
Pharmaceuticals	-	-			1	1
Steelworks	12	12			-	-
Vegetable Oil Mills	-	-			-	-
Total in Divisions	82	84	17	21	8	10

B. Headquarters

Production Control	4	3	-	-	-	-
Maintenance	4	3	-	-	-	-
Central Workshops	8	24	-	-	-	-
Marketing	-	-	-	-	1	38
Accounting	-	-	10	27	-	-
Total at Headquarters	16	30	10	27	1	38
TOTAL A + B	98	114	27	48	9	48

Total Work Input, Long Term
Consultants and Counterparts

	Consultants	Counterparts
Production	98	114
Accounting	27	48
Marketing	15	48
Total	144	210

Add C. Short Term
Specialists

D. Team Leader

TOTAL WORK INPUT

11	-
17	-
168	210

PROPOSALS FOR SPECIALISED TRAINING

The schedule below lists the number and period of overseas fellowships required to complement the training to be given in Ghana during Stage 2.

They fall into seven categories, five of which follow naturally from the requirements identified in Part D:

- (i) Specialised training in production related techniques
- (ii) Training of supervisory staff
- (iii) Technical visits
- (iv) Accountancy training
- (v) Marketing training

In addition, for the reasons given below, we see a need in two other areas:

- (vi) Agro/Industrial training
- (vii) Senior study tours

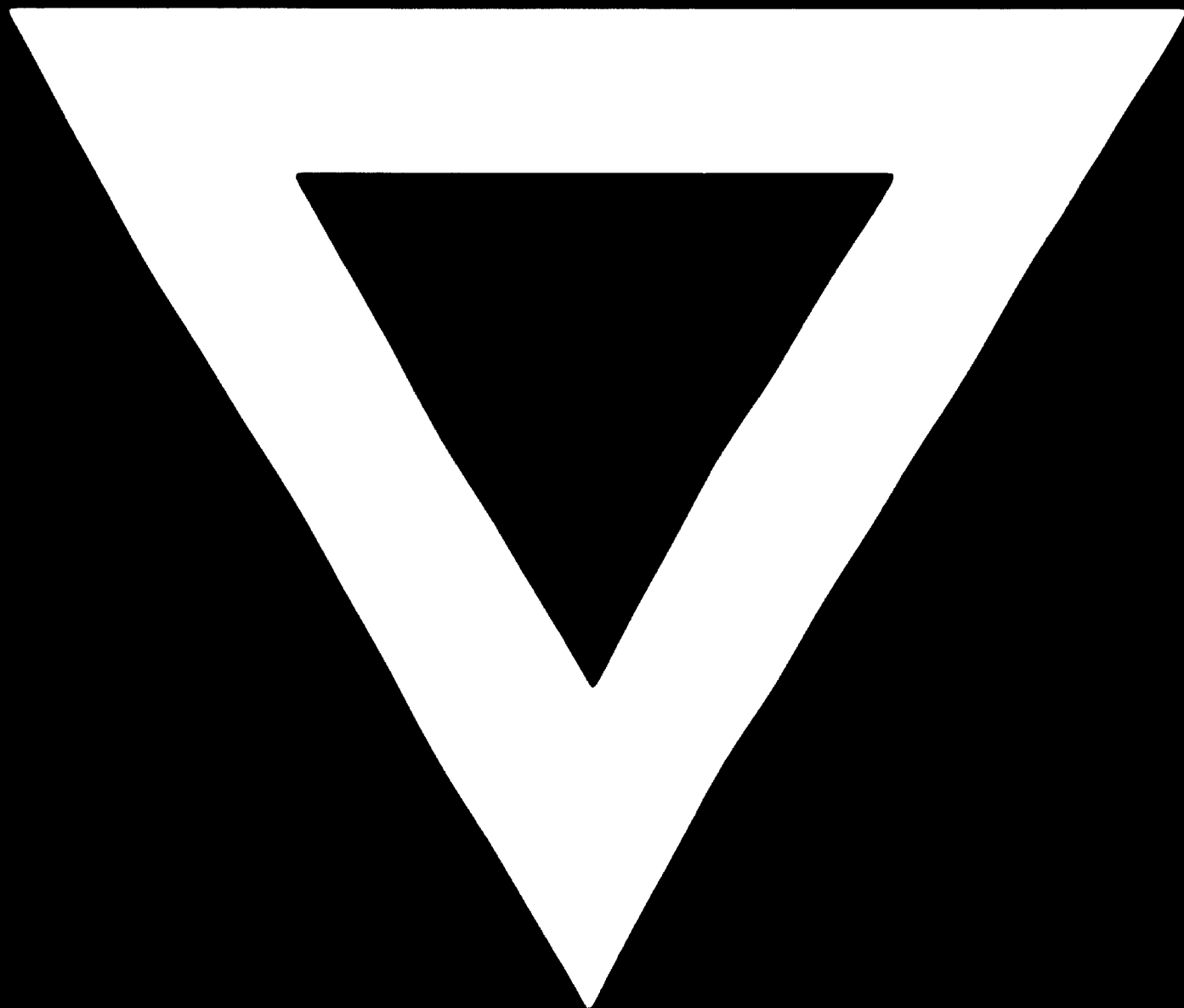
We have observed the insecurity of supply of materials to certain divisions for example Cannery and Vegetable Oil Mills, and have concluded that these ventures can never be soundly based until this is rectified. There is a clear need here for GINOC to have personnel familiar with the large scale agricultural techniques needed to supply a factory. We have therefore allowed for 2 fellowships, as was envisaged in the Project Document.

In addition, if GINOC's Senior Management is to make correct commercial decisions, they must have greater familiarity with modern industry, and it is not possible to acquire this in Ghana. We therefore have allowed for a modest amount of overseas study for Senior Management.

We give our detailed analysis by man-months below:

	Number of Fellowships	Duration, Months	Man-months
(i) <u>Production</u>			
- production control	2	2	4
- preventive maintenance	3	2	6
- production engineering	2	2	4
(ii) <u>Supervisor Training</u>			
- Boatyards	2	3	6
- Fibre Bag	4	3	12
- Glass Manuf.	2	3	6
- Paper Conversion	2	3	6
- Steelworks	4	3	12
(iii) <u>Technical Visits</u>			
- Brick and Tile	1	2	2
- Fibre Bag	2	1	2
- Jobbing Engineering	2	2	4
(iv) <u>Accountancy/Financial Analysis</u>	1	12	12
(v) <u>Marketing</u>	2	2	4
(vi) <u>Senior Study Tour</u>	4	1	4
Add: Contingency - for later specification			6
TOTAL: Industrial Management			90
(vii) <u>Agro/Industrial</u>	2	9	18
TOTAL: All specialised training			108

C - 827



82.06.25