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United Nations Industrial Development Organization

FINAL REPORT

**Assistance to the National Development Corporation
of Tanzania**

General Volume: NDC

**Preparation of a Ten-Year Development Plan for the
Metal Working and Engineering Industries Sector
Project No. XA/URT/90/628**

submitted by:

**The Development Economics Group, of
Louis Berger International, Inc.
Washington, D.C., USA**

August 1991

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August 12, 1991

Ms. Mounira Latrech
UNIDO
Vienna International Centre
P.O. Box 300
A-1400 Vienna Austria

SUBJECT: XA\URT\90\628 - Assistance to the National Development Corporation (NDC) in preparing a Ten-Year Development Plan for the Metal working and Engineering Industries Sector - Contract No. 90-206

Dear Ms. Latrech:

We are pleased to submit 10 copies of the final report on our work with the National Development Corporation in Tanzania. We enjoyed this project, and hope that our analysis contributes to the future work of both the NDC and UNIDO.

Our report is in two volumes. The first volume contains the analysis, general recommendations, and Ten-Year Plan for the NDC. The second volume consists of individual reports for each company in the NDC portfolio, including detailed financial, marketing and production analyses, and a long-term plan.

Please let us know if we can be of any further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Brandon', written in a cursive style.

Carter Brandon
Director
Development Economics Group

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National Development Corporation

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Mr. I.L. Masala	Director of Operations
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Dr. E.P. Helmut Muller	Professor in Civil Engineering, Chief Research Engineer, National Construction Council
------------------------	--

And, All NDC Managers.

CHAPTER I. EXECUTIVE SUMMARY

A. Overview

The National Development Corporation should undergo a restructuring during the next ten years to enable it to survive and to begin the process of wealth creation that will assist in Tanzania's continued development.

NDC needs to get into "competitive shape" for the coming decade; a decade in which NDC will face:

Decreased access to domestic and foreign debt,
Decreased governmental financial and political support,
Increased public demand for lower-cost, higher quality products, and
Increased domestic and foreign competition.

The proposed NDC 10-Year Development Plan -- also called the Action Plan -- was drafted with these market conditions in mind. As a result, underpinning the proposed plan are the following three broad objectives:

1. Focus resources on the most strategic market segments,
2. Assist subsidiary companies to improve overall profitability, and
3. Broaden share ownership of NDC and its companies.

These objectives should serve as the focus for NDC's efforts over the coming ten years. In the context of these objectives, the consultants sought to assess each company's ability to adjust to market conditions in the 1990s. Not all NDC companies will be able to make the necessary changes.

1. Strategic Market Segment

The Consultants categorized NDC companies by a variety of measures, including: profitability, market share, market dominance, strategic importance, export potential, production processes, market segments, customer groups, and ownership. Several strategies for how to best position these companies for the future suggested themselves:

- 1) Financial: Hold all profitable NDC companies, and sell or close unprofitable companies;
- 2) Production: Hold all companies with similar production skills that NDC seems to have managed well, and sell or close those outside of NDC's key production strengths.
- 3) Marketing: Hold all companies with similar customers or market segments, and sell or close those that do not fit these more narrow and strongest segments.

After consideration of these and other options, the consultants recommend that NDC hold all companies with similar customer or market segments and sell or close those that do not match. The primary reason for this is that NDC's strength is production. What it needs to learn at this time is to become more sophisticated in its marketing. It can more easily do this by focusing on only a few key markets and building its knowledge, understanding, and reputation within these markets. Currently, NDC sells to a wide range of markets, and does very little effective marketing.

The three market segments in which NDC should focus are:

1. Producing and marketing steel and building products in construction;
2. Producing and repairing machined steel parts used by other industries;
3. Producing agricultural farm implements.

These segments are chosen because they are (1) central to Tanzania's economy, (2) have high current and potential growth, and (3) match the majority of NDC's current portfolio.

Most of NDC's losses come from companies outside NDC's metal production and engineering strengths. For example, while Southern Paper Mills and Light Source Manufacturing make sense as business concepts, unfortunately NDC has neither the expertise nor the capital to manage the businesses.

2. Improving Overall Profitability

The second main recommendation involves recognizing that improving overall profitability of NDC is a priority. Once this objective is recognized, then there are many ways in which higher profitability can be achieved. The primary ways are:

- a. Agree on a general corporate strategy with each company, and remain focussed on that strategy.
- b. Merge, acquire, and divest enterprises to better serve customer base and meet financial targets.
- c. Establish annual targets with companies, and monitor them carefully.
- d. Reward/remove managers who achieve them or do not.
- e. Concentrate resources and technical assistance on the following, in order of priority:
 - i. Reduce costs
 - ii. Streamline production
 - iii. Improve quality
 - iv. Increase value-added
 - v. Increase unit sales
 - vi. Promote exports
 - vii. Increase capacity
 - viii. Extend product lines
 - ix. Add new products within existing companies

- f. Avoid new investments until:
 - i. Credibility is re-established
 - ii. Other priorities have been achieved

Graph 4.1 in Chapter IV illustrates how these two recommendations are merged. The first recommendation focuses on the market segment served by the NDC company, and the second recommendation focuses on the financial strength of the company. These are shown on the vertical and horizontal axes, respectively. Obviously, those companies with both strong market positions and strong financial conditions are most critical to the NDC portfolio of companies. Those companies with weak market positions and weak financials are least critical to NDC. This report concludes that all ten companies in the top left, bottom left, and bottom right quadrants should be restructured.

Specific details on the recommended restructurings -- mergers, sales, and management contracts -- that respond to these general strategic recommendations are:

- a. Obtain outside partners for:
 - 1. Southern Paper Mills
- b. License Technology for:
 - 1. National Engineering Company
 - 2. Tanzania Cable
 - 3. Ubongo Farm Implements
 - 4. Zana Za Kilimo
 - 5. Kilimanjaro Machine Tools
- c. Negotiate or keep management contracts for:
 - 1. Tanzania Electrical Goods
 - 2. Tanzania Oxygen
 - 3. National Bicycle
- d. Sell additional shares to management or partners:
 - 1. C. Metal Box
 - 2. Tanzania Oxygen
- e. Sell all shares to management/employer or investors:
 - 1. Mangula Machine Tools
 - 2. Motor Mart
 - 3. Tanzania Watch Company
- f. Merge the following companies into stronger single companies:
 - 1. Merge the operations of:
 - a. Ubongo Farm Implements
 - b. Zana Za Kilimo
 - c. Mangula Machine Tools

2. Merge the operations of:
 - a. Aluminum Africa
 - b. National Steel
 - c. Steel Rolling Mills

 - g. Spin-off smaller units:
 1. Kilimanjaro Machine Tools
 2. National Bicycle

 - h. Close and sell the assets of:
 1. Light Source Manufacturing
3. Broaden Share Ownership

The final main recommendation for NDC is to broaden its share ownership. This could be done by:

- a. Offering shares in companies to:
 - i. Local investors/operators
 - ii. Foreign investors/operators
 - iii. General public
 - iv. Managers and employees

- b. Offering shares in NDC itself.

This recommendation helps to create a role for NDC headquarters over the next ten years. Broadening ownership means involving a greater number of partners -- local and foreign investors, managers, employees, and citizens in NDC's success. NDC should seek to create "ties that bind" persons and companies to NDC's success.

In summary, these are the three main strategic recommendations made in this report, and they are covered in detail in Chapters IV, V and VI and in the individual company reports that follow. In addition, many more detailed recommendations are made in the areas of marketing, production, organization, management, human resources, finance, and policy and regulatory environment. These more detailed areas are summarized below, for both NDC headquarters and for the individual companies.

B. NDC Headquarters

1. Marketing

- a. Focus the company on three key market segments, and within those segments expand the range of products offered.

- b. Seek value-added niches that will allow NDC to compete on service and delivery factors rather than piece.
- c. Assist companies to improve their marketing skills and practice.
- d. More actively pursue export opportunities through SADCC and PTA countries.

2. Production and Operations on a Company-wide Basis:

- a. With the General Managers, set targets to:
 - Lower production costs.
 - Speed the flow of material through the plants.
 - Improve product quality
 - Improve its equipment maintenance programs.
 - Increase capital investment, R & D, and engineering budgets.
- b. Assist companies to improve their production results by facilitating functional groups, providing space at NDC HQ, and supporting technical training.

3. Organization

- a. Structure the companies to achieve NDC's objectives by:
 - Obtaining outside partners,
 - Licensing technology,
 - Negotiating management contracts,
 - Selling some or all shares,
 - Merging and rationalizing,
 - Spinning-off units,
 - Closing and selling assets.
- b. Reduce the size and cost of NDC's headquarters operation.
- c. Lower administrative costs.
- d. Strengthen the Board of Directors.
- e. Broaden share ownership of NDC and its companies.

4. Management

- a. Implement a management development program within the NDC group.
- b. Increase the responsibility, accountability, and freedom of company managers.

- c. Support General Managers to improve company management through goal setting monthly monitoring of progress.

5. Human Resources

- a. Increase employee productivity.
- b. Provide companies with a "model" compensation program.
- c. Support manager's efforts to reduce the size of the workforce.

6. Finance

- a. Set group and company targets to exceed the cost of capital.
- b. Manage the portfolio mix to reduce financial risk and optimize returns.
- c. Assist General Managers to improve overall returns through coordination and teaming.

7. Legal and Regulatory Policy

- a. Identify policy changes beneficial to NDC and companies, build a case, and lobby for changes, such as:
 - 1. Seek exemption from the SCOPO guidelines on personnel costs and policies.
 - 2. Press for the elimination of tariffs on raw materials incorporated into exported products.
 - 3. Support privatization laws in Tanzania.

C. The Individual Company Recommendations

While the above recommendations apply to the National Development Corporation itself, many other recommendations in the report deal with the individual companies and what they and their managers should accomplish. In general, the Consultants found that most NDC companies were strongest in production and human resources and weakest in marketing and finance. Management varied dramatically among the companies.

The following section gives the key recommendations and brief comments, as they apply to the individual NDC companies.

1. General Strategy

- a. Choose a basic strategy, and stick to it. Most NDC companies lack a coherent strategy.
- b. Work with NDC in the implementation of the strategy.

2. Marketing

- a. Determine the product's value to customers
- b. Determine the companies position vis-a-vis its competitors
- c. Develop a marketing program
- d. Increase product visibility
- e. Increase the numbers of persons marketing products.

Marketing is weak in almost all NDC companies. The companies need to be more aggressive in determining what is valuable about the products they produce, in matching their strengths and weaknesses with those of their competitors, and building a marketing program accordingly.

3. Production

- a. Lower production costs
- b. Improve the quality and training of production staff
- c. Improve the appearance and safety of the facilities
- d. Improve purchasing departments and procedures to lower the cost of raw materials
- e. Improve transportation planning to lower costs for customers

Competition will get fierce during the coming ten years, and cost cutting and higher value-added are the keys to survival. Cost cutting can be accomplished through better planning, better engineering, improved employee efficiency, better purchasing, and the like. Value can be enhanced through production design, higher quality, and solving key problems, such as transportation, for customers.

4. Organization

- a. Structure the organization to achieve its targets

- b. Lower management and administrative expenses
- c. Prepare the company for privatization.

NDC companies can benefit from broadened share ownership and involvement of various groups in the companies' success. The companies, however, have much to do to make themselves more attractive to investors, financial sources, potential licensors, and local shareholders. A stronger financial structure, lowered costs, and reputation for integrity can improve a company's value dramatically.

5. Management

In general, NDC companies have more managers and supervisors than is managerially or financially optimal. Excessive layers of managers and supervisors slow and garble the information flow and the decision-making process in a company. NDC companies should be leaner; i.e. they should flatten the management hierarchy.

6. Employees

- a. Increase employee involvement and commitment
- b. Revamp the compensation package
- c. Revise the position classification system
- d. Reduce employment.

Employees are the lifeblood of a corporation. NDC companies obtain only a small fraction of their employees' potential for lack of goals, motivation, compensation, and management. A careful review of personnel policies is indicated. Exemption from the SCOPO guidelines would also give manager's more freedom in meeting company and industry requirements.

7. Finance

- a. Improve cash management
- b. Increase return on assets
- c. Lower finance costs
- d. Strengthen the budgeting and planning process
- e. Strengthen the capital structure.

About two-thirds of NDC companies are weak financially. Far too many are burdened by high levels of short-term debt yet have months worth of inventory sitting in

their warehouses. NDC companies need serious work in restructuring their capital structure and their use of cash and other assets.

D. Conclusions

There are seven key benefits to the National Development Corporation of adopting the above strategies.

First, NDC gains coherence as a company. It obtains direction and focus and its employees know what the company is about. Development as an objective or goal is too diffused to either inspire or give meaning to the daily work of most of the persons within the companies.

Second, setting objectives and goals gives the employees a target and a road map. They understand where they are going, and what they are to achieve. And when they've reached their targets they know it is time to feel good, to celebrate, and to set new targets.

Third, establishing the company around three main market segments limits the number of areas the company needs to do well in. NDC is extremely vulnerable to more selective and focused corporations who are now entering its markets.

Fourth, adopting the strategy of cost reduction, in the order indicated above, improves NDC's ability to survive the next ten years. The strongest assurance of NDC's survivability is for it to be the lowest cost competitor in its segments. Then it can sustain downturns while other companies go out of business.

Fifth, a strategy of cost reduction is development oriented. Development comes from being able to do and deliver more of a product, service, or benefit for less money and effort. For example, reducing the cost of steel bar results in more affordable housing. Increasing profits of corporations increases the amount of money available to pay the workers. Without profits, NDC cannot survive and grow.

Sixth, the order of the priorities shows which projects give the highest returns and are the easiest to achieve. For example, cost reduction has the highest return on investment and is the easiest to implement. The most difficult part in a cost reduction strategy is actually deciding to do it.

Seventh, and finally, privatization means a redistribution of the assets of production to the population. NDC can again take the forefront in broadening the ownership base and the shareholding of its companies. Thus, NDC will again be in the vanguard of economic development.

CHAPTER II: BACKGROUND INFORMATION

A. Background of the Project

In December 1990, the Development Economics Group, a subsidiary of Louis Berger International, Inc., was selected by the United Nations Industrial Development Organization (UNIDO) to develop a ten year development plan for the National Development Corporation of Tanzania, (NDC). The contract title was Assistance to NDC, Tanzania Metal Working and Engineering Industries Sector, XA/URT/90/628.

The assistance was requested of UNIDO by the Chairman of the National Development Corporation, Mr. A.B.S. Kilewo, in 1989.

B. Scope of Work

The deliverables were laid out in the Scope of Work as submitted by the Development Economics Group and accepted by UNIDO. The goals of the study were fourfold:

1. to rationalize the role of the NDC in this subsector over the next ten years,
2. to help the Government of Tanzania foster subsector growth,
3. to improve subsector profitability, and
4. to invite greater private sector participation, including participation gained through divestiture of NDC holdings.

The scope of work as submitted consisted of six tasks:

1. review of the existing data and reports
2. field visits
3. demand analysis
4. factors of production and production costs
5. plans and findings
6. ten-year development plan.

Task 1

Task 1, review of the existing data and reports, was focussed on two components:

1. define the policy and business environment that NDC works in, and,
2. define statistically, to the extent data exists, the metal working and engineering subsector.

The methodology was a data and literature review of the overall economy, the industrial sector in general, and the metal working and engineering industries in particular.

Data sought consisted of:

1. growth in value-added,
2. production,
3. changed composition of subsector output, and employment.
4. labor turnover,
5. labor productivity,
6. skills development,
7. relative capital intensity,
8. return on capital and labor,
9. and relative share and types of imports and exports.

The team was to identify key factors, linkages, and constraints responsible for subsector performance. From this data and analysis, the team would detail the subsectors composition, determine its relative importance in overall Gross Domestic Product (GDP), and identify its linkages to the rest of the economy.

This task was accomplished and the results are included in Chapter 2.D, Tanzania Metal-Working sector overview. Data was gathered from NDC Headquarters and group companies¹, from the Mechanical Engineering Industries Development Association (MEIDA), from the Government of Tanzania, from the International Monetary Fund, and from the World Bank.

This task presented a dilemma, since NDC competes not just in the metal-working and engineering subsector, but in several widely-divergent markets.² These include:

Pulp and paper.
Industrial and medical gases.
Electrical and transformers and switch gears.
Electric bulbs, fluorescent tubes.
Asbestos roofing tiles and products.

Therefore, concentrating exclusively on metal working industries would not provide full coverage of the NDC companies that need attention. Moreover, time constraints made it impractical to obtain detailed figures on each industry sector (such as paper). The result, as reflected in this report, is a compromise of general metal-working sector analysis with more specific figures relating to each company's markets wherever possible.

¹Industrial Products Limited, a diversified consumer products company, was not visited, as NDC holds a minority interest of 20% and does not manage the firm.

²Table 3.1, in Chapter III, has a complete listing of NDC companies and their products.

Task 2

Task 2, Field Visits, included visits to the current operations of the 17 companies. The objective of the visits was threefold:

1. To determine conditions at each plant,
2. To determine the current productive levels of each firm,
3. To uncover key financial, operational, and managerial facts about each firm.

The analysis was to center on eight areas:

1. Inbound logistics (purchasing and raw materials)
2. Operations (manufacturing)
3. Products
4. Outbound logistics (delivery and packaging)
5. Marketing and sales
6. After sales service
7. Sales and finance
8. Overall strategy.

Our overall approach was to include a detailed assessment of the financial structure and status of each enterprise based on its balance sheet and income statement. This task also included an analysis of the management structure, size of labor force, and ownership of each company.

This was accomplished. Every company, including the six divisions of ALAF, and certain branch operations were visited. Left out due to their relative smallness were the sales depots in Mbeya, Dodoma, Mwanza, and Iringa, as well as the secondary facilities of CMB and Tanzania Oxygen in Mwanza.

In addition, the team conducted an extensive review of each company's Annual Audited Financial Reports, Annual Plans, Marketing Plans, Marketing Literature, Production Documents, and any available feasibility or consulting studies that were provided by the companies. As is common to both developing economies and troubled corporations, the data contained many gaps and occasional errors. The last consolidated annual report was for 1988. There were no plans available for 1986 or 1988. The results of the field study and literature review are detailed in Chapter III, Findings and Analysis, and in the second volume of this study, devoted to the individual companies.

In Chapter III, the order of the above list of topics was rearranged in order to give a more logical flow of information and to emphasize the importance of strategy and marketing to the NDC companies. Inbound and outbound logistics were included in Section III.C., Production and Operations. Marketing and sales, after sales service, and sales and finance are included in Section III.B., Marketing. Two separate sections, Section III.F., Human Resources, and Section III.G., Finances, round out the chapter.

Task 3

Task 3, Demand Analysis, had two key objectives:

1. Determine the future demand for current NDC products, and
2. Determine the future demand for products that NDC is capable of producing given its existing machinery.

The demand analysis was required to be able to identify the market potential for NDC companies over the next ten years.

This was accomplished as detailed in the scope of work and the results are included in the appendices on each company. The team obtained existing marketing and feasibility studies, interviewed key government officials, questioned the NDC General Managers, and conducted extensive research on international sources including the World Bank and the Library of Congress.

Task 4

Task 4, Factors of Production and Production Costs, had one objective: How do these factors impact the NDC companies' competitiveness?

This task was accomplished and reviews are incorporated into the company reports in the findings section. The team commented where appropriate, on:

1. Human Resources,
2. Raw Materials,
3. Knowledge Resources,
4. Capital Resources, and
5. Infrastructure.

Task 5

Task 5, Plans and Findings, had 3 areas of focus:

1. A plan for improving the current operations of each firm,
2. Identification of new and under-exploited opportunities for each firm
3. If relevant, a plan for restructuring the enterprise.

The parameters of this task were clearly identified in the Scope of Work and discussed with NDC on several occasions. These included:

1. Primary emphasis on operational improvements,
2. Identification of low cost/high return projects,
3. Exclusion of projects requiring major capital investments, and
4. Exclusion of projects involving new companies or industries.

This was in keeping with the original concept, plan, and resources allocated to the project. Although there was interest on the part of NDC in expanding the scope of the project to include new companies and industries -- which is understandable given NDC's role in assisting new companies -- the Team did not feel that it could investigate or evaluate such industries or companies given the already extensive scope of work. Still, wherever possible, the Team looked at the potential for upstream and downstream linkages within NDC. And the study does include identification of potential areas that NDC might pursue after it has completed its operational improvements and once it has the organizational structure required to handle such projects. Finally, in keeping with the scope of work, competition and substitution in these areas was examined.

This task was accomplished and the results are summarized in the General Volume (Chapter V), and presented in more detail in the appendices. Chapter V identifies the key actions to take for each company. Chapter VI breaks down these recommendations into concrete and quantifiable steps with a time-frame for their completion. The company-specific reports in the appendices give the key recommendations for each area of the company, and discuss options that should be implemented. Also, these appendices identifies the potential problems with such options and their costs.

Task 6

The Ten-Year Development Plan, Task 6, had two objectives:

1. Identify and recommend strategies that would encourage growth of the subsector,
2. Identify and recommend strategies that would improve the competitiveness of the existing companies.

The Ten-Year Development Plan consists of a synthesis of the recommendations for the NDC holding company and the individual company plans. The plan is presented from NDC's perspective in order to make the report more practical and immediate. This task was accomplished and the results are incorporated in Chapter VI.

The plan also identifies strategies and plans on both the policy and project levels to encourage the growth and competitiveness of the metal-working subsector. Chapters IV summarizes key points and includes sub-plans for:

- a. Human resource development, with an emphasis on efficiency;
- b. Research capabilities -- process-oriented;
- c. Amelioration of barriers and obstructions within Tanzania that hinder sectoral development, including macroeconomic, trade, and micro-economic legal and regulatory policies;
- d. Amelioration of infrastructural, institutional or service problems hindering sub-sector development;
- e. Plant rehabilitation--layout, repair and maintenance, equipment replacement; and
- f. Restructuring--changing the asset composition of the companies to achieve higher returns on invested capital.

The parameters of this task were the same as those in Task 5 and were discussed with NDC on several occasions. These included:

1. Primary emphasis on operational improvements,
2. Identification of low cost/high return projects,
3. Exclusion of projects requiring major capital investments, and
4. Exclusion of projects involving new companies or industries.

Again, this was in keeping with the original concept, plan, and resources allocated to the project. This task was accomplished and the results are included in first Volume of the Report, primarily in Chapter IV. The 10-Year Development Plan (Chapter VI) provides a time frame for implementing the recommendations.

In summary, Volume One contains the sectoral and corporate analysis that leads to the general recommendations and Ten-Year Plan for NDC. Throughout the report, graphics and visual representations have been used wherever possible to emphasize key aspects of the large quantities of data. Extensive data tables and graphics are included in the appendices.

The second volume consists of individual company plans. These are structured similarly to the Ten Year Plan. The outlines are slightly less detailed as a reflection of the lower quantity of information and the more narrow range of the individual reports. Again, visual representations of data were used wherever possible to illustrate key points and to provide the reader with oases in a somewhat forbidding landscape of text and data.

C. The Tanzanian Economy

Tanzania, coming out of a colonial past, made efforts to change the ownership of the factors of production. In 1967, the Arusha declaration transferred the means of production into the hands of the public. Many private corporations were nationalized during this period.

This was followed by a period of economic decline in the late 1970's and early 1980's, during which per capita GDP fell at an average rate of 2% per annum. Although food crops grew in general in line with the population and there were only food shortages during droughts, export crops declined over 50% due to an overvalued foreign exchange rate and low relative producer prices. Industrial production, which had risen during the 1970's, was in decline by the 1980's. This was due to inefficient and import-intensive industries that were unable to purchase imported inputs due to a lack of foreign exchange. These policies resulted in Tanzanian debt exceeding 2.6 billion dollars by 1983-1984, but the country had relatively little to show for it. The economic infrastructure was worn down and neglected. Most economic activities outside of the subsistence government were grinding to a halt. These problems, collectively, gave the impetus for the economic recovery program instituted in the late eighties.

In the mid to late 1980's a series of economic recovery programs were instituted to good effect. From 1985 through 1989, per capita GDP increased approximately one and one half percent per annum. In 1988-89, GNP grew by 4%.

Inflation was high throughout the 1980s, but fell to 28% per year by 1988. As part of the economic recovery program and agreement between the Government of Tanzania and the International Monetary Fund (IMF), Tanzania instituted a series of economic and financial measures designed to turn the Tanzanian economy around. There were three guiding policies in the government's economic recovery program during this period, 1) reduce the budget deficit; 2) avoid government recourse to domestic bank credit to increase credit in the productive sectors; and 3) give priority in public expenditure and investment to infrastructure, social service, staff salaries, and rehabilitation and maintenance of the existing stock of fiscal capital. Included in these programs were a financial program to promote real interest rates in the banks, a reduction in government borrowings, and a reduction in government corporate borrowings to allow private sector access to the capital markets. Also, taxes, fees, and collection efforts were increased during this period to reduce the budget deficit.

Trade liberalization was instituted which involved opening up the Open General License (OGL) program by increasing the number of eligible items on the OGL list. The ceiling per importer was also increased from \$200,000 to \$500,000 in 1989 and by mid-1989 was increased to \$1 million. Retention of foreign exchange earned from exports was reduced to 50% and then down to 35%.

The present and future scenarios for Tanzania are guardedly optimistic. The economic recovery programs are taking hold. There is increased willingness of outside investors and donors to place additional resources in Tanzania. And the government has been liberalizing trade policies, financial and economic policies to encourage both more rationalization within the economy and greater acceptance of outside foreign capital and investment.

In the state-owned enterprise sector, there is growing awareness of the large losses caused by the state-owned enterprises and the cost to the economy as a whole. There has been increasing pressure on the Tanzanian Government to solve the financial problems in this sector. Newspaper reports during the period of January to February 1991, contained almost daily articles on the abuse of power and position within those corporations, and on the reform process.

In the sectors affecting NDC, there is also room for optimism. There appear to be many market opportunities in sectors that NDC competes in or supplies. Construction has been booming in recent periods. There is a very large, ongoing, road rehabilitation project, a rail rehabilitation project, and private construction. In addition, port projects and other large infrastructure projects in the electric utility sector areas have been increasing.

Agriculture is coming back after years of decline. Coffee, cashew, and other cash crop exports have been increasing in the last few years. In addition, there is more private investment in agriculture and ancillary processing. Export possibilities also appear to be

increasing. Mozambique, in 1991 will receive as much as \$1 billion in foreign assistance, much of this for reconstruction of its infrastructure. Thus, there is tremendous potential in neighboring countries for NDC corporations.

Against these positive factors are some negative ones, which portend serious problems for domestic industry in general, and NDC in particular. Competition is increasing as a result of trade liberalization and as a result of a more realistic exchange rate. For these reasons, the National Development Corporation will need to look very carefully at its operations to position itself for a rapidly changing economy.

D. Tanzania Metal Working Sector Overview

Together with the rest of the Tanzanian economy, the metal working industry experienced a period of deep depression between 1980 and 1986. Output in the manufacturing sector fell about 17% and its share of value added in GDP decreased from 13% in 1978 to about 5% in 1984. There was hardly any capital investment undertaken during this period in any of the key industrial sectors, including the metal working sector.

A statistical overview of the metal working sector between 1978 and 1984 is presented below.

Total Gross Output (in constant 1976 prices, T.s. millions)

ISIC	Desc.	1978	1979	1980	1981	1982	1983	1984
371	Iron & Steel	303.4	249.5	204.2	196.2	162.4	137.4	363.8
381	Metal Products	305.6	373.6	341.3	261.7	244.9	248.8	236.7
382	Machinery	193.9	99.7	45.1	36.2	32.8	23.6	35.5
383	Electrical Machinery	199.6	193.2	170.2	138.6	96.9	139.5	138.6
384	Transport Equipment	458.8	533.2	521.7	462.7	417.2	318.1	248.0
	TOTAL	1461.3	1449.2	1282.5	1095.4	954.2	867.4	1022.6

Total Number of Employees: number

ISIC	Desc.	1978	1979	1980	1981	1982	1983	1984
371	Iron & Steel	1397	1216	1255	1336	1286	1293	1621
381	Metal Products	3206	2983	2939	3022	2747	2743	2806
382	Machinery	1556	1249	1162	1128	1151	1167	1167
383	Electrical Machinery	1273	1148	1285	1005	1037	1328	1354
384	Transport Equipment	4737	4361	4763	4911	4730	4766	3926
	TOTAL	12169	10957	11404	11482	10951	11297	10874

Source: *Statistical Abstract, Bureau of Statistics, Government of Tanzania, 1989*

Companies operating in the metal working sector experienced an average decrease of over 52% in their total gross output between 1978 and 1984. Total gross output of the machinery sub-sector decreased by 61% between the same time periods. The total number of persons employed by the metal working sector also decreased during this period, however by the smaller amount of 17%.

In 1984, approximately 78% of the total value added in the metal working sector was generated by companies located in the Dar Es Salaam area. Arusha contributed approximately 7.5%. With respect to total persons employed in the metal working industry, Dar es salaam provided 82% of the work force and Arusha 8.6%.

With such a high concentration of activities in the urban areas, the metal working industry suffered greatly from the recession experienced by Tanzania in the first half of the 80's.

In 1984 there was a minor recovery of the Tanzanian economy and of the metal working sector, mainly due to an increase in agriculture production caused by good rains. In 1985 however the country slumped back into economic stagnation. In 1986 a decrease in oil prices and an increase in coffee price resulted in a 3.6% economic growth rate.

The key problem for the Tanzanian economy and the metal working sector is the inability of the export base, which is mainly agriculture, to generate sufficient foreign exchange. To make matters worse the export base is highly import dependent. This results in a vicious circle of low production, and inadequate foreign exchange generation.

The table below shows the main commodities traded in 1987.

EXPORTS	TSh (Mil)	%	IMPORTS	TSh (Mil)	%
Coffee	5,793	31.3	Machinery	15,182	25.6
Manufacture	3,737	20.2	Transport Equip.	10,101	17.0
Cotton	2,832	15.3	Metal	6,578	11.1
Cashew Nuts	713	3.9	Fuel	5,556	9.4
Cloves	350	1.9	Food & Beverages	3,979	6.7
Sisal	322	1.7			
TOTAL	18,512	100.0 %	TOTAL	59,340	100.0%
(Incl. Others)			(Incl. Others)		

Source: Bank of Tanzania, 1989

Exports during 1988 and 1989 consisted primarily of agriculture products and amounted to Tsh.33,938 million 1988 and Tsh. 45,695 million in 1989.

The breakdown of imports for 1988 and 1989 in TSh (mil) was as follows:

	Consumer Goods	Intermediate Goods		Industrial Goods		Total
		Construction Materials	Others	Machinery Equipment	Other	
1988	4,867	7,312	27,512	36,727	14,221	90,634
1989	5,457	10,289	30,661	42,463	15,568	104,538

Source: *Economic Survey, Government of Tanzania, 1990*

The companies of the NDC and other metal working companies depend heavily on the importation of machinery and metals as raw materials for their products. This purchasing pattern and the effect it has on the metal industry and the economy as a whole is highlighted by the trade figures shown above.

In addition to severe foreign exchange restrictions, the government imposed a 30% tariff on all imported steel products in 1989. The government does not distinguish between raw, intermediate or finished products in this area. The tax system is cumulative and therefore results in a higher price for the consumer and decreased competitiveness in the international market.

Since 1986, primarily due to the National Economic Recovery Program (ERP), the Tanzanian economy has shown signs of growth. Due to the increase in economic activity, the domestic demand for goods produced by the metal working sector has increased at a rate of about 2% - 4% per annum.

The construction, transportation and agriculture sectors have been the primary source of increase in demand for goods produced by the metal working sector.

Construction & Transportation:

Growth rates of 5.3% and 4.7% in the construction and transportation sectors respectively, in 1989, increased the demand for products manufactured by the metal working industry. NDC companies that registered profits in 1989 were primarily those involved in supplying raw materials to the construction and transportation sectors.

Companies catering to these sectors include; Aluminum Africa and Steel Rolling Mills for steel rods, steel pipes and roofing iron sheets, Tanzania Electrical Goods Manufacturing for transformers and switch gears, and Tanzania Oxygen for industrial oxygen, acetylene and carbon dioxide.

Agriculture:

The agriculture based economy of Tanzania will continue to provide a steady market for manufacturers of farm implements. About 93% of the population is

involved in farming and about 80 % of these farmers use small farm implements and hand tools that can be produced by the domestic industries.

Despite the potential demand, the local farm implements manufacturers, Mangula Mechanical and Machine Tools, Zana Za Kilimo, and Ubungo Farm Implements posted moderate losses during 1989. This was due to superior quality products being imported into the country and ineffective marketing on the part of the local manufacturers.

The domestic metal working industry currently produces enough to satisfy approximately 40% - 45% of the national demand. During 1988-89, companies in the metal working sector were operating at an average capacity utilization rate of about 50%. During this same period NDC imported approximately \$32.0 million worth of raw materials for its companies.

Manufacturers in the metal working sector need to concentrate on promoting their products in the international market. Some companies like Aluminum Africa, Tanzania Electrical Goods Manufacturing and Southern Paper Mills have already taken the initiative and have started to tap the neighboring export markets in Burundi, Zaire, Kenya and Zimbabwe.

As the Tanzanian economy grows stronger, there will be an increase in demand for goods produced by the metal working sector, both domestic and foreign. More detailed demand estimates are contained in the appendices devoted to specific companies. A coordinated strategy has to be developed within the metal working sector itself so as to more efficiently utilize the raw material resources of the country.

E. Policy and Regulatory Environment Faced by the Metal-Working Subsector

The policy and regulatory environment has limited the potential for competition in many metal sector markets, including many of NDC's markets. As the sole supplier of many metal-working and steel products, NDC was protected from outside competitors by import duties, sales taxes, and delivery charges. Furthermore, NDC had preferential access to foreign exchange over the past few years. This enabled it to purchase inputs and supplies at a subsidized price.

The current environment is changing. As the economic recovery program takes hold, NDC finds itself in increasingly competitive markets and yet it must abide by stricter rules and incur higher costs than private companies.

1. Macroeconomic Policies

Macroeconomic policies that affect the NDC include exchange rate regulations, and access to foreign exchange. The official rate overvalues the Tanzanian Shilling relative to the parallel or market rate. The Open General License (OGL) system gives NDC equal

access to foreign exchange so that it is not rationed in its ability to purchase materials.³ NDC has cash flow problems, however, that raise the cost of its foreign purchases, since it relies on bank overdrafts to meet the 100 percent cash cover of the OGL it is incurring charges of 31 percent per annum.

NDC companies can benefit from and have used the currency regulations that enable PTA member countries to purchase NDC's products using their local currencies. This has not always worked well; however, as there are apparently some delays and mishaps with the system.

2. Trade Policies

The tariff on most imported metal products is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would give a further, positive impetus to exports of NDC products.

³In the past, there was a rationing system in which companies competed for access. Since there was no pricing mechanism to clear the market, favoritism and ad hoc policy decisions become more important than financial strength in obtaining foreign exchange.

CHAPTER III: FINDINGS AND ANALYSIS

A. Overview of NDC

NDC currently consists of the holding company, 17 operational companies in which NDC holds a majority share, and one company in which NSC holds a minority share. See Table 3.1 for an overview of the companies.⁴

Annual sales in 1989 were Ts. 14,161 million, on which NDC realized a loss of Ts. 183 million. Total assets were Ts. 38,524 million.

The National Development Corporation (NDC) was founded by an act of Parliament on January 1, 1965 it was formed by assuming the assets of the Tanganyika Development Corporation. Total assets were valued at Ts. 100 million and consisted of the investments and loans in 11 subsidiaries and 10 associated cooperations. The NDC was to spearhead economic development of Tanzania based on a strategy of local production of consumer goods in textiles, beverages, animal based goods and leather products, provision of services in the fields of education, tourism, and entertainment, and extraction of mineral and plant-based products for export.

The incorporation of NDC and the implementation of the industrial development strategy, encountered many difficulties. In 1967, the Arusha declaration stated that the government was to become the major investor in all of the major economic sectors of the economy. The National Development Corporation, was charged with the primary responsibility of reestablishing Tanzania's industrial base on behalf of the Government.

Over the next two decades, as the country went through a number of five year development plans and development strategies, a large number of holding companies grew out of the NDC Group. Included among these were:

Tanzania Wood Industry Corporation	wood industry
State Mining Corporation	mining and processing activities
Tanzania Textile Corporation	textile industry
Small Industry Development Organization (SID)	small scale industries
Tanzania Leather Associated Industries	leather and leather products

⁴ All tables and graphs referred to in this chapter are contained in the Appendix to Chapter III.

Tanzania Karatasi Associated Industries	paper, printing, publishing, and all paper-related activities
Tanzania Breweries (TBL)	beer brewing, spirits, whisky and local brew
National Chemical Industries (NCI)	chemical - based industrial sector

During this period, many companies were split off and NDC shrank in size to its present group of companies.

B. Marketing

1. Overall Marketing Strategy

NDC does not have a uniform market strategy. Markets, products, and marketing skills vary considerably from company to company, as shown in Table 3.1. It has not aggressively sought export opportunities. Prices are generally set to match, but not exceed, landed import prices.

2. Customers

NDC's customers are primarily located in Dar Es Salaam, but due to the wide range of products, customers may be found scattered throughout the country. Customers fall into three basic categories: industrial companies and parastatals, construction firms and construction companies, and farmers or agricultural supply companies. Table 3.2 gives a listing of markets and distribution channels.

3. Sales Tactics

The company uses few sales tactics. Discounts are occasionally given for large orders, off-season sales, or for export orders. In the past, credit has been extended to regional trading corporations; however, this has been cut off due to non-payment by the regional trading corporations.

NDC does not generally absorb transportation costs for large orders. Customers in neighboring countries are urged to make use of the Preferential Trade Agreement Clearinghouse. This enables them to purchase NDC products using their local currency, which is a significant competitive weapon for NDC.

4. Customer Service

Customer service is weak to non-existent in most NDC companies. Most NDC products are basic, low technology items such as metal sheets, bars, castings, hand tools, and the like. Therefore, extensive customer service is generally not required. However, even in those cases such as Kilimanjaro Machine Tools, where service would

be of benefit to its customers, NDC companies do not generally maintain a customer service department. An exception is the Aluminium Africa Group which works closely with designers and architects to get its products to conform with architectural specifications.

5. Pricing

Pricing is set by NDC companies to match the landed cost of imported products, or in neighboring countries to beat competitor pricing. Basic products such as galvanized iron sheeting are under control of the Government's Pricing Commission. In these cases NDC negotiates on an annual basis with the Government's Pricing Commission to establish the current years prices. The consultant is unaware of any NDC company that has deliberately attempted to price at a premium to its market.

6. Promotion

NDC does little, if any, promotion of its products. However, it is a member of in the Mechanical Engineering Industries Development Association (MEIDA) which is primarily a professional association. It also participates in several trade shows organized by parastatals.

7. Advertising

The company does not appear to have a regular advertising program. Advertising expenditures for the NDC Holding Company totaled less than Ts.380 for 1988.

The bulk of advertising is spent on Requests for Proposals, tender documents, personnel recruiting, and various congratulatory messages (political), rather than for the promotion of NDC products.

8. Location

Of NDC's 17 subsidiaries, 12 are located in Dar Es Salaam. Of those located outside Dar Es Salaam, most maintain either a representative or a regional sales office in Dar Es Salaam. The AAL companies are also building a series of regional depots to better service the interior.

9. Distribution

Table 3.2 summarizes distribution channels and products for the NDC group. Most NDC products are distributed directly to users. In some cases, customers wait outside the factory to pick up products as soon as they are produced: for example, Tanzania Oxygen sells cylinders of gases at the factory.

C. Production and Operations

1. Geographical Location

NDC companies generally have only one office which includes both the factory and the administrative offices located at the same site. These are primarily located in Dar Es Salaam.

2. Facilities and Processes

NDC companies, in general, are older companies using somewhat antiquated technology. These include in some cases machines dating back thirty to forty years. Technology is basic, and well established for each industry. NDC companies operate a variety of processes and technologies. Table 3.3 shows the general categories of production processes in the NDC group. There is some doubt with regard to the accuracy of rated capacity and utilization figures. Several NDC companies, such as National Bicycle and Kilimanjaro Machine Tools were operating at less than one tenth their potential.

Many of NDC's companies were established as a result of either nationalization of existing assets from private owners or as a result of foreign assistance or donor projects in which machinery was donated or loaned to NDC. See Table 3.5 for a list of NDC's partners and assistance.

In either case, equipment has not been updated or replaced in most companies for almost a decade. Capital investment in existing NDC companies has been minimal in recent years. In 1989, NDC invested Ts. 1.6 billion, or 4.2% of total assets, of which 73% went to Southern Paper Mills. The result has been a rapidly aging plant throughout the NDC companies, subject to frequent breakdowns.

There is very limited automation of product flow or work and process inventories through the factories. There is little use of computerized inventory systems, and no use of automated management information systems on the factory floor.

3. Materials Handling

There are generally no automated line to transfer materials through an NDC factory. Some AAL companies and Southern Paper Mills, which is a continuous flow paper mill, are the exceptions. Technology is generally manual with some limited use of forklifts and built in rail lines with hand pushed dollies. In several factories overhead cranes are used to move heavy materials on and off the production line.

4. Production Costs

Production costs are generally heavily weighted towards imported materials. Most NDC companies are heavily dependent upon imported raw materials particularly those in the iron and steel industry. Labor tends to be a rather small percentage of cost of goods:

about 5% to 20% on average. Finance charges as a percentage of net sales are quite high for NDC companies. In 1989, finance charges ranged from 2% to 43% within the companies.

There are of course, a few exceptions to this. Ubungo Farm Implements, for example, maintains almost a year's supply of finished hoes due to an over estimation of market demand. Several other companies such as Mangula, Kilimanjaro Machine Tools, and Zana Za Kilimo also have excess inventories of slow moving items.

5. Product Quality

Product quality within NDC varies dramatically. In general, NDC companies have not established a clear reputation for product quality. Thus, they are suffering severely from increased import competition in such basic categories such as hoe and farm implements. Recognition of the importance of product quality is gaining within a few companies. Metal Box Tanzania, for example, has made a very strong and concerted effort to improve product quality and delivery times of its products over the past year.

6. Product Delivery (Outbound Logistics)

NDC companies transport the bulk of their products outside of Dar Es Salaam. A limited amount is shipped over the Tazara Tanzania Zimbabwe Rail-lines or over the Tanzania Railways Corporation line. As both lines have severely under-invested in infrastructure over the years, they are suffering from tremendous problems. A rehabilitation program is ongoing and one hopes that NDC will be able to transport increasing large sums of products over these two rail lines which have significantly lower costs than the current highway transportation costs.

Finished goods inventories are usually not a problem for the better run NDC companies and for those with products in high demand. For example, GALCO of the AAL group, sells corrugated sheets within hours of coming off of the production line.

7. Competitive Strengths/Weaknesses

As for strengths, the National Development Corporation has very experienced managers, unique plants and processes in the economy, and monopoly or near monopoly positions in a half dozen basic products and industries. This should give it a very strong competitive position.

At the same time, NDC's workforce is relatively large and inexperienced relative to its competitors. Lack of maintenance has aged its plants dramatically; lack of equity capital and reinvestment has contributed to the further deterioration and aging of NDC plant and equipment, and, at present, it has few capital resources to finance large reinvestment programs in its basic industries. In addition, NDC is quite weak in marketing and finance which contribute to its weakness in basic production.

8. Strategy and Plans

NDC production strategy and plans deal more with expansion of product lines and companies rather than improvement of existing processes and facilities. Exceptions would be Metal Box Tanzania which is investing in more automated equipment for its manufacturing lines, Southern Paper Mills which is investing in process improvements, and Aluminium Africa which is looking to improve basic galvanizing processes and annealing lines in its existing facilities.

9. Expansion Plans

NDC has identified a number of expansion opportunities and rehabilitation projects which are listed in Table 3.4. As the consultants were unable to review any of the feasibility studies, they cannot comment on them or provide capital requirements. Review of the feasibility studies for Light Source Manufacturing did uncover serious weaknesses in the projects conception and assumptions. Further, NDC's recent track record on projects - Southern Paper Mills, Light Source Manufacturing, and Kilimanjaro Machine Tools casts some doubt on NDC's ability to conduct project development in the last few years.

D. Organization

Administratively, NDC headquarters is divided into five departments: Administration, Planning, Finance, Legal, and Personnel. The companies are set up as independent companies. Each has its own Board of Directors which consists primarily of outside directors and an NDC representative. Generally, the manager is not a member.

NDC headquarters has a large staff of over 100 persons, including a very large contingent of engineers to manage and support the operations of various corporations. At the same time many NDC companies suffer from a lack of skilled managerial and engineering talent.

E. Management

1. Key Management Personnel

Key managers include:

Mr. A.B.S. Kilewo	Chairman and Managing Director
Mr. I.L. Masaza	Director of Operations
Mr. R.B. Itemba	Director of Finance
Mr. W.G. Ndesokia	Director of Planning
Ms. R. Mtul	Director of Manpower Development and Administration
Mr. W. Mundebe	Corporate Secretary

All personnel have been working with NDC for at least five years.

2. Management Compensation

Management compensation at NDC is set by the Standing Committee on Parastatal Organizations (SCOPO). Base salaries are quite low by international standards: however, benefit packages are quite extensive. Benefits in most cases exceed 100 to 200% of base salary in real terms. Benefits may include housing and housing maintenance, vehicles for officers, medical care and insurance, life insurance, meal allowances, entertainment allowances, and so on. That is partly to escape Tanzania's income tax rates of 50%.

As far as could be determined, management compensation is not linked to performance. At the same time, it appears that longevity in position is rewarded with increasing salary increments.

3. Board of Directors

The Board of Directors of NDC is selected by the President's office. The composition of the NDC Board in 1988 consisted of 9 members. The Board consists primarily of government officials, and lacks persons with extensive hands-on private sector business experience.

Company Boards are appointed by the National Development Corporation, the Ministry of Industry and Trades, and various relevant Ministries. The composition of a typical NDC Board would consist of representatives from:

National Development Corporation
Ministry of Trade and Industry
National Bank of Commerce
Treasury Department
University of Dar Es Salaam
Juawata (Worker's Union)
Outside partner.

4. Supporting Professional Services

Accounting audits are conducted by the Tanzania Audit Corporation, a government corporation. Legal services are provided by NDC's in-house legal counsel.

NDC supplements its professional staff through the use of consultants from TISCO, the National Productivity Institute, and outside resources such as UNIDO. Currently, NDC has management contracts or technical assistance agreements with many countries and companies. See Table 3.5 for an overview.

F. Human Resources

1. Composition and Skills

The National Development Corporation employs over 7000 employees. Table 3.10 gives an indication of the number of employees by company. Employment has generally remained flat since 1984 with the exception of new companies coming on stream such as the Southern Paper Mills and Light Source Manufacturing.

Within the companies, the level of supervisors to workers is quite high at 1 to 9. This indicates a rather hierarchical structure with excessive levels of bureaucracy within the company. High levels of supervisors to workers also tends to indicate overgrading of positions.

In addition, the number and percentage of overhead, administrative, and other ancillary personnel to direct production is quite high. This might be typical for highly automated plants; not for NDC's older, more labor-intensive facilities.

2. Compensation and Trends

The Company is able to attract and retain a reasonably qualified work force for its operations. This is due more to the lack of other employment opportunities and the security of a government position, rather than any strength within the companies themselves. Salary levels are set by SCOPO as described earlier. Turnover is quite low and is estimated at less than 5% percent per annum.

The compensation package for a typical worker consists of a base wage, overtime, medical and health insurance, in some cases housing, transportation allowances to and

from work, and various meal allowances. In the heavy industries such as Aluminium Africa and Steel Rolling Mills employees receive heat allowances and milk allowances. The benefit packages minimize taxation on the employee who would be taxed at rates exceeding 50% of that income.

In general, wages exceed those that could be found within the private sector in most areas, but they are rarely linked to productivity. Several companies including Steel Rolling Mills, Aluminium Africa, and Metal Box Limited have production bonuses. These are a small percentage of base pay and benefits.

3. Productivity

Productivity in the NDC companies in general is quite low. If we look at Table 3.10, we can see that revenues per employee vary from a low of 186,000 Tanzanian shillings per employee to a high of approximately 6.7 million shillings. In dollar terms this would be roughly \$1,283 to \$46,303. Profits also vary dramatically, ranging from negative amounts to a high of 1.8 million Tanzanian shillings per employee.

4. Training Programs and Needs

The National Development Corporation conducts most of its training in the form of on-the-job training. Southern Paper Mills has an extensive training program and Ubungu Farm Implements also has an extensive apprenticeship program to take high school age students and train them for their operations. There is a strong need for training at all levels and in all functions.

G. Finances

1. Sales, Revenue, Profitability

NDC has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table 3.6: However, when this is translated into dollar terms, NDC has shown a marked decline in sales. (See graph: Revenue/Expense/Profit or Loss).

The National Development Corporation lost approximately 183 million Tanzanian shillings in 1989. This was primarily due to the loss of 1.2 billion shillings caused by Southern Paper Mills. Even still, profits appear to be overstated. Depreciation is artificially low, financial expenses are often deferred and NDC has historically benefited from subsidized access to foreign exchange.

Examination of Table 3.7 shows that the NDC companies varied greatly in terms of revenue, expenses, and pre-tax profits ranging from a high in revenue terms of over 5 billion shillings for Aluminium Africa to a low of less than 23 million shillings for Motor Mart Limited. This is also illustrated in the Graph: Revenue/Expense/Profit or Loss. Approximately 5 of the 17 operating companies of NDC exhibited a net loss for 1988. In the other cases profits may be over stated as described above.

Financing costs are high. This is due to low profitability and an excessive reliance on short-term borrowing to cover both short-term and long-term obligations. This places a large debt burden on NDC that has made operations quite difficult within the last five years. This is examined in more detail in our analysis of the balance sheet.

2. Assets and Liabilities

Table 3.8 shows the key balance sheet indicators for the National Development Corporation group of companies. Assets ranged from a low of 30 million shillings in Motor Mart Tanzania to high of 24.9 billion shillings in Southern Paper Mills. The companies varied widely in terms of their debt equity ratios as can be seen in the Graph Debt Equity. Table 3.9: Financial Performance shows debt equity ratios ranging from a low of .34 to a high of 13.7 -- in the case of Tanzania Watch Assembly Company. In most cases, debt equity ratios averaged over 2, which is quite high. Closer analysis of the balance sheets on a company-by-company basis indicates that available cash and the value of raw material stocks have declined while receivables, payables and accumulated losses have increased across the board. NDC is on a downward trend financially. This is magnified when the figures are translated from shilling terms into dollar terms. Graph: Debt Equity shows this trend.

How well NDC uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc. or in productivity measures such as return on assets return on equity, etc. Weakness is reflected in inadequate cash, low returns on assets on equity, etc. Returns in NDC should exceed the costs of financing them; and at least match the opportunity cost of capital. For convenience, we have defined the opportunity cost as the short-term lending rate of the Treasury's One Year Notes (31%). Were the NDC to invest its money with the Treasury, it would achieve this relatively risk-free return.

NDC has not been able to achieve consistent returns on its portfolio of companies. Only five companies are achieving a return on equity that exceeds the inflation rate or the cost of capital. See the graphs detailing debt/equity and assets and return on equity.

3. Foreign Exchange

NDC imports most of its raw materials. Foreign exchange to purchase these products comes through Open General Licensing (OGL) Companies can maintain foreign exchange accounts that enable them to purchase parts and supplies from foreign exchange earnings without going through this process.

NDC had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.)

Further, the OGL is available for only a short period of time or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

4. Capital Investment and Financing

NDC companies have not been investing enough to either maintain or replace their capital stock. Further, much of the capital investment went to motor vehicles and buildings rather than to equipment. Table 3.11 shows capital investments made by NDC in 1989. The graph on Invested Capital Vs. Performance shows that only Aluminium Africa, Metal Box and Tanzania Oxygen are achieving close to expected returns on their investments.

Most capital investment in recent years has been financed by short-term debt.

5. Estimates of Valuation

Table 3.12 on Valuation Indicators shows various indicators of NDC's worth as a company from a financial perspective. The value of economic linkages or the political value of maintaining employment despite losses have not been considered in these estimates.

i. Book Value

The book value of all NDC companies in 1989 was approximately 15 billion shillings. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the group.

ii. Going Concern

As NDC's portfolio produces a loss, NDC is worth less as a going concern than were it to be liquidated. This indicates that NDC lacks general viability as a holding company and that its portfolio needs to be restructured.

iii. Price Earnings Value

The price earnings value is derived by multiplying the total corporate earnings by the price earnings ratio. This measure of total worth is valid for companies with positive earnings. Therefore, while the price earnings value can be applied to some of the NDC companies -- which is done in the Appendices -- the concept is not valid for valuing the NDC group as a whole.

H. Summary

As discussed in the section on market opportunities and growth, the National Development Corporation companies are positioned in a number of high growth and very strategic markets. At the same time, the prognosis for NDC is not optimistic.

While NDC has a number of key strengths, it is not well poised to take advantage of these. Its strengths include:

A monopoly position in key, strategic industries, such as, steel bar, sheet steel aluminum, oxygen, metal packaging and electrical transformers.

Machines, processes and technical skills unique in Tanzania in such areas as heat treating, gear grinding, and basic steel production.

Several very strong companies which are profitable, well managed, and strategically placed.

Good managers and competent staff in key companies such as Aluminum Africa, CMB, Tanzania Oxygen and Southern Paper Mills.

Legal regulations that help protect against private competitors, although this is less a factor than in the past. Also, the bureaucracy is a formidable obstacle to start-ups and outside competition in many of NDC's markets.

However, NDC is quite weak in many areas. NDC's weaknesses include:

Lack of a coherent strategy to take advantage of or to consolidate and concentrate resources on key market segments.

A very diverse group of companies, technologies, and products, cutting across a wide variety of customer segments.

Little synergy among the operating companies.

An aging, outdated plant, poorly maintained, with little capital being reinvested into it.

A very high overhead in the corporate staff. It is not managed as a financial conglomerate and yet has no coherence as a sectoral conglomerate.

An increasing debt load, declining return on assets, declining return on equity, and declining profitability.

A rapidly changing legal and regulatory environment that is less and less supportive both financially and politically for parastatals and for holding companies.

So, NDC faces great market opportunities and has some very strategically placed companies; yet, it is possible that the poor performance of the group as a whole could drag down its strongest companies and weaken the holding company substantially over the next ten years. NDC will face increasing competition, both from local firms and from foreign competitors. Better managed competitors have lower cost structures, more capital, and more focus and motivation in its markets. NDC stands to lose many of its higher margin product areas, as competitors attack and "cherry-pick" key industries. Also NDC will have limited access to Government funds, and its high debt load will mean that it will have reasonably little access to debt capital in the future.

The atmosphere is one of increasing public pressure for accountability and for generation of profits in the parastatals through value-added, instead of exploitation through market monopolies. There is less donor interest in losing government enterprises.

I. Options

One's first reaction to this situation is always to think that businesses can be saved with an injection of more aggressive management, i.e. that a sharp and able manager can overcome all obstacles while a poor manager can ruin a good business. And to some extent that is true -- certainly, one would think that it would be impossible to lose money on the only brewery or telephone company in town.

But, there is a limit to how much a manager of a small, under-funded parastatal can influence his operating environment. There is also a limit to the extent to which a country can protect itself from the rigors of competition. Determining those limits is the heart of industry and competitor analysis.

In this study, we reviewed the historical environment, the economic, market, and political trends in the metal working sector, and identified NDC's strengths and weaknesses. Now we need to determine which weaknesses NDC can realistically expect to overcome, how much we can conservatively expect the company to change, and which factors appear to be beyond its control.

Let us say hypothetically, that every business in NDC could be sustained -- at a cost of millions of shillings every year. These shillings would have to come directly out of the pockets of the schools, the health system, the infrastructure. This could be done through:

1. returning to monopoly protection of NDC companies;
2. obtaining preferential access to foreign exchange;

3. enacting legislation prohibiting imports of competing products;
4. establishing tariffs on competing imports; and
5. subsidizing exports to other countries,
6. and raising taxes to pay for the losses.

This is not the strategy that we recommend.

First, it is extremely expensive; everyone in the country is taxed through higher prices, lower quantities, and lower quality. Development is retarded, as it has been for the last twenty years.

Second, it puts off the day of reckoning. Some of the NDC companies are bankrupt, even if not officially declared so. Fortunately, there is always something of value left even if a company is unprofitable. The building may have alternative uses, some of the machines may be useful, some of the products could continue to be made, some of the personnel could be re-employed in similar capacities, and any proceeds can be used to retire debt. Let us emphasize that while capital losses are permanent, people can be reemployed.

Third, there is an extremely high political cost to such a strategy:

1. it is counter to the public sentiment;
2. it is counter to the political and economic trend in Tanzania and worldwide;
3. it reduces the attractiveness of Tanzania to private capital; and
4. it lessens donor support.

We believe NDC's best option is to identify the new realities as objectively, as realistically, as critically as possible so that it becomes a positive contribution to the economic development of Tanzania. The next chapter presents detailed recommendations for NDC.

Chapter 3, Attachments: National Development Corporation

TABLES:

Overview
Marketing
Production Processes
Diversification/Rehabilitation Projects Proposed
Partners and Assistance
Five Year Performance
Income Statement
Balance Sheet
Financial Performance
Productivity Indicators
Financing
Valuation Indicators
Options

GRAPHS:

Employee Productivity
Invested Capital vs. Performance
Revenue/Expense/Profit and Loss
Debt/Equity
Debt/Equity - ROE
Assets/Return on Equity
Return on Equity
Valuation

National Development Corporation

Table 3.1 Overview

<u>Company</u>	<u>Major Products</u>	<u>Abb.</u>	<u>Founded</u>	<u>Share Ownership</u>
Southern Paper Mills Co., Ltd.	Pulp and paper	SPM	1978	100.0%
Aluminium Africa Company, Ltd.	Aluminum circles, steel billets, roofing sheets, steel pipes and sheets.	AAL	1960	82.2%
Steel Rolling Mills Co., Ltd.	Reinforcement steel rods	SRM	1976	98.2%
Zana Za Kilimo, Ltd.	Farm implements	ZZK	1974	100.0%
Tanzania Electrical Goods Mfg. Co., Ltd.	Transformers and switch gears, electric cookers	TEG	1980	60.0%
CMB Packaging Tanzania., Ltd.	Metal packages, batter jackets	CMB	1948	50.0%
Tanzania Oxygen Limited	Industrial and medical gases	TOL	1966	60.0%
National Steel Corporation	Steel products	NSC	1966	100.0%
Tanzania Cables, Ltd.	Electric and telecommunication cables	TCL	1977	60.0%
Ubungu Farm Implements	Farm implements	UFI	1968	100.0%
Kilimanjaro Machine Tools Mfg. Co.,	Metal and wood working machines, water pumps	KMT	1961	75.0%
National Bicycle Co., Ltd.	Bicycles	NBC	1974	100.0%
National Engineering Company, Ltd.	Steel tanks and structures, spare parts	NEC	1967	100.0%
Meng'ula Mechanical & Machine Tools	Post harvest processing machines, water pumps, coal stoves, spare parts	MMM	1979	100.0%
Light Source Manufacturers Co., Ltd	Electric bulbs, fluorescent tube lights	LSM	1961	100.0%
Tanzania Watch Assembly Co., Ltd	Watches, straps, repairs	TWA	1978	100.0%
Motor Mart (T), Ltd.	Refrigerators, deep freezers, cold rooms mortuaries	MMT	1980	100.0%
National Development Corporation Headquarters	Holding company, company development	NDC		100.0%

National Development Corporation

Table 3.4 : Diversification/Rehabilitation Projects Proposed by NDC

Company	Diversification/ Rehabilitation Proposed by NDC	Comments
Southern Paper Mills Co., Ltd.	Saw mills and wood products	Diffusion of focus
Aluminium Africa Company, Ltd	Annealing plant, Electric Arc Furnace, Aluminium Extrusion, Continuous Galvanis	Mixed potential
Steel Rolling Mills Co., Ltd	Wire rod and wire product line	Equipment on-site, not hooked up due to non-payment
Zana Za Kilimo, Ltd.	Rehabilitate old machinery	Cost-reduction and maintenance programs more critical
Tanzania Electrical Goods Mfg Co., Ltd.	Transformer repair and maintenance facility	Good fit.
CMB Packaging Tanzania, Ltd.	Modernization: IBU line, Metog line, Lapsam	Strong markets, good potential.
Tanzania Oxygen Limited	New oxygen/nitrogen plant, CO2 liquification at Kyejo	Strong markets, good potential.
National Steel Corporation		
Tanzania Cables, Ltd	Telecom Cables/backward integration	Diversify line before integration project.
Ubungu Farm Implements	Rehabilitate/modernize lines	Cost-reduction and maintenance programs more critical
Kilimanjaro Machine Tools Mfg. Co.,		
National Bicycle Co., Ltd	Export marketing	Currently, non-competitive locally.
National Engineering Company, Ltd	Modernize foundry	Current foundries in country operating well under capacity
Mang'ula Mechanical & Machine Tools		
Light Source Manufacturers Co., Ltd	Rehabilitate GLB Line, Glass Factory	Will only increase total losses.
Tanzania Watch Assembly Co., Ltd		
Motor Mart (T), Ltd.		
National Development Corporation Headquarters		

National Development Corporation

Table 3.5 : Partners and Assistance

<u>Company</u>	<u>When Started</u>	<u>How Acquired</u>	<u>NDC's Share Ownership</u>	<u>Joint-Venture Partner</u>	<u>Technical Assistance</u>
Southern Paper Mills Co., Ltd	1978	NLC Start-up	100.0%		Management contracts
Aluminium Africa Company, Ltd	1980	Nationalized	82.2%	Mabell	Management contracts
Steel Rolling Mills Co., Ltd	1978	Nationalized	98.2%	Danielli (Italy)	
Zana Za Kilimo, Ltd	1974	Chinese technical assistance?	100.0%		Swedish (recently completed)
Tanzania Electrical Goods Mfg Co., Ltd	1980	Nationalized	80.0%	National Industri (Norway), TANESCO	Licensing and management contracts
CMB Packaging Tanzania, Ltd	1986	Nationalized	50.0%	Metal Box (England)	Metal Box manager
Tanzania Oxygen Limited	1988	Nationalized	80.0%	British Oxygen	British oxygen managed (18 - 1988?)
National Steel Corporation	1988	?	100.0%		
Tanzania Cables, Ltd	1977	?	80.0%	Others?	Comcraft (1978 - 1988), management contract
Ubungu Farm Implements	1988	Chinese technical assistance	100.0%		Chinese
Kilimanjaro Machine Tools Mfg Co.,	1981	NDC Start-up	75.0%	AISCO, SMC	Bulgarian
National Bicycle Co., Ltd	1974	NDC Start-up	80.0%	DABCO?	Indian suppliers
National Engineering Company, Ltd	1987	Nationalized	100.0%		? German technical assistance
Mang'ula Mechanics & Machine Tools	1979	Tazara railway repair shop, acquired	100.0%		Swedish Quality Engineer, Chinese Mechanics
Light Source Manufacturers Co., Ltd	1981	NDC Start-up	100.0%		Hungarian supplier at start-up
Tanzania Watch Assembly Co., Ltd	1978	Nationalized	100.0%		Watch manufacturers provided training
Motor Mart (T) Ltd	1980	Nationalized	100.0%		
National Development Corporation Headquarters	1984	Government start-up	100.0%		UNIDO

TABLE 3.6: FIVE YEAR PERFORMANCE

(all figures in millions of Ts.)

	1984	1985	1986	1987	1988	1989
	(1)	(1)	(1)	(1)	(1)	(2)
SALES	1549.00	1913.00	N.A.	7534.00	N.A.	13616.00
PROFITS	130.70	333.60	N.A.	-605.60	N.A.	-170.90
ASSETS	1581.60	1747.60	1828.40	1942.30	2091.70	36524.00
LIABILITIES	28.70	18.70	174.90	117.00	25.40	23292.00
EQUITY	1552.90	1728.90	1653.50	1825.30	2066.30	15232.00
EMPLOYMENT	4477.00	4195.00	N.A.	6288.00	N.A.	6953.00
Exchange Rate (3)	15.29	17.47	32.70	64.26	99.29	145.00
SALES IN DOLLARS	\$101.29	\$109.49	\$0.00	\$117.24	\$0.00	\$93.90
PROFITS IN DOLLARS	\$8.55	\$19.09	\$0.00	(\$9.42)	\$0.00	(\$1.18)

NOTES:

(1) Source: NDC Annual Report's

(2) Source: NDC Company Plan, 1989. The value of assets and liabilities has increased dramatically between 1988 and 1989.

As no explanation was provided for this increase, this matter warrants further investigation.

(3) Source: IMF, International Financial Statistics, 1989. Tsh per US \$

National Development Corporation

Table 3.7 : Income Statement

Company Rankings - 1989

(all figures in millions of Ts.)

<u>Company</u>	<u>Revenue</u>	<u>Rank</u>	<u>Expense</u>	<u>Rank</u>	<u>Profit(loss) pre-tax</u>	<u>Rank</u>
Southern Paper Mills Co., Ltd.	2,949	2	4,154	2	(1,205)	18
Al. Company, Ltd.	5,120	1	4,661	1	459	1
Stucco Co., Ltd.	1,382	3	1,256	3	127	4
Zana Za Kilimo, Ltd.	643	6	711	4	(68)	17
Tanzania Electrical Goods Mfg. Co., Ltd.	678	5	558	5	121	5
CMB Packaging Tanzania., Ltd.	696	4	550	6	146	3
Tanzania Oxygen Limited	517	8	289	10	228	2
National Steel Corporation	544	7	486	7	58	7
Tanzania Cables, Ltd.	446	9	369	8	78	6
Ubungu Farm Implements	172	12	224	11	(52)	14
Kilimanjaro Machine Tools Mfg. Co.,	133	14	192	12	(59)	16
National Bicycle Co., Ltd.	356	10	329	9	27	8
National Engineering Company, Ltd.	194	11	186	13	8	10
Mang'ula Mechanical & Machine Tools	95	15	89	16	6	11
Light Source Manufacturers Co., Ltd	41	16	100	15	(58)	15
Tanzania Watch Assembly Co., Ltd	25	17	35	17	(11)	13
Motor Mart (T) Ltd.	23	18	20	18	4	12
National Development Corporation Headquarters	148	13	138	14	9	9
CONSOLIDATED TOTALS	14,161		14,344		(163)	
STATISTICS						
Average	824		836		(11)	
Minimum	23		20		(1,205)	
Maximum	5,120		4,661		459	
Standard Deviation	1,274		1,340		324	

Notes:

Non-dividend income used for NDC.

National Development Corporation

Table 3.8 : Balance Sheet

*Company Rankings - 1989
(all figures in millions of Tz.)*

<u>Company</u>	<u>Total Assets</u>	<u>Rank</u>	<u>Liabilities</u>	<u>Rank</u>	<u>Equity</u>	<u>Rank</u>
Southern Paper Mills Co., Ltd.	24,876	1	13,650	1	11,226	1
Aluminium Africa Company, Ltd.	3,389	2	2,929	2	460	6
Steel Rolling Mills Co., Ltd.	2,319	3	1,710	3	610	3
Zana Za Kilimo, Ltd.	1,698	4	1,275	4	424	7
Tanzania Electrical Goods Mfg. Co., Ltd.	1,101	5	822	5	280	8
CMB Packaging Tanzania., Ltd.	832	6	213	11	619	2
Tanzania Oxygen Limited	739	7	242	10	497	4
National Steel Corporation	659	8	522	7	136	12
Tanzania Cables, Ltd.	604	9	120	13	484	5
Ubungo Farm Implements	559	10	394	8	165	11
Kilimanjaro Machine Tools Mfg. Co.,	544	11	768	6	(224)	16
National Bicycle Co., Ltd.	407	12	154	12	253	9
National Engineering Company, Ltd.	307	13	269	9	38	14
Mang'ula Mechanical & Machine Tools	267	14	69	15	198	10
Light Source Manufacturers Co., Ltd	100	15	46	16	54	13
Tanzania Watch Assembly Co., Ltd	93	16	86	14	6	16
Motor Mart (T), Ltd.	30	17	24	17	6	15
National Development Corporation Headquarters	0	18	0	18	0	17
CONSOLIDATED TOTALS	38,524		23,292		15,233	

STATISTICS

Average	2,266	1,370	896
Minimum	30	24	(224)
Maximum	24,876	13,650	11,226
Standard Deviation	5,716	3,157	2,593

National Development Corporation

Table 3.9 : Financial Performance

*Company Rankings - 1989
(all figures in millions of Tz.)*

Company	ROA		ROE		Return on Sales		Debt/Equity	
	Rank		Rank		Rank		Rank	
Southern Paper Mills Co., Ltd.	-4.8%	13	-10.7%	12	-40.9%	15	1.22	10
Aluminium Africa Company, Ltd.	13.5%	3	99.7%	1	9.0%	8	6.37	3
Steel Rolling Mills Co., Ltd.	5.5%	9	20.8%	8	9.2%	7	2.80	8
Zana Za Kilimo, Ltd.	-4.0%	12	-16.0%	13	-10.6%	13	3.01	6
Tanzania Electrical Goods Mfg. Co., Ltd.	10.9%	6	43.1%	4	17.8%	3	2.94	7
CMB Packaging Tanzania, Ltd.	17.5%	2	23.6%	6	21.0%	2	0.34	15
Tanzania Oxygen Limited	30.9%	1	45.9%	3	44.2%	1	0.49	13
National Steel Corporation	8.8%	7	42.4%	5	10.6%	6	3.83	4
Tanzania Cables, Ltd.	12.8%	4	16.0%	9	17.4%	4	0.25	16
Ubungu Farm Implements	-9.3%	14	-31.5%	14	-30.3%	14	2.38	9
Kilimanjaro Machine Tools Mfg. Co.,	-10.8%	15	NA	17	-43.9%	17	NA	17
National Bicycle Co., Ltd.	6.8%	8	10.9%	10	7.7%	9	0.61	12
National Engineering Company, Ltd.	2.7%	10	21.5%	7	4.2%	12	7.03	2
Mang'ula Mechanical & Machine Tools	2.2%	11	2.9%	11	6.1%	11	0.35	14
Light Source Manufacturers Co., Ltd	-58.4%	17	-107.5%	15	-140.5%	18	0.84	11
Tanzania Watch Assembly Co., Ltd	-11.6%	16	-169.8%	16	-43.3%	16	13.70	1
Motor Mart (T), Ltd.	12.3%	5	57.8%	2	15.8%	5	3.70	5
National Development Corporation Headquarters	NA	18	NA	18	6.4%	10	NA	18

CONSOLIDATED TOTALS

STATISTICS

Average	1.47%	NA	-8.62%	NA
Minimum	-58.36%	NA	-140.49%	NA
Maximum	30.86%	NA	44.15%	NA
Standard Deviation	18.45%	NA	41.04%	NA

Notes:	1988	1989	1990
Short-term bank rate			31.00%
Inflation Rate			
Expected return on equity	31.00%	31.00%	31.00%

National Development Corporation

Table 3.10 : Productivity Indicators

Company Rankings - 1989

Company	No. of		Revs/Emp		Profit/Emp	
	Employ.	Rank	Ts.'000's	Rank	Ts.'000's	Rank
Southern Paper Mills Co., Ltd.	2,402	1	1,228	9	(502)	17
Aluminium Africa Company, Ltd.	1,158	2	4,421	3	398	6
Steel Rolling Mills Co., Ltd.	371	5	3,726	5	342	7
Zana Za Kilimo, Ltd.	913	3	704	12	(74)	14
Tanzania Electrical Goods Mfg. Co., Ltd.	214	9	3,168	6	563	4
CMB Packaging Tanzania, Ltd.	305	7	2,281	7	478	5
Tanzania Oxygen Limited	124	12	4,166	4	1,840	1
National Steel Corporation	81	15	6,714	1	715	3
Tanzania Cables, Ltd.	92	14	4,850	2	842	2
Ubungu Farm Implements	284	8	605	13	(183)	15
Kilimanjaro Machine Tools Mfg. Co.,	189	10	706	11	(310)	16
National Bicycle Co., Ltd.		18	0	18	0	12
National Engineering Company, Ltd.	342	6	567	14	24	9
Mang'uta Mechanical & Machine Tools	510	4	186	17	11	10
Light Source Manufacturers Co., Ltd	188	11	220	16	(310)	11
Tanzania Watch Assembly Co., Ltd	21	17	1,176	10	(510)	18
Motor Mart (T), Ltd.	47	16	498	15	79	8
National Development Corporation Headquarters	100	13	1,478	8	95	13

CONSOLIDATED TOTALS

7,341

STATISTICS

Average	453		2,071		200	
Minimum	21		0		(510)	
Maximum	2,402		6,714		1,840	
Standard Deviation	587		1,979		568	

National Development Corporation

Table 3.11 : Financing

*Company Rankings - 1989
(all figures in millions of Ts.)*

<u>Company</u>	<u>Capital Budget</u>	<u>Rank</u>	<u>Remittance to NDC.</u>	<u>Rank</u>	<u>Short-term Debt</u>	<u>Rank</u>
Southern Paper Mills Co., Ltd.	1,228.3	1		13		11
Aluminium Africa Company, Ltd.	70	4	65	1		2
Steel Rolling Mills Co., Ltd.	8.8	9		14		12
Zana Za Kilimo, Ltd.	86.2	3		18		18
Tanzania Electrical Goods Mfg. Co., Ltd.	135.1	2		15		14
CMB Packaging Tanzania, Ltd.	3.0	10	15	3		3
Tanzania Oxygen Limited	53.2	5	14	4		15
National Steel Corporation	17.3	8	19	2		10
Tanzania Cables, Ltd.	41.8	7	11	5		13
Ubungo Farm Implements	48.2	6		17		17
Kilimanjaro Machine Tools Mfg. Co.,	1.4	11	0	6		4
National Bicycle Co., Ltd.		16		10		7
National Engineering Company, Ltd.		18		12		9
Mang'ula Mechanical & Machine Tools	0.0	15		8		5
Light Source Manufacturers Co., Ltd	0.0	14		7	19	1
Tanzania Watch Assembly Co., Ltd	0.1	12		16		16
Motor Mart (T), Ltd.	0.1	13		9		6
National Development Corporation Headquarters		17		11		8
CONSOLIDATED TOTALS	1,693		124		19	
STATISTICS						
Average	113		21		19	
Minimum	0		0		19	
Maximum	1,228		65		19	
Standard Deviation	301		20		0	

National Development Corporation

Table 3.12 : Valuation Indicators

*Company Rankings - 1988
(all figures in millions of T.s.)*

Company	Book Value		P/E		Value to Book		Tax	Dividends or and to Subsidy		Share	Present Value	
	Value	Rank	Value	Rank	Book	Rank		Value	Rank		Value	Rank
Southern Paper Mills Co., Ltd	11,228	1	0	15	NA	15	0	1,205	1		3,442	1
Aluminium Africa Company, Ltd	480	8	2,280	1	4.98	1	229	23	8		728	2
Steel Rolling Mills Co., Ltd	810	3	634	4	1.04	8	63	6	10		208	8
Zana Za Kilimo, Ltd	424	7	0	18	NA	18	0	88	2		188	9
Tanzania Electrical Goods Mfg. Co., Ltd	280	8	803	5	2.15	4	60	8	11		200	8
CMB Packaging Tanzania, Ltd	619	2	729	3	1.18	6	73	7	9		238	4
Tanzania Oxygen Limited	487	4	1,141	2	2.29	3	114	11	7		365	3
National Steel Corporation	138	12	289	7	2.12	5	29	3	13		104	8
Tanzania Cables, Ltd	484	5	388	6	0.80	9	39	4	12		134	7
Ubungu Farm Implements	185	11	0	17	NA	17	0	52	5		154	11
Kilimanjaro Machine Tools Mfg. Co.,	(224)	16	0	13	NA	11	0	58	3		170	10
National Bicycle Co., Ltd	253	9	137	8	0.54	13	14	1	14		57	17
National Engineering Company, Ltd	38	14	41	10	1.07	7	4	0	18		20	12
Ming'ala Mechanical & Machine Tools	188	10	29	11	0.15	10	3	0	17		28	14
Light Source Manufacturers Co., Ltd	54	13	0	14	NA	12	0	58	4		170	16
Tanzania Watch Assembly Co., Ltd	8	18	0	16	NA	16	0	11	8		39	13
Motor Mart (T), Ltd	6	15	18	12	2.89	2	2	0	16		24	15
National Development Corporation Headquarters	0	17	47	9	NA	14	5	0	15		30	18
CONSOLIDATED TOTALS	15,233		6,348				635	1,518	171		8,312	

STATISTICS

Average	ERR	371	NA	37	89	8	370
Minimum	ERR	0	NA	0	0	1	24
Maximum	ERR	2,280	NA	229	1,205	18	3,442
Standard Deviation	ERR	583	NA	58	280	5	785
		0.00%		0.00%	0.00%	0.00%	0.00%

ASSUMPTIONS	
Yarrate	50%
Dividend	5.00%
Share Sold	50.00%
P/E Ratio	10
Years	10
Discount Rate	33.00%

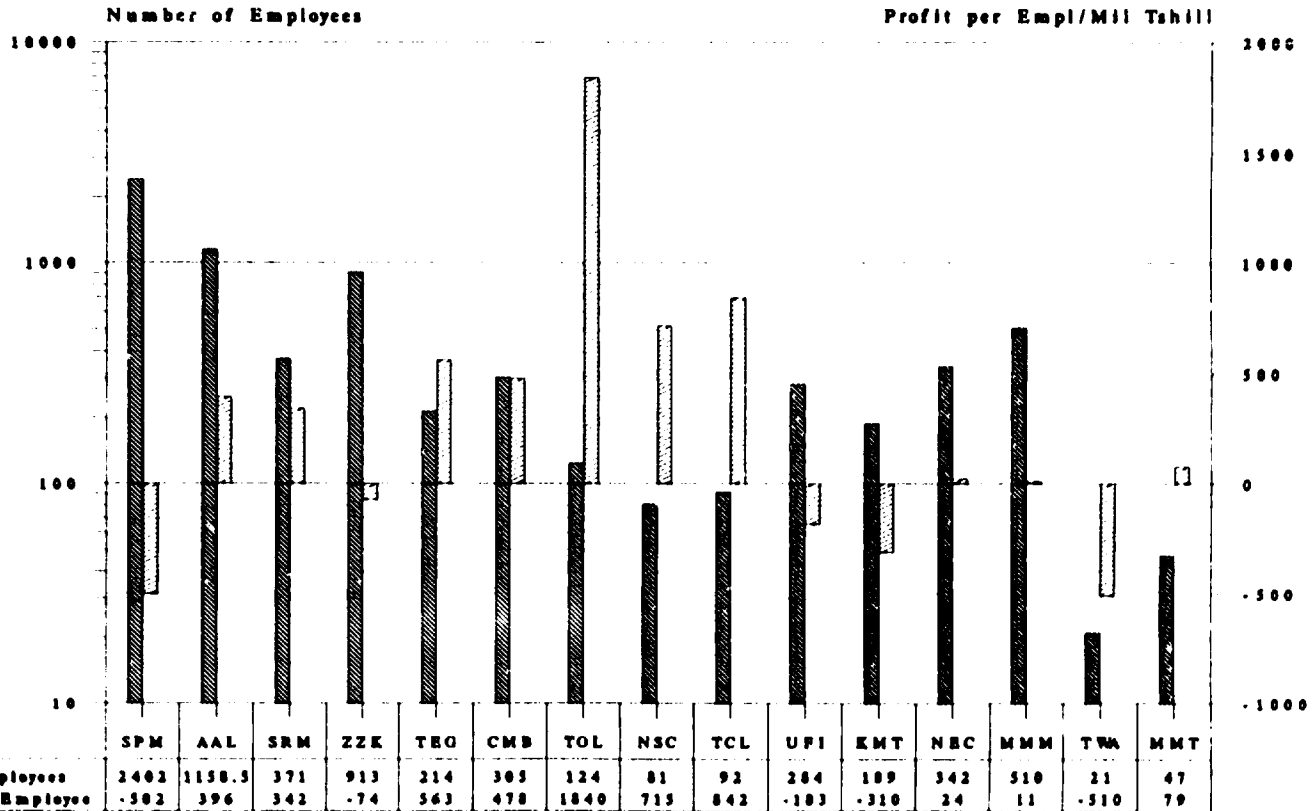
National Development Corporation

Table 3.13 : Options

<u>Company</u>	<u>Profitable?</u>	<u>Export Potential?</u>	<u>Under-Utilized Assets?</u>	<u>Capital to repay Debt</u>	<u>Expansion/Improvement</u>	<u>Asset Sales</u>	<u>Share Offer/Issue</u>	<u>Partners For/DoIn</u>	<u>Special Regulation Required?</u>
Southern Paper Mills Co., Ltd	No	High	No	Yes	Yes	NA	NA	Foreign	No
Aluminium Africa Company, Ltd	Yes	Moderate	Yes	No	Yes	NA	Issue Shares	Local	No
Steel Rolling Mills Co., Ltd	Yes	Low	Yes	Yes	Yes	Self Assets	Issue Shares	Local	No
Zana Za Kikimo, Ltd	No	Moderate	Yes	No	Yes	NA	NA	Local	No
Tanzania Electrical Goods Mfg Co., Ltd	Yes	High	No	No	No	NA	Offer Shares	Local	No
CMB Packaging Tanzania, Ltd	Yes	Moderate	No	No	Yes	NA	Issue Shares	Foreign	No
Tanzania Oxygen Limited	Yes	Low	No	No	Yes	NA	Issue Shares	Foreign	No
National Steel Corporation	Yes	Low	Yes	Yes	No	Self Assets	Issue Shares	Local	No
Tanzania Cables, Ltd	Yes	Moderate	No	No	No	NA	Offer Shares	Foreign	No
Ubungu Farm Implements	No	Low	Yes	Yes	No	Self Assets	NA	Local	No
Kilimanjaro Machine Tools Mfg. Co.,	No	Low	Yes	Yes	No	Self Assets	NA	Local	No
National Bicycle Co., Ltd	Yes	Low	Yes	Yes	Yes	Self Assets	Issue Shares	Foreign	No
National Engineering Company, Ltd	Yes	Moderate	Yes	?	Yes	NA	Issue Shares	Local	No
Mang'ula Mechanical & Machine Tools	Yes	Low	Yes	Yes	No	Self Assets	Issue Shares	Local	No
Light Source Manufacturers Co., Ltd	No	Low	Yes	Yes	No	Self Assets	NA	Foreign	No
Tanzania Watch Assembly Co., Ltd	No	Low	Yes	Yes	No	Self Assets	NA	Local	No
Motor Mart (T), Ltd	Yes	Low	Yes	Yes	No	Self Assets	Issue Shares	Local	No
National Development Corporation Headquarters	Yes		Yes	No	Yes	NA	Issue Shares	Foreign/local	No

Employee Productivity

National Development Company



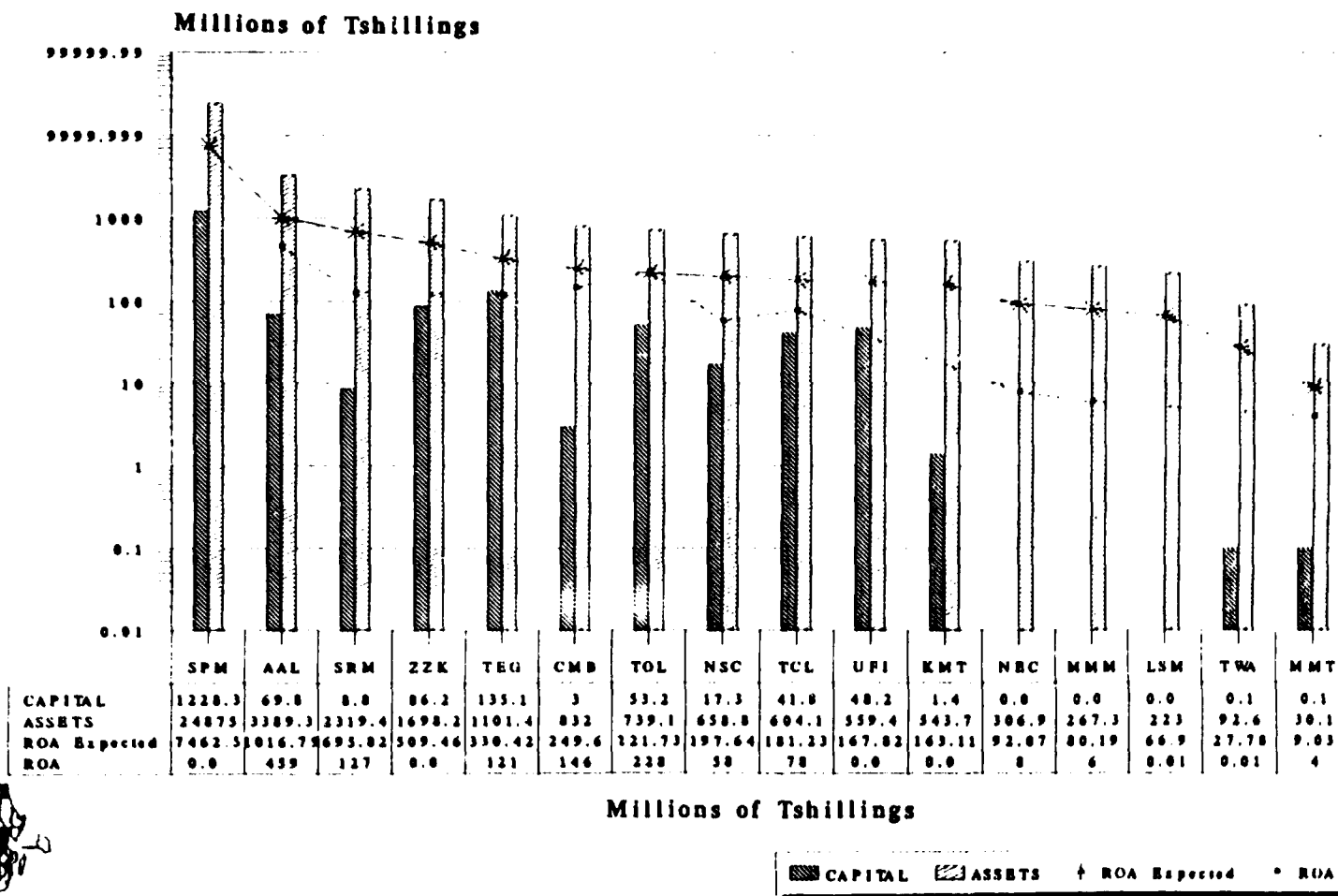
Millions of Tshillings

■ No. Of Employees ▨ Profit Per Employee



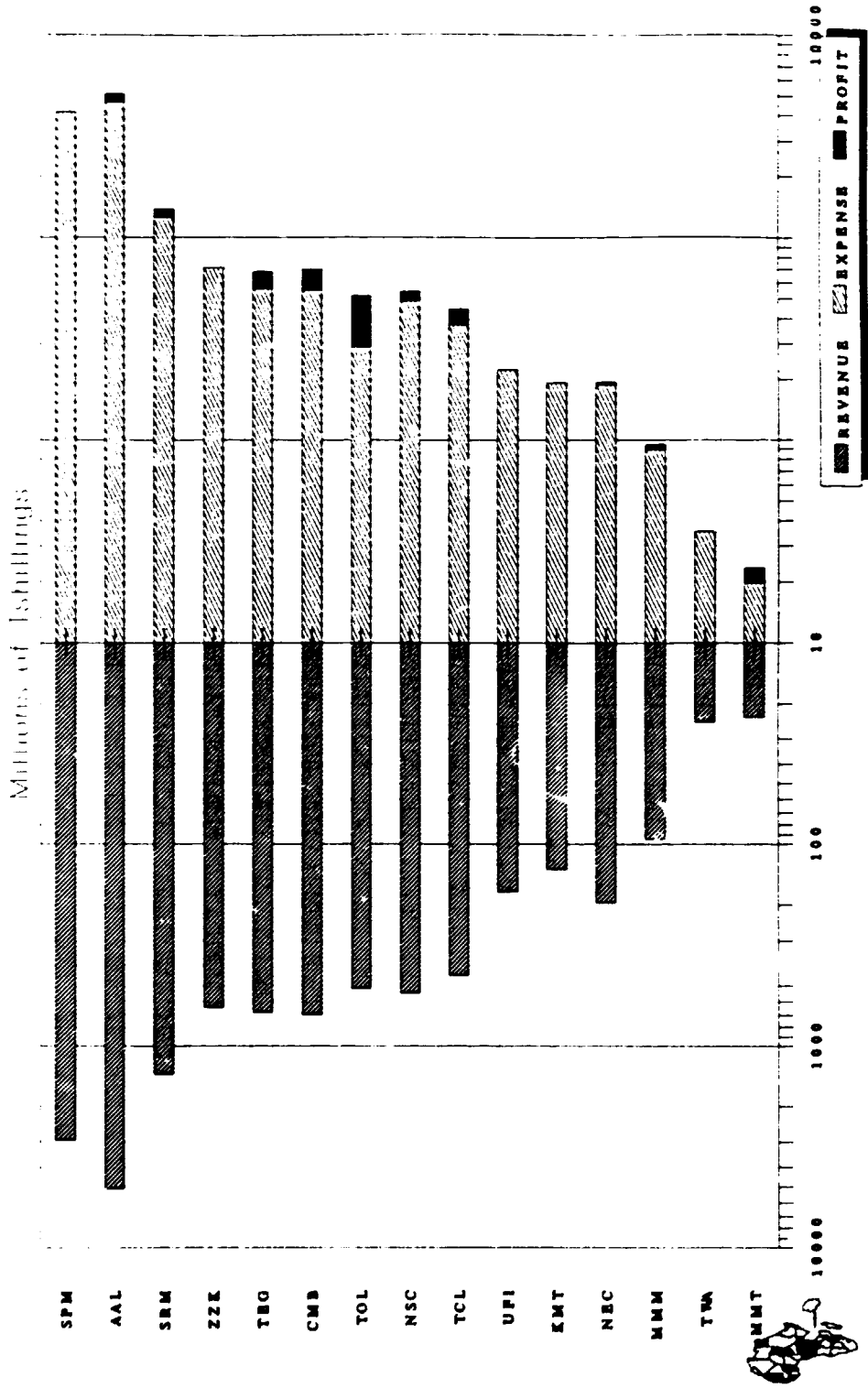
Invested Capital vs. Performance

National Development Company



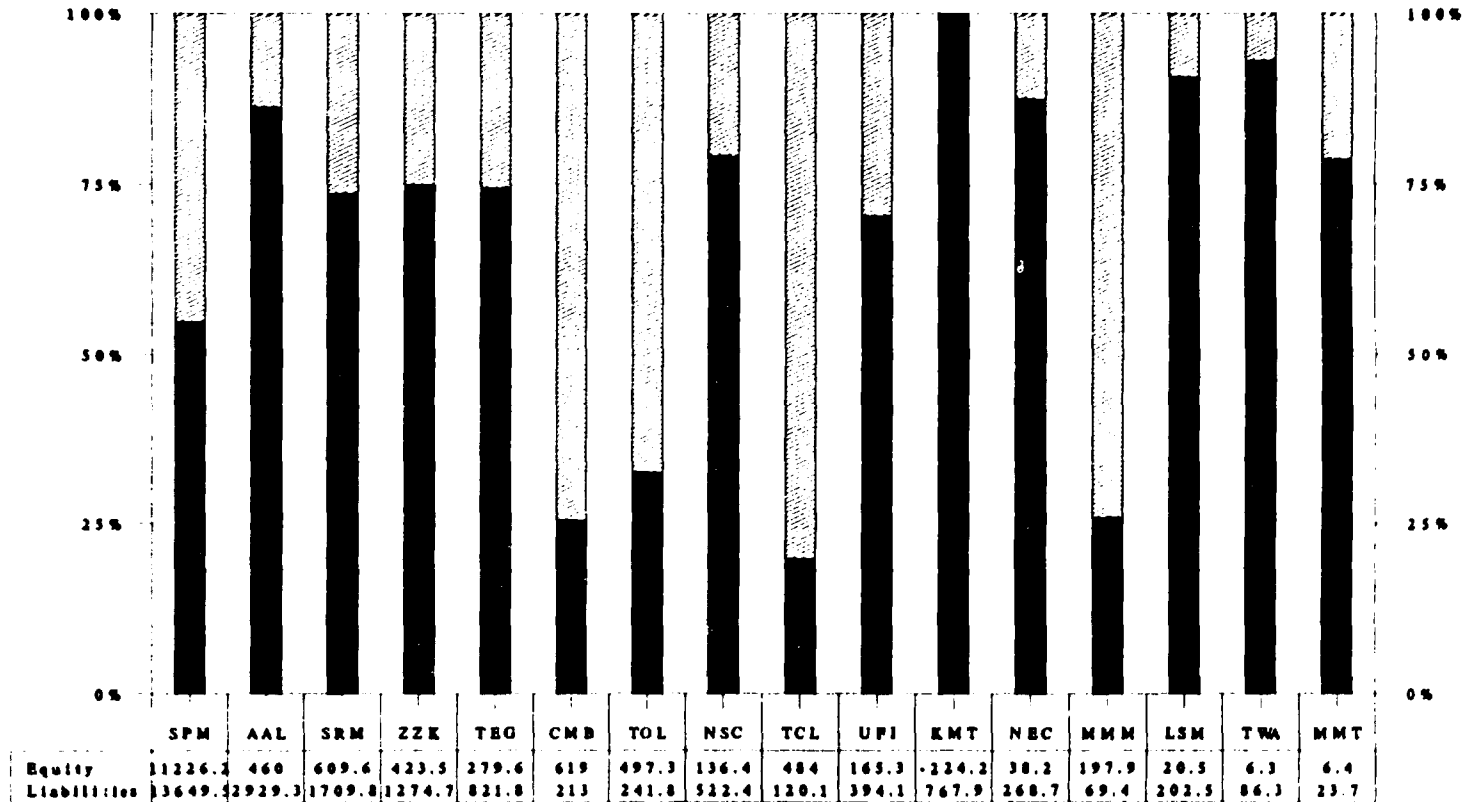
Revenue/Expense/Profit or Loss

Nationalité Rwandaise - Rwanda



Debt/Equity

National Development Company



Millions of Tshillings

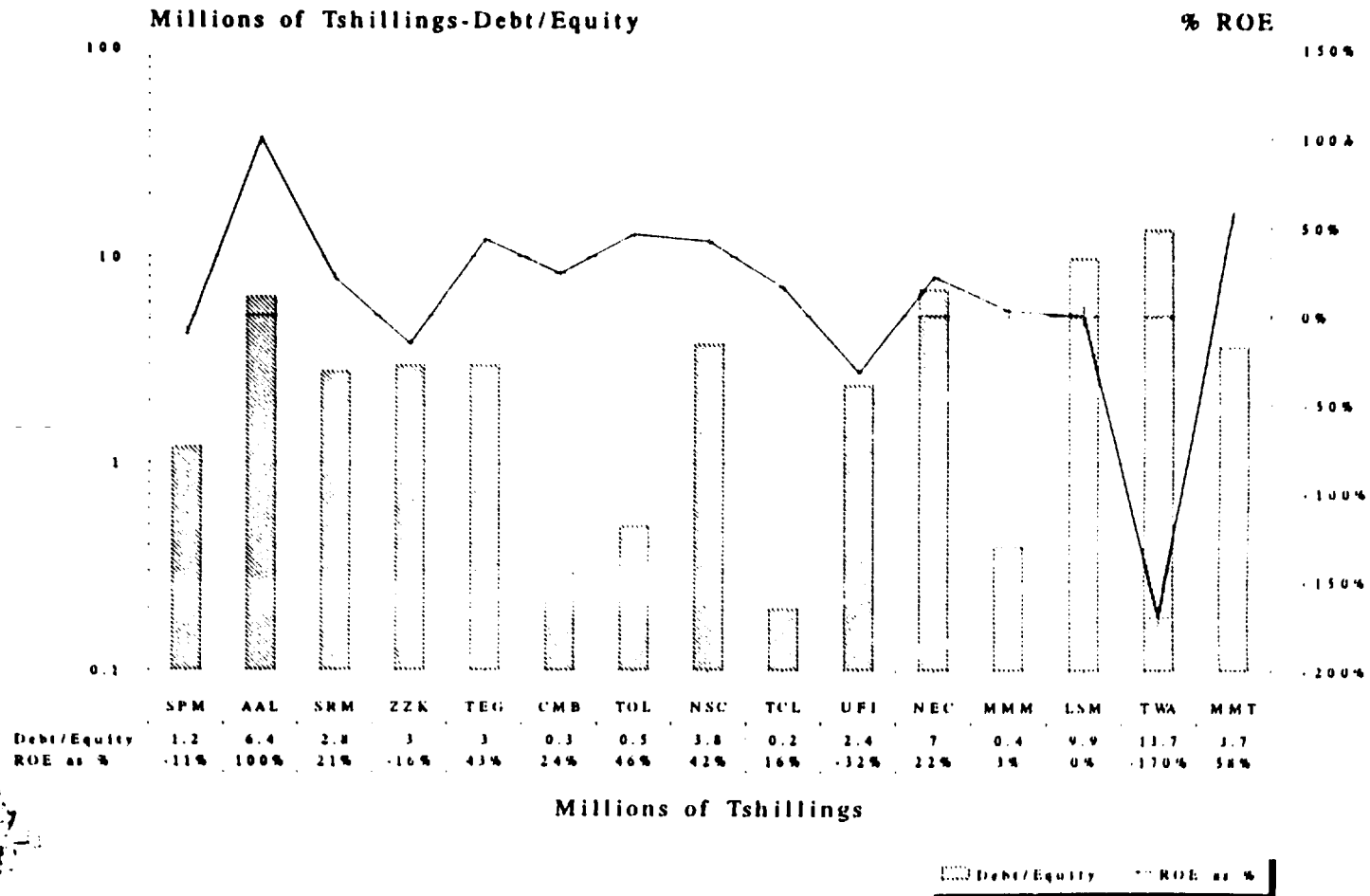


UNIDO/Tanzania/NDC Assistance - 1991

■ Liabilities ▨ Equity

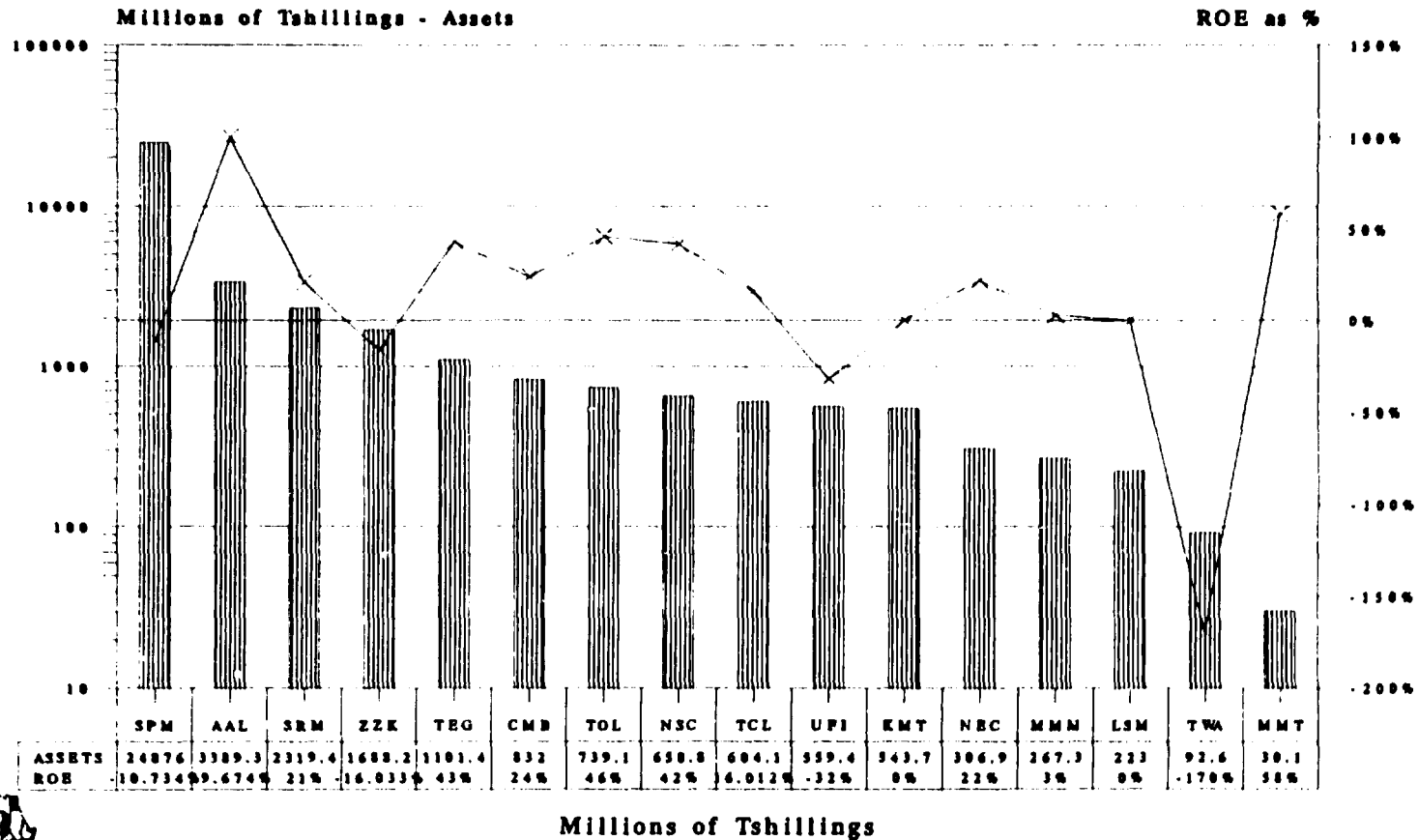
Debt/Equity - ROE

Financial Development Company



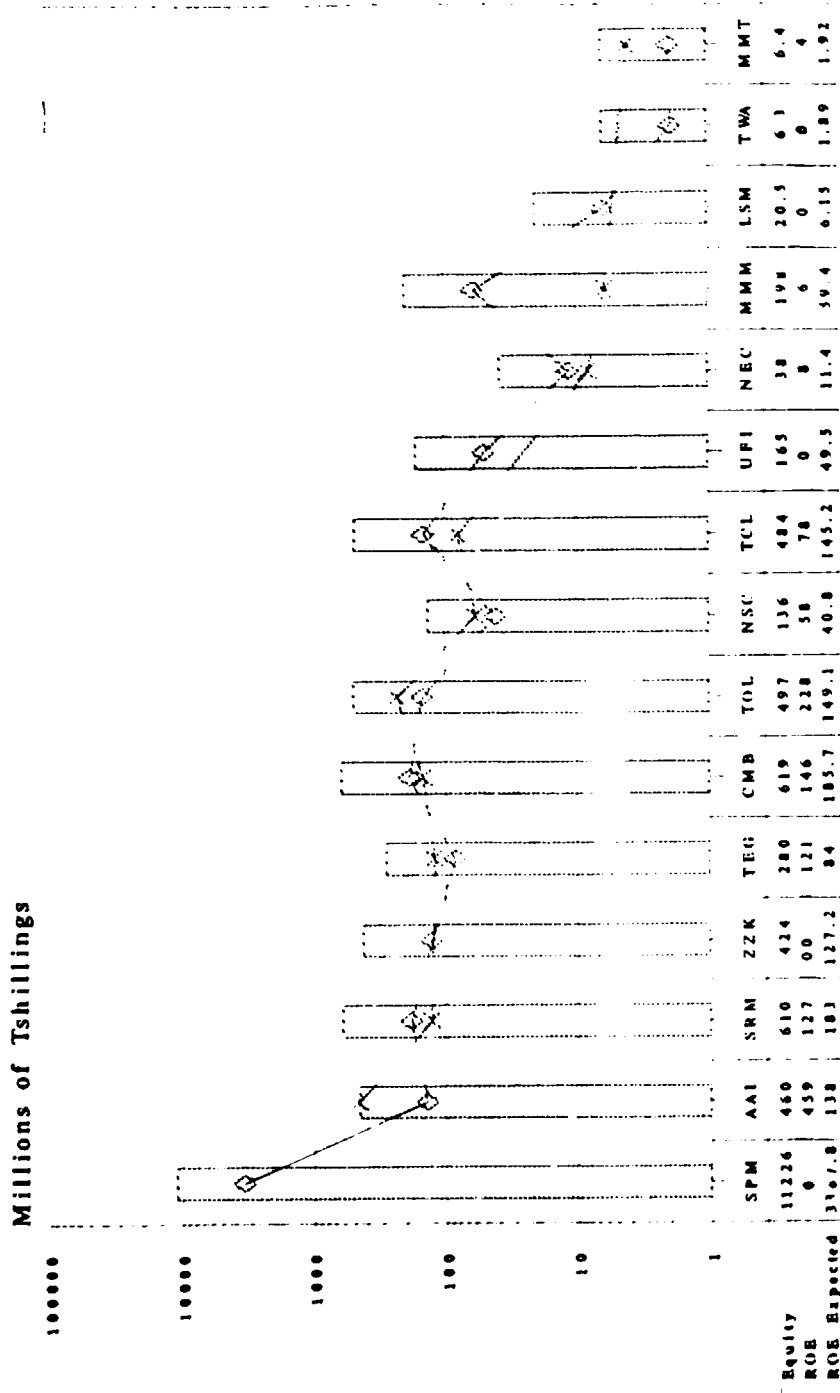
Assets/Return on Equity

National Development Company



Return on Equity

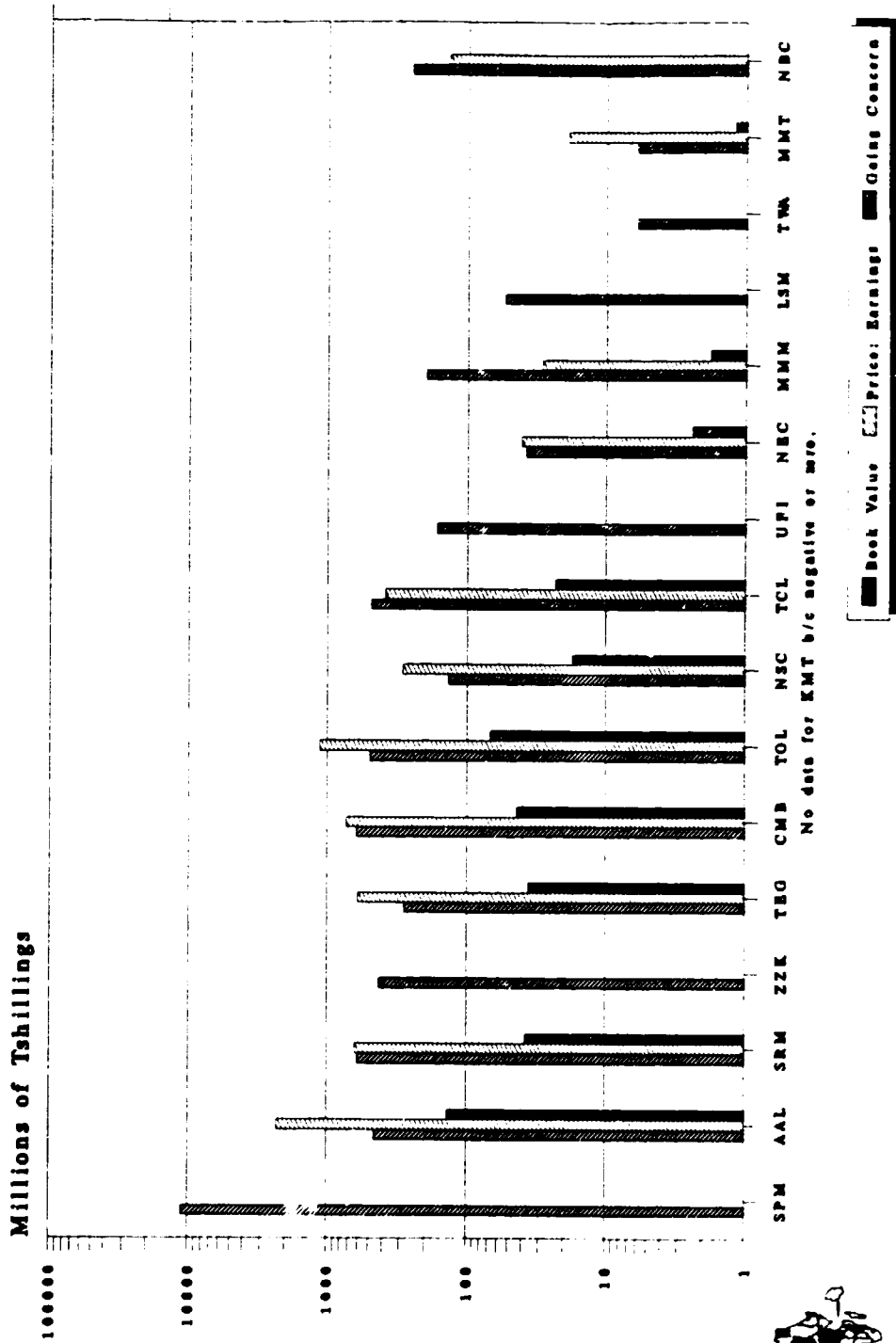
National Investment Company



Equity ROE ROE Expected

Valuation

National Development Company



CHAPTER IV: GENERAL RECOMMENDATIONS

The report's recommendations are divided into two sections. This Chapter deals with what NDC can and should do across the board for its companies. It is detailed in terms of strategy, organizational structure, and finance, which are the key areas under NDC's control and responsibility. In Chapter V, we list company-specific recommendations, which are programs that the companies should be directly responsible for implementing.³

For example, while NDC can set the financial targets and strategies for the group, it cannot and should not manage each company's finances. Should an operating company not achieve its targets, NDC should make the broader decisions of replacing the management team or divesting the enterprise.

Each recommendation is divided into three parts: (1) Recommendations, (2) Discussion, and (3) Benefits and Impacts. Specific examples of problems, benefits and impacts are given in the discussion and benefits sections.

A. Strategy

1. Recommendations

Focus on three market areas:

- a. Construction materials and steels
- b. Industrial parts and processes
- c. Agricultural implements and machines

Improve overall profitability of NDC, through:

- a. Establish general strategy with companies
- b. Merge, acquire, and divest enterprises to better serve customer base and meet financial targets
- c. Establish annual targets with companies
- d. Reward/remove managers who achieve them or do not
- e. Concentrate resources and technical assistance on the following, in order of priority:
 - i. Reduce costs
 - ii. Streamline production
 - iii. Improve quality
 - iv. Increase value-added

³The second volume of this report, "Appendices: Individual Company Plans", contains more detailed background and analysis of these recommendations.

- v. Increase unit sales
 - vi. Promote exports
 - vii. Increase capacity
 - viii. Extend product lines
 - ix. Add new products within existing companies
- f. Avoid new investments until:
- i. Credibility is re-established
 - ii. Other priorities have been achieved

Broaden share ownership of NDC

- a. Issue/offer shares in companies to: e.g.,
 - i. Local investors/operators
 - ii. Foreign investors/operators
 - iii. General public
 - iv. Managers and employees
- b. Issue/offer shares in NDC

Graph 4.1 illustrates how recommendations 1 and 2 are merged. Recommendation 1 focuses on the market segment served by the NDC company, and recommendation 2 focuses on the financial strength of the company. These are shown on the vertical and horizontal axes, respectively. Obviously, those companies with both strong market positions and strong financials are most critical to the NDC portfolio of companies. Those companies with weak market positions and weak financials are least critical to NDC. This chapter will develop various strands of analysis that will conclude that all ten companies in the top-left, bottom-left, and bottom-right quadrants should be sold or merged.

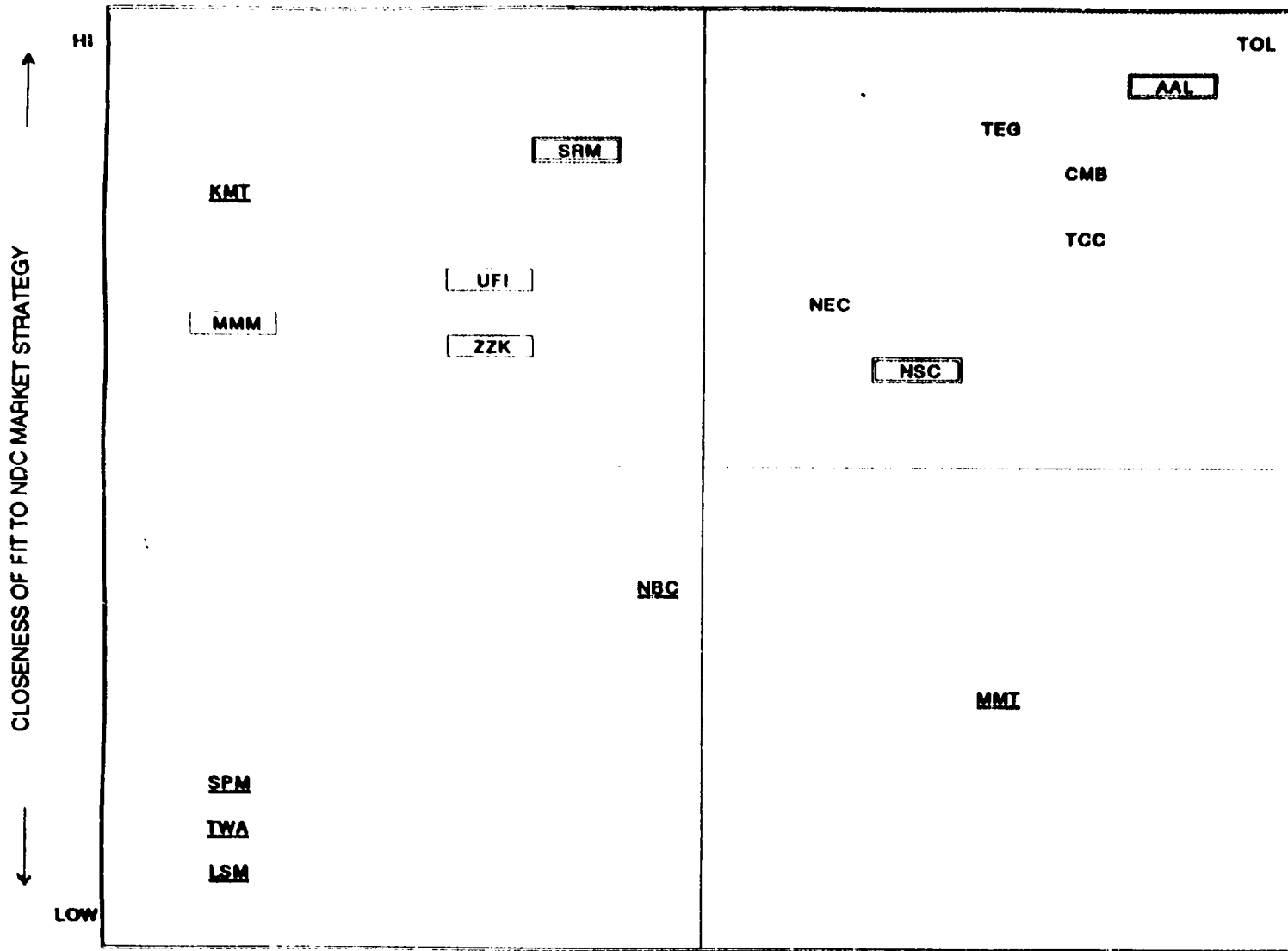
2. Discussion

Most of NDC's losses come from companies outside NDC's metal production and engineering strengths -- Southern Paper Mills, Light Source Manufacturing, etc. While both Southern Paper Mills and Light Source Manufacturing make sense as business concepts, NDC has neither the expertise nor the capital to manage the businesses. For these reasons, we recommend focussing the NDC group on the three segments in which it is the strongest:

1. Producing and marketing steel and building products in construction;⁹
2. Producing and repairing machined steel parts used by other industries;
3. Producing agricultural farm implements.

⁹It is especially strong in basic steels and in certain production processes unique to Tanzania.

GRAPH 4.1: MARKET FIT/FINANCIAL STRENGTH



WEAK <----- FINANCIAL STRENGTH OF COMPANIES -----> STRONG

 = Companies to be merged (MMM,ZZK,UFI)

 = Companies to be merged (AAL,NSC,SRM)

 = Companies to be sold or restructured

These three market areas:

- match NDC's strengths;
- serve key roles in the economy;
- provide the strongest growth opportunities; and
- are the least vulnerable to foreign competition.

The second recommendation -- improve overall profitability -- is made to focus NDC on its need and responsibility to invest its capital carefully so as to insure its long-term survival. NDC has shown strong asset growth, but an ever declining return on assets and return on sales. Cost reduction is the fastest and surest method of improving margins. The order of the recommendations reflects the consultant's sense of priority and greatest impact.

There are many ways to improve profitability, and several are identified above. This section on strategy simply highlights profitability as a top priority. Other sections, below, will turn more to the actual steps required to achieve profitability. For example, cost reduction procedures having to do with production processes and production management are discussed in more detail in Section C, below. Proposed mergers and divestitures are discussed in Section D. Incentive arrangements for compensating management and staff are discussed in Section E.

The third recommendation, to broaden share-ownership, serves to create a role for NDC headquarters over the next ten years. Broadening ownership means involving a greater number of partners -- local and foreign investors, managers, employees, and citizens in NDC's success. NDC should seek to create "ties that bind" persons and companies to NDC's success.

3. Benefits and Expected Impacts

There are seven key benefits to the National Development Corporation of adopting the above strategies.

First, NDC gains coherence as a company. It obtains direction and focus and its employees know what the company is about. Development as an objective or goal is too diffused to either inspire or give meaning to the daily work of most of the persons within the companies.

Second, setting objectives and goals gives the employees a target and a road map. They understand where they are going, and what they are to achieve. And when they've reached their targets they know it is time to feel good, to celebrate, and to set new targets.

Third, establishing the company around three main customer segments limits the number of areas the company needs to do well in. NDC is extremely vulnerable to more selective and focused corporations who are now entering its markets.

Fourth, adopting the strategy of cost reduction, in the order indicated above, improves NDC's ability to survive the next ten years. The strongest assurance of NDC's survivability is for it to be the lowest cost competitor in its segments. Then it can sustain downturns while other companies go out of business.

Fifth, a strategy of cost reduction is development oriented. Development comes from being able to do and deliver more of a product, service, or benefit for less money and effort. For example, reducing the cost of steel bar results in more affordable housing. Increasing profits of corporations increases the amount of money available to pay the workers. Without profits, NDC cannot survive and grow.

Sixth, the order of the priorities shows which projects give the highest returns and are the easiest to achieve. For example, cost reduction has the highest return on investment and is the easiest to implement. The most difficult part in a cost reduction strategy is actually deciding to do it.

Seventh, and finally, privatization means a redistribution of the assets of production to the population. NDC can again take the forefront in broadening the ownership base and the shareholding of its companies. Thus, NDC will again be in the vanguard of economic development.

This, in summary, is our proposed reorganization strategy for NDC. The next 6 sections, consisting of:

- Marketing
- Production
- Organization
- Human Resources
- Finance
- Policy and Regulatory Environment

contain more detailed discussions of this strategy. The 10-Year Development Plan, in Chapter VI, indicates a time frame for the implementation of these recommendations.

B. Marketing

1. Recommendations

1. Focus the company on its primary customer bases, which should be:
 - a. construction companies and builders;
 - b. industrial companies and manufacturers; and
 - c. farmers
2. With the General Managers, set targets for the companies for unit production, value-added, revenue, and profit.

3. Assist companies to improve their marketing skills and practices:
 - a. facilitate the organization of marketing managers into a functional committee;
 - b. provide a room in NDC headquarters for the managers to meet and share resources; and
 - c. request technical assistance to provide seminars and training to marketing staff.

4. Develop an export marketing program.
 - a. Develop NDC group marketing brochure.
 - b. Arrange for all managers to be on marketing lists.
 - c. Send marketing managers to any seminars/programs on export marketing held locally.
 - d. Send marketing managers on joint marketing trips to neighboring countries where companies have similar or complementary product lines.
 - e. Develop a handbook and conduct a seminar for marketing personnel on application procedures for PTA trade.
 - f. Participate in regional fairs in SADCC/PTA countries.
 - g. Develop foreign distributors and agents.
 - h. Create a "Corporate Salesperson", whose job is to represent NDC on the road, and who knows the individual NDC companies well enough to coordinate marketing efforts.

2. Discussion

Marketing is a key weakness of the National Development Corporation. Its companies tend to fall into three categories:

- a. Companies that are able to sell everything that they produce right at the door. These include such companies as Galco (in the AAL group), Tanzania Oxygen, and Steel Rolling Mills.
- b. Companies that do extensive marketing, have close customer contact and are successful. These companies include: Tanzania Electrical Goods, Tanzania Cables, and Metal Box.
- c. Companies that market with little apparent success. These include Light Source Manufacturing, Motor Mart Tanzania, and Tanzania Watch Assembly Co.

Marketing is best done at the subsidiary level, with each company retaining primary responsibility for selling its own products. NDC's role should only be one of facilitation,

with the exception of export promotion where costs may be prohibitive for small companies.

Our marketing recommendations focus on three common target markets for NDC companies. However, we do not recommend a formal marketing department within NDC to undertake group marketing. Rather, NDC should facilitate coordination among the companies by using the Chairman and the Chief Operating Officer's time to coordinate group meetings. Additionally, NDC can provide space in its headquarters for functional in the NDC companies to meet and share resources. Finally, NDC can request technical assistance to provide seminars and training to marketing staff as a means of lowering the cost of training across its companies.

In the area of exports, the high costs of travel and communications provide more of a role for NDC. NDC can group its companies together by category and products, and assist the groups to promote and market products externally. Again, this is best done by the companies themselves. However, NDC could employ a young and promising "corporate salesperson" to market NDC products in the region and to assist the companies to take better advantage of these opportunities. Such a position would be only for two to three years, until the companies had gained sufficient strength in export promotion to take the lead themselves.

3. Benefits and Expected Impacts

NDC stands to benefit tremendously from the increased sales that improved marketing would provide. The first benefit is that it would force the company to focus its operations in a way that is lacking at present.

The second benefit is that by servicing specific markets and customers, auxiliary business ideas can emerge. These could lead to additional profit opportunities, including higher value-added customer-specific services, which are critical if NDC is to increase profitability in the future.

The third benefit is to lower the cost of marketing programs in the NDC group. Most work would be done by the marketing managers and their staff at the individual company level; however, by providing resources primarily in the form of space and training and seminars, NDC can lower the cost of improving marketing among all companies.

The final benefit is to increase sales and profits. Promotion of exports would do much to increase sales and profits, while bringing in much needed foreign exchange. Pooling these activities is a low-cost option for NDC. The goal is for companies to be responsible for their own marketing in the future.

C. Production

1. Recommendations

Most production-level recommendations are appropriate at the company level. NDC's role should be to facilitate and support General Managers to achieve the following:

1. set cost reduction, time compression, product quality and maintenance targets;
2. facilitate the organization of production managers and engineers into a professional group within NDC;
3. provide a room in NDC Headquarters for production engineers and managers to meet and share resources;
4. request technical assistance to provide seminars and training to marketing staff;
5. support technical training on preventive maintenance; and
6. ensure that budgets contain adequate funds for parts and maintenance.

2. Discussion

The National Development Corporation is relatively strong in production. Indeed, production is its only strong suit. It has several well-run production facilities that provide products vital to Tanzania's national development, including Aluminum Africa, Tanzania Oxygen Limited, Tanzania Electrical Goods, and Metal Box. Further, NDC has an extensive, well-trained engineering staff, including a large number sitting in headquarters.

At the same time NDC's plants are aging rapidly. Several plants are well over 20 years old, yet minimal capital is being reinvested in them. In other cases, modern plants such as Southern Paper Mills and Light Source Manufacturing operate well below capacity due to lack of preventive maintenance in the past.

Production costs are often high compared to imported products, while quality is lower. For example, Light Source Manufacturing uses raw materials that cost in excess of finished goods imported into the country. On top of that, their poorly maintained production lines and inefficient production processes and workers break 40% of the tubes and bulbs produced. There is no hope for such a company.

NDC needs to reinvest substantial sums of capital in its plant and will need to replace much of the capital equipment in the coming years. Production must do its part to:

lower production costs;
find better ways to produce with fewer resources;
organize production lines to speed through put; and
rationalize plant and lines to optimize output.

These tasks must be done by the operating companies. Yet, NDC should play an important role in setting targets, getting production managers together to discuss problems and needs, and facilitating technical assistance to solve the generic problems of poor maintenance, slow production processes, and costly production procedures. Finally, NDC needs to see that dollars are set aside in company budgets to repair and replace equipment.

3. Benefits and Expected Impact

NDC stands to benefit dramatically from an improvement in its production facilities. The first benefit is that of focus. By focusing on cost reduction, the company can bring costs down and insure its survivability. It must lower cost to generate funds necessary to lower debt and to reinvest in its own plant.

The second benefit of lowering production costs and speeding through-put is to increase its own market share. Low income levels in Tanzania dictate that lower cost producers and sellers should gain market share.

The third benefit is that of quality. Cost reduction and improving the through-put time should also result in quality improvement. This is necessary to survive in several cases. For example, ZZK and UFI farm implements manufacturers are competing against lower-priced, higher-quality imported hoes, which have visibly higher quality finish and appearance than those produced by ZZK and UFI. UFI now has up to 1 million hoes in its warehouses that can not be sold for these reasons. Quality standards need to be developed and improved if such companies are to survive.

The fourth benefit of NDC's production program should be to encourage and obtain greater involvement from its employees and its managers. By facilitating the grouping of production managers into a professional group to exchange ideas, to visit other factories, and to recommend improvements that can be applied to other NDC companies, all NDC group companies benefit.

NDC should facilitate and encourage the managers, but not do their job for them. Ownership of ideas and programs and commitment to them will be strongest if it comes from the companies and their managers. NDC's role is to set targets, to encourage the managers to meet and exceed the targets, and to see that funds are set aside in budgets so that such targets can be achieved.

D. ORGANIZATION

1. Recommendations

1. Structure the organization to achieve NDC's objectives.
 - a. Obtain outside partners for:
 1. Southern Paper Mills
 - b. License Technology for:
 1. National Engineering Company
 2. Tanzania Cable
 3. Ubungo Farm Implements
 4. Zana Za Kilimo
 5. Kilimanjaro Machine Tools
 - c. Negotiate or keep management contracts for:
 1. Tanzania Electrical Goods
 2. Tanzania Oxygen
 3. National Bicycle
 - d. Sell additional shares to management or partners:
 1. C. Metal Box
 2. Tanzania Oxygen
 - e. Sell all shares to management/employer or investors
 1. Mangula Machine Tools
 2. Motor Mart
 3. Tanzania Watch Company
 - f. Merge the following companies into stronger single companies:
 1. Merge the operations of:
 - a. Ubungo Farm Implements
 - b. Zana Za Kilimo
 - c. Mangula Machine Tools
 2. Merge the operations of:
 - a. Aluminum Africa
 - b. National Steel
 - c. Steel Rolling Mills
 - g. Spin-off smaller units:
 1. Kilimanjaro Machine Tools
 2. National Bicycle
 - h. Close and sell the assets of:
 1. Light Source Manufacturing

2. Reduce the site and cost of the headquarter operation.
 - a. Reduce the number of employees to 20 to 30
 - b. Shift engineers and others to operating companies
 - c. Shift clerical to larger operating companies
 - d. Keep financial, legal, and small planning section (3 to 5 people)
 - e. Use technical assistance or task forces instead of staff to address specific problem areas within the NDC Group, e.g.:
 1. Marketing
 2. Production
 3. Cash management

3. Lower administrative/overhead procedural costs
 - a. Streamline administrative paperwork, e.g.
 1. Budget preparation
 2. Annual reports
 3. Personnel actions
 4. Five year plan
 - b. Automate the routine and voluminous
 1. Accounting records
 2. Payroll
 3. Accounts payable
 4. Monthly reports

4. Board of Directors
 - a. Strengthen the Board of Directors
 1. Increase the number of private sector managers/investors.
 2. Reduce the numbers of government officials on the Board.
 3. Increase the number of industry knowledgeable members.

5. Broaden Share Ownership of NDC and Companies
 - a. Establish goals for share ownership/privatization
 1. Equity infusion
 2. Gain access to technical expertise
 3. Gain access to external markets
 4. Realize capital appreciation on invested assets
 5. Increase employee involvement and commitment
 6. Broaden share-ownership in Tanzania
 7. Rid company of assets/companies that no longer "fit"
 - b. Prepare company to obtain the highest price per share.
 1. Improve operating performance
 2. Improve financial performance
 3. Obtain audits from a reputable local or international firm
 4. Prepare communication program for employees

- c. Build a reputation for integrity
 1. Pay suppliers on time
 2. Pay management contracts on time
 3. Repay bank debts ahead of schedule
 4. Adhere to financial commitments
 5. Meet or exceed delivery schedules and promises
 6. Guarantee product quality

2. Discussion

The current structure is characterized by a lack of form, low utilization of capacity, high administrative costs, and low profitability. For example, NDC competes across a dozen industries, has an average capacity utilization of less than 50%, and has a headquarters that absorbed 97 million shillings in 1989 -- almost 1/2 of its annual loss for the year. At the same time, to compete, the National Development Corporation requires infusions of capital, technical knowledge and managerial expertise.

NDC can improve its overall operation by licensing technology for some of its companies. This a way to gain both managerial expertise and in some cases trademark and property rights to key technologies. This is a strategy very successfully used both by Korean, Japanese and other Asian manufacturers, as well as by many companies in neighboring Kenya. Companies that might benefit from specialized licensing could be National Engineering Corporation, Tanzania Cable, Ubungu Farm Implements, Zana Za Kilimo or Kilimanjaro Machine Tools. Licensing provides additional benefits in that it enables NDC to put labels on top of the products which could increase market share and acceptance of its products as well as establishing quality standards.

NDC could also sell shares to partners, including foreign partners, as a way of further increasing their interest and motivation. Good trial cases would be Metal Box or Tanzania Oxygen, both of which have strong competitive positions that could be further enhanced through the technical assistance and in capital investment that would be made by strong foreign partners.

NDC can also sell all shares to management, employees or outside investors in order to rid NDC of companies generating losses, and to broaden ownership of corporations in the local economy. In both the case of Motor Mart and Tanzania Watch Company, for example, these companies are small, do not fit NDC's portfolio, and really don't benefit from the high overhead and reporting requirements imposed by NDC. They would be much better off as independent operations. Several corporations within NDC have large asset bases that are severely under-utilized. These include both Kilimanjaro Machine Tools and National Bicycle Corporation. In both cases the companies have very complex operational lines and systems of which only small portions are being utilized. At the same time, there are many opportunities within Tanzania for products that could be machined or processed on these particular lines. For example, Kilimanjaro Machine Tools has unique gear grinding lines, heat treating facilities, and special heavy equipment lathes and presses, that cannot be found elsewhere in the country. There are many spare parts, tools and replacement parts that could be manufactured on these machines, but are not

currently being manufactured because Kilimanjaro is focusing on producing machines which use only a small part of the installed capacity. National Bicycle Corporation is using only a small fraction of the different forms and equipment within its facility, by producing only three or four man-made parts.

Another option for Kilimanjaro Machine Tools and National Bicycle Corporation would be to spin off certain unique processes and lines to create a series of small subcontractors. These could be either wholly owned by the entrepreneurs -- in which NDC could structure a loan agreement -- or could be smaller subsidiaries underneath either the original company or NDC.

By attacking NDC's financial and marketing problems on an organizational basis, we have made a number of recommendations to better utilize both internal resources and to capture additional resources from outside. In the case of outside partners, several companies do require very large infusions of capital and are unsustainable as is. These include Southern Paper Mills.

For some companies, an appropriate strategy is to negotiate and keep current management contracts. These are useful for ensuring that the technology transfer process continues, and for ensuring that managerial expertise and outside knowledge of markets and comparative processes is continually brought into NDC's corporations. In certain cases, NDC already has established management contracts to provide technical assistance, and in most cases these should be continued -- as in the case of Tanzania Electrical Goods and Tanzania Oxygen.

Some companies unfortunately can't be assisted and we recommend that they be closed down and the assets be sold. This is the case for Light Source Manufacturing. Even though there is a very strong market demand for bulbs and tubes, the economics of the facility, the condition of the plant and equipment, and the capability of the engineering and management talent within the corporation are insufficient to ever assure profitability in this field.

Finally, NDC could benefit through merger and rationalization of several companies within its group. We recommend two mergers. One deals with the agricultural implements companies, which include Zana Za Kilimo, Ubungo Farm Implements, and Mangula Machine Tools. These companies manufacture products for similar customer bases, and in the case of Zana Za Kilimo and Ubungo Farm Implements have reasonably similar machine lines and product output. Yet both have high cost structures, and are producing far below their capacity. In this case, a merger of the three organizations to shift resources and to cross-market products could increase overall sales while at the same time, reducing overall costs dramatically.

The second merger would be on the side of steel. Aluminum Africa, National Steel Corporation, and Steel Rolling Mills, are in very similar markets and would benefit from a merger of operations. Steel Rolling Mills takes products manufactured by Aluminum Africa and further processes them. The National Steel Corporation is marketing competing products yet does not have the economies of scale in purchasing that Aluminum Africa

does. For these reasons, we recommend that they both be merged into Aluminum Africa as subsidiaries.

At headquarters, NDC consumes a fair amount of resources every year that could be better invested in the capital equipment and projects in the operating companies. To address this, we recommend reducing the NDC corporate staff to a size that would be consistent with holding companies around the world. Generally, holding companies consist of little more than financial staff and some record keeping operations. This is what we recommend for NDC. Also, NDC has resources at headquarters that are critically needed in the corporations themselves, primarily engineers and certain skilled financial analysts.

Overall, NDC could help lower administrative and overhead procedural costs by better automating and standardizing its administrative procedures. These include such things as budgets, annual reports, personal actions and creation of the five year plan. This is being addressed by a UNIDO consulting project and we endorse this as a means of lowering costs to the operating companies as well as being a more effective source of management information for headquarters.

In the area of its Board of Directors, NDC needs to strengthen both its own board and those of its holding companies. NDC needs persons with private sector management experience and or private investors. This is necessary to give the Board more operational expertise. NDC's current board is well structured in terms of managing the political process, but it is not as well structured to provide key advice and support to General Managers on operating, production, marketing, and financial issues. For this reason, we recommend an increase in the number of private sector managers and investors. In passing, we note that the addition of managers with operating experience is perhaps the least expensive form of obtaining high quality consulting expertise that NDC can find.

We are recommending the broadening of share ownership as a means of changing both the capital structure of the corporation to better its survivability, but also as a means of bringing in managerial expertise and market contacts necessary to improve both operations and sales in the coming years. NDC is much less valuable than it could be. This is shown in low valuations (see Table 3.12), where we see that many NDC companies would sell for less than the book value of their assets. The key role of a holding company is to improve overall the operating and financial performance of its companies.

Finally, we note that to obtain both higher share prices and better financial terms on debt, NDC will have to further improve and build its reputation for integrity. This involves establishing a reputation for doing what it says it will do -- especially in such areas as paying suppliers on time, paying management contracts, repaying bank debts on time or even ahead of schedule, adhering to financial commitments, and meeting or exceeding delivery schedules and promises. This is a difficult task for any corporation: however, in NDC's case it will be critical should it wish to strongly position itself for the future.

3. Benefits and Expected Impacts

The key benefit to NDC's restructuring and broadening the share ownership of its corporation is focus. As described in the strategy section, NDC does not have a coherent strategy or a coherent focus. This means that it can not compete effectively in any of its current markets, and is extremely vulnerable to smaller, more focused competitors -- both local and foreign. For these reasons we recommend that it focus on three market areas and restructure the organization to best target these areas.

The second benefit that NDC would obtain from restructuring is to lower its costs. These include reduced costs at the headquarters level, reduced costs from rationalizing several of its operating companies, reduced costs by eliminating enterprises which are generating losses (such as Motor Mart Tanzania and Tanzania Watch Company), reduced financial costs from paying down a debt from the proceeds of asset sales, and reduced costs that can come from a more committed management team, outside partners, and employees.

Third, NDC can obtain outside capital and expertise through this restructuring effort. There is little loss to NDC in most cases, since NDC is not profitable in many of its companies. NDC's track record shows that the higher its share of ownership, the less profitable the company is likely to be. (The companies with 100% NDC ownership have been the least profitable.) Bringing in outside expertise, resources, and motivation will be critical to helping NDC turn around and advance its goals over the next ten years.

Fourth, selling off companies today and investing the returns to either pay off debt or to invest in on-going enterprises will take some time. At the same time, NDC will have made a contribution in terms of increasing the numbers of locally owned businesses while reducing the debt burden on such small enterprises as Motor Mart and Tanzania Watch Assembly Company.

Fifth and finally, by broadening share ownership in Tanzania, NDC will have fulfilled its original role in terms of bringing both development into Tanzania and placing share ownership in the broader hands of the public at large. The connection between the citizens and the ownership is now made more obvious and apparent through share ownership.

E. Human Resources

1. Recommendations

To improve the quality, productivity, and compensation of its human resources, NDC should take steps oriented towards both managers and employees.

a. Managers

1. Institute a management development program.
 - a. Pull staff out of NDC and put into the field to season them.
 - b. Rotate new managers through operating positions to expose them to the various functions -- marketing, finance, production, personnel manager to at least one course or seminar annually and require him to instruct others at the company upon his return.
 - d. Institute a scholarship program to cultivate top performers.
 - e. Use smaller companies as incubators, placing younger managers there to develop their skills.
 - f. Use proficient companies as training facilities to incubate good management practice (CMB, AAL, TOL).
2. Give General Managers more responsibility, authority and accountability.
 - a. Negotiate overall financial goals and targets with managers.
 - b. Review and critique management plans to achieve targets.
 - c. Give companies final authority in spending and organizing their resources to achieve goals.
 - d. Monitor progress monthly.
 - e. Support managers' efforts to achieve targets for a previously agreed upon time.
 - f. Generously reward achievement of targets.
 - g. Replace managers or divest companies that do not achieve their targets.

b. Employees

1. Increase employee involvement and commitment
 - a. Provide training to companies on how to: a) establish and manage employee task forces and committees; b) institute and manage employee suggestion programs; and c) establish "profit sharing", phantom-stock, or employee stock-ownership programs.
 - b. Provide companies with "model" compensation programs.
 - i. Conduct/obtain a salary and benefits survey
 - ii. Cost-out benefit components
 - iii. Set upper-limit on benefit compensation
 - iv. Establish "cafeteria plan" of benefits
 - v. Obtain exemption from SCOPO guidelines
 - vi. Substitute profit-sharing, "phantom stock", or ESOP for additional compensation
 - c. Support manager's efforts to reduce the size of the workforces.
 - i. Negotiate targets for reductions

- ii. Obtain technical assistance and training on personnel reduction programs
- iii. Obtain technical assistance to conduct "make or buy" analysis on ancillary services
- iv. Provide managers with comparative employment, labor cost, and productivity figures
- v. Encourage the formation of a personnel manager's group to promote professional development

2. Discussion

Management in the NDC companies varies dramatically from company to company. Knowledge of the industry, functional skills, personal skills, and management skills vary widely. Much of this difference is evident in the financial and productivity indicators discussed in Chapter III.

During our evaluation of NDC, many managers attributed the poor performance of their companies to the environment, the lack of capital and so forth. But most problems are solvable given sufficient authority. Most problems with these companies can be traced back to poor management.

Poor management includes not only the general managers but also management practices at NDC. The managers are not given full authority to solve their problems. If their actions are second-guessed by headquarters, or if they are unduly restricted in their ability to hire and remove workers, then the general managers are weakened.

NDC's role should be to negotiate achievable targets with the general managers, to give the general managers authority, and to expect and reward results. NDC's key function as a holding company is to allocate financial resources among the companies and to choose and demand performance of the general managers. NDC's task is not to manage companies: that is the job of the company managers. The general managers are the ones that are ultimately responsible for the performance underneath them and should be given every opportunity and every support to achieve that goal.

Misappropriation of funds should be punished at once. If it happens, negative publicity may cause NDC problems, but ultimately its reputation for integrity will be strengthened by a consistent enforcement policy.

NDC can support management by seeing that managers have adequate training, exposure to new and better methods, and by matching challenges to managers experience and abilities. The key responsibility of NDC is the selection of the general managers and secondarily the nurturing of the potential general managers within the corporation. Pulling resources to lower training costs is vital to this process.

At the same time, NDC should not fully fund these programs. Rather it should package and sell them to the companies who are expected to cover the cost. NDC's role

is to prod companies into allocating funds to improve the quality and training of their personnel.

On the employee side, too few employees are committed to their work. During company visits, the consultants observed many personnel sitting, resting, walking about on personal errands, and putting in minimal effort to their tasks. This is not a healthy sign. At the same time, many employees were quite dedicated to their tasks and were working well.

NDC as a holding company should not have day-to-day supervision in the employment areas within its companies. Each corporation needs to establish the best combination of practices that meets its employees' needs and the corporation's overall goals. At the same time, NDC can assist the personnel managers and the general managers to increase employee productivity throughout the NDC group.

Improvement of employee productivity can be achieved through three key actions. First, increasing employee involvement and commitment to the corporations. Most of these actions will be done on the company level. However, NDC can assist the companies in providing support to such programs as training, employee task forces, suggestion programs, and profit sharing programs.

Second, NDC can provide companies with model compensation programs suggesting ways in which they can increase the level of benefits to employees, while simultaneously obtaining more productivity. Productivity is crucial, since increased benefits only can come from increased sales.

Finally, NDC can support managers' efforts to reduce the overall size of the work force. Corporations have many functions in society. However, their function is not to employ the largest number of persons, but to organize them in such a way as to attain the highest overall benefits for society. Many of NDC's companies are overstaffed and productivity is low by international standards. This means that NDC suffers competitively and that Tanzania's development is slowed through having to support inefficient state-owned corporations. Progress comes from being able to achieve more for less -- and this includes personnel.

NDC can assist the general managers in their efforts to reduce the work forces by helping the managers negotiate targets for reductions, providing the general managers with technical assistance and training in personnel reduction programs, and obtaining technical assistance and comparative data to enable the managers to plan and carry out reasonably painless employee reduction programs. Encouraging the formation of personnel managers as a group across the companies would also promote professional development. It should be noted that where such organizations exist already within Tanzania, for example, as in the engineering component in the Mechanical Engineering Development Association, NDC does not need to duplicate this effort. However, it should support and encourage the companies within its group to enroll and pay for the professional dues for these managers. This is a very cost effective method of broadening the experience base of their personnel managers.

3. Benefits and Impacts

NDC will obtain several key benefits and impacts from improving the overall management and employee productivity of the NDC group. Benefits include clarity of purpose, increased involvement in productivity of employees, more and innovative actions by the managers, a reduction in costs, and an increase in profits. In particular, profit sharing and stock ownership would align employee interest with the needs of the company.

F. Finance

1. Recommendations

- a. Set five year, annual, and quarterly targets to exceed the cost of capital
 1. Determine industry standards
 2. Determine cost of capital
 3. Negotiate targets and improvements with General Managers
 4. Monitor progress monthly through MIS
 5. Reward superior performance
- b. Manage the portfolio mix to reduce overall financial risk and optimize returns
 1. Identify companies with synergistic returns
 2. Calculate current, expected and projected returns
 3. Identify cash generators and cash users
 4. Identify companies growing faster or slower than their markets
 5. Merge, divest, or acquire potential returns
 6. Raise overall cash flow in the NDC group
- c. Invest excess cash flow from profitable companies into high return ventures
 1. Increase dividend rates and flows
 2. Inject equity into high-growth, high return ventures
 3. Offer shares to obtain funds for reinvestment
- d. Support companies' attempts to improve their financial performance
 1. Negotiate and set financial targets
 2. Obtain technical assistance and training for:
 - i. Financial management
 - ii. Financing techniques
 - iii. Calculation of project and investment returns
 - iv. Cost analyses and reduction

3. Provide financial managers with comparative revenue, loss, productivity, and capital figures
4. Support the formation of a financial manager's professional association

2. Discussion

As a holding company, NDC has two roles: (1) development of companies within an industry, and/or (2) financial management of a portfolio of assets. As discussed earlier, NDC's current strategy has resulted in increasing losses. New ventures, in particular, show high and on-going losses while there are a number of half-completed projects within the NDC companies. For example, Southern Paper Mills, Kilimanjaro Machine Tools and Light Source Manufacturing are the latest companies to be established by the National Development Corporation and all are losing substantial amounts. Further, Captive Foundry and the extension to the Steel Rolling Mills Plant have resulted in costs being incurred by NDC, yet have yet to be operated.

At the same time, the nationalized and jointly owned companies are providing the bulk of NDC profits. In general, the less percentage of ownership in a corporation that NDC has, the greater the profit level of a corporation.

Thus, the role of industrial development should be set aside while the companies should focus on improving the financial returns of the companies and the group. NDC's key tasks are determining real performance targets, communicating these targets with General Managers and Financial Managers, and restructuring the portfolio of companies to achieve the established targets.

Real performance targets depend on several factors: (a) industry standards, (b) local competitive environment, (c) local capital costs and financial instruments available, d.) inflation and foreign exchange rate changes.

In NDC's case, the key figures are the cost of capital and inflation. NDC's companies need to exceed the cost of capital if they are to outrun the debt burden that they are currently saddled with. On the foreign exchange side, NDC companies must generate sufficient profits to replace the foreign exchange component on imported raw materials. NDC group companies must exceed such figures in real terms to be considered buyable.

Review of the revenue and asset figures as shown in the findings section, show that while NDC's assets and sales figures are growing substantially in shilling terms, when converted into constant shillings or dollars, the NDC companies show a history of decline.

NDC can stop the trend of decline through the establishment of targets, with the restructuring of the portfolio as discussed in organization, and supporting its managers to improve its financial systems and returns.

3. Benefits

NDC stands to benefit greatly from focusing on the financial recommendations described above. First, focus will give NDC relative credibility within the financial markets. Improving the returns, generating profits and being able to repay debts, and showing that it has the capability to manage financial assets, are critical for NDC's continued ability to call upon capital in the markets.

Suspension of the development portion of NDC's portfolio is necessary. It is necessary to halt erosion of existing assets and to protect remaining assets. Concentrating on the financial aspects will improve overall operations, give NDC better managerial skills, and give the company time to rebuild and prepare itself for reentering the industrial development market.

Setting objectives and realistic targets should provide focus for the companies, the general managers, and their personnel on the key fundamentals of successful business. In particular, the need to create profit so as to stay in existence. Currently the message has not gotten through clearly: hence the irregular and low profitability of the NDC corporations compared to the private sector.

Note that profits as measured by the National Development Corporation are overstated. Closer examination of the financial statements reveals three disturbing trends. First, the depreciation figures used are insufficient to replace capital goods. Depreciation periods are much longer than the expected life of the equipment, with the exception of vehicles. Second, the depreciation is based on both historical Tanzania shilling and dollar terms, therefore, it is unable to shelter sufficient funds to replace equipment which is increasingly costly. And third, the cost figures do not reveal the benefits received of technical assistance, grants, donations, and capital write offs which are significant in several of the NDC companies.

G. Policy and Regulatory Environment

1. Recommendations

1. NDC should build a case for changing aspects of its policy and regulatory environment that impose constraints.
 - a. Identify successful policies in competing or developing countries
 - b. Document the costs to NDC of current policy
 - c. Document the benefits to NDC and the Government or the alternatives
2. Lobby for changes to regulatory environment, such as:

- a. Obtain exemption from SCOPO guidelines on compensation and personnel policy
- b. Obtain exemption from price controls
- c. Obtain rebate of duties paid on raw materials used in exported goods
- d. Assist companies to obtain foreign exchange accounts
- e. Obtain reduction in local currency percentage required to finance OGL Letters of Credit
- f. Support establishment of financial regulations allowing for:
 - i. Sale of parastatal stock to local and foreign investors
 - ii. Establishment of a local stock exchange
 - iii. Creation of employee stock ownership programs
 - iv. Legal termination and asset sales of money-losing parastatals

2. Discussion

NDC companies, long sheltered from competition, have faced significant challenges in recent years. Parastatals, however, still operate under a set of restrictions that limit NDC and its General Managers' ability to compete effectively against the private sector. These include parastatal regulations on compensation policy and personnel rates, price controls on key products, duties paid on raw materials used in export goods, and currency regulations and restrictions. There are three options that NDC could pursue to change the legal and regulatory environment. These include: 1) placing private sector companies under the same regulations, 2) eliminating the regulations, or 3) making NDC private.

Strict personnel regulations (as opposed to minimum standards) have not particularly assisted the National Development Corporation or the country to develop, and are unlikely to assist the private sector. Option 2 -- eliminating regulations -- would be beneficial to all parastatals, so NDC might gain additional support from all of their holding companies to achieve this option. In the third option, once NDC's ownership position in its companies falls below 50%, its enterprises should be able to free themselves from the general parastatal regulations. This would be the easiest perhaps of the options to achieve, assuming the legal structure is adequate to deal with the sale of parastatals to private individuals or in the share market.

This brings up the issue of privatization. Having discussed privatization at length as an option and key strategy for NDC, we realize that the current legal and regulatory framework to do this is unclear. Thus, full privatization of NDC is several years into the future. Technical assistance to change the laws will be critical and is highly recommended.

3. Benefits

NDC stands to benefit tremendously from changes in its legal and regulatory environment. These benefits include: 1) giving NDC more options and opportunities to

make the necessary changes in their operating structure, 2) enabling NDC to compete more effectively against local private and foreign private firms, 3) creating a more equitable playing field for both the parastatals and the private firms, and 4) lowering the overall cost to the Tanzania economy of the parastatals and of the corporate sector.

CHAPTER V: INDIVIDUAL COMPANY RECOMMENDATIONS

A. Overview

Our recommendations for each company deal with those actions that should be implemented specifically by each company and their general managers -- as opposed to by the management of the holding company NDC. To reduce the volume of the report and yet to give some overview, these recommendations are consolidated into a chart, presented on the next several pages. A full discussion of each company is contained in the second volume of this report, entitled "Appendices: Individual Company Reports."

The chart follows the order of the report by starting with strategy, and then going on to marketing, etc. The companies are presented in the columns in alphabetical order. A shaded area in the grid linking the company to the recommendation indicates that the company should implement the recommendation. Later, in the company appendices, these recommendations form the basis for each company's action plan.

The first grid line of each numbered section (A.1, A.2, etc.) is shaded if the recommendation applies to the company. If more specific recommendations are highlighted below that first line, they also apply. Blank lines in the grid signify that the recommendation does not apply.

In several cases, additional detail or examples have been added to clarify the recommendation. These are identified by the use of "e.g." on the preceding line. In these cases, the grid spaces have been left blank as they are meant for illustration and example.

The priority within the set recommendations for each of the companies is the same as for NDC:

1. Reduce costs
2. Streamline production
3. Improve quality
4. Increase value-added
5. Increase unit sales
6. Promote exports
7. Increase capacity
8. Extend product lines
9. Add new products within existing companies.

Of course, NDC has the additional task of restructuring several of its subsidiaries, which must be done concurrently with these recommendations.

First, all of the NDC subsidiaries should renew efforts to reduce costs significantly if they are to survive. Also, streamlining production and the processes around production are important. To start with, most companies have very long cash conversion cycles (the time it takes a company to receive cash payment for goods sold from cash invested in raw materials). In some cases, it takes an NDC company almost two years to turn raw materials into cash. This adds significantly to the companies' costs.

Second, local companies should try to maximize the timing advantage that they enjoy over outside competition. That is, they should be able to produce and deliver goods faster. Furthermore, as they are more flexible they should be able to respond to consumer demand. This gives the local producer an advantage that can partially offset his higher costs.

New products and areas should be investigated last. Such projects are inherently more risky and offer lower paybacks than the cost reduction and streamlining production projects will offer in the coming several years. It would also help NDC while it is straightening out current operations to not be distracted by new projects.

B. Individual Companies

The remainder of this chapter will highlight the overall strategy presented for each of the NDC subsidiaries. To see how each company is positioned on the twin axes of market position and financial strength, refer to Graph 4.1 in the previous chapter.

1. Aluminium Africa (AAL)

Aluminium Africa is one of the core companies of the NDC Group. Since it produces key construction materials and products such as galvanized sheeting, asbestos sheets, pipes, and structures, it should serve as the base of the construction products group of the new, restructured NDC.

Selective improvements need to be made to its production facilities -- particularly in the galvanizing area. Also, it must focus on cost reduction as it will face increasingly strong import competition in its basic products.

To lower overall costs to NDC and to consumers, Steel Rolling Mills and National Steel Corporation should be merged into the Aluminium Africa Group. Currently, Steel Rolling Mills and Steelcast seem to be working against each other, rather than together, with two cost disadvantaged companies in a highly competitive and over-producing world market.

If Steel Rolling Mills is not moved to Dar es Salaam, then Steelcast and Steelco could be merged. The existing equipment at Steelco can roll the plates to sizes required by the market. Details on production aspects of such an operation are contained in the appendix on Aluminium Africa Ltd.

2. Metal Box, Limited (CMB)

Metal Box is a very well-run, well-positioned, strategic company. Its cans and metal packages are important for the development of the agricultural export sector as well as for providing packaging for domestic use.

NDC can add little to the technical expertise of Metal Box's parent; but it can benefit from the revenue stream that could be created. Therefore, it is recommended that NDC gradually move to a minority share in Metal Box and use its share of Metal Box's revenue stream to finance other projects.

3. Kilimanjaro Machine Tools, Limited (KMT)

Kilimanjaro Machine Tools Limited produces products that serve the industrial market and, indirectly, the construction market. It has unique machine tools in its factory that cannot be found elsewhere in Tanzania and could be put to better use. However, at present, production lines and machines are severely underutilized in a factory located far from its customers.

The company would work better if it were broken down into a series of specialized companies built around production processes or production of parts. For example, there is a specialized gear grinding line, the only one of its kind in Tanzania, that produces less than 400 gears a year; meanwhile, Tanzania imports thousands of gears for lack of a local manufacturer.

Furthermore, there appears to be little market for the company's products which are more expensive and of lower quality than competing imports. For these reasons, we recommended breaking Kilimanjaro Machine Tools into a series of companies.

4. Light Source Manufacturing (LSM)

Light Source Manufacturing is a difficult case. While the idea of producing bulbs domestically might make sense with the proper facilities and expertise, Light Source Manufacturing, unfortunately, has neither.

Production would only be economical if Light Source produces bulbs and tubes locally. To produce bulbs and tubes cheaply, it would need to sell tens of millions of bulbs annually, have local expertise in glass, and have an efficient furnace and bulb forming line. Since the company does not have glass making expertise and its bulb forming line appears to be inadequate, it would need protection against cheaper imports to enable it to sell millions of bulbs.

The current operation loses money, will continue to lose money, and should be closed immediately. To salvage some funds, one could sell a package to a private entrepreneur who would buy up the remaining bulbs and tubes, rent the facilities, and produce a final batch of product.

If Tanzania were to decide in the future to produce light bulbs, it should only be done as a joint-venture with a foreign bulb producer. As it does not fit NDC's core group or skills, NDC should not be a shareholder.

5. Mangu'la Mechanical and Machine Tools (MMM)

Mangu'la Mechanical and Machine Tools is in serious trouble. Poorly located, inadequately managed, and with rapidly deteriorating plant and equipment, it is unable to maintain sufficient volumes of production or quality.

We recommend closing the facility and transferring machinery, materials, and personnel to Zana Za Kilimo and Ubungo Farm Implements. Alternatively, Mangu'la could be turned over to the region or government for use as a training center.

6. Motor Mart (T) Limited (MMT)

Motor Mart Limited fits neither NDC's key customer segments nor its production skills. It is a repair business that is primarily household oriented. As a production business, it does not appear to have much expertise and has steadily lost market share. Motor Mart does not benefit from NDC's overhead and is hindered by the reporting requirements of the larger NDC structure.

We recommend that NDC sell Motor Mart to the company's management and employees. Alternately, it should be closed. There is relatively little debt on the corporation and that can be assumed by management.

7. National Bicycle Company (NBC)

National Bicycle does not fit NDC's core group of customers as defined in this report, even though, farmers and the rural population do make use of its bicycles. It does have several industrial processes that fit NDC's needs; however, at present, they are not in production.

NDC could obtain the most benefit from and create the most benefit for Tanzania by better using National Bicycles facilities. While the Company could continue to produce select parts and assemble bicycles; the unused portions of its facility could better be utilized by smaller contractors.

For these reasons, we recommend that the company be broken into smaller units either by creating subcontractors, by leasing the machines and space to subcontractors, or by selling the machines to independent entrepreneurs.

8. National Engineering Company (NEC)

National Engineering Company is a diversified producer of castings, machined parts, and fabrications. It produces for both the construction and industrial markets

and, thus, fits with the market strategy we have proposed for NDC. It is profitable and well-managed. The Consultant's recommendations for the National Engineering Company are concentrated on production aspects.

9. National Steel Corporation (NSC)

The National Steel Corporation is an anomaly. It is quite profitable yet is in decline. Unit volumes have declined in recent years and the company is able to purchase less and less steel each year. It has lost its major customers who now buy direct, and for smaller clients it competes against more nimble private traders who operate with far less overhead and faster inventory turn-arounds.

National Steel should be merged into the Aluminium Africa Group. Its yard could be sold or used as a sales depot for all Aluminium Africa products. The concept of "one-stop" shopping makes sense but it would be better combined with the regional depot strategy of the Aluminium Africa Group. There is no need for National Steel to exist as a separate group -- existing as a trading arm of Aluminium Africa would suffice.

10. Southern Paper Mills (SPM)

The Southern Paper Mills, while being a good idea conceptually, has been difficult to implement. The plant is located in an area with plentiful rainfall and sunshine, vast timber reserves, and adequate water and power. However, producing paper involves a complex set of processes, disciplines, and skills that NDC and Tanzania have yet to develop. Marketing the volume of paper that would enable Southern Paper Mills to reach break even requires greater access to export markets. Moreover, Southern Paper Mills is burdened with high financing costs as a result of under-capitalization during building.

Southern Paper Mills may eventually be profitable. However, the losses until then will be substantial. NDC should seek an outside partner to invest additional equity, expertise, and market access. Eventually, NDC should sell off all shares as Southern Paper Mill's products and processes fall outside its core group of skills and customers. It should do so soon while the plant is on the upswing so that it might achieve the most favorable terms.

11. Steel Rolling Mills (SRM)

Steel Rolling Mills fits NDC's core group of skills and customers. Unfortunately, Steel Rolling Mills is poorly positioned geographically such that it costs NDC and customers substantially to transport steel billets and steel rod.

The Consultants recommend that Steel Rolling Mills be integrated into Aluminium Africa. The least expensive strategy would be to move the plant close to the Steel Cast group. Alternately, the company could build a new plant in Dar es Salaam that would cast directly from scrap to bar or plate.

There does not appear to be sufficient market close to Tanga to justify its own furnace. Steel Rolling Mills would run through all available local scrap in a matter of months and then become import dependent. As this would require additional foreign exchange, it would only serve to increase the country's overall foreign exchange burden for what would be an uneconomical undertaking.

12. Tanzania Cable Limited (TCL)

Tanzania Cable is a well-run company that produces key products for both the construction and industrial markets. It should remain a part of the NDC group.

Attention should be paid to further reducing production costs and to selectively increasing the range of products produced.

13. Tanzania Electrical Goods (TEG)

Tanzania Electrical Goods is a well-run company that produces transformers for utilities and industrial concerns. It is a key company to Tanzania's industrial and economic development and should be held by NDC.

At the same time, NDC could benefit from additional outside expertise and capital. NDC should sell shares to its partners and take a minority position. Alternately, it could arrange licenses to produce more complex transformers and products.

14. Tanzania Oxygen Limited (TOL)

Tanzania Oxygen Limited produces industrial gases that are a key component in construction and industry. It has a monopoly position at present, is extremely profitable, and is well-run. NDC should keep the company and expand its production.

Logistically, Tanzania Oxygen should look to placing smaller plants in geographic regions as a means of forestalling competition. While production costs are higher for the smaller facilities, the savings in transportation costs and response time will grow more important to the customer as Tanzania develops.

15. Tanzania Watch Assembly Company Limited (TWA)

Tanzania Watch Assembly Company does not fit either NDC's core skills or its customer bases. The company is small, unprofitable, and in debt. It does not benefit from NDC's reporting structure; although, it has benefitted from NDC's access to debt capital.

NDC should sell the Company to its managers and employees. This would involve the managers and employees assuming both the assets and debt. Alternately, it

could sell the key asset of the company, its location, pay off the debts, and close the Company.

16. Ubungo Farm Implements (UFI)

Ubungo Farm Implements has been a successful, productive company. It fits one of NDC's three recommended target market areas -- agriculture -- and is a key company in improving agricultural productivity in the country.

Currently, it faces strong import competition and a leveling of demand for its products. To survive, it must cut costs, improve quality, and broaden the range of its products. Cutting costs will be the key. Marketing needs to be improved substantially.

An association or merger with Zana Za Kilimo and Mangu'la Mechanical and Machine Tools is recommended to lower costs, broaden product range, and increase marketing strength.

17. Zana Za Kilimo (ZZK)

Zana Za Kilimo has been a successful, productive company. It fits one of NDC's three target market areas -- agriculture -- and is a key company in improving agricultural productivity in the country.

Currently, it faces strong import competition and a leveling of demand for its basic products -- hoes and shovels. Zana Za Kilimo did make a smart move in diversifying its product line into wheelbarrows which now account for a substantial portion of sales. Still, to survive, it will need to further reduce costs, improve quality, and broaden the range of its products.

An association or merger with Ubungo Farm Implements and Mangu'la Mechanical and Machine Tools is recommended to lower costs, broaden product range, and increase marketing strength.

CHAPTER VI: TEN-YEAR DEVELOPMENT PLAN

The Ten-Year Development Plan for NDC is a practical document. It indicates approximately the timing of how the recommendations contained in Chapters IV and V should be implemented. Similar to presentation of the company-specific recommendations in chart form (Chapter V), we have also summarized the Ten-Year Development Plan in chart form. It is shown on the next several pages.

Looking at the chart, one notices that the columns indicate each of the ten years covered by the plan. Years 1 and 2 are divided into quarters to provide more detail. The rows are divided into the main and detailed areas of recommended actions.

The shaded blocks indicate when the recommendations should be implemented. They give an approximation of the length of time that it should take the Company to complete a given task. In most cases, these numbers are conservative -- i.e. they overestimate the time that it should take to accomplish a given task. Some tasks, once the initial task is complete, require an ongoing or annual effort. These tasks are indicated with a series of arrows.

10 YEAR DEVELOPMENT PLAN	Year 1				Year 2				3	4	5	6	7	8	9	10
	I	II	III	IV	I	II	III	IV								
	2. Reduce the size and cost of the headquarters operation. a. Reduce the number of employees to 20 to 30 b. Shift engineers and others to operating companies c. Shift clerical to larger operating companies d. Keep financial, legal, and small planning section (3 to 5) e. Create technical assistance or task forces instead of staff to address specific problem areas within the NDC Group, e.g.: i. Marketing ii. Production iii. Cash management															
3. Lower administrative/overhead procedural costs a. Streamline administrative paperwork, e.g. i. Budget preparation ii. Annual reports iii. Personnel actions iv. Five year plan b. Automate the routine and voluminous, e.g., i. Accounting records ii. Payroll iii. Accounts payable iv. Monthly reports																
4. Strengthen the Board of Directors i. Increase the number of private sector managers/investors. ii. Reduce the numbers of government officials on the Board. iii. Increase the number of industry knowledgeable members.																
5. Broaden share ownership of NDC and companies a. Establish goals for share ownership/privatization, e.g., i. Equity infusion ii. Access to technical expertise iii. Access to external markets iv. Realization of capital appreciation on invested assets v. Increase employee involvement and commitment vi. Broaden share-ownership in Tanzania vii. Rid company of assets/companies that no longer "fit"																

10 YEAR DEVELOPMENT PLAN		Year 1				Year 2				3	4	5	6	7	8	9	10
		I	II	III	IV	I	II	III	IV								
F. Human Resources																	
1. Increase employee productivity																	
a. Increase employee involvement and commitment																	
i. Provide training to companies on how to:																	
a) establish & manage employee task forces & committees																	
b) institute and manage employee suggestion programs																	
c) establishing "profit sharing", phantom - stock, on employee stock - ownership programs.																	
2. Provide companies with a 'model' compensation programs.																	
a. Conduct/obtain a salary and benefits survey																	
i. Cost-out benefit components																	
ii. Set upper - limit on benefit compensation																	
iii. Establish "cafeteria plan" of benefits																	
iv. Obtain exemption from SCOPO guidelines																	
v. Substitute profit - sharing, "phantom stock", or ESOP for additional compensation																	
3. Support manager's efforts to reduce the size of the workforce																	
a. Negotiate targets for reductions																	
b. Obtain technical assistance and training on:																	
i. Personnel reduction programs																	
ii. Retraining of workers																	
c. Obtain technical assistance to conduct 'make or buy' analysis on ancillary services																	
d. Provide managers with comparative employment, labor cost, and productivity figures																	
e. Encourage the formation of a personnel manager's group to promote professional development																	
G. Finance																	
1. Set NDC Group targets: five year, annual, and quarterly																	
a. To meet industry standards																	
b. To exceed the cost of capital																	
c. To raise the overall cash flow in the Group																	
d. To raise the overall level of dividends																	

10 YEAR DEVELOPMENT PLAN

	Year 1				Year 2				3	4	5	6	7	8	9	10
	I	II	III	IV	I	II	III	IV								
2. Manage the portfolio mix to reduce financial risk and optimize returns (see D. Organization)											⇒	⇒	⇒	⇒	⇒	⇒
a. Classify companies, e.g.,																
i. Companies with synergistic returns																
ii. Cash generators and cash users																
iii. Companies growing faster or slower than their markets																
b. Make assessments, e.g.																
i. Companies that "fit"																
ii. Companies that are and will be successful																
iii. Companies that need assistance																
iv. Companies that do not "fit"																
v. Companies that cannot be helped																
c. Restructure portfolio																
i. Divest																
ii. Hold																
iii. Invest in/restructure																
iv. Acquire																
3. Assist financial managers to improve overall returns																
a. With General Managers and staff, set company targets, e.g.,									⇒	⇒	⇒	⇒	⇒	⇒	⇒	⇒
i. Return on assets																
ii. Return on equity																
iii. Profits																
iv. Capital structure																
v. Self-generated reinvestment																
b. Facilitate the organization of financial officers into a professional, functional committee																
c. Provide a room in NDC Headquarters for financial managers:																
i. To meet																
ii. To share resources																
d. Request technical assistance for financial staff:																
i. Seminars																
ii. Training																
iii. Conferences																
e. Obtain technical assistance and training, e.g.:									⇒	⇒	⇒	⇒	⇒	⇒	⇒	⇒
i. Financial management																
ii. Financing techniques																
iii. Calculation of project and investment returns																
iv. Cost analyses and reduction																

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United Nations Industrial Development Organization

FINAL REPORT

**Assistance to the National Development Corporation
of Tanzania**

Appendices: Individual Company Plans

**Preparation of a Ten-Year Development Plan for the
Metal Working and Engineering Industries Sector
Project No. XA/URT/90/628**

submitted by:

**The Development Economics Group, of
Louis Berger International, Inc.
Washington, D.C., USA**

August 1991

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August 12, 1991

Ms. Mounira Latrech
UNIDO
Vienna International Centre
P.O. Box 300
A-1400 Vienna Austria

SUBJECT: XA\URT\90\628 - Assistance to the National Development Corporation (NDC) in preparing a Ten-Year Development Plan for the Metal working and Engineering Industries Sector - Contract No. 90-206

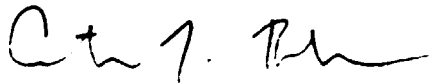
Dear Ms. Latrech:

We are pleased to submit 10 copies of the final report on our work with the National Development Corporation in Tanzania. We enjoyed this project, and hope that our analysis contributes to the future work of both the NDC and UNIDO.

Our report is in two volumes. The first volume contains the analysis, general recommendations, and Ten-Year Plan for the NDC. The second volume consists of individual reports for each company in the NDC portfolio, including detailed financial, marketing and production analyses, and a long-term plan.

Please let us know if we can be of any further assistance.

Sincerely,



Carter Brandon
Director
Development Economics Group

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Appendix 5:	Mang'ula Mechanical and Machine Tools
Appendix 6:	Motor Mart (T), Ltd.
Appendix 7:	National Bicycle Co., Ltd.
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Introduction

The following report contains individual recommendations and findings for all the companies of the National Development Corporation. Each company is presented in a separate Appendix, each of which will contain the following:

Section I - Recommendations and Action Plan

Section II - Findings and Analysis

Attachments:

Tables:

Sales / Marketing

Production

Purchases

Capital

Human Resources

Profit and Loss

Balance Sheet

Graphs:

Product Breakdown

Planned vs. Actual Production

Capital Expenditure

Cost of Sales / Net Sales

Operating Expenses Breakdown

Total Net Assets

Debt / Equity

Current Assets

Current Liabilities

Net Sales

In some instances, due to missing or inconsistent data, an appendix may not contain all of the tables or graphs. Each series of tables and graphs are preceded by a list of attachments specifying the tables and graphs included for that company.

Data for the Profit and Loss and Balance Sheet tables was taken from the NDC Annual Reports. Data for all the other tables was taken from the NDC Company Plans.

Appendix 1: Aluminum Africa Company, Ltd.

APPENDIX 1: ALUMINIUM AFRICA LTD.

I. RECOMMENDATIONS AND ACTION PLAN

Aluminium Africa is one of the core companies of the NDC Group. Since it produces key construction materials and products such as galvanized sheeting, asbestos sheets, pipes, and structures, it should serve as the base of the construction products group of the new, restructured NDC.

Selective improvements need to be made to its production facilities -- particularly in the galvanizing area. Also, it must focus on cost reduction as it will face increasingly strong import competition in its basic products.

To lower overall costs to NDC and to consumers, Steel Rolling Mills and National Steel Corporation should be merged into the Aluminium Africa Group. Currently, Steel Rolling Mills and Steelcast seem to be working against each other, rather than together, with two cost disadvantaged companies in a highly competitive and over-producing world market.

If Steel Rolling Mills is not moved to Dar es Salaam, then Steelcast and Steelco could be merged. The existing equipment at Steelco can roll the plates to sizes required by the market. Details on production aspects of such an operation are contained in the appendix on Aluminium Africa Ltd.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

History:

Aluminium Africa Company, Ltd. (AAL), commenced production in 1960 as a private enterprise (MABATI). By 1973, when it was acquired by the Tanzania Government, it was comprised of three small units producing aluminum products, mapati and pipes. The company was reorganized into six operating divisions, five of which are located at the company headquarters in an industrial area of Dar Es Salaam, and the sixth, the Asbestos division in another area of Dar Es Salaam.

10 YEAR DEVELOPMENT PROGRAM AAL

Year 1

Year 2

I II III IV I II III IV 5 6 7 8 9 10

E. Management

1. Flatten the management hierarchy

- a. Prepare job descriptions and skill levels required to determine the needed requirements
- b. Increase the span of control to 5 to 9 for senior management
- c. Increase the span of control to 25 to 50 for production and lower skill levels
- d. Eliminate management responsibility/the position for any position with less than 5 persons reporting directly.
- e. Reduce the management hierarchy to three levels, four maximum, within the firm

F. Employees

1. Increase employee involvement and commitment

- a. Establish cross-functional groups to solve key problems
- b. Institute employee suggestion programs
- c. Establish profit-sharing, phantom stock, or employee stock-ownership programs
- d. Establish regular employee recognition awards

2. Revamp compensation package

- a. Conduct/obtain a salary and benefits survey
- b. Cost-out benefit components
- c. Set upper-limit on benefit compensation
- d. Establish 'cafeteria plan' of benefits
- e. Obtain exemption from SCOPO guidelines
- f. Substitute profit-sharing, "phantom-stock," or ESOP for additional compensation

3. Revise the position classification system

- a. Look for 'over-grading'
- b. Establish more general, flexible position descriptions

4. Reduce employment

- a. Reduce number of managers.
- b. Reduce administrative/overhead personnel.
- c. Eliminate non-critical functions.
- d. Eliminate non-productive personnel.
- e. Reduce number of production workers.

5. Manage the employment reduction process

- a. Early retirement
- b. Voluntary incentives
- c. Redistribute to growing companies, functions
- d. Provide retraining programs
- e. Encourage ex-employees to bid on contracts

Board of Directors

1. Change the composition of the Board of Directors, e.g.:

- a. Increase the number of private sector managers/investors
- b. Reduce the numbers of government officials on the Board
- c. Increase the number of industry knowledgeable members

G. Finance

1. Improve cash management

- a. Promote use of internal resources
- b. Assist production and marketing to reduce inventory levels:
- c. Sell and lease back plant and equipment

2. Increase return on assets

- a. Sell or scrap obsolete inventories and stocks
- b. Sell or scrap unused/underutilized machines and equipment
- c. Find routine and preventive maintenance programs
- d. Fund elimination of bottlenecks to increase production volume
- e. Share costs of new sales depots, facilities
- f. Fund employee suggestion program

10 YEAR DEVELOPMENT PROGRAM AAL

	Year 1				Year 2				3	4	5	6	7	8	9	10
	I	II	III	IV	I	II	III	IV								
3. Lower finance costs																
a. Seek equity infusion																
b. Convert debt to equity																
c. Pay down short-term debt																
d. Convert short-term debt into long-term debt																
e. Expand use of supplier financing																
f. Shorten the cash conversion cycle																
4. Strengthen the budgeting and planning process																
a. Prepare monthly budgets for the year																
b. Develop project cost analysis work sheets to estimate the impact, savings of major investments/ongoing expenditures																
c. Rank and select projects by payback, IRR, or NPV calculations																
d. Introduce life-cycle costing into bid specifications																
e. Prepare five year targets with running monthly comparisons on key performance measures																
f. Create cash flow templates to identify financing requirements for the next twelve months																
5. Reduce administrative costs																
6. Strengthen capital structure																
a. Issue shares																
b. Offer shares																
c. Sell assets																

10 YEAR DEVELOPMENT PROGRAM AAL - Steel Cast

Year 1				Year 2									
I	II	III	IV	I	II	III	IV	V	VI	VII	VIII	IX	X

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Cost leader

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-a-vis competition

3. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

C. Production and Operations

1. Lower production costs

a. Eliminate extraneous material and machines

b. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

a. Enroll engineers and technicians in MEIDA and technical seminars

3. Improve the appearance and safety of facilities

a. Remove unnecessary materials from plant grounds and facilities

b. Identify hazardous processes

c. Provide workers with adequate safety equipment

Inbound logistics

1. Recognize the importance of purchasing to profitability

a. Work with suppliers and shippers to lower shipping costs

b. Work with suppliers and shippers to increase the frequency of delivery

2. Lower raw material costs (Purchasing)

a. Build an economic order quantity (EOQ) model

b. Review/establish quality standards for raw materials

Outbound logistics

1. Reduce outbound transportation costs for customers:

a. Ship by rail

b. Orient production cycles to shipping/train schedules

D. Organization

1. Lower administrative/overhead/procedural costs

a. Streamline administrative paperwork.

b. Eliminate paperwork.

c. Automate the routine and voluminous

2. Conduct 'make or buy' analysis on ancillary services, e.g.:

a. Medical

b. Janitorial

c. Security

d. Food services

e. Housing maintenance, gardening

f. Vehicle maintenance & repair

10 YEAR DEVELOPMENT PROGRAM AAL – Steel Cast

Year 1 Year 2

I N M IV I N M IV 3 4 5 6 7 8 9 10

E. Management

1. Flatten the management hierarchy

a. Eliminate management responsibility/the position for any position with less than 5 persons reporting directly.



b. Reduce the management hierarchy to three levels, four maximum, within the firm



F. Employees

1. Reduce employment

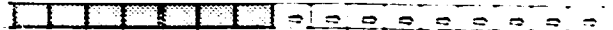
a. Eliminate non-critical functions.



G. Finance

1. Increase return on assets

a. Fund employee suggestion program



10 YEAR DEVELOPMENT PROGRAM AAL - Steelco

Year 1

Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Focus

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-a-vis competition

3. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

c. Build better product

C. Production and Operations

1. Lower production costs

a. Improve product quality

b. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

a. Enroll engineers and technicians in MEIDA and technical seminars

3. Improve the appearance and safety of facilities

a. Remove unnecessary materials from plant grounds and facilities

Inbound logistics

1. Recognize the importance of purchasing to profitability

a. Work with suppliers and shippers to lower shipping costs

b. Work with suppliers and shippers to increase the frequency of delivery

2. Lower raw material costs (Purchasing)

a. Build an economic order quantity (EOQ) model

b. Form a buying cooperative/pool orders with NDC companies

D. Organization

1. Lower administrative/overhead procedural costs

a. Streamline administrative paperwork

b. Eliminate paperwork

c. Automate the routine and voluminous

2. Conduct 'make or buy' analysis on ancillary services, e.g.:

a. Medical

b. Janitorial

c. Security

d. Food services

e. Housing maintenance, gardening

f. Vehicle maintenance & repair

10 YEAR DEVELOPMENT PROGRAM AAL - Aluco

Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

- 1. Choose a generic strategy
 - a. Focus

B. Marketing

- 1. Determine product's value to customers, e.g.:
 - a. Utility
 - b. Price
 - c. Quality
 - d. Delivery
 - e. Financing
 - f. Appearance
- 2. Determine company's position vis-a-vis competition
- 3. Develop a Market Program (ZZK model and modify), e.g.:
 - a. Product characteristics
 - b. Pricing
 - c. Distributing, etc.
- 4. Increase product visibility
 - a. Participate in regional fairs in Tanzania
 - b. Participate in regional fairs in SADCC/PTA countries
 - c. Advertise and promote products
- 5. Improve after-sales service and support
 - a. Collect customer feedback
 - b. Give input to production to improve product and features
 - c. Build better product
 - d. Train customers in proper use and maintenance
 - e. Train servicemen to repair quickly and correctly
 - f. Sell related goods and services

C. Production and Operations

- 1. Lower production costs
 - a. Speed throughput time
 - b. Eliminate extraneous material and machines
 - c. Improve product quality
 - d. Lower raw material costs (Production)
- 2. Improve the quality and training of production staff
 - a. Enroll engineers and technicians in MEIDA and technical seminars
 - b. Conduct field trips for production staff
 - c. Conduct in-house seminars
- 3. Improve the appearance and safety of facilities
 - a. Remove unnecessary materials from plant grounds and facilities
 - b. Identify hazardous processes
 - c. Provide workers with adequate safety equipment

Inbound logistics

- 1. Recognize the importance of purchasing to profitability
 - a. Work with suppliers and shippers to lower shipping costs
 - b. Work with suppliers and shippers to increase the frequency of delivery
- 2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model
 - b. Form a buying cooperative/pool orders with NDC companies

10 YEAR DEVELOPMENT PROGRAM AAL - Galco

Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

- a. Cost leader

B. Marketing

1. Determine product's value to customers, e.g.:

- a. Utility
- b. Price
- c. Quality
- d. Delivery
- e. Financing
- f. Appearance

2. Determine company's position vis-a-vis competition

3. Develop a Market Program (Z2K model and modify), e.g.:

- a. Product characteristics
- b. Pricing
- c. Distributing, etc.

4. Improve after-sales service and support

- a. Collect customer feedback
- b. Give input to production to improve product and features
- c. Build better product
- d. Sell related goods and services

C. Production and Operations

1. Lower production costs

- a. Speed throughput time
- b. Eliminate extraneous material and machines
- c. Improve product quality
- d. Lower raw material costs (Production)

2. Improve the quality and training of production staff

- a. Enroll engineers and technicians in MEIDA and technical seminars
- b. Conduct field trips for production staff
- c. Conduct in-house seminars

3. Improve the appearance and safety of facilities

- a. Remove unnecessary materials from plant grounds and facilities
- b. Identify hazardous processes
- c. Provide workers with adequate safety equipment

Inbound logistics

1. Recognize the importance of purchasing to profitability

- a. Work with suppliers and shippers to lower shipping costs
- b. Work with suppliers and shippers to increase the frequency of delivery

2. Lower raw material costs (Purchasing)

- a. Build an economic order quantity (EOQ) model
- b. Form a buying cooperative/pool orders with NDC companies

Outbound logistics

1. Reduce outbound transportation costs for customers:

- a. Negotiate volume discounts with overland shippers

10 YEAR DEVELOPMENT PROGRAM AAL – Asbesco

Year 1

Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

- 1. Choose a generic strategy
 - a. Focus

B. Marketing

- 1. Determine product's value to customers, e.g.:

- a. Utility
- b. Price
- c. Quality
- d. Delivery
- e. Financing
- f. Appearance

- 2. Determine company's position vis-a-vis competition

- 3. Develop a Market Program (ZZK model and modify), e.g.:

- a. Product characteristics
- b. Pricing
- c. Distributing, etc.

- 4. Increase product visibility

- a. Place products in regional depots
- b. Arrange credit program to ship and sell excess inventories
- c. Arrange consignment sales to distributors and agents
- d. Participate in regional fairs in Tanzania
- e. Participate in regional fairs in SADCC/PTA countries
- f. Advertise and promote products

C. Production and Operations

- 1. Lower production costs

- a. Improve product quality

- 2. Improve the quality and training of production staff

- a. Enroll engineers and technicians in MEIDA and technical seminars

- 3. Improve the appearance and safety of facilities

- a. Remove unnecessary materials from plant grounds and facilities
- b. Identify hazardous processes
- c. Provide workers with adequate safety equipment

Inbound logistics

- 1. Recognize the importance of purchasing to profitability

- a. Work with suppliers and shippers to lower shipping costs
- b. Work with suppliers and shippers to increase the frequency of delivery

- 2. Lower raw material costs (Purchasing)

- a. Build an economic order quantity (EOQ) model
- b. Form a buying cooperative/pool orders with NDC companies

Outbound logistics

- 1. Reduce outbound transportation costs for customers:

- a. Negotiate volume discounts with overland shippers

Organization:

The six operating divisions operate under the leadership of the general manager of AAL, Mr. B. J. Chambaka, with each division, in turn, led by its own division manager. These divisions operate semi-autonomously so that the division leadership is responsible for the performance of the division, although the company's financial statements and other performance criteria are received as a unit by the NDC board of directors. There is some justification for this as some inter-divisional transfers of finished goods take place.

The six operating companies are:

Aluco	-	Aluminum sheets and circles.
Asbesco	-	Asbestos roofing sheets and molded products.
Galco	-	Galvanized steel roofing sheets.
Pipeco	-	Galvanized iron and steel pipes, fabrication.
Steelcast	-	Steel billets (from scrap).
Steelco	-	Cold-rolled steel sheets.

B. Industry And Competitor Analysis

As AAL competes across so many markets, we refer the reader to the main report, Chapter II, for more detail on the iron and steel markets in Tanzania. In general, AAL has no local competitor for its finished products but competes against imported products. All end products are in strong, growing markets and prospects are optimistic, provided that AAL can control costs and develop more flexibility in its production processes. Sales are limited more by lack of product to sell than lack of customer interest. Few AAL companies maintain more than a few days of finished goods inventory; the two exceptions are Pipeco and Asbesco.

AAL has adroitly used the legal and regulatory environment to limit competition in its markets and thus maintain its margins. As the sole local buyer for scrap, for example, AAL can set its own prices. When traders attempted to export scrap, AAL was able to obtain legislation banning scrap exports. AAL is further protected by import duties, sales taxes, and delivery charges on imported finished goods. In the case of ASBESCO, AAL uses primarily local inputs for its product and adds significant value to those inputs so that it has some strong protection built into its products.

AAL has accessed PTA funds and exported products. Furthermore, it maintains a foreign currency account with Treasury so that it may use export earnings to cover the foreign exchange requirements for spare parts.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would give a positive impetus to exports of AAL products.

C. Companies

In this section, we examine the marketing production, and human resources areas of each of AAL's six Divisions. As the consultants were unable to obtain divisional financial break downs, we have relied on Consolidated Financial figures. These follow the company sections.

1. Asbesco

a. Marketing

Asbesco produces corrugated and plain asbestos cement sheets. It also produces facing, screens, sidings, and flowerpots. It has been seriously affected by the ongoing debate on asbestos as a health hazard. To its credit, Asbesco is one of the most aggressive and innovative marketers in the NDC group of companies. It has a strong handle on the marketing requirements of its products.

Asbesco Historic Production and Sales

<u>Year</u>	<u>Production</u>	<u>Capacity Utilization</u>	<u>Sales</u>
1982	5,873	32.6%	6,226
1983	1,679	9.3%	2,109
1984	3,740	20.8%	2,669
1985	3,780	21.0%	3,357
1986	1,212	6.7%	2,184
1987	2,701	15.0%	2,195
1988	2,727	15.2%	2,710
1989	3,316	18.4%	1,927
1990	3,859		3,037

Asbesco's strategy is to work with designers and architects to get them to specify its products in their plans. It attends industry and construction conferences to meet the large contractors, builders, and agencies. Also, it works to obtain consideration for large contracts. It aggressively seeks export opportunities. Even though those products are often sold below cost, Asbesco rationalizes that it recovers foreign exchange that it can use to import various materials and supplies. At the same time, sales volumes are well under the plant's capacity. Prices are set to recover costs; but are bounded by the cost of substitute products such as galvanized sheeting and ceramic tiles.

Asbesco's products have several strengths: They last up to fifty years, they are quieter during tropical rainstorms, and more durable, they can be painted or formed with color in them, and they do not rust or corrode, an important consideration in the tropics and along the coast. Balanced against this are extra building costs (to build stronger

walls and trusses to support the sheets as they are much heavier than the steel and aluminum sheeting), and the health implications of asbestos.

Customers are builders, construction firms, and individuals. The Government and parastatal corporations are also large buyers. Asbestos sheets are used to cover agricultural cooperative buildings, godowns (warehouses), markets, harbor buildings, and warehouses on the sisal estates. Some distribution through agents and retailers also occurs. Most customers are located in Dar Es Salaam. Asbesco has less extensive geographic penetration than the substitute product galvanized sheets; its products are both heavier and require higher building investment costs than the galvanized sheeting.

Asbesco has made strong efforts to diversify its distribution. The chart below describes the distribution channels:

Asbesco		
Direct	Dealers	AAL Depots
	30%	10%
Pipeco 50%	Major Sales 10%	
Dar Es Salaam	Primarily DES	Kigoma Dodoma Mwanza Mbeya

The Pipeco depot has a Depot Manager, Technical Advisor, Sales Clerk, Stores Manager, and Cashier. It is located on the AAL compound and is a convenient location for builders to pick up products and obtain technical assistance.

Asbesco has also made strong efforts to export product and has successfully sold products to Rwanda, Burundi, and Ethiopia. Customers in neighboring countries are encouraged to make use of the PTA Clearing House. This enables them to purchase Asbesco products using their local currency, which is a significant competitive weapon for Asbesco.

Customer service is more extensive than in the other AAL companies. The extra weight of the product requires stronger building specifications; the health issues require more time for explanation. Asbesco has also made special efforts to bundle materials for builders. For example, they sell the special nails needed for sheets as part of the building package.

Inventory management has been a problem. Asbesco has a large amount of overproduction sitting in its yard and some amounts of it seem to disappear at regular intervals. In February, 1991, it had over 2,000 tons of asbestos sheets and products in inventory--almost six months worth of production.

The company claims to have made a vigorous advertising campaign on the radio and in the paper and made numerous visits to designers and architects to assure them of the product's availability. Asbesco has also promoted its products at trade fairs by building small house models for demonstration and show.

b. Production and Operations

i. Geographical Location

Asbesco has one factory located outside the Asbesco complex in Dar Es Salaam. It is sited close to the cement factory; the primary raw material in the product.

ii. Facilities and Processes

Asbesco has a large plant set on several acres. Cement, asbestos fibers, and water are mixed, spread, and then pressed into shapes on steel forms. The initial process takes approximately 12 hours. Then sheets are moved to a shed where they cure for 21 days. For the safety of its workers, Asbesco provides masks and special ventilation. It seeks an automatic bag opener to lower the contact between the workers and the asbestos fibers. The plant has a capacity of 18,000 tons per annum on a three shift basis.

The process is moderately capital intensive and automated. The large capital costs and the automation however, require constant attention and careful maintenance. The facility was shut down for annual maintenance during the time of the consultant's visits, but it seemed to be in good physical condition.

iii. Materials Handling

Dollies and manual labor are used to move the pressed and corrugated sheets from the production line to the curing shed. Once the sheets and products are formed, they are moved on dollies on a rail and then lifted by manual labor into stacks of sheets.

iv. Processing Costs

As the consultants did not receive detailed break-downs for the six AAL companies, they could not make any estimates of production costs. In Asbesco's case, cement and water are the primary local materials (about 90% of total materials); all other materials and supplies are imported. Thus, Asbesco is only moderately sensitive to changes in the exchange rate. It is however, very affected by increases in the price of cement (127% increase recently).

v. Product Quality

Asbesco seems to be more concerned with the volume of production rather than the overall quality per se. However, quality control was higher than average.

vi. Product Delivery (Outbound Logistics)

Asbesco sells the bulk of its products ex-factory (or from the Pipeco depot) so delivery is primarily a customer concern. Transport costs into the interior of Tanzania can be quite high. Thus, there is an opportunity for Asbesco to solve logistical problems or lower transport and distribution costs through more aggressive use of AAL depots around Tanzania to sell its products.

vii. Competitive Strengths/Weaknesses

As for strengths, Asbesco has the only asbestos-cement factory in Tanzania. It has a strong, marketing-oriented management, relatively skilled workers, and good distribution through AAL companies. This should give it a strong competitive position.

At the same time, asbestos has had a difficult history and the public perception of Asbesco's products may grow worse.

viii. Strategy and Plans

Asbesco hopes to improve its operations. The Company has commissioned a rehabilitation study by Danieli, Donati (suppliers to the Steel Rolling Mills complex). The environmental problems are especially troublesome -- maintaining a safe environment within the plant and handling the wastage outside the plant. The Company hopes to install an automatic bag opener to further protect its workers. The Company has also commissioned a University of Dar Es Salaam study on the problems for marketing asbestos. The study was due out in June, 1991.

2. Aluco

a. Marketing

ALUCO now produces corrugated aluminum sheet and blanks (circles) for forming aluminum utensils and some aluminum foil. Monthly production in early 1991 consisted of the following:

	<u>Prod. MT</u> <u>per Mo.</u>
Circles	150
Sheets	25
Foil	2

At a price of Tsh 700,000 per MT, annual revenues would be about Tsh 1.5 billion.

ALUCO sells to about 40 clients, 8-10 of which are major clients with forming presses for the fabrication of aluminum utensils. The remainder are small fabricators possessing only turning equipment.

The domestic market is effectively protected: Aluminum does not fit within the OGL guidelines, and forex is not available for import.

The company does export at an FOB price of US \$2,300 (Tsh 453,100) per ton to Burundi, Zaire, Zimbabwe, and Kenya. Although the company realizes a financial loss on these exports, the management feels that these sales are justified as the proceeds are credited to a forex account from which the company can draw for the purchase of spare parts and raw materials.

b. Production and Operations

i. Facilities and Processes

ALUCO's production operations consists of:

- Foundry.
- Hot rolling mill, 4 high.
- Cold rolling mill.
- Stamping punch presses (for circles).

The installed capacity is 9,000 MT/yr. In 1991, the company is processing about 200 MT/mo. in the foundry, 40% of which is recycled. It is processing about 300 MT/mo. through the hot and cold rolling operations which, at 60% yield, produces about 177 tons/mo. of finished product. This production level is about 40% of noted capacity.

ii. Production Inputs

Material inputs consist of:

	<u>MT/ mo.</u>	<u>Unit Price</u>
Scrap	40	Tsh 100,000
Imported Slabs	175	US \$1,950 (Tsh 384,150)

Forex for the imports of Slabs from Canada is provided by import support funds provided by SIDA and partly through forex earned on export sales to SADCC and PTA countries.

iii. ALUCO Production: Costs and Revenues

Production costs for ALUCO break down as follows per Metric Ton:

	<u>Tsh.</u>
Production (labor, finance, admin.)	175,000
Material (aluminum) ¹	331,280
Landed Material Cost (incl. insurance)	10,000
Custom Duty ²	<u>93,770</u>
Total	<u>610,050</u>

According to the Division Manager, when AAL overhead is taken into account, the net profit per MT at this level of production is about Tsh 15,000/MT.

iv. Expansion Plans

- a) Much of the circle stock sold to utensil producers is exported for forex to neighboring countries. Given the company's reliance on forex for its material imports, the possibility arises of ALUCO using forming blanks (circles) to manufacture and export such utensils rather than serving as a provider of intermediate goods to other fabricators.

From ALUCO's point of view, it would profit greatly by the increased availability of forex to serve its own requirements rather than having it accrue to the benefit of its present customers who purchase in local currency and sell in forex. Additional costs for this type of production, including depreciation, are expected to be about Tsh 100,000/ton. Total cost would be therefore, about Tsh 700,000/ton so that the export price would have to be about US \$4,000/ton in order to realize a net profit of 10% on sales. This prospect would have to be studied carefully before investing in the necessary machinery and equipment. The key issue is not so much production as lack of marketing savvy and lack of access to such markets.

- b) ALUCO is also considering entering production of extended shapes (structural, door frames, tubing) with a capacity of about 200 T/month. The projected market would be local contractors. In order to do this, aluminum would have to be cast in ingot form suitable for the other forming processes. This development then would require new casting facilities, forming and extension presses, and dies.

¹ Weighted average $\frac{40 (100,000) + 175 (384,150)}{215} = 331,280$

² Weighted average $\frac{40 (0) + 175 (115,706)}{215}$

- c) The company should also investigate the market for aluminum alloys for which a demand might exist in agricultural processing equipment, farm implements and small vehicle production.
- d) ALUCO should investigate the extension of aluminum coils to meet the needs of Tanzania Cables Limited.

3. Steelcast

a. Overview

Steel Cast is the only steel scrap melting and refining company in the country. It takes scrap from across the country and refines it to produce billets. The company has only one customer, the steel rolling mill in Tanga. Limestone is also acquired locally, but all other inputs and consumables are imported. Foreign exchange support is currently being received from NORAD.

b. Production and Operations

i. Facilities

The factory is laid out as a double unit with scrap loading and billet collection in one unit and the furnace and pouring in the other.

ii. Staff

Steel Cast currently employs 255 permanent staff, of which 100 are involved in production, and 70 casual laborers involved in scrap sorting. The production staff are split into 3 shifts. There are 30 mechanical maintenance workers and 10 electricians.

The staff are paid according to SCOPO rates, but for some workers such as furnace men, pourers and crane drivers, whose work is defined as hot, there is a supplementary milk allowance. In addition, for all workers there is a transport and meal allowance.

iii. Machinery

The main item of equipment is the electric arc furnace. It has a capacity of 15 tons in 3 melts. It was commissioned in 1977 and is looking its age. It needs a full overhaul. Such a project would cost some US \$350,000.

The overhead cranes operate well, but are prone to breakdowns and electrical failures due to the level of dust contamination.

The batch billet molding machine is also in a poor state of repair and slow to operate, with parts such as the length cutter non operational. They currently cut with a gas axe, which has ruined some rollers.

The rest of the equipment such as the 7 tundishes and 2 ladles will also be in need of replacement in the next few years.

iv. **Maintenance**

Each shift has at least 2 maintenance fitters and one electrician. Most maintenance is however carried out on Sundays during shut down. Due to the high costs of breakdowns, maintenance schedules are followed and pre-ordering of spares is undertaken. Failures do occur and production rates are reduced by up to 30%, 5% of which is attributable to electrical failure.

v. **Stocks**

They have some 500 - 600 tons of scrap currently on site. That represents just under 3 weeks supply. About 60 tons is bought in each day, so stocks are on the increase.

Except for limestone that is mined in Tanzania, all production consumables are imported. Typical stock levels are:

- High Alumina Bricks - 6 months
- Ladle Nozzles - 3 - 4 months
- Electrodes - 2 months (another 4 months is at the docks)

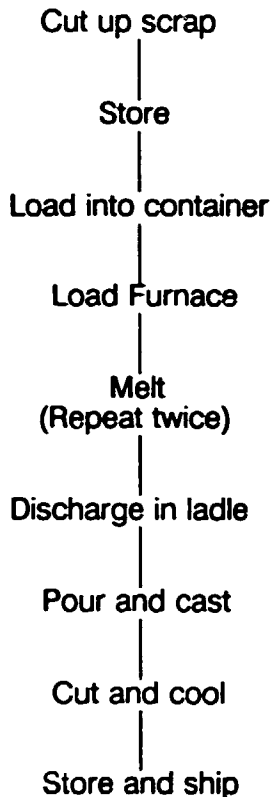
There is no stock control system and crates are simply piled on top of each other.

For finished goods, there is about one week's production of billets in stock due to transport problems. The Tanzanian Railways do not have the necessary rolling stock to pick-up all production.

In addition, there is 1000 tons of 100 x 100 mm billets in stock that have been there for 5 years. Steel Rolling Mills will not take them as it did not switch over its production lines as anticipated. They cannot be shifted on the world market and it is considered too expensive to remelt them.

c. **Production Process**

The scrap is bought in to the factory and stored. It is then cut up into manageable sizes by oxy-acetylene, an expensive and time-consuming process.



Approximately 5 tons of scrap is loaded into the furnace and melted down at a rate of 1 ton in 10 minutes. A second 5 ton charge is then melted down, followed by the third. The melt is refined by reducing the phosphorous and sulphur contents and adding manganese and carbon to obtain various grades of mild steel. The charge is then discharged into a ladle which is craned over to the molding machine where it pours its load. The machine casts billets of 80 x 80 x (approx) 4500 mm.

Production can reach 4 heats (60 tons) a day, though 40 tons is more usual in 3 heats.

d. Main Problem Areas

The poor quality of the power supply (voltage was down to 9.5kV from 11kV when the Consultant visited), its relatively high cost and the uncertainty of supply -- despite being a preferred customer -- causes major problems. It rates as a major disaster if power is interrupted the supply fails during a pour and the melt solidifies in the ladle or casting machine. There is no back-up power supply.

Scrap is cut using gas axes which is slow and expensive. The gas supply is uncertain.

The plant condition is in poor shape.

Finally, high transport costs are incurred to both obtain scrap and to ship billets to Steel Rolling Mills.

e. Extension and Rehabilitation

Steelcast has a 2-phase rehabilitation scheme in mind: (1) rehabilitation of the existing equipment, and (2), installation of a second furnace and continuous casting machine. This will double the installed capacity, bringing it up to 120 tons per day. However, production at this rate will exceed the availability of local scrap and so scrap would need to be imported.

As the rolling mills at Tanga can only cope with 60 - 80 tons a day, Steelcast also want to install a section rolling mill to absorb the excess capacity and reduce imports of steel bars.

f. Comments and Recommendations

The plant loses up to Tsh. 20,000/= per ton of billet (with a price fixed in 1989 at Tsh. 78,477/= per ton and production costs of 99,756/= per ton and rising as they are dollar dependent). Therefore phase one of the refurbishment should be put into action. Once the plant is rehabilitated, then a decision on two possible options is required:

Option 1) Steel Rolling Mills is moved to Dar es Salaam. This would eliminate transport costs (which should be considered as Foreign Exchange) and dovetail the two operations together, so that they would become and perform as a single business.

They appear at present to be working against each other rather than together, with two sets of cost disadvantage in a highly competitive and over producing world market.

Also, the billet molding machine should be converted to 100 x 100 billets to reduce costs by raising productivity. The rolling mill should be set up to handle these billets. Such economies are for the good of the group.

Option 2) Steelcast joins with Steelco. The billet machine is scrapped and replaced by a slab/plate casting machine. The existing equipment at SteelCo can then roll the plate to sizes required by the market. Transport cost are eliminated once again and an integrated business is created from raw material to finished product.

The rolling mills at Tanga could be left in place. They could import billet direct through the port at Tanga and supply the Tanzanian market and further afield if possible with steel section.

Detailed costings should be done before phase 2 is initiated. It may be strategically preferable and economically more desirable to import billets from an over supplied world steel market rather than move scrap steel across the globe.

To improve efficiency and to reduce reliance on intermittent gas supplies, a shredder or compactor should be installed as part of the rehabilitation process. The cost would be at least US \$ 200,000.

An emergency power supply should be installed.

The ratio between production and support/ administration staff should be increased by shedding support staff.

At the present rate of production, the level of scrap received exceeds production. Some scrap, such as flat panels and springs from vehicles, should be sold direct to small metal working businesses -- perhaps via SIDO. This would provide a valuable raw material for those businesses and recycle the scrap without having to consume scarce energy and foreign exchange inputs.

4. Steelco

a. Overview

Steelco is a cold rolling mill that reduces steel sheet for use by GALCO, another AAL company. Steelco sells 95% of its output to GALCO, and the General Manager is responsible for insuring that GALCO has a steady and adequate supply of steel sheet in the proper thicknesses. Steelco does no marketing per se; it does, however, work closely with GALCO to establish production schedules. The remaining 5% is used for small stove fabrication on site.

Inventory management is somewhat of a weakness. Steelco takes seriously its responsibility to keep an adequate supply of sheet steel for Galco; so, it maintains several month's worth of both unprocessed and rolled steel coils. Ideally, Steelco could maintain tighter control of its inventory, especially on the finished goods side.

b. Production and Operations

i. Geographical Location

Steelco's factory is located in the main AAL complex in Dar Es Salaam. Inside the complex, it is less than fifty yards from Galco.

ii. Facilities, Processes, and Costs

The process is simple conceptually, but requires extreme attention to detail as the tolerances are quite narrow. Coils of wound steel sheet are brought next to the rollers by an overhead crane. The coil of sheet is unrolled and passed through the rollers under tension at carefully determined speeds for a set number of passes. The pressure exerted by the rollers changes the characteristics of the steel sheet. The sheet can be made more flexible, harder on the outside, softer on the inside, etc. depending upon the needs of the GALCO. Steelco usually produces 28, 30, 30, and 32 gauge sheet.

Conversely, irregular current, inadvertent increases of pressure on the rollers, gouges in the rollers, etc., can materially weaken or damage the sheet. Steelco has an extensive set of power regulators to minimize currency fluctuations, a complex set of checks on the rollers to insure correct pressure, and special lathes and polishing machines used to maintain the rollers.

Production capacity is about 90,000 tons per annual on two shifts. In December 1990, monthly production reached a peak of 7,084 tons. However, total production for the year was only 24,600 tons.

The process is capital intensive and automated. Production staff and costs are minimal. All materials are imported. Steel is purchased by tender. Most has come from Germany in recent years.

The plant is 13 years old and in good condition. The company conducts preventive maintenance on every Sunday and for half-home periods on Wednesday and Thursday.

Steelco is concerned with product quality. It takes great pains to insure that the steel is rolled correctly and consistently to minimize problems in Galco. It has extensive maintenance programs and its staff are well-trained.

Total staff numbers, 132. Only 14 production staff per shift are required.

iii. Competitive Strengths/Weaknesses

As for strengths, Steelco is the only cold sheet steel rolling mill in Tanzania, it has strong management, relatively skilled workers, and a strong financial position.

As for weaknesses, inventory levels are high and capacity utilization is below maximum; this is primarily due to Galco's inability to absorb all Steelco's output and to lack of marketing to other customers. Steelco's value-added is low; it serves as an inventory buffer for Galco and gives Galco more flexibility in its production.

iv. Strategy and Plans

Steelco is in the process of installing an annealing line to further downward integrate its production. Annealed sheets (softer and more flexible) would be sold to refineries to make barrels, to auto and bus body building shops, to furniture manufacturers, and to bicycle manufacturers.

The consultants did not review any feasibility studies for the facility.

5. Galco

a. Marketing

Galco produces corrugated, galvanized steel roofing sheets that are an essential product in the construction and housing industry in Tanzania. It produces sheets of varying thickness to meet market demands. Demand for Galco's products is high and Galco sells sheets within hours, sometimes within minutes of their rolling off the end of the production line. When the consultants visited Galco, trucks and vehicles were lined up to collect roofing sheets at the factory door.

Galco's strategy is to produce the sheets that are most in demand and most profitable to allow it to optimize its profits. It does not need to market its products aggressively. Competition is minimal. There are two small scale producers -- Rajani Industries and Rehammi Co. Corrugated sheets are on the negative OGL List which means that foreign exchange is not available to import products. Sheets are imported if there is a foreign aid project.

Prices are controlled by the Government's pricing commission. These prices are renegotiated on an annual basis to cover existing costs with an allowance for further inflation and exchange rate changes.

Customers are builders, construction firms, and individuals. Some distribution through agents and retailers also occurs. Most customers are located in Dar Es Salaam; although, due to the universal need for the company's products across Tanzania, many of these products are redistributed into the various regions. Galco does sell products into the regional depots to better meet demand and to increase its margins. Most goods are sold on a cash basis.

Galco does not absorb transportation charges. Most customers pick-up their products at the factory.

Customer service is minor. The products are basic and demand is high. Inventory management is not a problem. Galco has a small finished goods warehouse that holds no more than a few days worth of inventory at full capacity. It need not carry much stock as Steelco provides the inventory it needs.

The company does not appear to have a regular advertising or promotion program.

b. **Production and Operations**

i. **Geographical Location**

Galco has one factory located in the main AAL complex in Dar Es Salaam. It is well-situated in the industrial zone; although, the road immediately adjacent to the facility was in very poor condition at the time of the consultant's visits. It is close to the bulk of its customers.

ii. **Facilities and Processes**

Galco has a long plant several hundred meters that covers the long production line. Creation of roofing sheets involves the following steps:

- Cutting.
- Cleaning and Degreasing.
- Galvanizing.
- Corrugating.

The process is straightforward. Due to the age and condition of the equipment, (~1960) it is more labor-intensive in Tanzania than it would be elsewhere. Production staff numbers about 150 persons, of whom 30-40 are casual laborers. The plant runs two shifts. Overhead staff totals about 40 persons.

The high capital costs and the automation however, require constant attention and careful maintenance. Currently, the plant has a rated capacity of 36,000 tons per year on those shirts; although management felt 30,000 tons was possible due to the plants age. Production in 1990 was 20,800 tons in two shifts.

iii. **Materials Handling**

After cutting, the sheets flow through the production line up to corrugation. During corrugation, sheets are hand fed through the corrugating machines. Corrugated sheets are then stacked on wooden pallets and an overhead crane is used to move the heavy pallets to other areas.

iv. **Processing Costs**

As NDC did not provide detailed break-downs, the consultants could not make any estimates of production costs. However, all basic raw materials

are imported as are all machines and equipment; direct labor accounts for less than 10 percent of production costs. Thus, Galco is sensitive to changes in the exchange rate and must be able to pass on any price increases immediately. The process of structural adjustment will most likely bring about this situation within a few years.

v. Product Quality

Galco is generally more concerned with the volume of production rather than the overall quality per se. Scrap rates and product variation are relatively high compared to industry figures. There appeared to be a surprising number of damaged sheets that were manually sorted and cut. Even the odd flats and cut end sheets sell quite well.

vi. Product Delivery (Outbound Logistics)

Galco sells the bulk of its products at the factory on a cash and carry policy so delivery is a customer concern. Transport costs into the interior of Tanzania can be quite high. Thus, there is an opportunity for Galco to solve logistical problems or lower transport and distribution costs through the use of AAL's depots around Tanzania to sell its products.

vii. Competitive Strengths/Weaknesses

As for strengths, Galco has the largest factory in Tanzania for galvanized sheets, strong management, relatively skilled workers, and a strong financial position. Furthermore, it has a import and tariff and duty protection. This should give it a strong competitive position.

At the same time, compared to international standards, Galco's work force is relatively large, its plant old, its capacity utilization low, and its overall costs high. Galco's value-added is low as it is still at the most basic of the steel processes and has not created much value-added.

viii. Strategy and Plans

Galco hopes to improve the production line with a shift to a continuous galvanizing system. These could significantly lower costs through improved quality and lowered material costs. Daniel, Donati and local consultants have conducted a review of the rehabilitation and management program. This would double capacity to 40-50,000 tons per year. Capital investment requirements were estimated to be \$3 million. This has yet to be implemented. The consultants were not able to review any feasibility studies for the newsprint plant described above.

6. Pipeco

a. Overview

The company was established in 1962 and nationalized, in 1992, when it became part of NDC.

The company produces medium-pressure, seam-welded pipes for industry, agriculture and domestic users. Water pipes are hot zinc dipped, not galvanized (which is an electro-plating process). In order to more fully utilize its production facilities, it now also produces hollow section, rolled angles, Z purlins, and decals, cuts and flattens mild steel plate. In addition there is a fabrication section that produces items such as roof trusses (from pipe) with the associate purlins cut to length, burglar bars, and water tanks.

b. Marketing

Pipeco markets through depots in Mwanza, Dodoma, Mbeya and Kigoma, and hopes to open a new one in Arusha in the near future.

There is very little planning undertaken and no market research as such. Stocks are maintained at roughly a 3 month level. The company also responds to specific bulk orders.

The company plans to expand its depot network to improve its marketing and has diversified well into producing different sections. There are no large scale plans to increase capacity at present, but they would like to increase the range of products up to 8 inch (200mm) pipe. There are no plans for large scale expenditure on machinery.

c. Production and Operations

i. Layout

The factory is a single unit with a material flow through the plant from one end to the other. The dipping plant is separated at one end and pipes move into the section from the main area and then back into the main area after cooling. Spare space is utilized for the storage of work in progress.

ii. Staffing

Pipeco currently employs about 200 people. Out of that number 150 are concerned with production and 50 with administration.

For working 1 or sometimes 2 shifts, they appear to be a bit overmanned for the current level of production.

The production manager is responsible for all aspects of production and works through a supervisor for each section, e.g. the forming, dipping, one for slitting and fabrication sections.

Workers and management are all paid according to SCOPO rates. In addition they receive a meal and there are buses for transport. Workers in areas defined as hot also receive a milk allowance.

iii) Machinery

All the machines are in reasonable condition except the demurrer or facet. It won't debar pipe below 1" in diameter. It needs an overhaul rather than replacement and despite its age -- it dates from 1932 -- could keep up with current levels of production.

The slitting machine is in good condition and well operated.

The guillotine is used for flat plate up to 6mm and appeared to be in a fair condition, as is the plate decoiler and flattening machine.

The section former is in reasonable condition, but, to maintain and improve its through-put, it could benefit from an overhaul and some capital expenditure. Breakdowns though not frequent mean that losses amount to an estimated 20% of production capacity.

The zinc dipping tanks have been overhauled and selectively replaced over the past 12 months as has the overhead crane in the dipping area.

iv. Utilization

The slitting machine is over sized. In this case, the skitter is capable of 3 times the production of the pipe former, i.e. 30 tons per 8 hour shift. This is a common problem; when buying for relatively small scale production, it is difficult to find machines that are correctly sized.

Pipeco flattens plate and cuts it to length to customer requirements. This machine is largely under-utilized. 80 tons of plate has been sold in the past 3 months; but the machine is capable of operating at 100 tons per month. It is only operated at 26% of capacity.

v. Maintenance

Preventative maintenance is carried out during machine down time. This is fine for the skitter which doesn't work to capacity; but, the pipe former is run almost constantly on a two shift basis. No planned maintenance is carried out; but, some spares are held in stock.

Some items such as slitting disc are imported from Japan. Although they are made from tool steel and are some 250mm in diameter; they could be manufactured in the country, at say NABICO and/or NECO. The steel would have to be specially imported though.

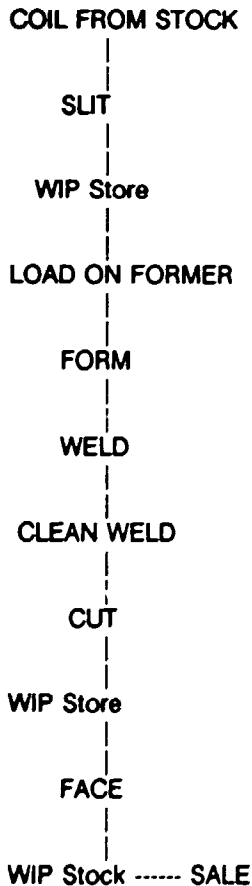
vi. Stock Levels

Checker plate (imported)	100T	used 80 tons in 3 months
Cold rolled steel (SteelCo)	40T	1 months supply
Hot rolled steel (imported)	1000T	2 months supply
Splitting tools (imported)		3 months supply

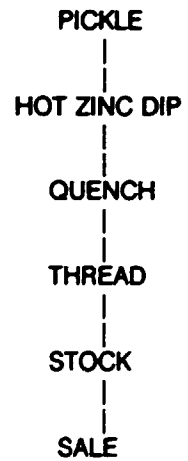
Pipeco estimates that there are 150 tons of finished goods in stock at the plant and about 30 tons of work in progress. There are no accurate records kept.

vii. Production Process

FOR ALL PRODUCTS EXCEPT PLATE



FOR WATER PIPE (AFTER PREVIOUS PROCESSES)



There is some scope for improving the efficiency of the process by moving work direct from the forming machine onto the facing or beurrer. Apart from that, the process is reasonably well run and the manpower appeared to all be working at their allotted tasks.

Currently on a 1 - 2 shift basis, some 6,000 tons per annum of mixed hollow and formed section is produced. The plant is capable of raising production to a theoretical maximum of 12,000 tons on a 3 shift basis.

The dipping tank, however, can deal only with some 300 tons per month, which equates to about 1000 items per 8 hour shift. Thus, PipeCo has moved into hollow sections that do not require dipping.

As the dies have to be changed for each new section and setting up produces a certain amount of down time and waste, the minimum number of sections that can be economically produced per run is 60 tons. This leads to occasional high stocks.

viii. Quality Control

At set-up, the quality of the new section being formed is monitored but nothing is done during the production run. A sample of the formed pipes are hydraulically tested and it is estimated that 5% of production is rejected. No accurate records are kept nor is statistical sampling undertaken.

Second quality goods are sold at a 20% discount. Any unsalable items are kept for use by the fabrication shop.

ix. Products

Pipeco currently produces seam welded water pipe and hollow section of 6m lengths of the following section sizes (in mm): 3.9, 3.4, 3.05, 2.7, 2.45 and 2.25.

In addition they decoil and cut flat plate of up to 12 mm and checker plate of 4.5 and 5.5mm. With Steelco next door, it seems a little incongruous that Pipeco should be selling flat plate:

- Pipe diameters - 0.5 - 3"
- Hollow section - 1 - 2"
- Rolled Angle - 1 - 3"
- Z purlins - 4"

Their hot zinc dipping is contracted out at slack times; currently they are dipping brackets for TANESCO.

The "hard zinc" a residue from the dipping process and a mixture of steel and zinc is exported to Europe for recovery of the zinc.

x. **New Products**

The company needs to liaise with other companies such as NECO to produce locally a wider range of pipe fittings from sockets to flanges.

At present, the only forming machine runs almost continuously so the scope for new products is limited. The Consultant would suggest increasing the range of pipes and including rolled channel sections and thinner section low pressure irrigation pipe.

The current bottle neck on production is the dipping tank which is fully utilized, with in house production and the limited number of outside contracts undertaken.

Where PipeCo does have an advantage over other companies is in its distribution/ sales network of depots. The Consultant would suggest that the range of products held at these depots be increased to include products from other organizations.

xi. **Fabrication Shop**

The fabrication shop is a relatively small section of the overall operation and employs some 14 people of which 10 are defined as skilled.

They produce general items such as burglar bars and small tanks as well as undertaking repair work. The largest items produced are roof trusses made from the in house produced pipe.

As Pipeco is a raw materials importer and as the fabrication shop uses its Pipeco products, Pipeco is able to realize a higher margin on a sale.

There is no quality control and production aids for large items such as the trusses are non-existent. The construction and use of universal jigs for the trusses and burglar bars would speed up production and improve quality.

From a technical stance, making roof trusses from pipe is not a good idea. They are heavier trusses for a specific load, when compared to more conventional angle trusses. Pipe is also inherently more expensive to produce in the first place. These problems may negate all of the extra profit they could have realized.

It may prove to be more profitable for the company to begin to make trusses from its angle section and guillotined plate than to continue to use pipes. It should also consider moving into more specialized markets within the

construction centre to make better use of its resource base: for example, bending pipes to order or welding up pipe runs in house.

d. **Comments and Recommendations**

- i. In general, the plant seemed to be well run. Work flows are interrupted as infrequently as is realistic.
- ii. The company has diversified to make good use of their resources: E.g. going into the production of hollow section. The splitter could be put to greater use by the direct sale of split coil to other businesses.
- iii. The plate decoiling and guillotining does not appear to fit into PipeCo's business and at 26% of capacity is extremely under-utilized. This aspect of their operations should be sold off, perhaps to SteelCo.
- iv. The company should concentrate on its current strengths, especially where they correspond with other companies weaknesses. This is its depot system. The system should be expanded and improved. A marketing department must be placed in overall control.
- v. The fabrication shop should be retained, but its product base should be expanded to produce items for agriculture and the construction industry. Proper design should be incorporated for some items such as the trusses, and full use made of jigs.
- vi. Quality control procedures should be improved.

This completes our review of the AAL Divisions; now, we shall examine the AAL Groups management and finances.

D. Management

AAL is managed by Mr. B. J. Chambaka, an able manager who has managed several other NDC companies including Steel Rolling Mills. Prior to Mr. Chambaka's assuming general management, AAL had a management contract with an Indian company. This was cancelled after several disagreements over payment of fees and questionable invoicing practices on the part of the management company.

Management compensation at AAL is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low; however, benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for officers, medical care and insurance, life insurance, and travel and entertainment allowances. Management does receive bonuses for production and profit performance. This appears to have increased motivation and morale significantly.

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's legal secretary. AAL has made use of several consultants during the last few years, especially in the area of feasibility studies for new projects. Daniel Donati of Italy seems to be the preferred firm.

E. Human Resources

1. Composition and Skills

AAL employed 1,153 persons in 1989.

2. Compensation and Trends

The Company is able to attract and retain a reasonably qualified work force for its operations. Salary levels are set by SCOPO. Turnover is low. The compensation package consists of a base wage, overtime, medical insurance, transportation or transportation allowances, and special milk or "heat allowances" for workers in the furnace areas. In addition, workers are eligible for production bonuses.

3. Productivity

Productivity in the firm is high compared to other NDC companies. It is relatively low compared to international standards.

AAL: Labor Productivity - 1989

	AAL	NDC
Sales per employee (Ts '000's)	4421	1478
Profits per employee ('000's)	396	95

4. Training Programs and Needs

As AAL is the only steel and aluminum-making complex in Tanzania, it should conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training should include basic work practices as well as the more technical aspects of iron and steel production. That said, workers appeared to be well-trained and productive.

F. Finances

1. Sales, Revenue, Profitability

AAL has shown an upward trend in sales in Shilling terms over the last five years. However, when this is translated into both dollar and constant shilling terms, AAL has shown a marked decline in sales.

AAL is profitable. And, there have been some significant reductions in material costs in recent years. Still, the operation has a long way to go to lower overall costs. The primary areas are: purchasing (which AAL has attacked vigorously), scrap and wastage, quality control, overhead costs, and, finally, direct labor.

Financing costs have grown and are a concern: As can be seen in the Graph on Operating Expense Breakdown, operating expenses financial costs have risen significantly in recent Years. AAL has a strong balance sheet and controls its finances better than the majority of NDC companies.

2. Assets and Liabilities

AAL shows reasonable strength in its balance sheet; however, at first glance the balance sheet has shown an increase in total assets and liabilities as shown in Table: VII Balance Sheet. However, closer analysis reveals that available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. This is magnified when the figures are translated into dollar terms. The lines at the bottom of the Balance Sheet give key figures in dollar terms.

The significant changes at AAL are: Cash has increased from .79 percent of current assets in 1984, to 20.36 percent of current assets in 1988. Dependence on short term debt has increased from 10.2 percent of total liabilities to 74.8 percent of total liabilities. Material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

Short-term liquidity has suffered from the impact of inflation. The current ratio improved slightly from 0.9 in 1984 to 0.93 in 1988. However, funds are still insufficient to cover short-term liabilities. The acid ratio (cash and cash equivalents divided by current liabilities) decreased from .007 to .19 during this period. This indicates that AAL would be able to cover only 19 percent of its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

AAL imports the majority of its raw materials and supplies. Foreign exchange to purchase these products come through the OGL and PTA mechanisms described in the main report. AAL also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

AAL had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. The company must now use

Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company). Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Estimates of Valuation

Book value is Ts. 460 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In AAL's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Valued as a going concern, the profits of AAL are divided by the discount rate to obtain a value of Ts 142.2 million. AAL is worth more as a going concern than were it to be liquidated. This indicates that AAL has general viability as an enterprise.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the AAL would be valued at Ts. 4590 million. This is the price that AAL would fetch on a stock market that valued earnings at this rate.

G. Summary

The prognosis for AAL is optimistic given its current position in the market, its range of skills, its political strength, and its financial position. Key weaknesses include its high cost structure, its low productivity and capacity utilization despite high market demand, and its heavy staffing relative to international competitors.

AAL's continued viability as a company depends upon four factors: Productivity improvements, increased capacity utilization or increased product variety, cost reduction, and adding value through creation of sales depots and enhanced products.

Appendix 1 Attachments: ALUMINIUM AFRICA COMPANY, LTD.

TABLES

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Aluminium Africa Co. Limited

Product	(millions of shillings)					
	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Aluminium Circles and She	82	129	259	388	591	794
2. G.C.I. Sheets and Gutters	464	594	830	1,065	1,858	2,651
3. Cold Rolled Sheets	398	408	747	1,086	1,892	2,697
4. Galvanised Pipes	101	140	365	589	738	888
5. Steel Billets	62	128	125	122	331	540
6. Asbestos Sheets	20	24	38	52	87	122
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	1,127	1,423	2,362	3,301	5,497	7,692
Units/Employee	1	1	2	3	5	7

TABLE II

Table : Actual Production

Aluminium Africa Co. Limited

Product	Units	Description	(Thousands of tons)					
			1984	1985	Est'd 1986	1987	Est'd 1988	1989
1. Aluminium Circles	Thousands	Metric Tonnes	2	3	3	3	2	2
2. G.C.I. Sheet&Gutters	Thousands	Metric Tonnes	23	22	20	17	21	25
3. Cold Rolled Sheet	Thousands	Metric Tonnes	24	24	20	16	18	20
4. Galvanized Pipes&others	Thousands	Metric Tonnes	5	7	7	7	6	6
5. Steel Billets	Thousands	Metric Tonnes	8	11	9	7	8	10
6. Asbestos Sheets	Thousands	Metric Tonnes	4	4	4	4	4	4
7.	Thousands	Metric Tonnes	0	0	0	0	0	0
8.	Thousands	Metric Tonnes	0	0	0	0	0	0
9.	Thousands	Metric Tonnes	0	0	0	0	0	0
10.	Thousands	Metric Tonnes	0	0	0	0	0	0
11.	Thousands	Metric Tonnes	0	0	0	0	0	0
12.	Thousands	Metric Tonnes	0	0	0	0	0	0
13.	Thousands	Metric Tonnes	0	0	0	0	0	0
14.	Thousands	Metric Tonnes	0	0	0	0	0	0
15.	Thousands	Metric Tonnes	0	0	0	0	0	0
Total			66	70	61	52	59	66

TABLE III

Table : Actual Purchases

Aluminium Africa Company

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	328	398	724	1,050	1,678	2,307
2.	Spares & accessories	4	5	16	27	59	91
3.	Fuel oil	0	0	0	0	0	0
4.	LESS:Interdivision Transfer	(349)	(366)	(672)	(978)	(1,775)	(2,572)
5.		0	0	0	0	0	0
6.	Subtotal	(17)	37	68	99	(37)	(174)
	Foreign currency						
7.	Raw materials	512	451	1,660	2,869	3,809	4,750
8.	Spares & accessories	9	19	56	93	163	234
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	520	470	1,716	2,962	3,973	4,983
13.	Total	503	507	1,784	3,061	3,935	4,810
14.	In Dollars	\$28	\$31	\$34	\$37	\$31	\$25

Notes:

1.

2.

NA

NA

TABLE IV

Table : Actual Investment

Aluminium Africa Limited

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989
Capital Expenditures						
1. Land & building	2.2	1.1	0.0	2.4	0.0	0.0
2. Plant & machinery	0.3	1.2	0.0	53.2	0.0	0.7
3. Furniture & fixtures		0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	1.8	7.1	0.0	21.7	0.0	62.3
5. Other	1.3	1.0	0.0	1.2	0.0	6.8
Total Expenditures	5.6	10.4	0.0	78.4	0.0	69.8
Source of Funds						
1. Equity – NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity – Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	5.6	10.4	0.0	122.8	0.0	69.8
8. Other, Unaccounted For	0.0	0.0	0.0	(44.4)	0.0	0.0
Total Sources	5.6	10.4	0.0	78.4	0.0	69.8

Notes:

1. Cap. Exps. (\$'000's)	\$0	\$1	\$0	\$1	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	ERR	0.0	0.0	0.1	0.0	0.0
3. Nominal Index of Capital Expendit	53.8	100.0	0.0	753.6	0.0	671.2
4. Dollar Index of Capital Expenditur	49.1	100.0	0.0	148.5	0.0	57.6
5. Debt/Total Sources	14.90%	27.24%	13.06%	77.74%	34.61%	54.45%
6. Foreignr./Total Sources	29.80%	54.48%	26.12%	15.05%	69.22%	61.65%
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	5%	12%	NA	68%	NA	1%
9. Ratio: Vehicles/Cap. Exps.	32%	68%	NA	28%	NA	89%

TABLE V

Aluminium Africa Limited Company

Table : Actual Manpower

Product	Employees					
	1984	1985	Ésta 1986	1987	Ésta 1988	1989
1 Senior Managers	15	6	7	8	8	7
2 Middle Managers	64	37	64	91	77	62
3 Supervisors	76	87	87	86	89	92
4 Clerical	147	155	145	134	133	131
5 Skilled Manual	621	565	453	340	431	522
6 Unskilled Manual	438	421	364	307	323	339
Total	1361	1271	1119	966	1060	1153

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

Aluminium Africa Ltd.

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989	1990
Profit & Loss							
Net Sales	745	1,008	785	2,409	3,635	0	0
Less: Cost of Sales	589	727	502	1,965	3,195	0	0
Gross Profit	156	281	283	443	440	0	0
Less: Operating Expenses	97	143	312	424	868	0	0
Administration	59	76	67	141	194	0	0
Selling and Distributio	6	8	11	23	37	0	0
Foreign Exchange Losses	0	0	129	12	9	0	0
Financial Expenses	32	59	105	248	628	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	59	138	(28)	20	(428)	0	0
Add: Other Income	15	12	20	63	167	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	73	151	(9)	83	(262)	0	0
Less: Provision for Taxes	44	83	0	41	0	0	0
Profit After Tax	29	68	(9)	41	(262)	0	0
Statement of Retained Earnings							
Balance Brought Forward	97	87	133	92	133	109	109
Prior Year Adjustment	(9)	7	(0)	0	271	0	0
Balance Brought Forward R	88	94	132	92	404	109	109
Add: Net Profit for the Year	29	68	(9)	41	(262)	0	0
Profit Available for Appr	117	162	124	134	142	109	109
Less: Miscellaneous Appropriati	30	29	32	0	33	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	87	133	92	133	109	109	109
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	41	61	15	29	29	0	0
Cost of Sales	33	44	10	23	25	0	0
Operating Expenses	5	9	6	5	7	0	0
Profit After Tax	2	4	(0)	0	(2)	0	0

TABLE VII

Table : Balance Sheet
Actual

Aluminium Africa Limited

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	277	248	322	407	424	0	0
2. Current Assets	504	466	1,181	3,327	2,682	0	0
3. Stocks	346	309	930	2,601	990	0	0
4. Trade Debtors	154	99	202	564	1,146	0	0
5. Debtors and Prepayments	0	0	0	0	0	0	0
6. Cash and Bank Balances	4	59	49	162	546	0	0
7. Current Liabilities	558	470	1,288	3,492	2,894	0	0
8. Trade Creditors	357	300	799	2,930	654	0	0
9. Bank Overdrafts	57	6	136	138	2,166	0	0
10. Current Maturity of LT	0	0	16	8	10	0	0
11. Taxes Payable	46	84	0	41	5	0	0
12. Other Current Liabiliti	99	81	336	375	60	0	0
13. Net Current Assets/Liabil	(54)	(4)	(107)	(165)	(212)	0	0
14. Total Net Assets	223	244	216	242	212	0	0
15. Financed by:							
16. Share Capital	88	89	89	89	89	0	0
17. Capital Reserves	174	(1)	(1)	(1)	(1)	0	0
18. Profit and Loss Account	93	138	97	132	114	0	0
19. Long Term Loans	43	19	31	17	11	0	0
20. Debt	601	489	1,318	3,508	2,905	0	0
21. Equity	180	225	185	226	201	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	1	1	1	1	1	0	0

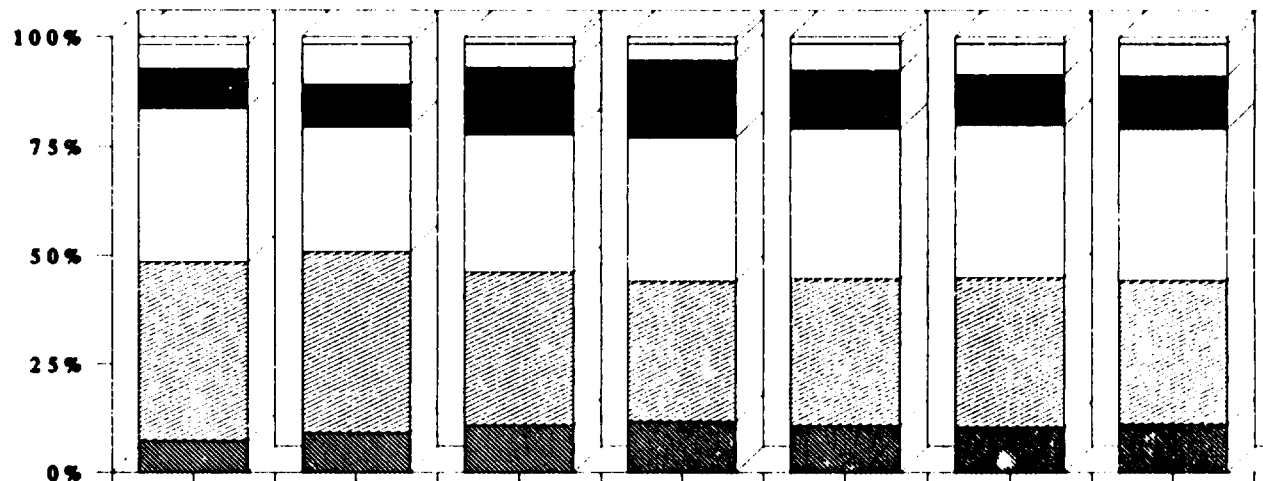
In Current Dollars

1. Net Fixed Assets	15	15	6	5	3	0	0
2. Current Assets	28	28	23	40	21	0	0
7. Current Liabilities	31	28	25	42	23	0	0
13. Net Current Assets/Liabil	(3)	(0)	(2)	(2)	(2)	0	0
14. Total Net Assets	12	15	4	3	2	0	0
20. Debt	0	36	9	16	28	15	0
21. Equity	0	11	4	2	2	1	0

Product Sales Breakdown

Aluminium Africa Co. Limited

% BREAKDOWN OF PRODUCT SALES



	1984	1985	1986	1987	1988	1989	1990
Asbestos Sheets	20	24	38	52	87	122	174
Steel Billets	62	128	125	122	331	540	831
Galv'd Pipes	101	140	365	589	738	888	1373
Cold Rolled Shts	398	408	747	1086	1892	2697	3955
GCI Shts & Gut	464	594	830	1065	1858	2651	3757
Alum Cir & Shts	82	129	259	388	591	794	1252

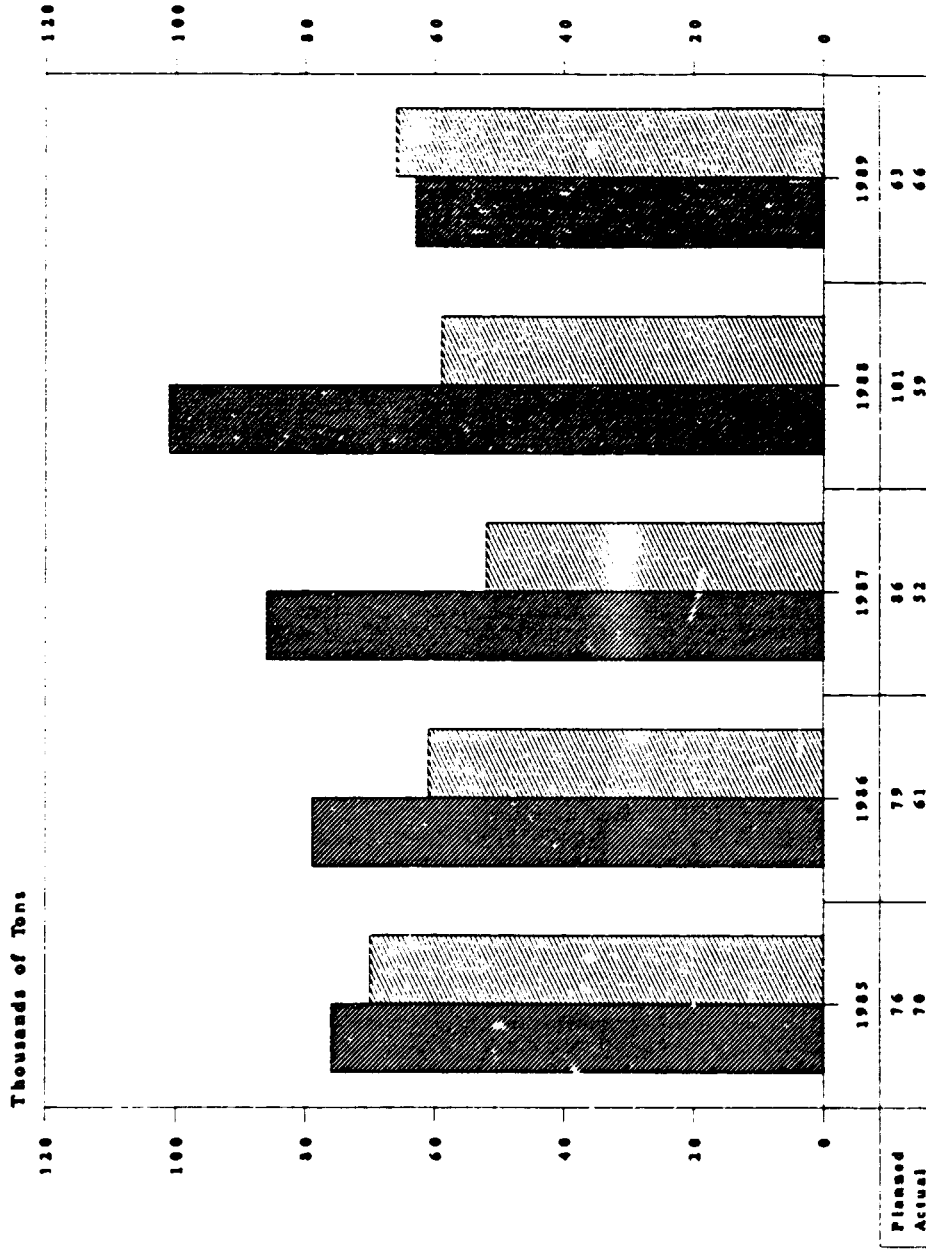


Alum Cir & Shts
 GCI Shts & Gut
 Cold Rolled Shts

Galv'd Pipes
 Steel Billets
 Asbestos Sheets

Planned vs. Actual Production

Aluminium Africa Co. Limited

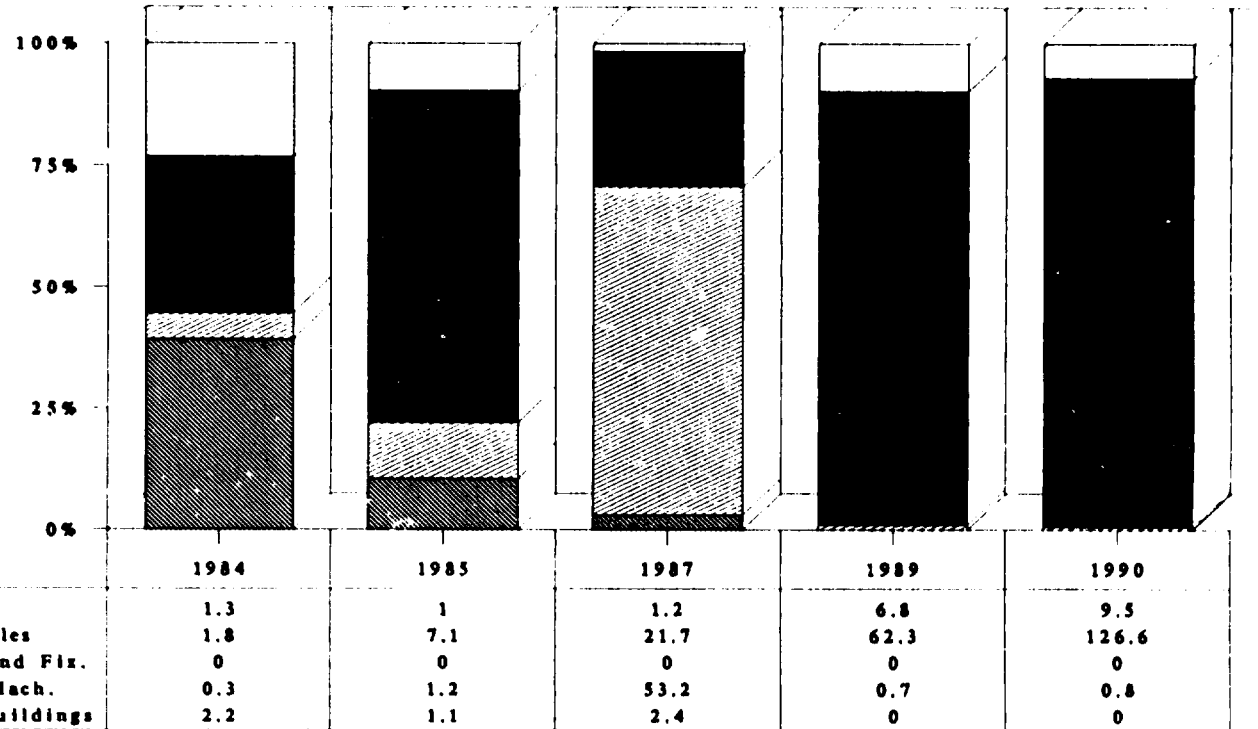


UNIDO/Tanzania/
NDC Assistance - 1981

Capital Expenditure Breakdown

Aluminium Africa Company, Ltd.

MILLIONS OF SHILLINGS



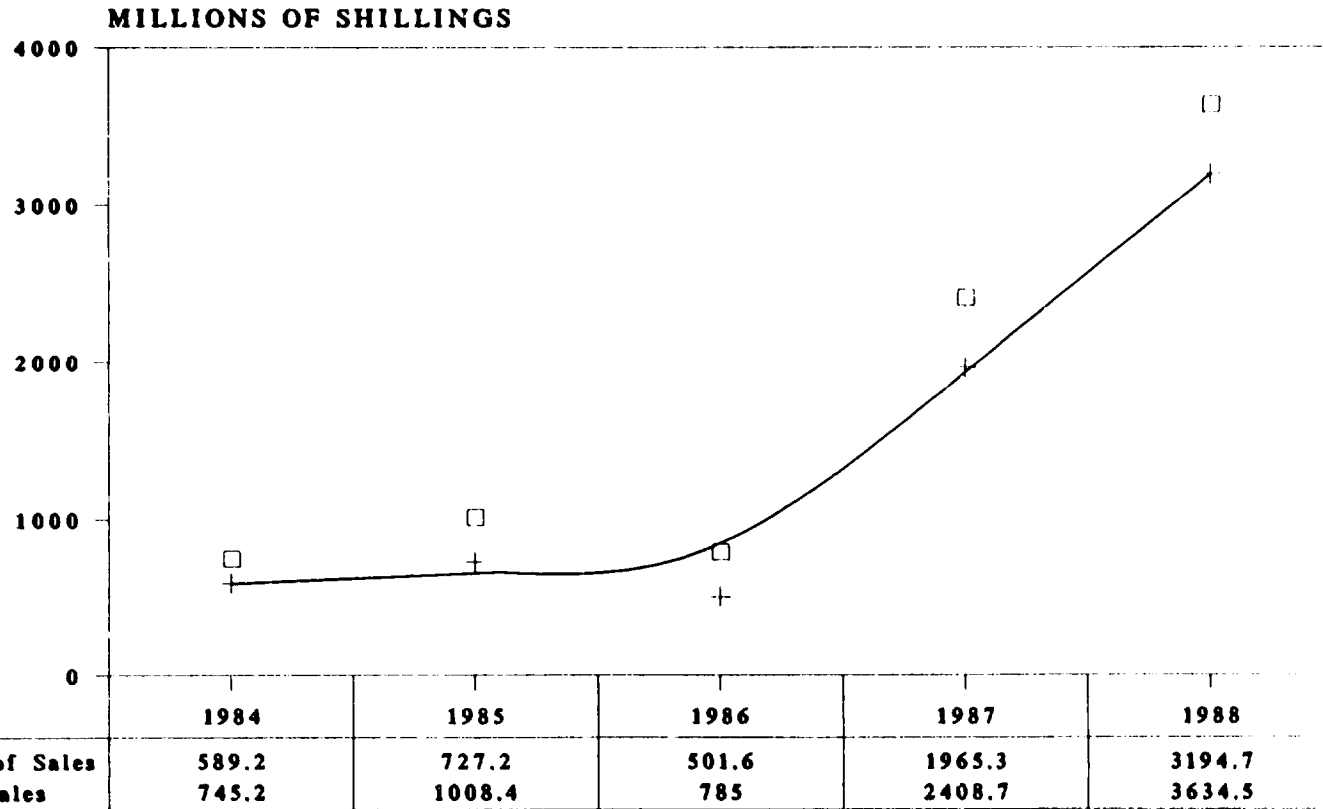
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Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Aluminium Africa Company, Ltd.



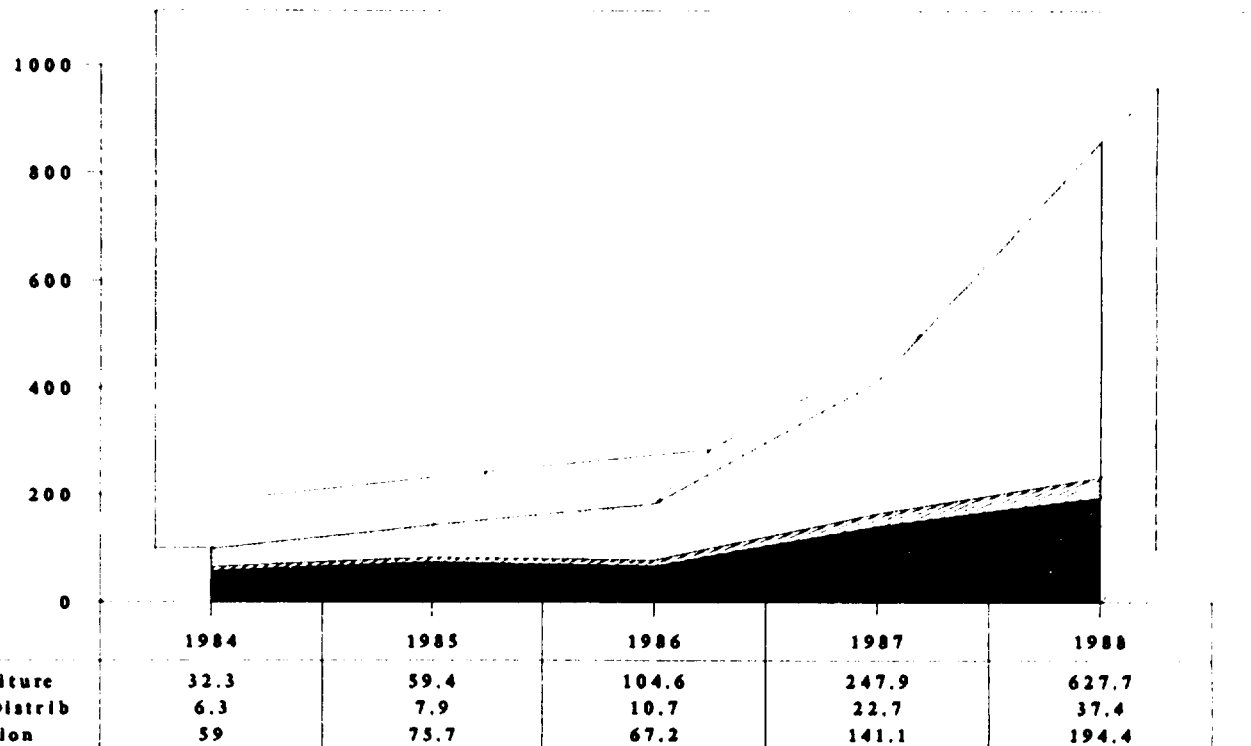
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Aluminium Africa Company, Ltd.

Millions of Tshillings



UNIDO/Tanzania/NDC Assistance - 1991

Operating Expenses

■ Administration

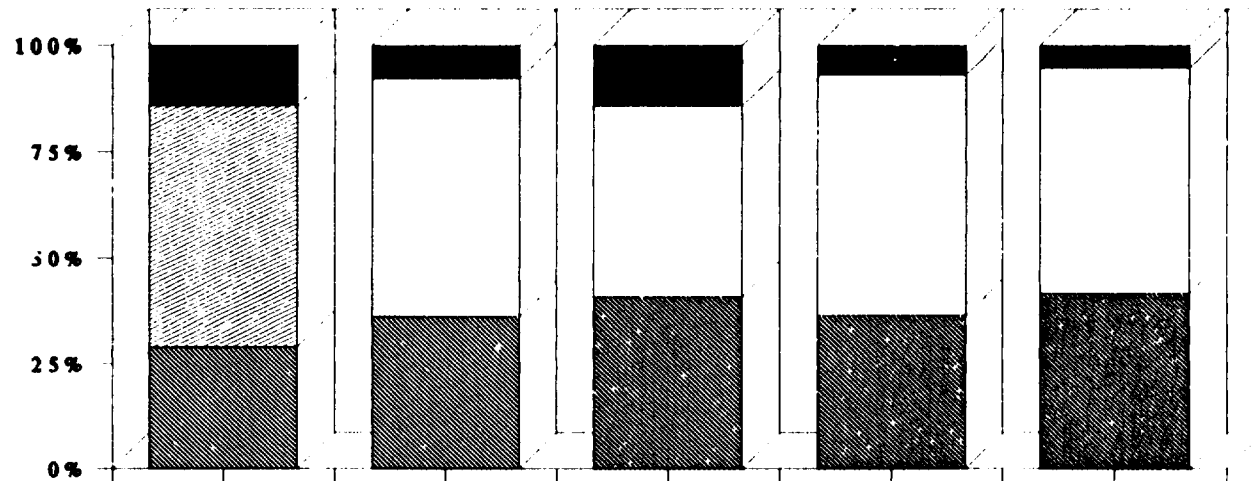
▨ Selling & Distrib

□ Fin Expenditure

Total Net Assets

Aluminium Africa Company, Ltd.

MILLIONS OF SHILLINGS



	1984	1985	1986	1987	1988
Long Term Loans	43.5	19.1	30.9	16.8	11.1
Profit & Loss Acct	-82.1	37.8	97.3	138.2	113.6
Capital Reserves	173.6	-1.2	-1.2	-1.2	-1.2
Share Capital	88.3	88.6	88.6	88.6	88.6

MILLIONS OF SHILLINGS




FINANCED BY

 Share Capital

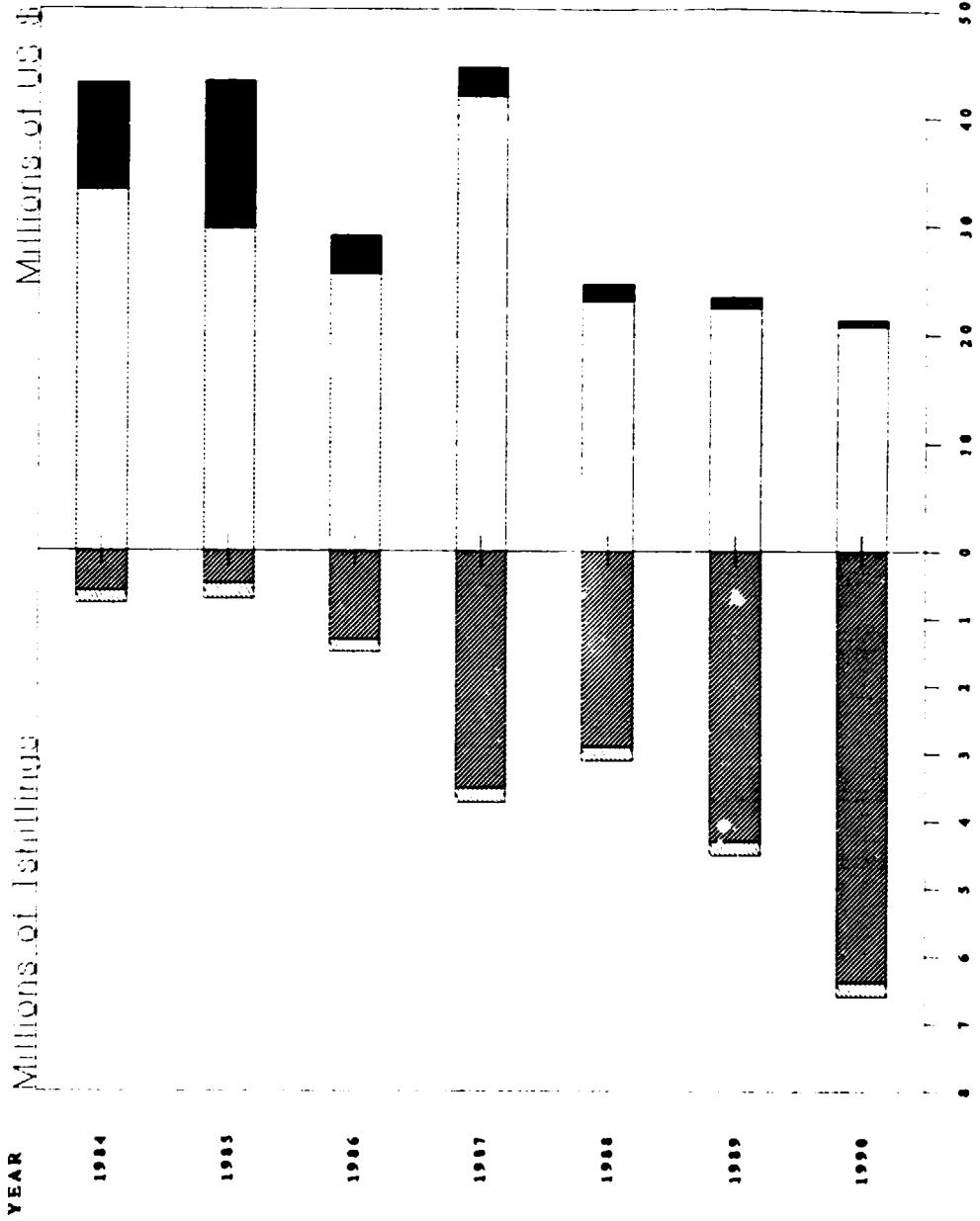
 Capital Reserves

 Profit & Loss Acct

 Long Term Loans

Debt/Equity Ratio

Aluminium Africa Company, Ltd



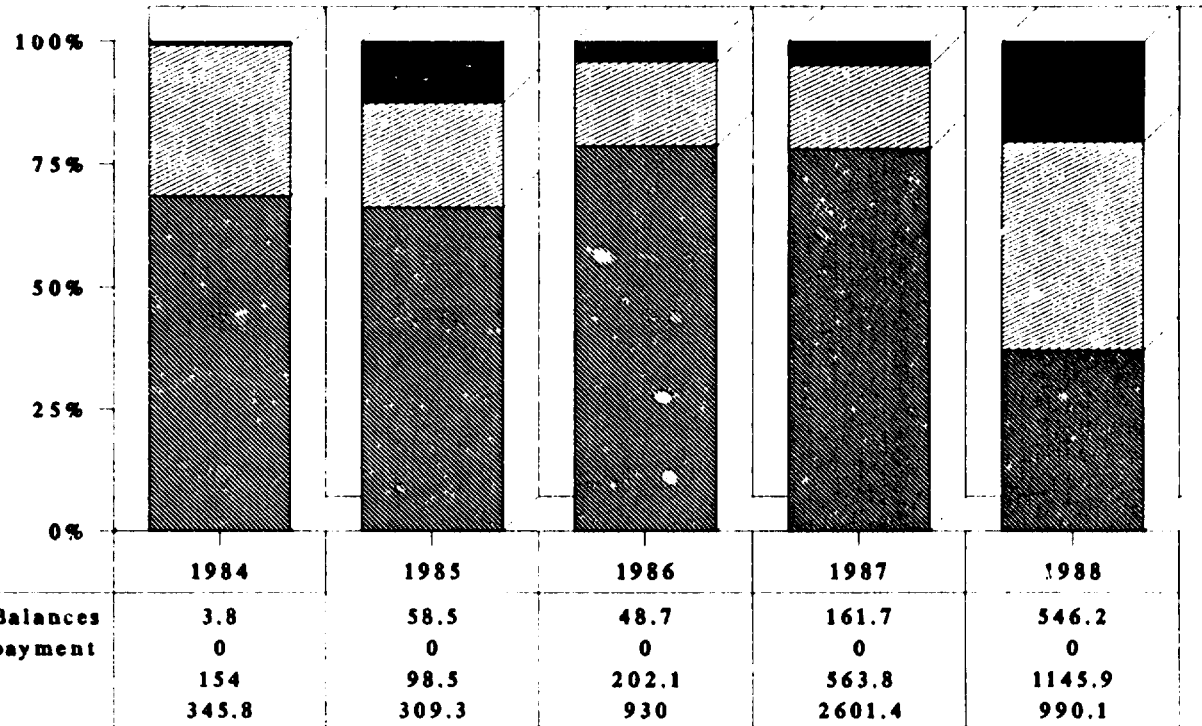
DEBT
EQUITY
SDEBT
SEQUITY



UNIDO/Tanzania/
NDC Assistance - 1981

Current Assets Breakdown

Aluminium Africa Company, Ltd.



MILLIONS OF SHILLINGS

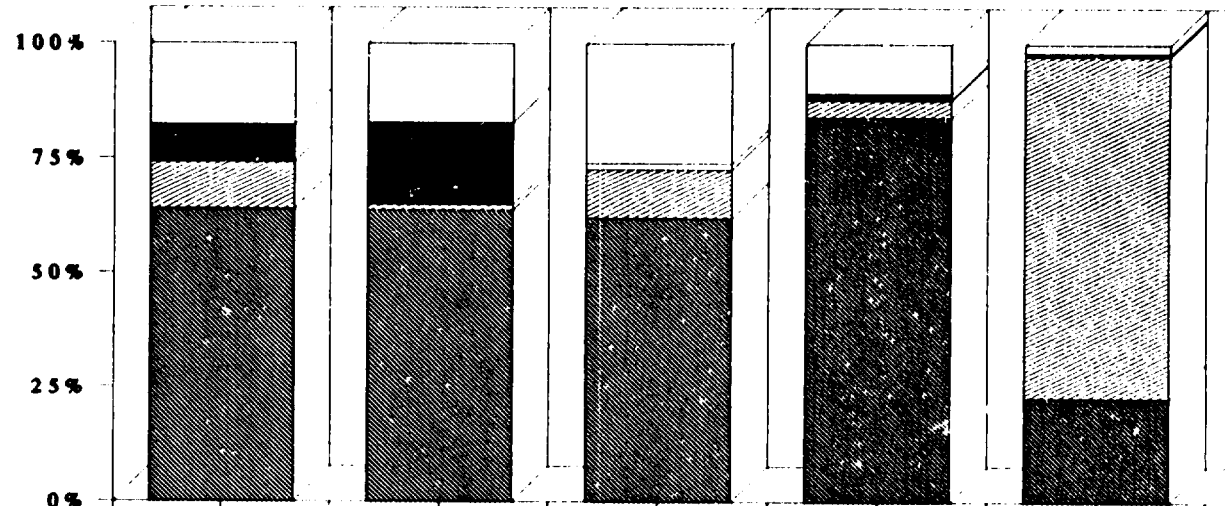


UNIDO/Tanzania/NDC Assistance - 1991



Current Liabilities Breakdown

Aluminium Africa Company, Ltd.



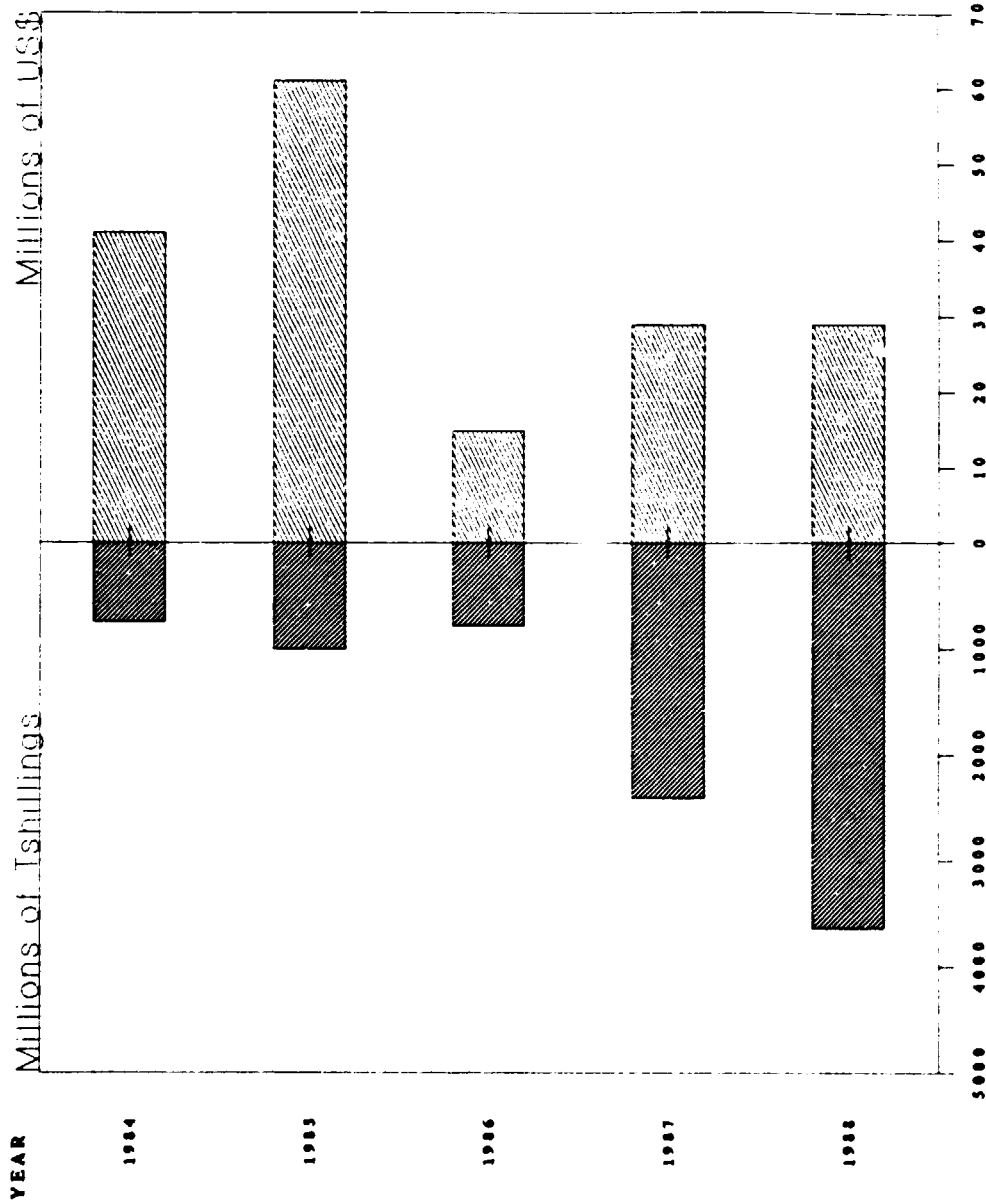
	1984	1985	1986	1987	1988
Other Cur Liability	98.6	81	336.4	375	60.1
Taxes Payable	45.6	84	0	40.7	4.6
Matur of Long Term	0	0	16.1	8.3	9.9
Bank Overdrafts	56.9	5.6	136.1	138.1	2165.6
Trade Creditors	356.7	299.5	798.9	2929.5	653.7

MILLIONS OF SHILLINGS



Net Sales

Aluminium Africa Company, Ltd.



Appendix 2: CMB Packaging Tanzania, Ltd.

APPENDIX 2: CMB PACKAGING TANZANIA, LTD.

I. RECOMMENDATIONS

Metal Box is a very well-run, well-positioned, strategic company. Its cans and metal packages are important for the development of the agricultural export sector as well as for providing packaging for domestic use.

NDC can add little to the technical expertise of Metal Box's parent; but it can benefit from the revenue stream that could be created. Therefore, it is recommended that NDC gradually move to a minority share in Metal Box and use its share of Metal Box's revenue stream to finance other projects.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

The Company (CMB) was organized in 1948 by Metal Box England. It was nationalized following the Arusha Declaration in 1967. After production difficulties, CMB was reinvented to assume its equity share in the mid-seventies. Located in Dar Es Salaam, it is close to its main customer base.

CMB markets metal containers, food packages, battery jackets and crown corks in Tanzania. It maintains relatively small finished goods inventories as it produces only to demand.

Production volumes have been low in the last few years due to lack of capital investment, lack of working capital, and insufficient emphasis on preventive maintenance, and consequently higher levels of equipment breakdown.

Annual sales in 1990 were approximately Ts. 720 million. CMB made a pre-tax profit of Ts. 122 million on those sales. Currently, the plant has an informal management agreement with CMB who provide overall company and plant management.

The Company's strategy has been to focus on a limited range of high demand product's. CMB is a strong, customer-oriented company affiliated with plants throughout the world.

B. Industry and Competitor Analysis

1. Market Overview

The market for metal packaging in Tanzania at present is somewhat limited and dependent upon the food, oil, and battery producing industries but it has a wide variety of products within this limited market. Thus the metal packaging industry follows Tanzania's development in these latter fields. The demand for packaging volumes declined dramatically during the seventies and eighties. It is only recently that volumes have begun rising and potential demand is quite high.

Customers are primarily food packagers, brewers, bottlers, battery remakers, and the like.

The volume and diversity of the metal packaging market in Tanzania is expanding. Export potential in the region is strong.

CMB is the dominant company in these markets in Tanzania. It does face competition from plastics manufacturers (paint cans) and some import competition in Crown Corks. Another potential packaging substitute is aseptic packaging (Tetra-Pak).

Competition in this market will grow in the future. The metal packaging industry is composed of a small number, of well-capitalized, foreign companies that operate worldwide. Currently, the primary competitors to CMB are offshore, which means that they have high transport costs as well as slow delivery times. Furthermore, they are used to dealing with large order sizes. This presents an opportunity for CMB to export in the region if it is able to establish a reputation for reliability, speed, quality, and flexibility; e.g. small lot sizes. It has a sister company in Kenya.

It should be noted that CMB will never completely dominate the market for metal packaging products in Tanzania or the local areas. There are many different types of metal packaging and there are proprietary processes for producing the more specialized metal packagings. However, in basic corks and packages, it can build a position of strength through close customer contact and high quality standards.

The Company has shown progressively larger sales revenues since inception. However, when measured in dollars, these revenues have been flat or declining (see Table VI: Profit and Loss Statement).

The legal and regulatory environment has limited competition in this market. As the sole local source of metal packaging, CMB is protected by import duties, sales taxes, and delivery charges on imported metal packaging. Furthermore, CMB has had preferential access to foreign exchange over the past few years. This enables it to purchase inputs and supplies at a subsidized price.

The Open General License (OGL) system gives CMB equal access to foreign exchange so that it is not constrained in its ability to purchase materials. CMB did have

cash flow problems in 1990, however, that made it difficult to purchase sufficient supplies. It relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL and this has raised its financing costs.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would give a further, positive impetus to exports of CMB products.

C. Marketing

1. Overall Marketing Strategy

CMB's strategy is to work closely with its customers to provide uniform high-quality products. It matches production very closely to sales. Production volumes are high and it wants to ship finished goods out of the factory as soon as they rolloff the production lines. It aggressively supports export opportunities by supplying local processors who export packaged foods, beverages, and oils. Prices are negotiated with buyers and margins can be quite healthy due to the lack of local competition.

2. Customers

Customers are the major food, beverage, oils, and battery processors and manufacturers. Tanzania Breweries and Matsushita's National Battery are examples.

3. Customer Service

Customer service is very important to CMB's success. CMB customizes the printing of packaging and assists customers to present their products in the most attractive, secure and economical manner.

4. Pricing

Pricing is negotiated between CMB and its customers. The landed cost of imported goods acts as an upper limit especially in the area of Crown Corks. CMB has raised prices significantly in the last year and expects to gradually raise prices to recoup a loss of margins during the 80's.

Inventory management is usually not a major problem. Products are shipped to customers weekly and in some cases daily.

5. Promotion and Advertising

The company does little, if any, promotion of its products; nor does it appear to have a regular advertising program. Advertising expenses totalled less than 1.5 million Ts for the years 1985 to 1989.

6. Distribution

Products are sold directly to end users.

D. Production and Operations

1. Geographical Location

CMB's primary factory is located in Dar Es Salaam, close to its major customers. It has a small facility in Mwanza to produce 20 liter Debes.

2. Facilities and Processes

CMB has a large plant that produces a variety of metal packaging on various automated production lines. Table II, below, has a list of products and their historical production volumes.

Current technology is over twenty years old. In the last year, CMB has upgraded several production lines to introduce new technology and further automate the production processes. Also, CMB has upgraded product quality by eliminating lead in the welded containers. The production staff numbers approximately 250 persons.

3. Materials Handling

Materials flow through the plant on automated lines. Although, there are some spots where work-in-progress is manually transferred to a new process; e.g. painted sheets of tin plate are moved by hand to the cutting and stamping tresses. As volumes are high-millions of crowns a year, most processes are highly automated.

4. Processing Costs

Production costs are broken down as follows:

Production Costs (1989)				
Ts. Millions				
	Foreign	Local	Total	%
Materials	376.4	0	376.4	62
Direct Labor	0	8.5	8.5	1.4
Utilities and other				
Direct Costs	0	36	36	5.9
Finance	8.9	177	185.9	30.7
Totals	385.3	221.5	606.8	
Percent	63.5%	36.5%		0%

As can be seen from the above figures, CMB has a 63.5 percent foreign cost component. Currently, this is subsidized as CMB has access to foreign exchange at a preferential rate. The process of structural adjustment will most likely eliminate this subsidy within a few years.

5. Product Quality

CMB has been making strong efforts to improve the quality of their products. This involved investing in new technology, eliminating the redundant work force, and investing in staff training. Results of these efforts should be more visible in 1991.

6. Product Delivery (Outbound Logistics)

CMB sells its products ex-factory, so local companies pick-up products. Some cans are flattened and some debes are shipped unassembled to lower transportation costs up-country.

As customers are high volume buyers, low weight items transport costs provide a natural barrier against assembled and empty containers.

7. Competitive Strengths/Weaknesses

As for strengths, CMB has a strong management, a good outside partner with much experience, a growing market, protection, and limited local competition giving it a strong competitive position.

At the same time, CMB's work force is relatively large, scrap rates are high at 7-9%, and lack of maintenance has aged the plant dramatically.

8. Strategy and Plans

CMB is improving the can line with a new seam-welding machine, and a number of additional product line improvements.

Investment Plans (Ts. Millions)

	1991	1992	1993
Salmi Machine	8.2	--	--
Expander-Stretch Former	10.0	--	--
Naneco Flamer	26.0	--	--
Forklift	6.0	--	--
300 Dia End Dies	--	14.0	--
9 1/4 square Liner	--	3.0	--
Salmi INP50	--	12.0	--
Semi-Automatic Welder Smag	--	--	10.0
End Tooling	--	--	6.0
Lathe	--	--	6.9
Fork Lift	--	--	7.2

E. Management

The General Manager, Mr. Manson, has worked with CMB for over 20 years and originally started with CMB Tanzania where he helped install the existing production lines.

Management compensation at CMB is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low. Benefit packages are extensive, and include: housing and maintenance, vehicles for officers, medical care and insurance, life insurance, travel and entertainment allowances.

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel.

F. Human Resources

1. Personnel

CMB employs 269 persons (See Table V: Manpower for details). Production staff was reduced significantly in 1990 with further reductions planned in 1991. Production staff has been cut in half during this time.

2. Compensation and Trends

The Company is able to attract and retain a reasonably qualified work force for its operations. This is due more to the lack of other employment opportunities for most workers and the security of a government position. Salary levels are set by SCOPO. Voluntary turnover is low.

The compensation package consists of a base wage, medical insurance, transportation allowances, and a limited production bonus.

3. Productivity

Productivity for the firm is slightly above the average of NDC companies:

Productivity - 1989 (millions of Ts.)

	CMB	NDC (average)
Total Revenue (Ts. '000's)	649	824
Sales per employee (Ts)	2.27	2.071
Profits per employee	.17	0.200

4. Training Programs and Needs

As CMB is modernizing it should conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training would include basic work practices as well as the more technical aspects of training. CMB has recently created and equipped a training room and training program. A technical training officer is covering the correct operation of the new equipment and technology. Video films as well as slide strips were also acquired. CMB plans to use its operators in Kenya and Zimbabwe to assist in training in welding technology, production operations and quality control.

G. Finances

1. Sales, Revenue, Profitability

CMB has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table 1: Profit and Loss. However, when this is translated into dollar terms, CMB has shown a marked decline in sales. See the bottom section of the profit and loss statement.

CMB is profitable and managers are healthy. Although, 1990 was a difficult year for costs, it still turned a substantial profit. As indicated by Table VI (Profit and Loss account). Administrative costs increased by an average of 50 percent per annum from 1985 to 1988 while sales increased less than 60 percent during this same period. The Cost of Goods Sold also increased dramatically, on an average of 46% for the period 1985-88. This reflects a rise in the foreign exchange component. As this was lower than the per ton selling price of the steel products, it shows that CMB is able to pass along its raw material price increases to the consumer. The main reason for this is lack of competition.

Financing costs are minimal as CMB has reasonably strong profits and cash flow.

2. Assets and Liabilities

The ratio of current assets to current liabilities has shown a favorable trend through the period 1985-1988, but stocks seem to constitute a disproportionately large part of current assets (see Table VII: Balance Sheet). The same status seems to be held by trade creditors in current liabilities.

Cash, on the other hand, has declined from 6% of total assets to 2% of total assets for the years 1985-1988.

The Debt Equity Ratio Graph shows a favorable financial condition, that is, CMB has the option of incurring a higher debt to make improvements to plant and machinery or for any other contingency.

CMB imports 100% of its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms described in the main report. CMB has taken advantage of PTA funds to acquire tinplate and other raw materials.

CMB had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

5. Estimates of Valuation

The economic factors of linkages or the political factors of maintaining employment despite losses have not been considered in these estimates.

Book value was Ts. 619 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In CMB's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the CMB would be valued at Ts. 238 million shillings. This is the price that CMB would command on a stock market that valued earnings at this rate.

H. Summary

The prognosis for CMB is very optimistic. It has a dominant position, geographic protection, strong management, and an expanding market. It does face limited import competition for which it is seeking tariff protection. In brief, this is a very well run business in a semi-protected and expanding market. It should be quite profitable.

Appendix 2 Attachments: CMB PACKAGING TANZANIA, LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Metal Box Tanzania Ltd.

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Rectangular Meat Can	1	2	5	8	9	9
2. 20 Liter/4Gallon Debes	14	9	25	41	76	112
3. Other Open-Top Cans	9	12	14	16	31	45
4. Lapseam Line	15	15	34	54	116	179
5. RBU	5	8	24	40	78	115
6. IBU	6	10	16	22	28	34
7. Battery Jackets	8	15	18	21	57	93
8. Hand Work	1	1	1	0	0	0
9. Decorated Tin Plates	3	0	0	0	0	0
10. Printing Charges -T.C.C.	1	0	0	0	0	0
11. Mwanza - 20 Liter Debes	2	0	3	6	14	22
12. Lotres Debes	0	3	1	0	0	0
13. Crown	0	0	12	25	56	88
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	65	75	154	233	464	696
Units/Employee	0	0	0	1	1	NA

TABLE II

Table : Actual Production

Metal Box Limited

Product	Units	Description	(Thousands of units)					
			1984	1985	Est'd		Est'd	
			1986	1987	1988	1989		
1. Rect. Meat Cans	Thousands	0	473	489	706	923	586	249
2. Other Open Top Cans	Thousands	0	4,320	4,117	3,069	2,020	1,808	1,595
3. Lap Seam Line	Thousands	0	3,629	2,700	2,896	3,091	3,267	3,443
4. R B U	Thousands	0	508	671	887	1,103	1,049	994
5. I B U	Thousands	0	431	558	521	484	346	208
6. 20l / 4gL DEBES	Thousands	0	632	491	402	313	313	313
7. Battery Jackets	Thousands	0	28,733	39,994	29,959	19,924	24,807	29,690
8. Handwork	Thousands	0	383	430	252	76	37	0
9. Crowns	Thousands	0	0	0	42,804	85,608	92,781	99,954
10. Mwanza 20 l. Debes	Thousands	0	72	101	72	42	46	49
11.	Thousands	0	0	0	0	0	0	0
12.	Thousands	0	0	0	0	0	0	0
13.	Thousands	0	0	0	0	0	0	0
14.	Thousands	0	0	0	0	0	0	0
15.	Thousands	0	0	0	0	0	0	0
Total			39,181	49,551	81,567	113,582	125,039	136,495

TABLE III

Table : Actual Purchases

Metal Box Limited

(millions of shillings)

	Local currency	1984	1985	Est'd		1989
				1986	1987	

1.	Raw materials	0	0	0	0	38
2.	Spares & accessories	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0
4.		0	0	0	0	0
5.		0	0	0	0	0

6.	Subtotal	0	0	0	0	38
	Foreign currency					

7.	Raw materials	42	53	0	103	67
8.	Spares & accessories	0	0	1	2	5
9.		0	0	0	0	0
10.		0	0	0	0	0
11.		0	0	0	0	0

12.	Subtotal	42	53	79	105	72
13.	Total	42	53	79	105	109
14.	In Dollars	\$2	\$3	\$2	\$1	\$1

TABLE IV

Table : Actual Investment

Metal Box Tanzania Limited

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.3	0.0	0.0	0.0	0.0	0.0
2. Plant & machinery	0.1	4.9	0.0	0.1	0.0	2.0
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	1.0
4. Motor vehicles	0.4	0.0	0.0	0.0	0.0	0.0
5. Other	0.0	0.0	0.0	0.0	0.0	0.0
Total Expenditures	0.8	4.9	0.0	0.1	0.0	3.0
Source of Funds						
1. Equity - MDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	4.5	4.9	0.0	0.0	0.0	0.0
8. Other, Unaccounted For	(3.7)	0.0	0.0	0.1	0.0	3.0
Total Sources	0.8	4.9	0.0	0.1	0.0	3.0

TABLE V

Table : Actual Manpower

Metal Box Tanzania Company

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	5	5	5	5	7	8
2 Middle Managers	14	13	12	11	9	7
3 Supervisors	26	29	29	28	22	16
4 Clerical	55	38	39	40	37	34
5 Skilled Manual	172	93	92	91	84	76
6 Unskilled Manual	75	264	227	189	177	164
Total	347	442	403	364	335	305
Expatriate	3	2	0	1	0	1
Total Employees	350	444	403	365	335	306

TABLE VI

Table : Actual Profit and Loss Recorded/Trend Metal Box Limited Company

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989	1990
Profit & Loss							
Net Sales	65	80	123	237	308	0	0
Less: Cost of Sales	54	70	86	155	211	0	0
Gross Profit	11	10	37	82	97	0	0
Less: Operating Expenses	12	12	17	25	40	0	0
Administration	12	12	17	25	40	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	(0)	(2)	20	57	57	0	0
Add: Other Income	1	0	0	0	(0)	0	0
Less: Other Expense	0	0	2	6	6	0	0
Net Profit Before Tax	1	(2)	19	52	52	0	0
Less: Provision for Taxes	1	0	10	30	30	0	0
Profit After Tax	(0)	(2)	8	22	22	0	0
Statement of Retained Earnings							
Balance Brought Forward	27	25	20	28	50	72	72
Prior Year Adjustment	(2)	(3)	0	0	0	0	0
Balance Brought Forward R	25	22	20	28	50	72	72
Add: Net Profit for the Year	(0)	(2)	8	22	22	0	0
Profit Available for Appr	25	20	28	50	72	72	72
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	25	20	28	50	72	72	72
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	4	5	2	3	2	0	0
Cost of Sales	3	4	2	2	2	0	0
Operating Expenses	1	1	0	0	0	0	0
Profit After Tax	(0)	(0)	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Metal Box Tanzania Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	41	39	40	461	440	0	0
2. Current Assets	52	61	97	134	238	0	0
3. Stocks	27	43	58	50	201	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	19	15	27	58	27	0	0
6. Cash and Bank Balances	6	4	12	26	10	0	0
7. Current Liabilities	19	31	57	65	127	0	0
8. Trade Creditors	7	19	18	15	70	0	0
9. Bank Overdrafts	0	0	0	0	0	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	1	0	10	30	30	0	0
12. Other Current Liabiliti	12	12	29	20	26	0	0
13. Net Current Assets/Liabil	33	30	40	69	111	0	0
14. Total Net Assets	74	69	79	530	551	0	0
15. Financed by:							
16. Share Capital	10	10	10	10	10	0	0
17. Capital Reserves	0	(1)	(1)	(0)	(10)	0	0
18. Profit and Loss Account	64	59	70	520	551	0	0
19. Long Term Loans	0	1	1	0	0	0	0
20. Debt	19	32	58	65	127	0	0
21. Equity	74	68	79	530	551	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

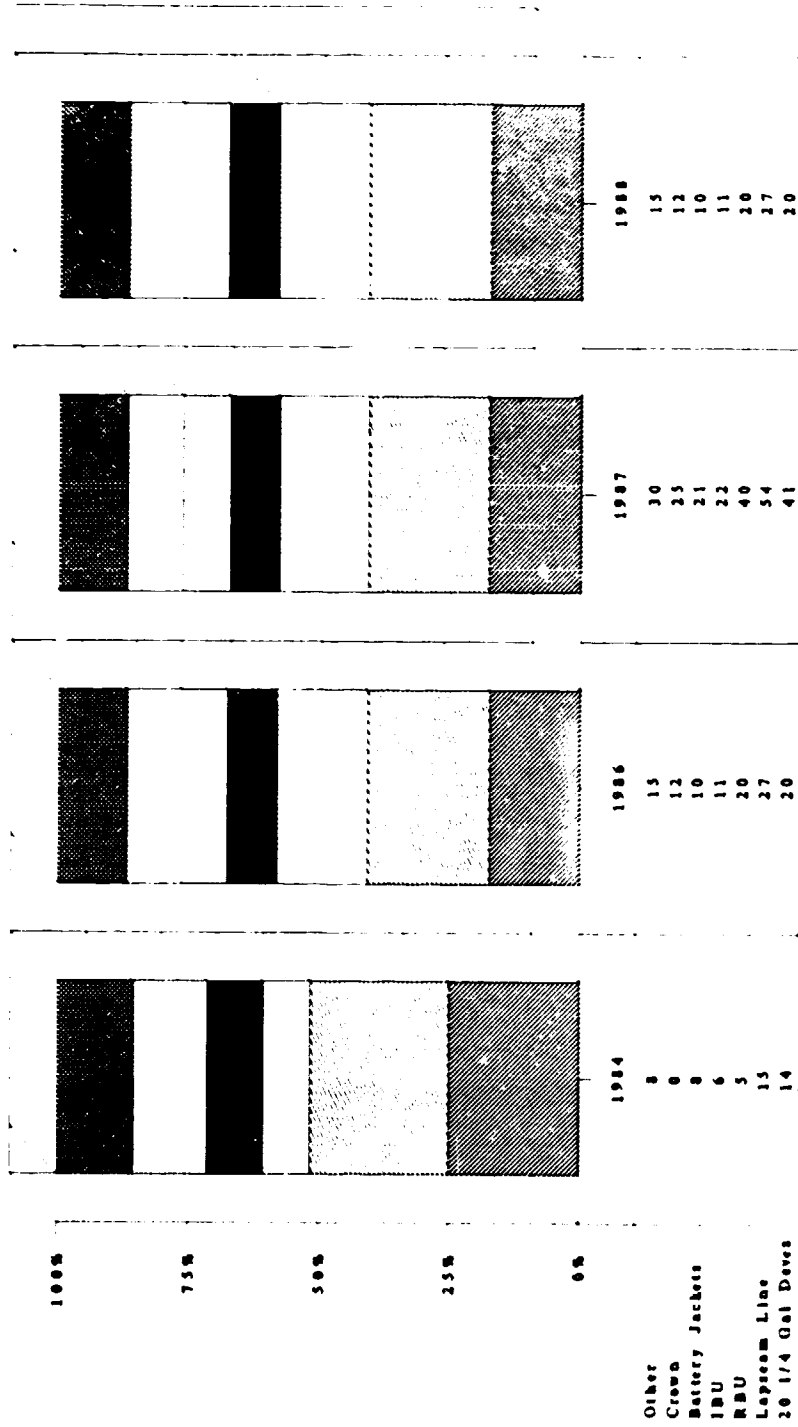
In Current Dollars

1. Net Fixed Assets	2	2	1	6	3	0	0
2. Current Assets	3	4	2	2	2	0	0
7. Current Liabilities	1	2	1	1	1	0	0
13. Net Current Assets/Liabil	2	2	1	1	1	0	0
14. Total Net Assets	4	4	2	6	4	0	0
20. Debt	0	1	1	1	1	1	0
21. Equity	0	4	1	1	4	3	0

Product Sales Breakdown

Metal Box Tanzania Ltd. (MUB) Packaging

% BREAKDOWN OF PRODUCT SALES



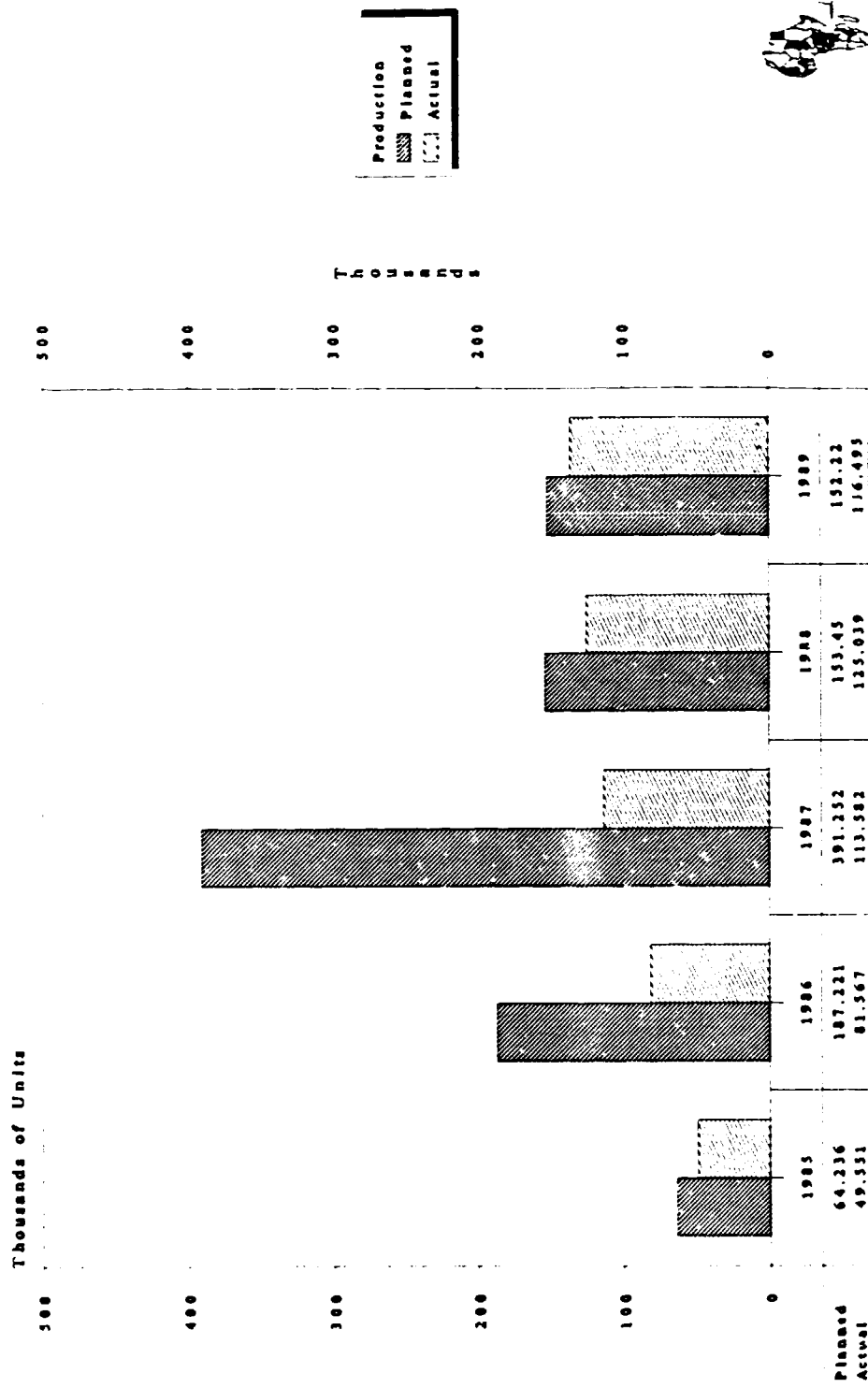
20 1/4 Gal Detergents Lapsream Line Battery Jackets IBU Other

Data not available for 1985



Planned vs. Actual Production

Metal Box Laminated

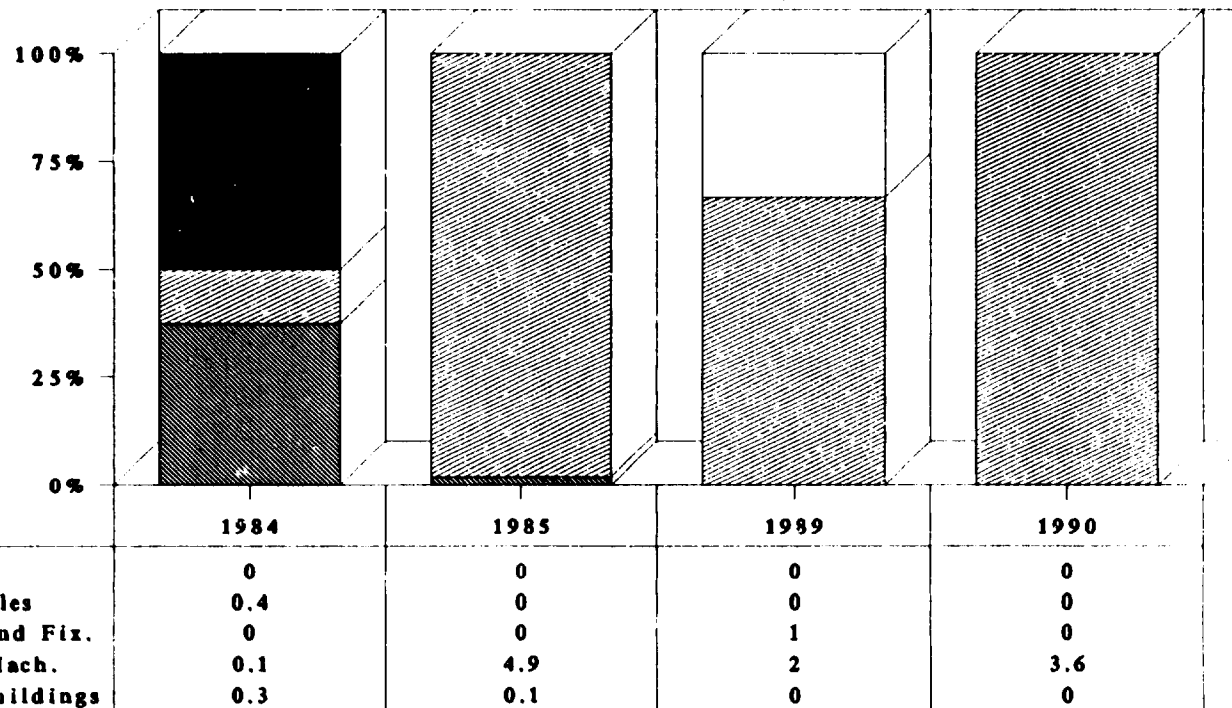


UNIDO/Tanzania/
NDC Assistance - 1991

Capital Expenditure Breakdown

CMIB Packaging Tanzania, Ltd.

MILLIONS OF SHILLINGS



Data not available FY86-88.



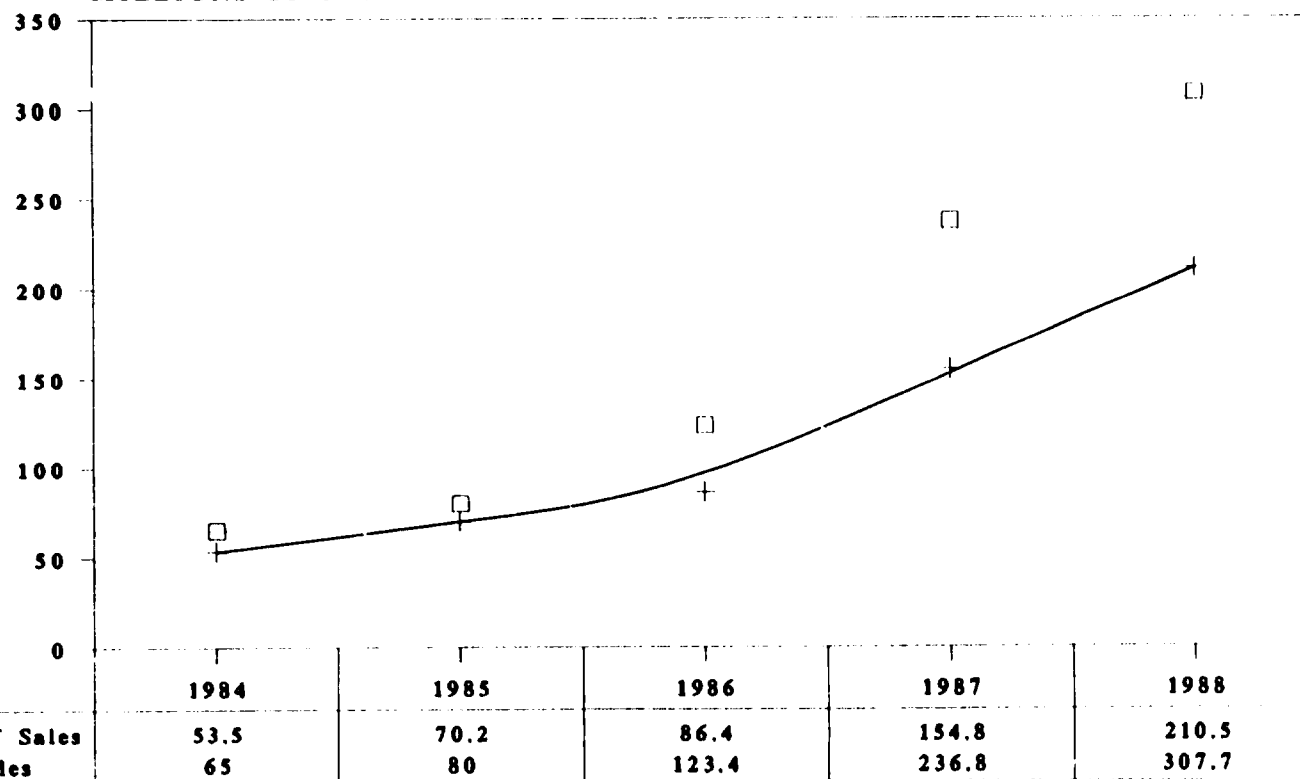
Land and Buildings
 Plant and Mach.
 Furniture and Fix.

Motor Vehicles
 Other

Cost Of Sales/Net Sales

CMB Packaging Tanzania, Ltd.

MILLIONS OF SHILLINGS



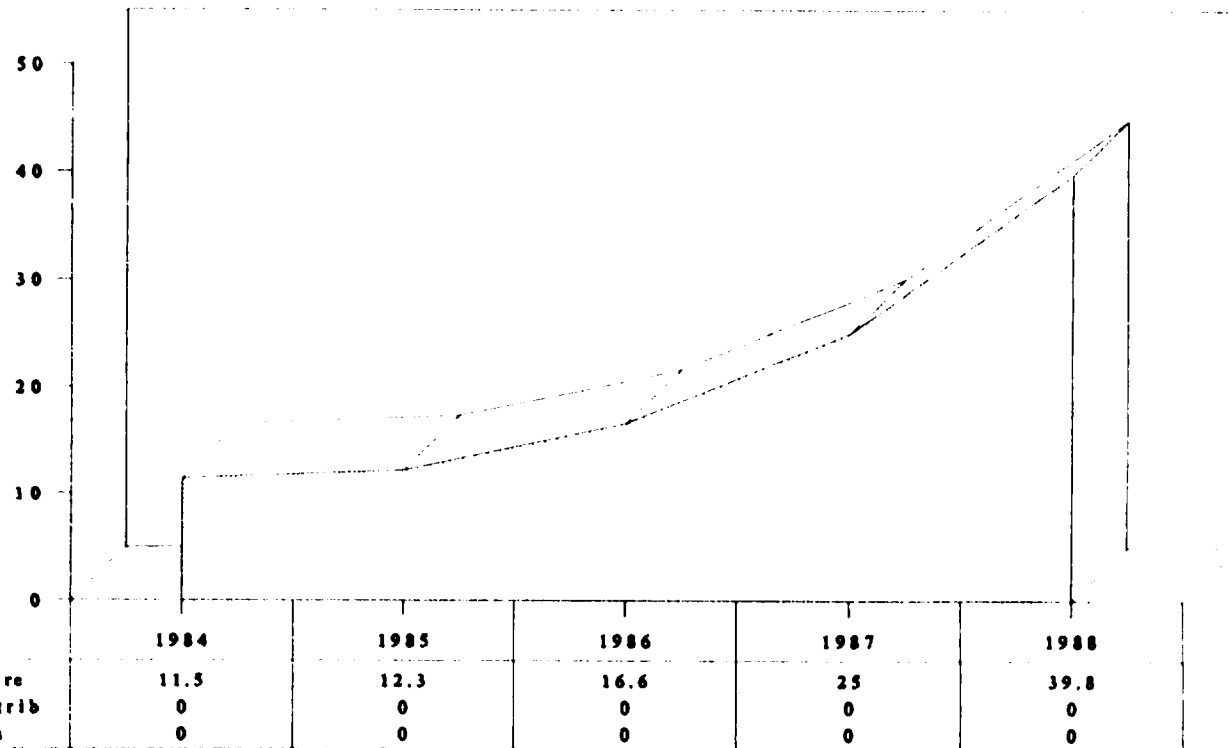
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

CMIB Packaging Tanzania, Ltd.

Millions of Tshillings



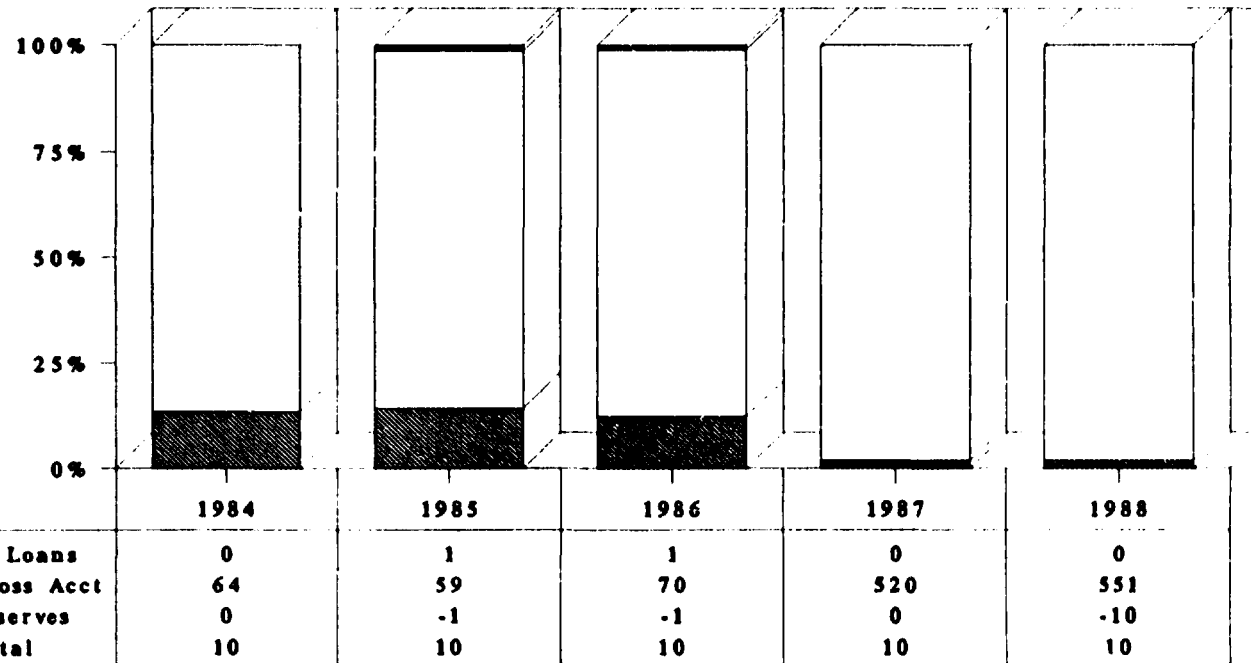
Operating Expenses

Administration
 Selling & Distrib
 Fin Expenditure

Total Net Assets

Metal Box Tanzania Ltd.

MILLIONS OF SHILLINGS

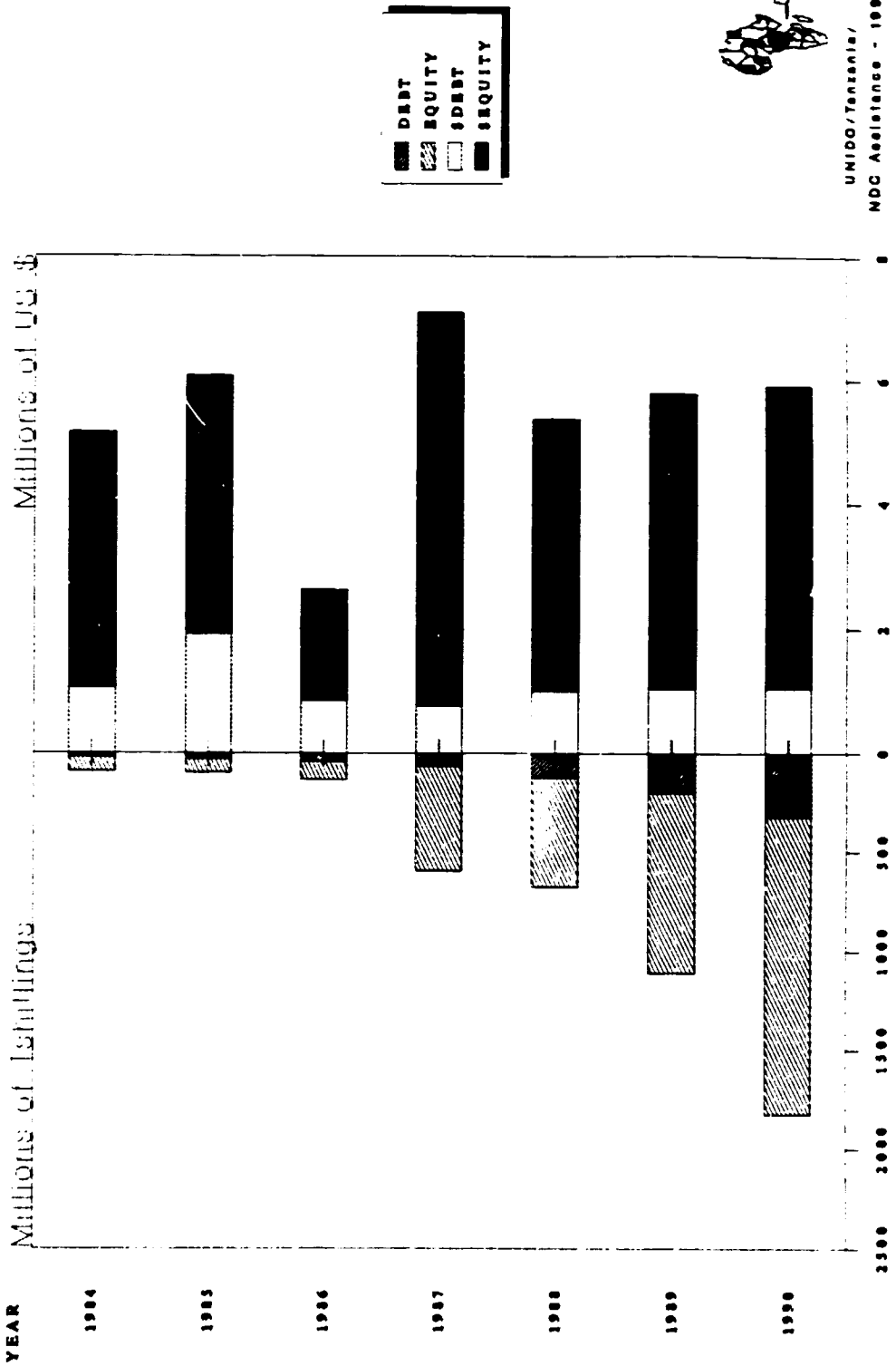


MILLIONS OF SHILLINGS



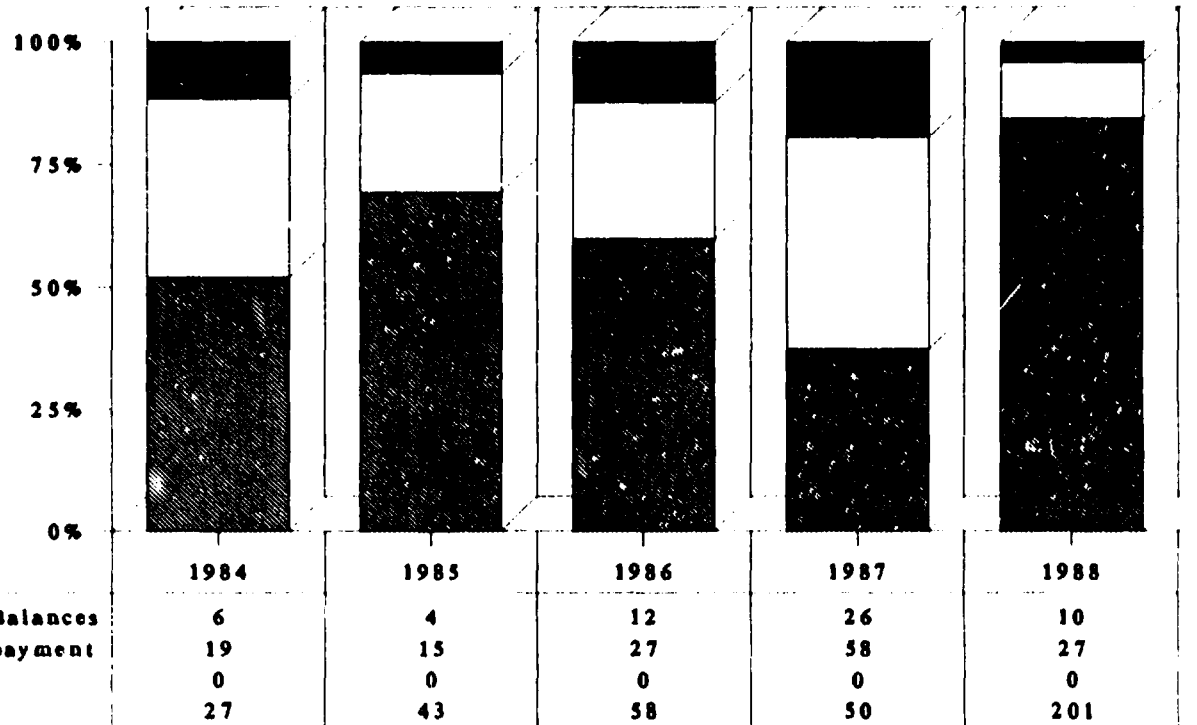
Debt/Equity Ratio

CIMB Packaging Tanzania, Ltd.



Current Assets Breakdown

Metal Box Tanzania Ltd.



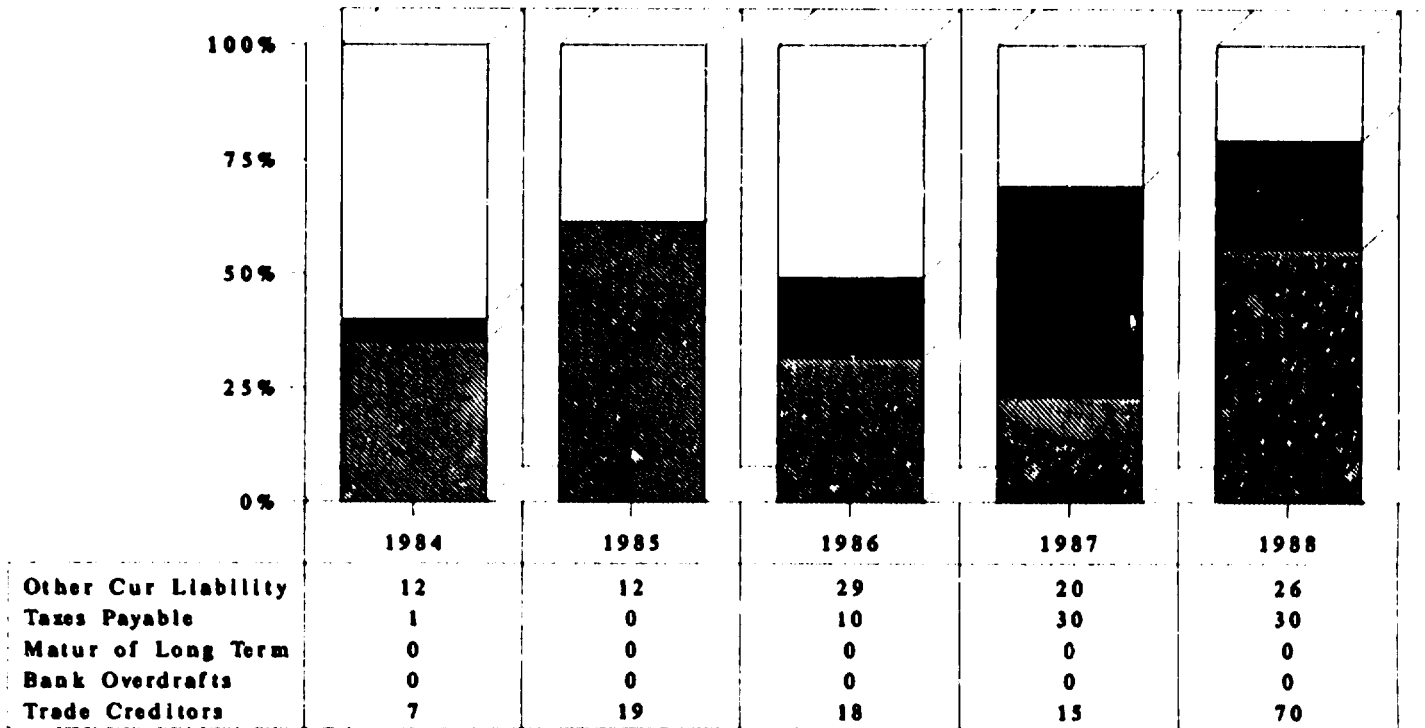
MILLIONS OF SHILLINGS



Stocks
 Trade Debtors
 Debtors & Prepayment
 Cash & Bank Balances

Current Liabilities Breakdown

Metal Box Tanzania Ltd.



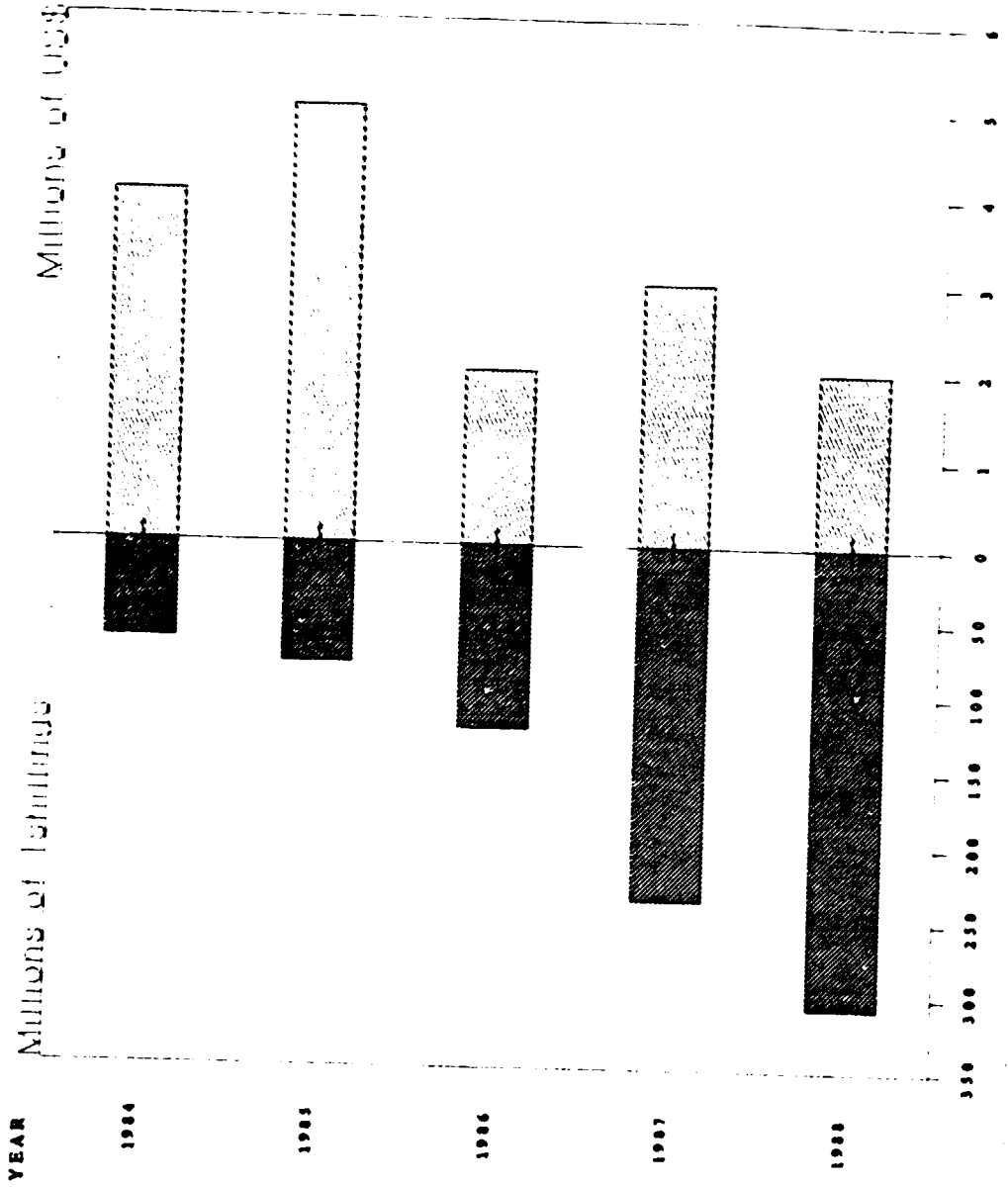
MILLIONS OF SHILLINGS



Trade Creditors
 Bank Overdrafts
 Matur of Long Term
 Taxes Payable
 Other Cur Liability

Net Sales

CMBE Packaging Tanzania, Ltd.



■ NET SALES
 □ SMT SALES



UNIDO/Tanzania/
 NDC Assistance - 1989

**Appendix 3: Kilimanjaro Machine Tools
Manufacturing Co.**

APPENDIX 3: KILIMANJARO MACHINE TOOLS MANUFACTURING COMPANY

I. RECOMMENDATIONS AND ACTION PLAN

Kilimanjaro Machine Tools Limited produces products that serve the industrial market and, indirectly, the construction market. It has unique machine tools in its factory that cannot be found elsewhere in Tanzania and could be put to better use. However, at present, production lines and machines are severely underutilized in a factory located far from its customers.

The company would work better if it were broken down into a series of specialized companies built around production processes or production of parts. For example, there is a specialized gear grinding line, the only one of its kind in Tanzania, that produces less than 400 gears a year; meanwhile, Tanzania imports thousands of gears for lack of a local manufacturer.

Furthermore, there appears to be little market for the company's products which are more expensive and of lower quality than competing imports. For these reasons, we recommended breaking Kilimanjaro Machine Tools into a series of companies.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

A. Recommended Goals

Kilimanjaro Machine Tools (KMT) should focus on two goals over the next few years:

1. Concentrate on production processes that it is uniquely qualified to handle.
2. Restructure into smaller companies focussed on parts and matching markets.

B. Marketing Recommendations

1. Lower the complexity of products produced, and possibly expand the product line accordingly.
2. Add value-added service enhancements to the product such as tailored, reliable delivery schedules, financial credit, technical assistance, and small order quantities.

C. Production Recommendations

1. Lower production costs.
2. Speed the flow of material through the plant.
3. Improve its equipment maintenance programs.
4. Shift additional resources into preventive maintenance and training.
5. Concentrate on its machining capabilities and boost capacity utilization on specific lines, machines, and processes.
6. Investigate the causes of high scrap rates and invest resources to reduce them.

D. Management Recommendations

1. Hire a qualified General Manager.

E. Human Resources Recommendations

1. Reduce the workforce relative to production output.
2. Rely on outside service contractors to assume responsibility for ancillary services.
3. Seek exemption from the SCOPO guidelines on personnel policies and salaries.

F. Financial Recommendations

1. Reduce the current debt burden through one of the following options: outside partner, debt forgiveness by the National Bank of Commerce, or debt-equity swap.
2. Convert short-term notes into long term loans.

G. Policy and Regulatory Environment

1. Press for the elimination of tariffs on materials re-exported to neighboring countries.
2. Seek exemption from the SCOPO guidelines on personnel costs and policies.

II. FINDINGS AND ANALYSIS

A. Overview

KMTC was set up as part of a package offered to the Tanzanian government by Bulgaria in 1983. By 1984 it was operating at 40% capacity, the maximum it has ever obtained. Current utilization is estimated at 30%. It is the only machine tool factory in East/Southern Africa and offers a range of machine tools for both the metal and woodworking sectors.

The factory imports castings and some parts from Bulgaria, finishes the castings and produces other parts 'in house' (such as gear trains), and then assembles the complete machine. All the equipment is Bulgarian. Technologically, the products are at least 20 years out of date.

Annual sales in 1989 were Ts. 139.4 million, with a loss of Ts. 52.6 million on those sales. Currently, the plant has a management contract with a Bulgarian Company which provides overall plant supervision, etc.

At the moment KMTC is in a predicament. Bulgaria is now demanding foreign exchange up front for the rough castings and associated parts. KMTC cannot comply with this request and so is now out of new castings.

The company is attempting to find other collaborators such as Centauro in Italy, and is beginning to source some parts from local suppliers, particularly foundries. This does not resolve the firm's current foreign exchange problem, for which they have no short term solution.

Historical Sales

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Revenues ('millions of Ts.)	36	24	58	106	86
Revenues ('000's of \$US)	0	0	0	0	0

As shown in Table VI, below, KMTC has progressively increased sales revenues since 1984. However, when measured in dollars, these revenues have been comparatively flatter.

Products are sold directly to end users. KMTC does not make use of agents or distributors.

Macroeconomic policies that affect the KMTC include exchange rate regulations and preferential access to foreign exchange. The key problem is that the official rate overvalues the Tanzanian Shilling relative to the parallel or market rate. The result is a rationing system in which various companies compete for access. Since there is no

pricing mechanism to clear the market, favoritism and ad hoc policy decisions become more important than financial strength in obtaining foreign exchange.

As KMTC has some cash flow problems, they cannot meet the cost of foreign exchange purchases. The situation is exacerbated when KMTC has had to rely on bank overdrafts at 31% per annum to meet the 100% cash cover required for OGLs.

B. Industry and Competitor Analysis

1. Market Overview

The market for metal and woodworking equipment in Tanzania at present is somewhat limited by the size and nature of the economy. Such products are relatively expensive and few skilled machinists have the capital to purchase such machines outright.

2. Competition

KMTC is the only producer of metal and woodworking equipment in Tanzania. Within Tanzania it has a monopoly in the production of lathes, drilling machines, milling machines, band saws, and woodworking lathes. Furthermore, it is the one of the few facilities with the following production capabilities in-house: heat treating, gear grinding, and heavy-line lathe bed.

Despite its production monopoly, it fails against strong import competition. The metal and woodworking equipment industry is composed of a small number, of well-capitalized foreign competitors. These firms are often able to gain a fair amount of control over certain market segments such as lathes, table saws, etc. Attempting to compete in these markets against well-funded competitors who can absorb temporary losses would require substantial capital assets on the part of KMTC.

Competition in this market will grow in the future. Currently, the competitors to KMTC are offshore which means that they have high transport costs as well as slow delivery times. Furthermore, they are used to dealing with large order sizes. This presents some market protection for KMTC if it is able to establish a reputation for reliability, speed, quality, and flexibility; e.g. small lot sizes.

It should be noted that KMTC will never completely dominate the market for metal and woodworking equipment products in Tanzania or the local areas. That is because there are a number of different types of metal and woodworking equipment and there are proprietary processes for producing this specialized equipment. Furthermore, these products are growing increasingly sophisticated. However, in basic metal and woodworking equipment products, it can be begin to build a position of strength through a more limited focus on such areas as parts, spares, subassemblies, etc.

3. Substitutes

Substitutes for metal and woodworking equipment are hand and light power tools which are relatively inexpensive and have a wider market reach than KMTC's products.

C. Marketing

1. Overall Marketing Strategy

KMTC's marketing strategy emphasizes customer training and after sales services. Export markets have not yet been tapped and KMTC is investigating potential markets in neighboring countries.

2. Sales Tactics

The Company provides after sale service, a 1 year guarantee for products, training of technicians, custom demonstrations and preparation of designs and layouts for workshops. Credit sales and hire purchase agreements are also offered.

3. Inventory Management

Due to foreign exchange requirements imposed by its Bulgarian suppliers, KMTC now has no castings for future production. There is some work in progress, 20 pillar drills and about 10 lathe beds at various stages of machining.

There are, however, large stocks of machines that have never been sold.

- 15 power hacksaws in stock 2 years
- 18 band saws from 1988
- 20 grinders from 1988
- 150 single phase arc welders.

These are euphemistically referred to as "Slow moving items!". Some attempts, including discounts of up to 25%, are being made to move these items. The 20 or so water pumps that have been in stock for two years are being sold. About half the original stock remains.

The pricing policy should be adjusted to reflect the current stock situation so that stockpiling does not occur.

6. Promotion and Advertising

The company undertakes limited newspaper and personal advertising. A more strategic promotion and advertising policy needs to be developed.

7. Location

KMTC location has several disadvantages. It has poor road links with the rest of the country and only a limited local market. To reach a wider market KMTC needs to develop product processes that produce a high value added product thereby reducing the disadvantage of location.

D. Production

1. Facilities and Processes

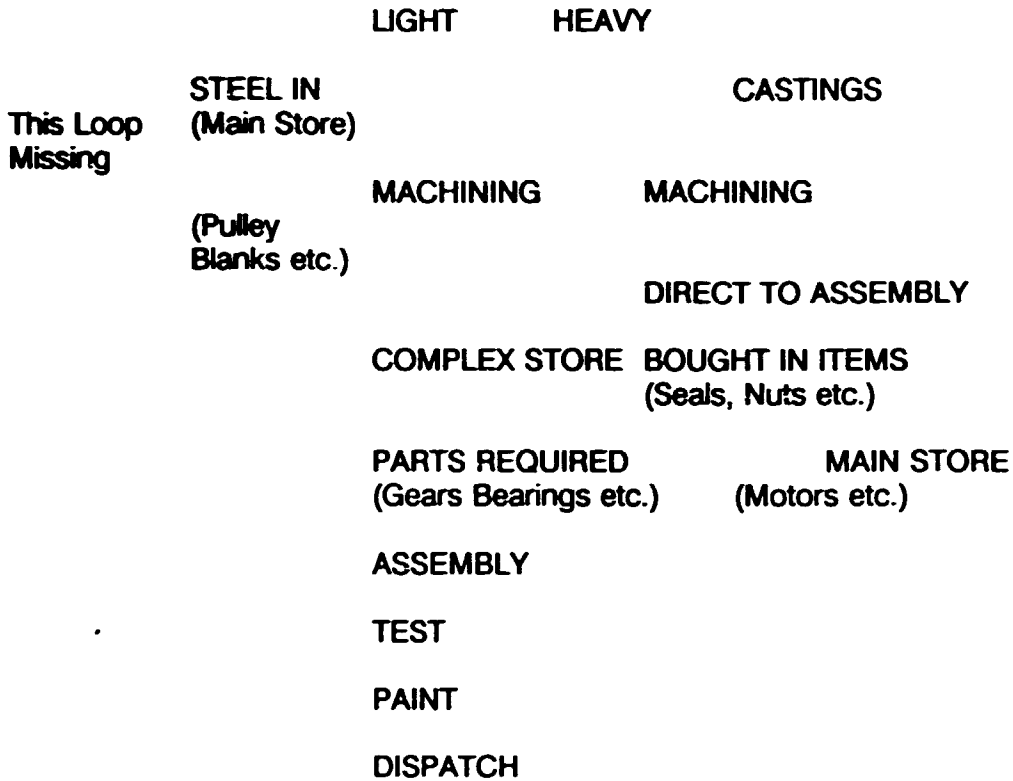
The factory is laid out as a single, but subdivided unit with work flowing logically through from one end to the other. It is laid out. Full use is not made of the facilities.

The assembly of a machine tool means bringing together hundreds of manufactured and purchased parts at the correct time. KMTC use what they call a complex store. This receives goods from suppliers and from the shop floor, categorizes them, stores them and passes them out to the fitters as required.

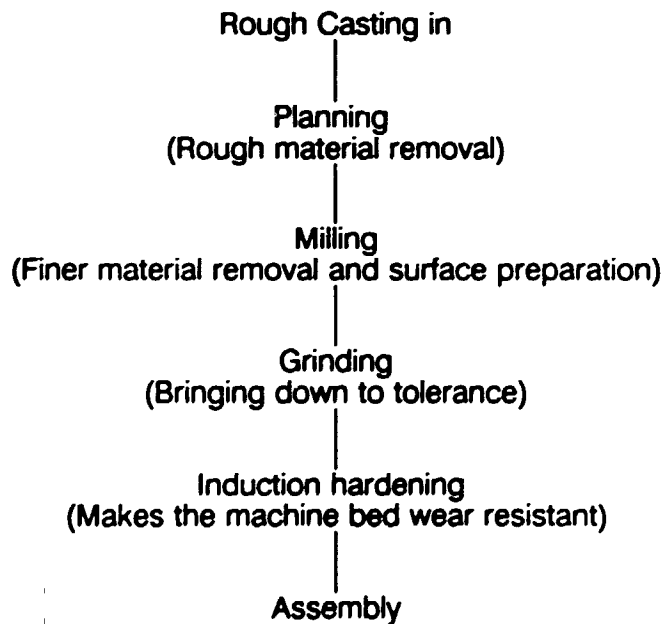
The floor plan showing the central position of the Complex Store is shown on the following page.

PLANNING

PRODUCTION



Example: Heavy Line lathe bed. Machines are situated adjacent to each other leading to a minimum of handling.



The 13 production steps are: Planning, Galvanizing, Painting, Assembly, Metalworking machines, Assembly wood working machines, heat treatment, Tool repair and cutting, Heavy Duty Machinery, Milling and gear cutting, Turning, Grinding Carpentry and Fabrication.

Machinery:

The factory is equipped with Bulgarian machine tools and related equipment, such as plating, heat treatment galvanizing and spray facilities. Most of the equipment dates from the early 80s and is in reasonable condition; it has never been fully utilized.

In all, the factory is extremely well equipped with precision tools.

The "heavy" section has large grinders, millers and planers as well as borers and drilling machines and induction hardening for machine beds. This section deals with the large casings such as lathe beds and milling machine frames.

In the "light" section, which produces the smaller parts such as gear trains, there are 5 vertical milling machines, 2 horizontal millers, 7 universal lathes and a gear line, that can produce worm gears, helicals, spurs, bevel wheels etc. Gear line equipment is rarely found in other African facilities of this type. Also unique to KMTC is a CNC lathe. It has been installed for 2 years and has never been used for production.

There is an galvanizing section, a plating facility and a heat treatment room with atmosphere controlled furnaces, a box furnace, a high frequency surface hardener, and a salt bath facility. The plant also has a paint shop with spray paint and dust suppression equipment.

All of the above equipment is criminally underutilized and represents, industrially a potential goldmine of opportunity.

The facility as a whole has been working at about 30% of capacity. The heavy duty line has been shut down completely due to the lack of castings.

2. Maintenance

Planned maintenance has never been carried out. As a result some important machines such as the precision borer is out of action awaiting spares from Bulgaria. It has now be out of action for 6 months. If KMTC were not a monopoly such a long breakdown would be disastrous. However there are neither sufficient stocks of parts to be processed nor sufficient demand for the product, so the breakdown has little impact on KMTC's operations.

The situation does highlight the continued problem that KMTC is going to have with its Bulgarian equipment. Spares at present can only be bought from Bulgaria. As part of any future maintenance strategy, an attempt must be made to find an alternative supply of spares and to maintain sufficient stocks.

The only operation missing is regular quality control checks. Each machinist is supposed to undertake this task, but quality should also be assessed independently.

3. Processing Costs

In 1989 KMTC imported 91% of its raw materials. This purchasing pattern is shown in detail in Table III. As KMTC does not have the capacity to generate its own foreign exchange such purchasing patterns will curtail the firm's ability to operate effectively in the future.

4. Product Quality

Products:

KMTC currently produce a range of products from imported castings, namely:

- 2 types of universal lathe
- 2 types of drilling machine
- 3 woodworking machines
- 1 free standing grinder
- 2 milling machines
- 2 types of welding machines
- 1 power hacksaw and 1 band saw
- 2 water pumps

The quality of the purchased materials is somewhat suspect and leads to a poor quality product. The tools produced are not suited to 'serious' industrial use.

It appears that the specifications of the machines or at least of the castings has never been checked for quality and the quality of the castings from Bulgaria are not checked on the way into the factory. This situation needs to be rectified as a matter of urgency.

In addition KMTC is beginning to build hammer mills, which are designed in house and have been purchased from Bulgaria. Sales of this product are slow, only about 15 have been sold in the last 6 months, and 140 remain in stock.

New Products:

In keeping with its product base KMTC should begin to produce hand tools, such as chisels, hammers, planes, screwdriver, saw frames, etc. These tools could be made easily using existing equipment, and jigs could be used to help ensure quality. KMTC should also begin to assemble hand held machine tools such as grinders and drills.

One bottleneck in the country as a whole, and the metal working industry in particular, is the need to import grinding wheels and discs. Production of these items would complement the existing range of tools but would require some investment.

The hammer mills should be sold with a diesel option, and the range of 'rural development' products enlarged.

Greater emphasis should also be placed on spares production, especially gears and splined shafts.

E. Management

1. Organizational Structure

Administratively the company is divided into 8 departments: Planning, Repair and Maintenance, Production, Design and Development, Inspection and Product Availability, Administration, Finances and Marketing.

2. Management Compensation

Management compensation at KMTC is low in comparison with private sector counterparts. Base salaries are within SCOPO guidelines, however benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for officers, medical care and insurance, life insurance, and many company sponsored activities.

As far as could be determined, management compensation is not linked to performance. At the same time, it appears that longevity in position is rewarded.

4. Board of Directors

The Board of Directors of KMTC is made up as follows:

Ministry of Trade and Industry	1
National Development Corporation	1
University of Dar Es Salaam	1
AISCO	1
State Motor Company	1
TATC	1

5. Supporting Professional Services

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel.

F. Human Resources

1. Composition and Skills

KMTC employs 178 persons (see Table IV: Manpower for details of the personnel). Employment has decreased over the past several years.

In the production department, the number of workers per supervisor is quite high. There are several departments which do not have supervisory personnel. The production department currently employs some 70 people and is at half strength. It is arranged into 13 sections each with a minimum of one supervisor, who should hold a Full Trade Certificate (FTC). In total, there are 27 supervisor position, of which only 7 are currently filled.

In addition, the percentage of overhead, administrative, and other support personnel to direct production workers is quite high at 45%. This indicates either a very inefficient administration or a highly efficient production department.

2. Compensation and Trends

KMTC has chronic manpower problems. It simply cannot attract enough people into the company and cannot keep those it does have. KMTC, which applies the SCOPO rates, represents one of the more flagrant cases of underpayment of personnel.

3. Productivity

Productivity in the firm is low. Output for the firm is as follows:

Productivity - 1989

	KMTC	NDC
Total Revenue (Ts. Mil.)	133	148
Rev per employee (Ts '000's)	706	1,478
Profits per employee (Ts '000)	(310)	95

4. Training Programs and Needs

As KMTC is the only facility of its type in Tanzania and as it is one of the most modern facilities in the region, it needs to conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training would include basic work practices as well as the more technical areas.

Training is planned for maintenance personnel and is badly needed. Other areas for training should include: technical, managerial, sales and marketing, and statistical quality control.

G. Finances

1. Sales, Revenue, Profitability

KMTC has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table V: Profit and Loss. However, when this is translated into both dollar and constant shilling terms, KMTC has shown a marked decline in sales. See graph of Net Sales in Shillings/US\$.

KMTC has recorded losses in each since its inception. In 1989 KMTC recorded a loss of Ts 2.6 mil. KMTC's financial reports show that administrative costs and overheads have increased markedly between 1984 and 1988. Existing ties to a few foreign suppliers in Bulgaria has greatly affected the company's efficiency and profitability, as these firms are now requiring payments in foreign exchange.

KMTC's financing costs are very high, in 1986-1988 financial costs were approximately equal or superior to gross profits. This is due to low profitability and an excessive reliance on short-term borrowing. This places a large debt burden on KMTC that has made operations quite difficult within the last five years.

2. Assets and Liabilities

How well KMTC uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc. or in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash and low returns on working capital. Returns in KMTC should exceed the costs of financing them; and at least match the opportunity cost of capital.

a. Balance Sheet

KMTC shows considerable weakness and a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VI: Balance Sheet. However, closer analysis reveals that available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. Reserves were down to Ts. (235.6) million in 1989. A bank overdraft facility stood at Ts. 106 million and loan capital at Ts. 445 million. KMTC is clearly on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms. The graph entitled Debt-Equity shows this trend.

b. Ratio Analysis

It should be noted that: cash has remained at 0 since 1987; dependence on short term debt has remained constant at about 80% of total liabilities; material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

c. Short term liquidity

Short-Term Liquidity Analysis shows that KMTC has suffered a weakening in its liquidity. The current ratio has declined from 0.86 in 1985 to 0.69 in 1988. (This means that it has insufficient funds to cover short-term liabilities.) A current ratio of about 2 is considered to be healthy. The acid ratio -- cash and cash equivalents divided by current liabilities has remained as low as 0 during the past several years. An acid test ratio should be at least 1. This indicates that KMTC would not be able to cover of its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

3. Cash Flow

Cash Flow Analysis indicates that the sources of cash flow are increasingly coming from borrowed capital. Sales is a declining percentage of this amount as highlighted in Table VII. Short-term borrowing has increased by 215% since 1984. Most of this is through bank overdrafts which carry a high interest rate. Uses of funds are increasingly going to overhead costs and to financing charges.

4. Foreign Exchange and Capital Requirements

a. Sources and Uses of Foreign Exchange

KMTC imports most of its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms describe in the main report. KMTC also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

KMTC had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six montns later. This can be an advantage when the currency is devaluing.

5. Estimates of Valuation

Valuation shows various indicators of KMTC's worth as a company from a financial perspective. The economic factors of linkages or the political factors of maintaining employment despite losses have not been considered in these estimates.

i. **Book Value**

Book value is Ts. (114) million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of Kilimanjaro Machine Tools. In KMTC's case, liquidation of the company would transfer a loss of this amount to the NDC Group balance sheet.

ii. **Going Concern**

The evaluation of KMTC as a going concern indicates that KMTC lacks general viability as an enterprise.

Appendix 3 Attachments: KILIMANJARO MACHINE TOOLS MFG. CO.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Kilimanjaro Machine Tools Company

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Univ. Lathe MB 500	11	0	1	3	1	0
2. Univ. Lathe MB 2000	0	0	10	19	10	0
3. Univ. Lathe CBM	1	0	5	10	5	0
4. Grinder	0	0	1	1	1	0
5. Bench Drilling M/C	1	0	1	1	1	0
6. Column Drilling M/C	2	0	3	5	3	0
7. Semi Automatic Hacksaw	2	0	3	7	3	0
8. Bandsaw	2	0	3	5	3	0
9. Wood Planner	1	0	0	0	0	0
10. Five Operation	9	0	12	23	12	0
11. Wood Lathe	1	0	0	1	0	0
12. Water Pumps	0	0	1	3	1	0
13. Other	0	0	19	38	19	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	31	0	58	116	58	0
Units/Employee	NA	NA	NA	NA	NA	NA

TABLE II

Table : Actual Production

Kilimanjaro Machine Tools Company

Product	Units	Description	(Thousands of tons)					1989
			1984	1985	Est'd		1988	
					1986	1987		
1. Centra Lathe	2,000	CLIMT	6	0	12	24	17	10
2. Centra Lathe	1,500	C	29	0	6	12	6	0
3. Centra Lathe	80	C	0	0	16	31	20	8
4. Pedestal Grinder	2x315	CE	11	0	21	42	24	6
5. Bench Drilling	161	M/ne PM	40	0	22	43	22	1
6. Column Drilling	203	M/ne PK	12	0	0	0	3	6
7. Semi Automatic Hacksaw	253	No.	9	0	23	45	27	9
8. Universa Band Saw	801	BU	53	0	10	20	13	6
9. Universal Wood Planner	630	AU	20	0	9	17	10	2
10. 7-Oper. Wood Working		M/ne	0	0	10	20	21	21
11. Woodworking Lathe		CD2A	8	0	5	10	8	6
12. Universal Milling	321	M/ne FU	0	0	6	12	10	7
13. Universal Milling	251	M/ne FU	0	0	5	9	5	0
14. Water Pumps			0	0	3	5	5	5
15.	0	0	0	0	0	0	0	0
Total			188	0	145	290	189	87

TABLE III

Table : Actual Purchases

Kilimanjaro Machine Tools Manufacturing Company

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	2	7	20	33	18	4
2.	Spares & accessories	2	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	3	7	20	33	18	4
Foreign currency							
7.	Raw materials	2	7	3	0	20	40
8.	Spares & accessories	1	0	0	0	0	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	2	7	3	0	20	40
13.	Total	5	13	23	33	38	44
14.	In Dollars	\$0	\$1	\$0	\$0	\$0	\$0

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Kilimanjaro Machine Tools Manufacturing Company

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	0.0	0.0	0.5	0.0	0.0
2. Plant & machinery	0.4	0.0	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	0.4	0.0	0.3
4. Motor vehicles	0.1	0.0	0.0	0.0	0.0	1.4
5. Other	2.8	0.0	0.0	0.0	0.0	0.0
Total Expenditures	3.3	0.0	0.0	0.9	0.0	1.7
Source of Funds						
1. Equity - NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	3.3	0.0	0.0	0.9	0.0	1.4
8. Other, Unaccounted For	0.0	0.0	0.0	0.0	0.0	0.3
Total Sources	3.3	0.0	0.0	0.9	0.0	1.7

Table : Actual Manpower

TABLE V

Kilimanjaro Machine Tools Manufactur

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	4	0	5	6	4	2
2 Middle Managers	7	0	11	14	11	11
3 Supervisors	29	0	34	38	31	28
4 Clerical	26	0	44	61	29	15
5 Skilled Manual	128	0	99	70	89	79
6 Unskilled Manual	60	0	32	4	38	43
Total	254	0	224	193	201	178
Expatriate	10	0	0	9	0	0
Total Employees	264	0	224	202	201	178

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

Kilimanjaro Machine Tool

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989	1990
Profit & Loss							
Net Sales	36	24	58	106	86	0	0
Less: Cost of Sales	22	15	72	131	65	0	0
Gross Profit	14	10	(14)	(24)	22	0	0
Less: Operating Expenses	20	26	36	48	67	0	0
Administration	18	21	29	32	43	0	0
Selling and Distributio	1	1	2	3	3	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	2	4	6	12	21	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	(6)	(16)	(50)	(72)	(46)	0	0
Add: Other Income	0	0	2	3	2	0	0
Less: Other Expense	9	0	8	8	11	0	0
Net Profit Before Tax	(15)	(16)	(57)	(77)	(55)	0	0
Less: Provision for Taxes	0	0	0	0	0	0	0
Profit After Tax	(15)	(16)	(57)	(77)	(55)	0	0
Statement of Retained Earnings							
Balance Brought Forward	(4)	(18)	(35)	(95)	(172)	(227)	(227)
Prior Year Adjustment	(0)	(0)	(1)	0	0	0	0
Balance Brought Forward R	(4)	(19)	(35)	(95)	(172)	(227)	(227)
Add: Net Profit for the Year	(15)	(16)	(57)	(77)	(55)	0	0
Profit Available for Appr	(18)	(35)	(92)	(172)	(227)	(227)	(227)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	(18)	(35)	(92)	(172)	(227)	(227)	(227)
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	2	1	1	1	1	0	0
Cost of Sales	1	1	1	2	1	0	0
Operating Expenses	1	2	1	1	1	0	0
Profit After Tax	(1)	(1)	(1)	(1)	(0)	0	0

TABLE VII

Table : Balance Sheet
Actual

Kilimanjaro Machine Tools Manufacturing Compa

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	0	145	215	262	339	0	0
2. Current Assets	2	82	174	274	389	0	0
3. Stocks	0	74	135	200	294	0	0
4. Trade Debtors	0	0	0	74	0	0	0
5. Debtors and Prepayments	2	8	0	0	95	0	0
6. Cash and Bank Balances	0	0	40	0	0	0	0
7. Current Liabilities	0	96	234	381	562	0	0
8. Trade Creditors	0	61	196	248	356	0	0
9. Bank Overdrafts	0	19	14	34	60	0	0
10. Current Maturity of LT	0	12	24	97	145	0	0
11. Taxes Payable	0	0	0	0	0	0	0
12. Other Current Liabiliti	0	3	0	1	1	0	0
13.Net Current Assets/Liabil	2	(14)	(60)	(107)	(173)	0	0
14.Total Net Assets	2	131	155	155	167	0	0
15.Financed by:							
16. Share Capital	0	112	112	112	112	0	0
17. Capital Reserves	2	(69)	0	0	60	0	0
18. Profit and Loss Account	0	52	(73)	(92)	(208)	0	0
19. Long Term Loans	0	37	116	136	203	0	0
20.Debt	0	133	350	517	765	0	0
21.Equity	2	94	39	20	(36)	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

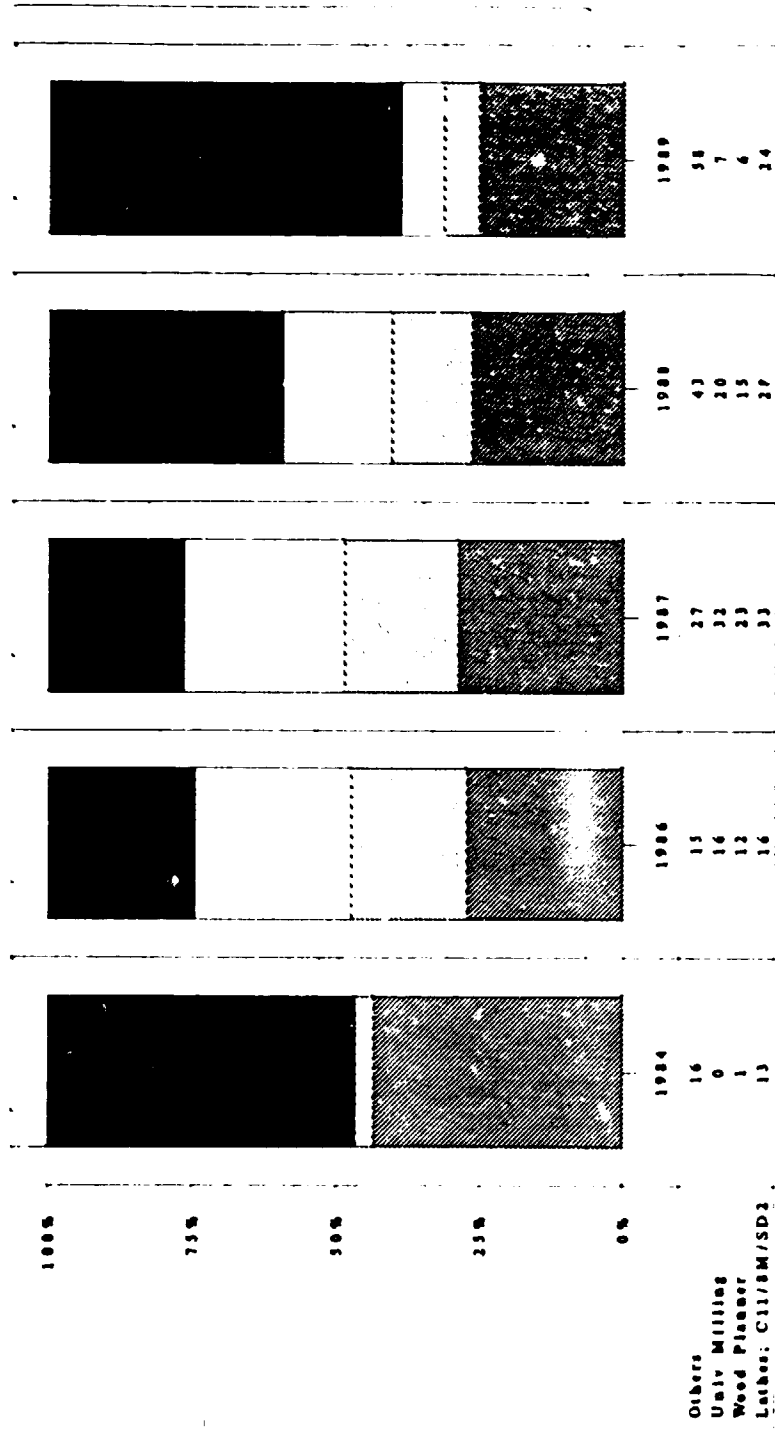
In Current Dollars

1. Net Fixed Assets	0	9	4	3	3	0	0
2. Current Assets	0	5	3	3	3	0	0
7. Current Liabilities	0	6	5	5	4	0	0
13.Net Current Assets/Liabil	0	(1)	(1)	(1)	(1)	0	0
14.Total Net Assets	0	8	3	2	1	0	0
20.Debt	0	0	3	4	4	4	0
21.Equity	0	0	2	0	0	(0)	0

Product Sales Breakdown

Kilimanjaro Machine Tools

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS

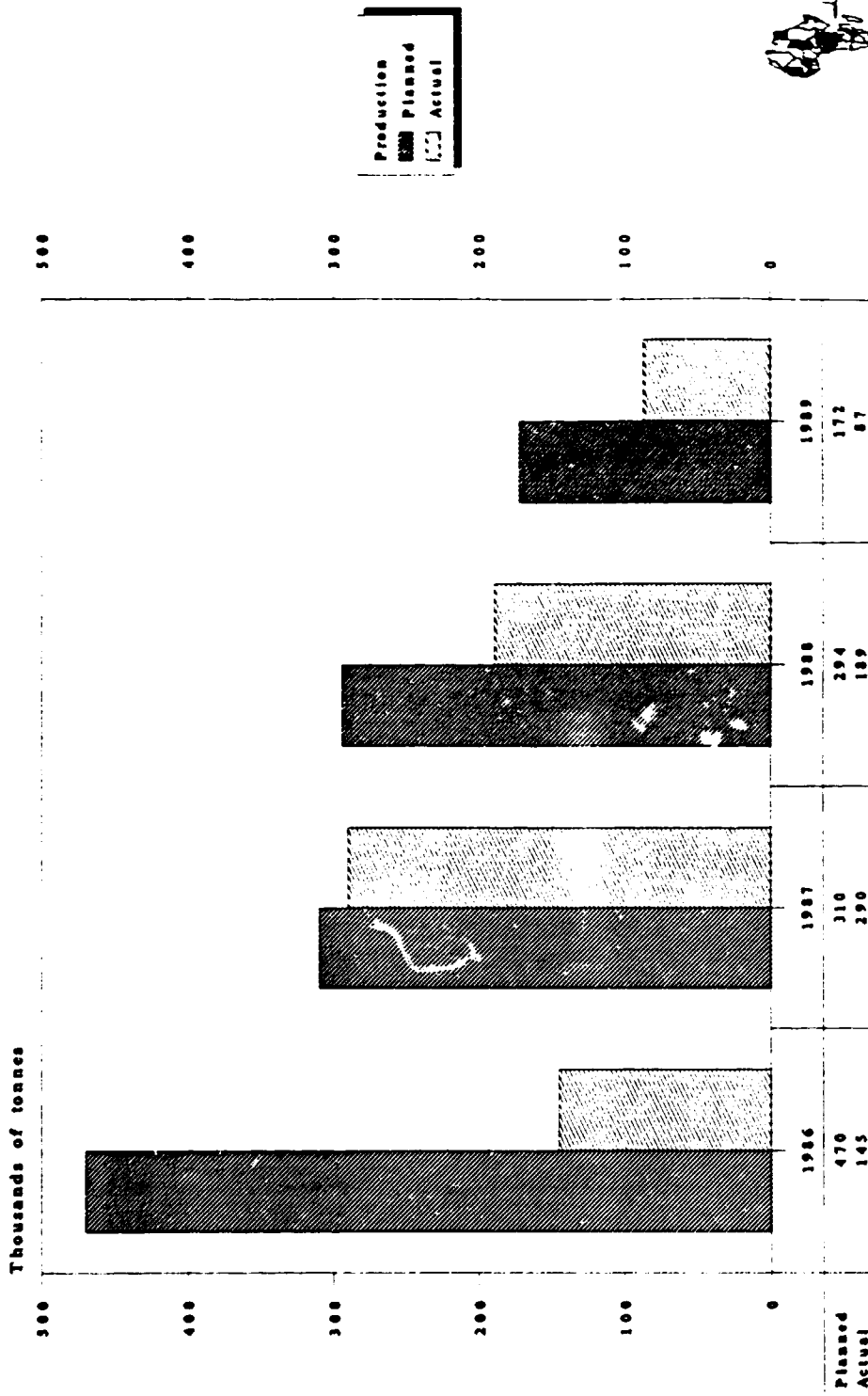
Legend: [Stippled] Lathes: C11/8M/SD2 [Cross-hatch] Wood Planer [Diagonal lines] Ualy Milling [White] Others

DATE NOT AVAILABLE FOR YEARS



Planned vs. Actual Production

Kilimanjaro Machine Tools Company

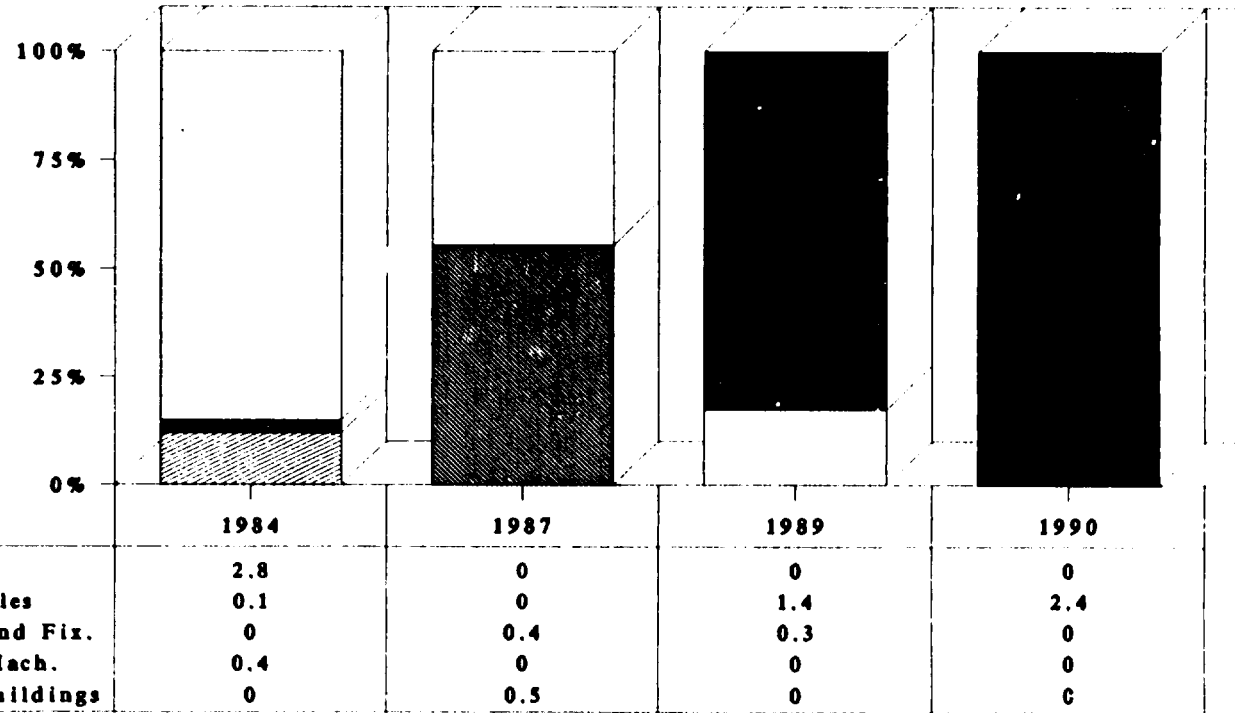


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NDC Assistance - 1991

Capital Expenditure Breakdown

Kilimanjaro Machine Tools Mfg. Co.

MILLIONS OF SHILLINGS



Data not available FY85/86/88.

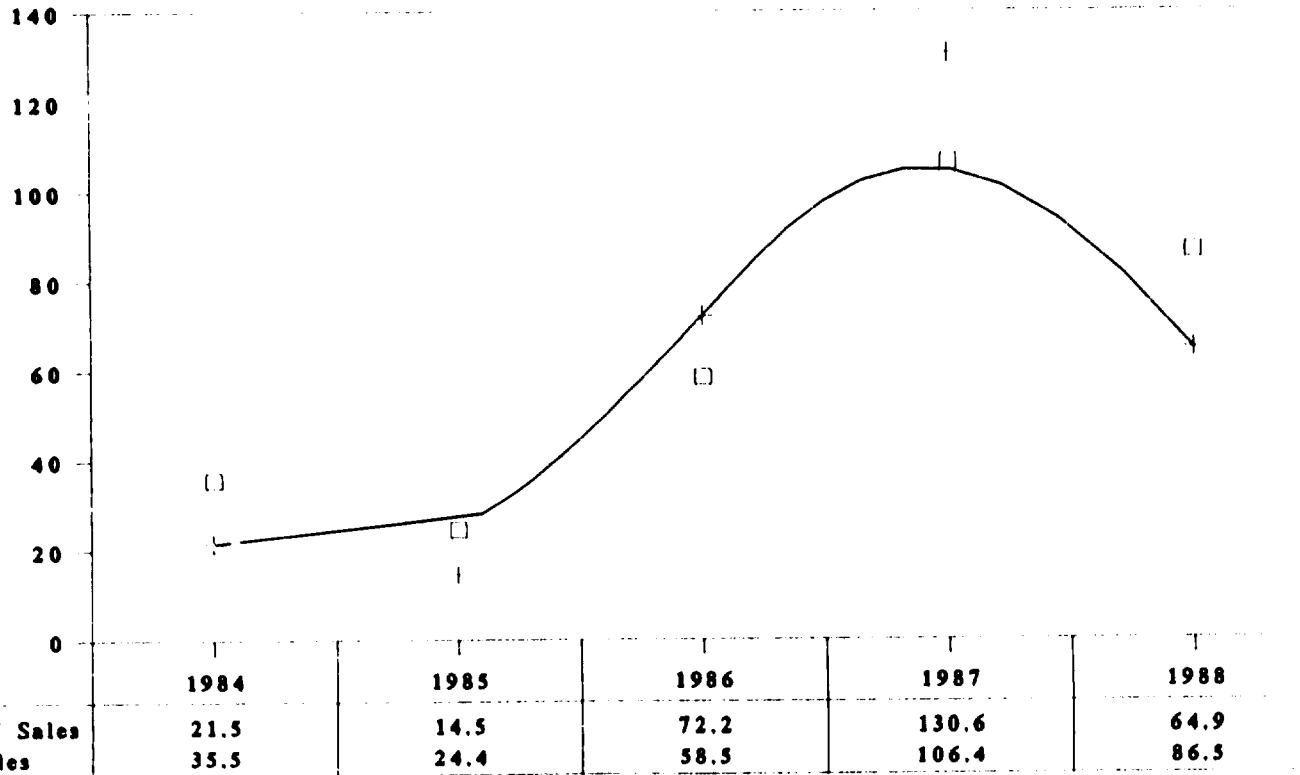


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Kilimanjaro Machine Tools Mfg. Co.

MILLIONS OF SHILLINGS



Cost of Sales

Net Sales

1984

1985

1986

1987

1988

21.5

14.5

72.2

130.6

64.9

35.5

24.4

58.5

106.4

86.5



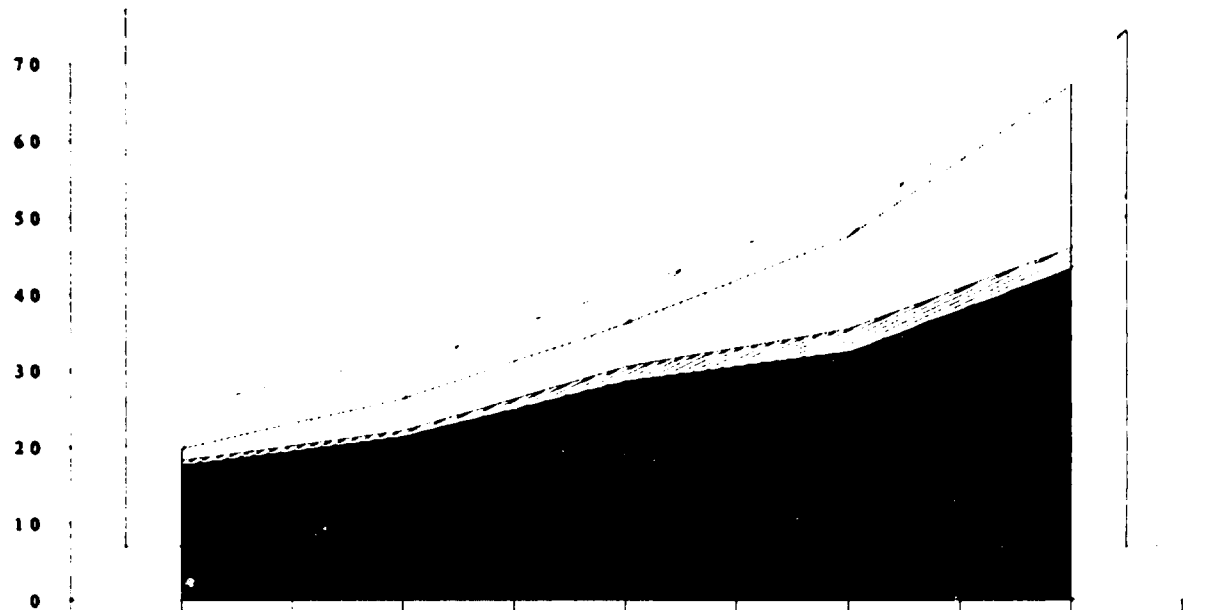
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□ Net Sales + Cost of Sales

Operating Expense Breakdown

Kilimanjaro Machine Tools Mfg. Co.

Millions of Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	1.6	4.2	5.7	12.1	21.3
Selling & Distrib	0.6	0.7	1.9	3	2.7
Administration	17.6	21.4	28.6	32.5	43.4



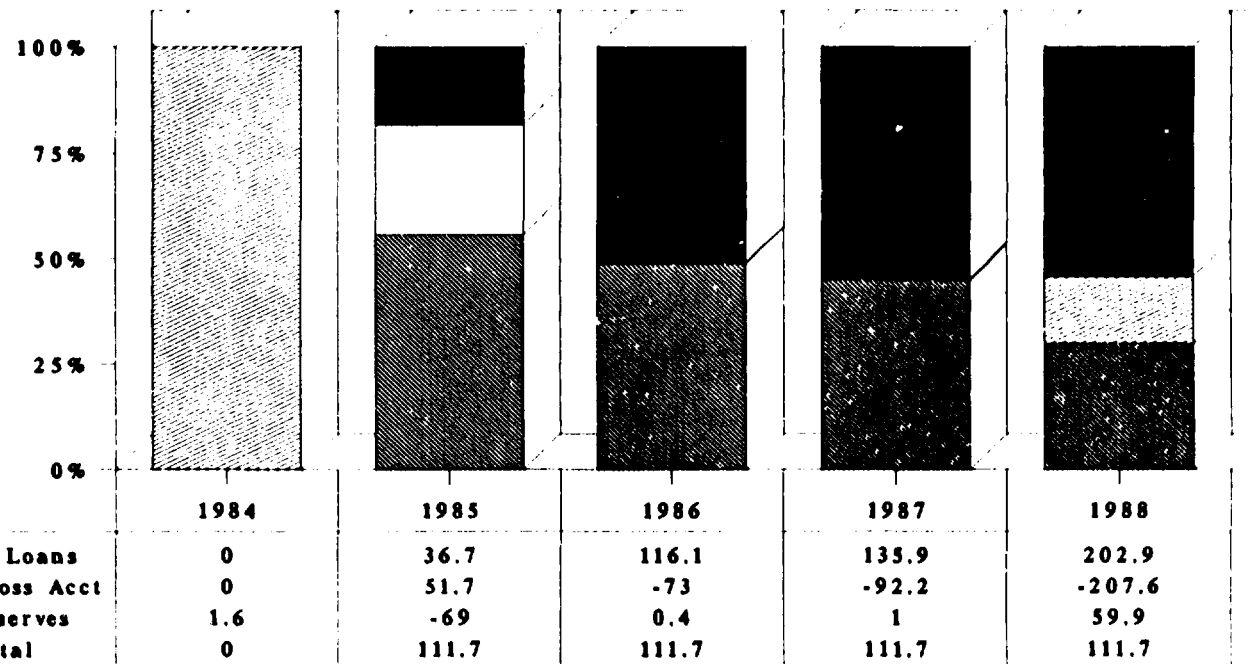
Operating Expenses

■ Administration ▨ Selling & Distrib ▤ Fin Expenditure

Total Net Assets

Kilimanjaro Machine Tools Mfg. Co.

MILLIONS OF SHILLINGS



MILLIONS OF SHILLINGS



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FINANCED BY

Share Capital

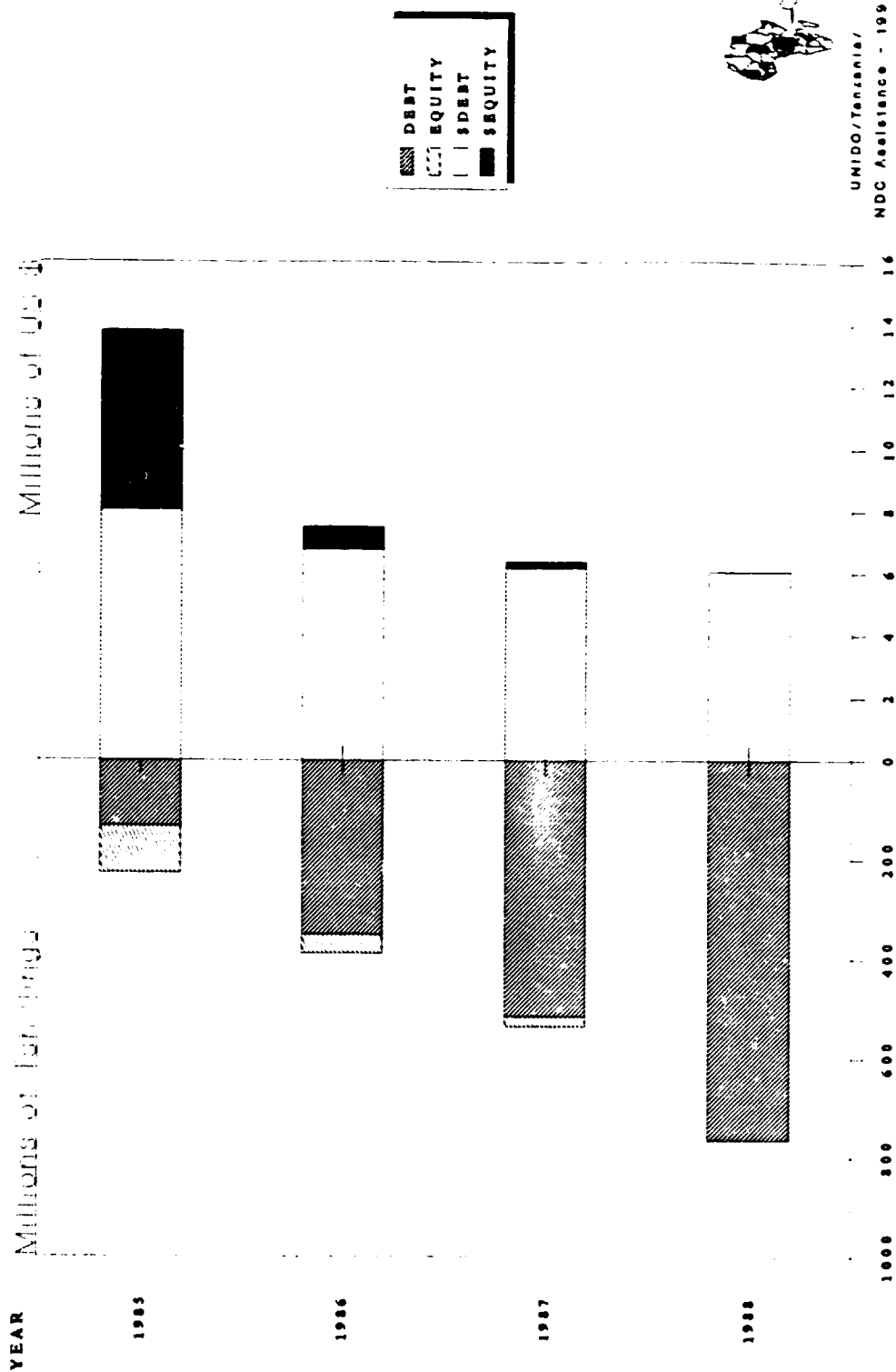
Capital Reserves

Profit & Loss Acct

Long Term Loans

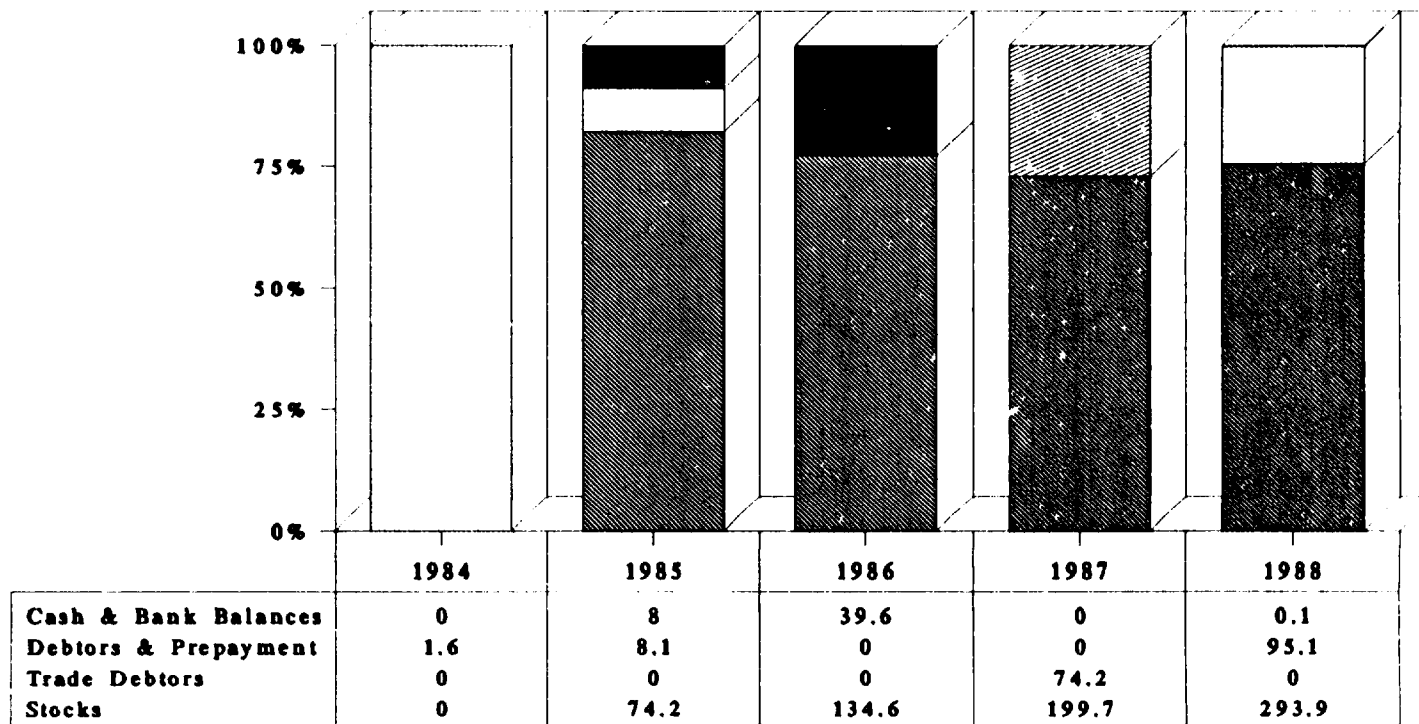
Debt/Equity Ratio

Kilimo-ama jano Machine Tools Mfg. Co.



Current Assets Breakdown

Kilimanjaro Machine Tools Mfg. Co.



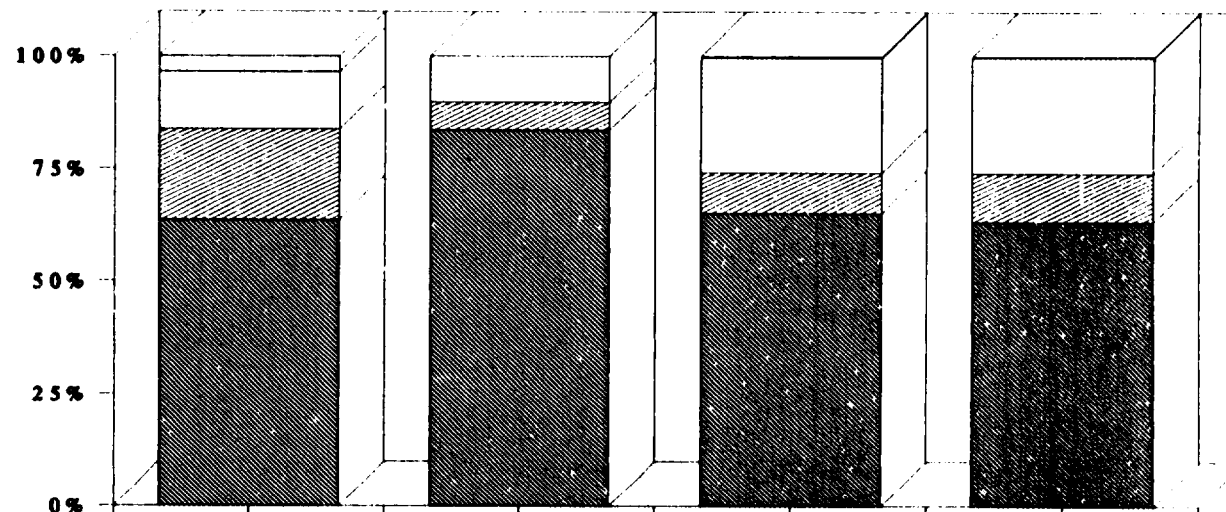
MILLIONS OF SHILLINGS



Stocks
 Trade Debtors
 Debtors & Prepayment
 Cash & Bank Balances

Current Liabilities Breakdown

Kilimanjaro Machine Tools Mfg. Co.



	1985	1986	1987	1988
Other Cur Liability	3.4	0	1.1	0.6
Taxes Payable	0	0	0	0
Matur of Long Term	12.2	24.1	97	144.9
Bank Overdrafts	19.2	14.3	34.5	60.3
Trade Creditors	61.3	195.8	248.1	355.9

MILLIONS OF SHILLINGS



Trade Creditors

Bank Overdrafts

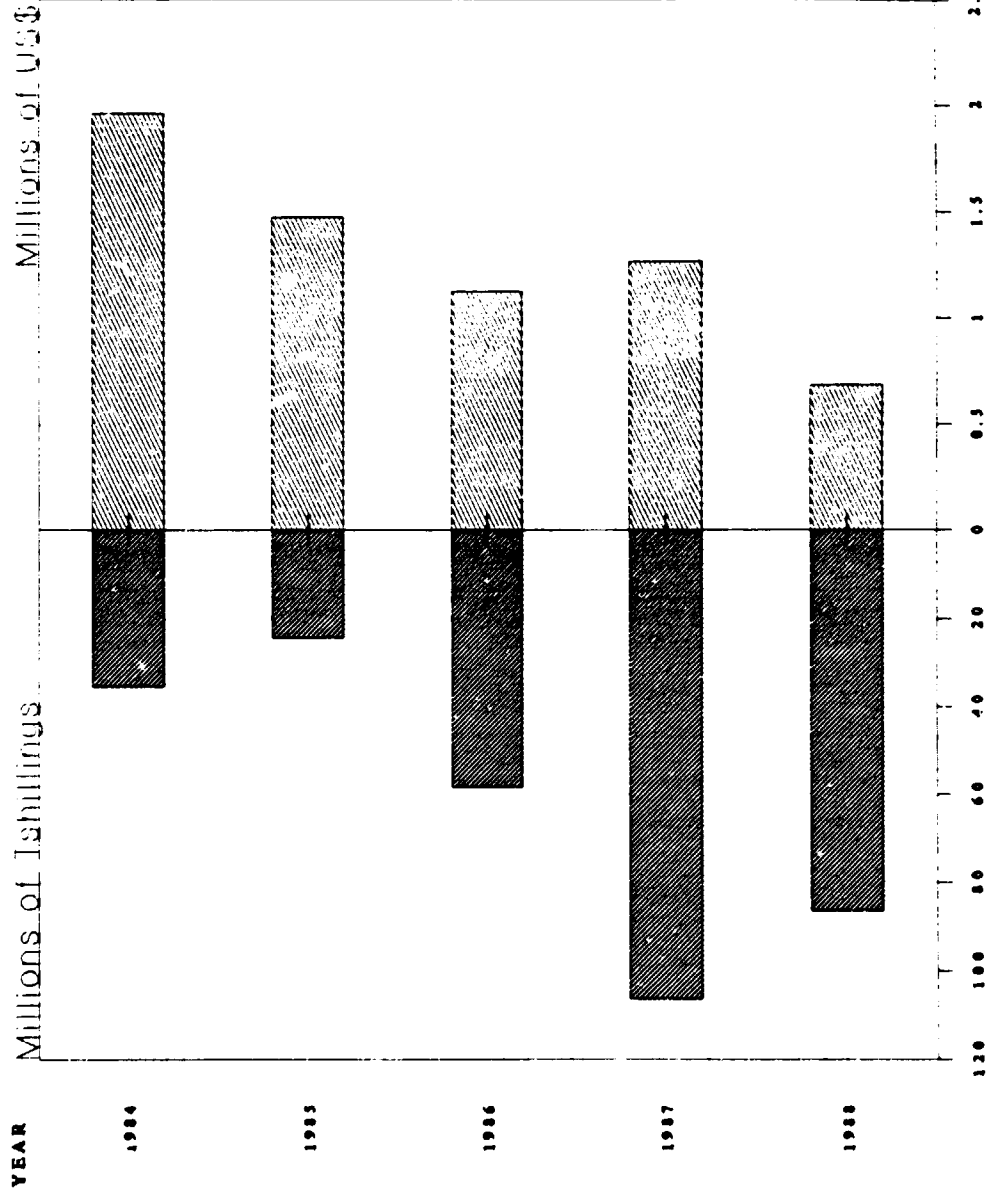
Matur of Long Term

Taxes Payable

Other Cur Liability

Net Sales

Kilimanjaro Machine Tools Co. Ltd.



UNIDO/Tanzania/
NDC Assistance - 1991

Appendix 4: Light Source Manufacturers Co., Ltd.

APPENDIX 4: LIGHT SOURCE MANUFACTURING

I. RECOMMENDATIONS

Light Source Manufacturing should be closed immediately and its assets sold.

Light Source Manufacturing is a difficult case. While the idea of producing bulbs domestically might make sense with the proper facilities and expertise, Light Source Manufacturing, unfortunately, has neither.

Production would only be economical if Light Source produces bulbs and tubes locally. To produce bulbs and tubes cheaply, it would need to sell tens of millions of bulbs annually, have local expertise in glass, and have an efficient furnace and bulb forming line. Since the company does not have glass making expertise and its bulb forming line appears to be inadequate, it would need protection against cheaper imports to enable it to sell millions of bulbs.

The current operation loses money, will continue to lose money, and should be closed immediately. To salvage some funds, one could sell a package to a private entrepreneur who would buy up the remaining bulbs and tubes, rent the facilities, and produce a final batch of product.

If Tanzania were to decide in the future to produce light bulbs, it should only be done as a joint-venture with a foreign bulb producer. As it does not fit NDC's core group or skills, NDC should not be a shareholder.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

The history of Light Source Manufacturing is a case study in the problems and pitfalls of a development project in a country such as Tanzania. It illustrates that despite a very strong market for the product, no local competition, and growing demand for the foreseeable future, it is not always easy to create the proper factory and enterprise in a developing country.

In 1976, the National Development Corporation had the idea to manufacture light bulbs in the country. At that time, light bulbs were imported and often brought in one by one by persons coming in from traveling overseas.

10 YEAR DEVELOPMENT PROGRAM LSM

Year 1

Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

- 1. Choose a generic strategy
 - a. Cost leader

B. Marketing

- 1. Determine product's value to customers, e.g.:
 - a. Utility
 - b. Price
 - c. Quality
 - d. Delivery
 - e. Financing
 - f. Appearance
- 2. Determine company's position vis-a-vis competition

C. Production and Operations

- 1. Lower production costs
 - a. Eliminate extraneous material and machines
 - b. Improve product quality
 - c. Lower raw material costs (Production)
 - d. Improve equipment maintenance and repair
- 2. Improve the quality and training of production staff
 - a. Enroll engineers and technicians in MEIDA and technical seminars

Inbound logistics

- 1. Recognize the importance of purchasing to profitability
 - a. Conduct an in-depth training program for procurement managers
 - b. Establish and enforce ethical procurement standards and practices
 - c. Work with suppliers and shippers to lower shipping costs
 - d. Work with suppliers and shippers to increase the frequency of delivery
- 2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model

D. Organization

- 1. Structure the organization to achieve its targets:
 - a. Close down

E. Employees

- 1. Reduce employment
 - a. Reduce number of managers
 - b. Reduce administrative/overhead personnel
 - c. Eliminate non-critical functions
 - d. Eliminate non-productive personnel
 - e. Reduce number of production workers
- 2. Manage the employment reduction process
 - a. Early retirement
 - b. Redistribute to growing companies, functions
 - c. Provide retraining programs
 - d. Encourage ex-employees to bid on contracts

Board of Directors

- 1. Change the composition of the Board of Directors

10 YEAR DEVELOPMENT PROGRAM LSM

G. Finance

1. Improve cash management

- a. Limit use of bank overdrafts and short-term debt
- b. Assist production and marketing to reduce inventory levels
- c. Convert short-term debt to long-term
- d. Sell and lease back plant and equipment

2. Increase return on assets

- a. Sell or scrap obsolete inventories and stocks
- b. Sell or scrap unused/underutilized machines and equipment
- c. Sell off/rent underutilized facilities
- d. Trade current facilities for smaller ones and cash

3. Lower finance costs

- a. Pay down short-term debt
- b. Shorten the cash conversion cycle

4. Reduce administrative costs

5. Strengthen capital structure

- a. Close hopeless, money losing companies
- b. Pay off debt
- c. Sell assets

	Year 1				Year 2				3	4	5	6	7	8	9	10
	I	II	III	IV	I	II	III	IV								
1. Improve cash management																
a. Limit use of bank overdrafts and short-term debt																
b. Assist production and marketing to reduce inventory levels																
c. Convert short-term debt to long-term																
d. Sell and lease back plant and equipment																
2. Increase return on assets																
a. Sell or scrap obsolete inventories and stocks																
b. Sell or scrap unused/underutilized machines and equipment																
c. Sell off/rent underutilized facilities																
d. Trade current facilities for smaller ones and cash																
3. Lower finance costs																
a. Pay down short-term debt																
b. Shorten the cash conversion cycle																
4. Reduce administrative costs																
5. Strengthen capital structure																
a. Close hopeless, money losing companies																
b. Pay off debt																
c. Sell assets																

An Indian consulting firm had conducted a feasibility study on electrical manufacturers. In 1978, a group of Hungarians picked up the feasibility study, tailored the plan to match their machines and production capacity. Hungary then gave a credit facility to manufacture bulbs.

A contract was signed between NDC and Hungarians in 1978. In 1981, the company was incorporated, and the machinery arrived. The machinery was old, estimated to have been manufactured as long ago as 1956. The machinery was installed in 1983 and production started in 1985. At this time there were a number of components to the factory. It was an oil fired, gas furnace which was capable of producing approximately five times the current demand for bulbs. However, it eventually ended up costing four times the annual earnings to operate. In 1985 production started with the bulb light line and by 1986 the tube light line was also commissioned. In 1986, however, the glass factory or the bulb light line was only operated for several months, and then shut down.

Two other units, one for making end caps, and one for making choke coils, were installed but never operable.

During 1985 and 1986, the company had marketing problems and was not able to sell its bulbs. It attributed this to the local perception regarding the product quality. Local bulbs were clear glass while imported bulbs were frosted. Consumers differentiated between local and imported bulbs. Production volumes were reasonably low and simultaneously the market was liberalized, allowing imported bulbs to enter the market more quickly and cheaply.

By June of 1986, the company had over 900,000 bulbs in stock, no cash, and general debts. Since 1986 the history of the company has been one of increasing losses, erratic production, and tremendous wastage.

In addition, during this period the Hungarians provided technical assistance. Light Source Manufacturers claimed that this was a management agreement. However, the Hungarians interpreted this as a technical assistance agreement, i.e. to give advice and not to manage the facility. All of the Hungarian expatriate managers left by 1988 with some confusion over who was responsible for high breakage rates.

Thus, by this time, LSM was looking at outdated machines perhaps as old as 35 years old, obsolete, and wastage rates as high as 40%. In comparison, one might expect perhaps five percent wastage rates overall and for a developed country such as the United States perhaps one percent total breakage.

Since this time, Light Source Manufacturers has attempted several different methods of reorganizing the facility, obtaining additional investment, and asking for proposals from such firms as Phillips, a Japanese company Matsushda Electric, and private investors. To date none of these proposals have worked out.

Various aspects of the company are detailed below.

B. Industry And Competitor Analysis

1. Market Overview

The market for GLS bulbs and florescent tubes in Tanzania at present is limited by the size and nature of the economy. The level of development and the growth prospects, however, are excellent. LSM is working on a market study for bulbs and tubes; unfortunately, the results were unavailable at the time of the team's visit.

2. Customer Characteristics

Customers are wholesalers and retailers who sell to industrial consumers and businesses.

3. Market Size And Trends

The market for all types of bulbs and tube products is expanding. This would indicate a ready market for LSM's services, were the company to be cost competitive.

Furthermore, the volume and diversity of the GLS bulbs and florescent tubes market in Tanzania is expanding. Export potential in the region however, is limited due to strong regional competition.

4. Competition

LSM is the only producer of GLS bulbs and florescent tubes in Tanzania. It has a production monopoly locally in the products of bulbs and tube lights.

Kenya, Mauritius, and South Africa have larger, more efficient facilities and dominate the surrounding markets. In addition, import competition from as far away as Ghana, Tanduri and India depresses margins.

It should be noted that even if LSM efficient, it would never completely dominate the market for GLS bulbs and florescent tubes products in Tanzania or the local areas. First, LSM could not produce the full range of products demanded in the market. Second, there are proprietary processes for producing the more specialized GLS bulbs and florescent tubes such as halogen tubes or specialized shapes.

5. Substitutes

Substitutes for GLS bulbs and florescent tubes are kerosene lamps, candles, and flash lights. These are prevalent in the countryside as much of the country is without electricity.

6. Distribution Channels

Products are distributed through wholesalers, retailers, and importers. We have no estimates on the shares of each channel.

7. Policy and Regulatory Environment

The policy and regulatory environment limited competition in this market in the past. There is no protection at present.

The Open General License (OGL) system gives LSM equal access to foreign exchange so that it is not constrained in its ability to purchase materials. LSM does have some serious cash flow problems, however, that raise the cost of its foreign purchases, since it relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

The tariff on imported GLS bulbs and florescent tubes products of all types is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would not matter to LSM as it is not cost competitive.

C. Marketing

1. Overall Marketing Strategy

LSM's strategy is to produce two basic products that are in high demand in the region. It has not and could not aggressively seek export opportunities. At the same time, sales volumes are well under break-even level. Prices are set to match, but not exceed, landed import prices. LSM cannot make a profit at these prices.

2. Customers

Customers are wholesalers and retailers who then sell to the general population.

3. Marketing Tactics

The Light Source Manufacturing company uses few marketing tactics. Similarly, it does little, if any, promotion of its products.

Customer service does not exist. The products are basic, low technology, and low quality. LSM does not maintain a customer service department.

Pricing is set by LSM to match the landed cost of imported products. The products are not under the control of the government's Pricing Commission.

D. Production and Operations

1. Geographical Location

LSM has one factory located in Mogolo, Dar Es Salaam.

2. Facilities and Processes

LSM has a large 10,000 square meter plant on a 29,000 square meter site. Less than 500 square meters of the facility is used productively. Bulb assembly at LSM consists of 5 basic steps:

1. Assemble filaments core
2. Heat and cut bulb
3. Assemble filament core and bulb.
4. Seal and crimp
5. Test.

The process is capital intensive and partly automated. Production staff numbered 160 in 1989, but few were working when the team visited in January. Furthermore, the production line was in a sad state. Breakage exceeds 40% -- since imported bulb and tube jackets are just as expensive as finished imported products, there is no hope for LS'' The machines are old, the materials of low quality, and the production staff were neither interested or effective in their work.

There is limited automation of GLS bulbs and florescent tubes flow, no computerized inventory systems, and of automated management information systems. Relative to a similar operation elsewhere, LSM is under-automated.

3. Materials Handling

Laborers handle materials within the plant. Line are automated for only a few feet. Breakage is high.

4. Processing Costs

LSM could not provide production cost details as its financial records are in disarray.

All raw materials are imported.

5. Product Quality

Product quality is low and declining. The team watched the staff place dozens of defective non-lighting bulbs into finished goods bins.

6. Product Delivery (Outbound Logistics)

LSM relies on buyers to arrange transportation of products.

7. Competitive Strengths/Weaknesses

LSM has no competitive strengths. Not one.

LSM's work force is large, ineffective, and unproductive. Lack of maintenance has aged the plant dramatically, lack of management has resulted in the documentation over Ts. 100 million in accumulated debts and losses.

8. Strategy and Plans

LSM has attempted to involve a number of outside partners in its venture. So far, there have been no takers. It has also attempted to get new automated bulb lines installed and has allowed existing lines to deteriorate.

E. Organization

LSM has a standard organizational structure with functional managers reporting to the General Manager. It is 67% owned by NDC, 33% by BHESCO.

F. Management

The General Manager, Mr. A. Otary, has worked with LSM from the company's inception as its General Manager. Management turnover in recent years has been significant. Many managers were dropped in 1988 at the same time that the technical assistance team from Hungary departed. This, however, placed the management-to-worker ratio in better balance.

1. Management Compensation

Management compensation at LSM is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low. However, benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for some officers, medical care and insurance, and life insurance.

As far as could be determined, management compensation is not linked to performance profits or productivity.

2. Supporting Professional Services

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel. LSM has not made use of consultants from TISCO or the National Productivity Institute in recent years. It is however, conducting its own market survey.

G. Human Resources

1. Composition and Skills

LSM employed 188 persons in 1989. On the team's visit, workers present number under 100 and estimates of 60 production workers were given. The level of managers and supervisors to workers is quite high at approximately 1:6. This indicates a very hierarchical structure with excess levels of bureaucracy. The compensation package consists of a base wage, medical and health insurance, and transportation allowances. This package has resulted in relatively low turnover in positions with the exception of management over the last few years.

2. Productivity

Productivity in the firm is low. Of all NDC companies LSM ranked 2nd to last in revenues per employee in 1989.

3. Training Programs and Needs

LSM is the only bulb and tube facility in Tanzania. Training appears to be nonexistent. LSM would need to conduct a fair amount of on-the-job training to improve the skill levels of the work force. Glass plant operators received several months of training at the time of plant start-up.

H. Finances

1. Sales, Revenue, Profitability

LSM loses funds at an alarming rate. This is even more dramatic, when it is translated into dollar and constant shilling terms.

LSM loses money and the loss was growing through 1989. LSM has produced little financial data over the last four or five years and most of that has painted a rather dismal picture. Annual losses exceeding revenues, mounting debts, and a history of nonpayment.

Financing costs would be high were LSM to pay its bills. This is due to an excessive reliance on short-term borrowing to cover the production costs exceeding sales prices. This is examined in more detail in our analysis of the balance sheet.

2. Assets and Liabilities

a. Balance Sheet

LSM shows considerable weakness and a worsening trend in its balance sheet. Available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. LSM is on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms. The Debt-Equity graph shows this trend clearly.

LSM imports all its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms describe in the main report. Nonpayment and disputes lead LSM's original supplier to suspend shipments.

LSM had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the Light Source Manufacturing.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the Light Source Manufacturing loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the Light Source Manufacturing does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

b. Estimates of Valuation

i. Book Value

Book value is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Light Source Manufacturing. Book value is negative. LSM is bankrupt. In LSM's case, liquidation of the Light Source Manufacturing would transfer a loss of this amount to the NDC Group balance sheet.

ii. Going Concern

Valued as a going concern, the profits of LSM are used to determine its value. LSM is not profitable. Nor is it a viable going concern.

iii. **Price Earnings Ratio**

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the LSM would be valued at Ts. 0 shillings. LSM has no profits.

H. Summary

The prognosis for LSM is not optimistic given a deteriorated plant, weak management, increasing competition, low rates of production, an overly large workforce, and a weak financial position, the negative capital position, the heavy level of indebtedness, the weak performance of the Light Source Manufacturing over the last few years, and its high administrative burden relative to its competitors.

LSM is not and will not be profitable. While light bulbs are a large and growing market, Tanzania would be better importing or building a completely new facility. Given the shortage of investment capital and needs within the other companies, NDC should close LSM at the very earliest opportunity.

Appendix 4 Attachments: LIGHT SOURCE MANUFACTURERS CO., LTD.

TABLES:

SALES/MARKETING
HUMAN RESOURCES

GRAPHS:

PRODUCT BREAKDOWN
NET SALES

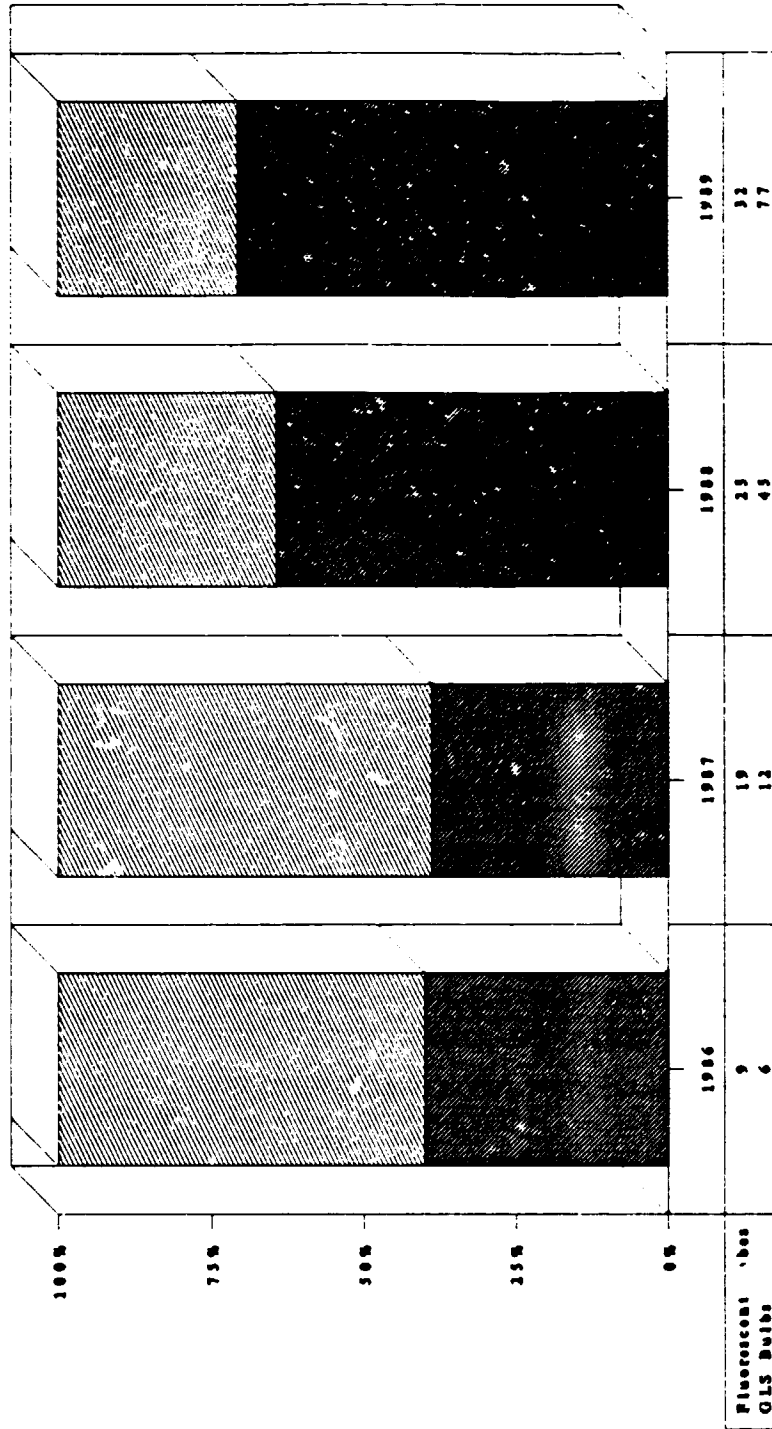
Table : Actual Manpower

Product	Employees					
	1984	1985	1986	1987	1988	1989
1 Senior Managers	0	0	0	4	0	4
2 Middle Managers	0	0	0	13	0	5
3 Supervisors	0	0	0	19	0	8
4 Clerical	0	0	0	21	0	11
5 Skilled Manual	0	0	0	62	0	50
6 Unskilled Manual	0	0	0	74	0	110
Total	0	0	0	193	0	188
Expatriate	0	0	0	6	0	0
Total Employees	0	0	0	199	0	188

Product Sales Breakdown

Light Source Manufacturers Ltd.

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS

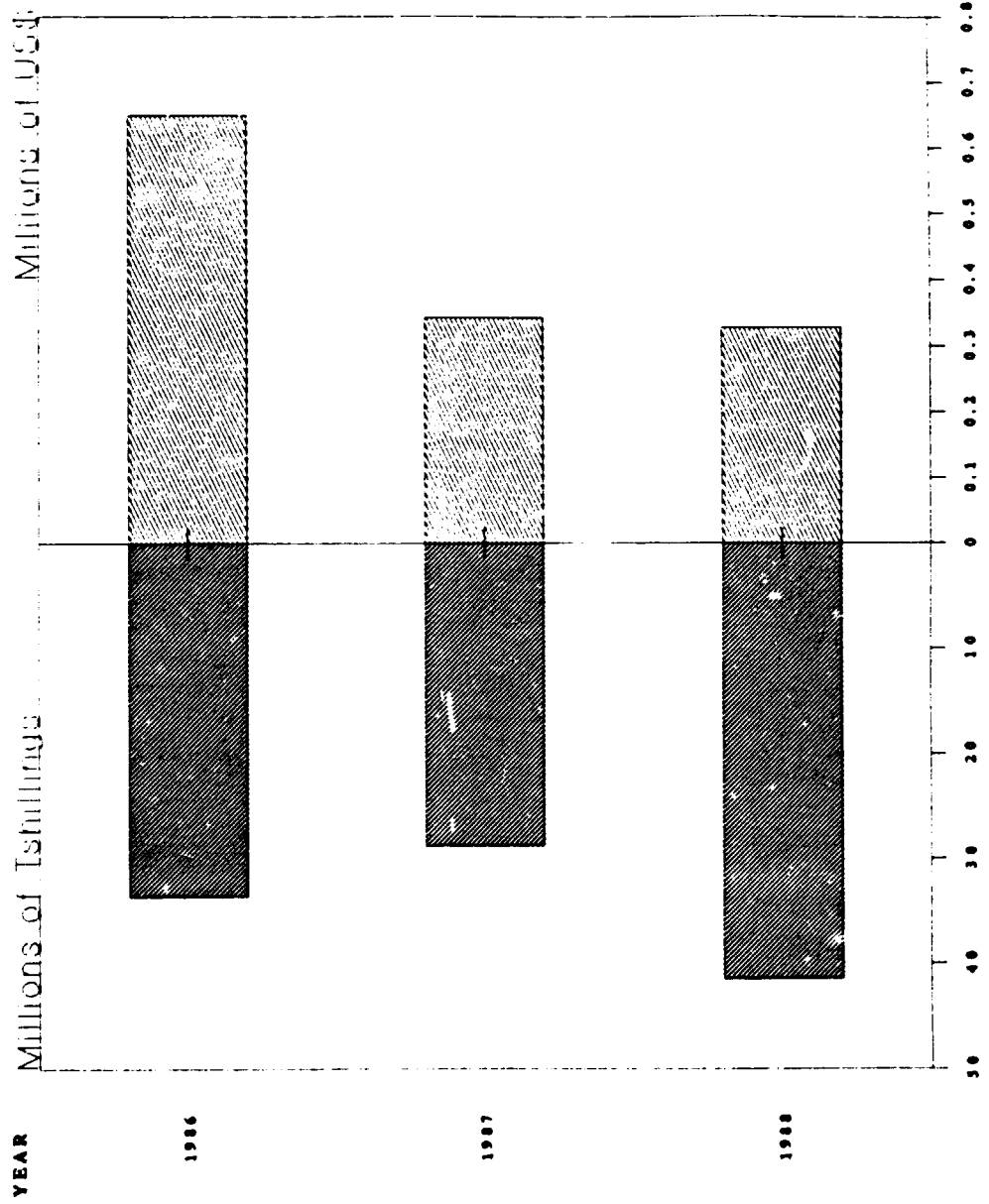
GLS Bulbs Fluorescent Tubes

Date not available for 1987/89



Net Sales

Light Source Manufacturers Co., Ltd.



■ NET SALES
▨ SMT SALES



UNIDO/Tanzania/
NDC Assistance - 1991

**Appendix 5: Mang'ula Mechanical and Machine
Tools, Co., Ltd.**

APPENDIX 5: MANG'ULA MECHANICAL AND MACHINE TOOLS

I. RECOMMENDATIONS

Mangu'la Mechanical and Machine Tools (MMM) is in serious trouble. Poorly located, inadequately managed, and with rapidly deteriorating plant and equipment, it is unable to maintain sufficient volumes of production or quality.

We recommend closing the facility and transferring machinery, materials, and personnel to Zana Za Kilimo and Ubongo Farm Implements. Alternatively, Mangu'la could be turned over to the region or government for use as a training center.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

Mang'ula Mechanical and Machine Tools (MMM) was incorporated in 1977 after the Tazara workshop was handed over to the Tanzanian Government. The company is 100% owned by NDC. Its main line of business is the manufacture of engineering products.

The company started commercial activity as a Land Rover repair facility. In addition some spare parts manufacturing was also conducted. These remained as MMM's main activities, up to 1980 when research and experimentation into manufacture of post harvest machines started. To date therefore, the Company's main product lines are Grain Dehullers and Mills, Water Pumps, Maize Shellers, Industrial Spares, and Auto Repair.

1. Corporate Philosophy

Mang'ula Machine Tools Corporate philosophy is to be a long-term participant in national manufacturing markets.

2. Corporate Strategy

The Company's objective is to produce high quality products at affordable prices and to compete in both local and foreign markets. The strategy used to achieve this objective is to further strengthen the quality control section in order to ensure that the quality of products is high before reaching customers. The strategy also encompasses

10 YEAR DEVELOPMENT PROGRAM MMM

Year 1

Year 2

I II III IV I II III IV 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Cost leader

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-a-vis competition

3. Develop a Market Program (ZZK model and modify), e.g.:

a. Product characteristics

b. Pricing

c. Distributing, etc.

3. Increase product visibility

a. Place products in regional depots

b. Arrange credit program to ship and sell excess inventories

c. Arrange consignment sales to distributors and agents

d. Participate in regional fairs in Tanzania

e. Participate in regional fairs in SADCC/PTA countries

f. Advertise and promote products

5. Increase numbers of persons marketing products

a. Appoint marketing managers to all vacant slots

b. Find marketing-oriented individuals within the company

c. Replace non-productive sales staff

6. Improve quality of marketing effort, e.g.:

a. Train salespersons and distributors

b. Redesign sales and promotional literature

7. Implement market intelligence program, e.g.:

a. Conduct monthly, quarterly, annual surveys

8. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

c. Build better product

d. Train customers in proper use and maintenance

e. Train servicemen to repair quickly and correctly

f. Sell related goods and services

C. Production and Operations

1. Lower production costs

a. Speed throughput time

b. Eliminate extraneous material and machines

c. Improve product quality

d. Lower raw material costs (Production)

e. Improve equipment maintenance and repair

continued development of new manufacturing techniques in order to reduce manufacturing costs in terms of time and inputs.

B. Industry And Competitor Analysis

1. Market Overview

Market survey studies were conducted by Messrs International Service and Supplies and GEMCO B.V. of Netherlands in 1987 to determine the market potentiality of MMM products and its local share. The studies showed the following:

Mang'ula Machine Tools -- Market Share

ITEM	LOCAL PRODUCTION	IMPORT DEMAND	TOTAL (CAPABILITY)	PRODUCTION	%
Grain Dehullers	920	40	960	400	42
Grain Mills	1,190	190	1,380	250	18

The report further notes that there is high potential market for the Post Harvest Agricultural machines especially the Grain Dehullers with blowers and with staff competition of Grain Mills in the Northern and Eastern Zone.

2. Customer Characteristics

Main customers of MMM products are governments organizations for auto spares and Land Rover repairs, and small farmers for agricultural products.

3. Competition

Mang'ula Machine Tools is competing with IPI of the University of Dar es Salaam and CARMATEC of Arusha. Due to trade liberalization, private individuals are importing agricultural machinery and auto spares such as Land Rover parts, grain dehullers, grain mills, etc. Also there are other small companies like Them Farm Implements in Arusha, etc. which produce agricultural implements.

4. Estimated Market Share

Market shares are shared between IPI, CARMATEC, Them Industries, Small Agricultural Implements Companies and local importers. There are no figures to elaborate the share distribution.

5. Sales History

Actual Sales (Net) in million Tshs for the past five years are recorded to be as follows:

<u>Year</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Tshs.	48.4	59.1	72.2	78.1	94.8	78.2

6. Distribution Channels

Following are Mang'ula Machine Tools distribution Channels:

- Own distribution.
- Sales Agents.
- Sales Depots.
- Sales on Consignment.

7. Policy and Regulatory Environment

The policy and regulatory environment limited competition in this market until recently, when other private individuals have been authorized to import such products through the Liberalization Policy. The liberalization of the import market has exposed Mang'ula Machine Tools to increased competition. This is good for the country in that the competition should resulting lower pricing and imported services.

Macroeconomic policies that affect Mang'ula Machine Tools include exchange rate and an overvalued exchange rate. Mang'ula Machine Tools depends on imported raw materials, especially steel.

C. Marketing

1. Overall Marketing Strategy

The Company's products will continue to be marketed in the local market with the following prevailing primary demand factors:

- Growing population: The fast growing population calls for more grain processing hence, more processing dehullers and milling sets, both in urban and rural areas. The strategy thus needs to focus on major grain producing areas and most probably where diesel static engine priming will be required most.
- Low incomes relate to prohibitive high unit price rates of MMM's products. A large portion of the local firms population still consists of subsistence income with limited ability to purchase the various products. Thus, an effort will have to be made to arrange loans for prospective customers from CRDB or NBC to finance procurement of packages involving company's products.

2. Sales Tactics

The Company is progressively orienting itself toward manufacturing products which are less seasonal in nature and which have higher contribution margins and comparatively less competition. At the same time Mang'ula Machine Tools is seeking to learn from the marketing experience of its competitors over the past years.

3. Customer Service

Mang'ula Machine Tools sales personnel travel from one region to another to offer after sales service to the customer.

4. Pricing

The pricing of products are done by the company and not by the price commissioner. The company policy on pricing is by means of permanent cost reduction schemes and an efficient cost registration and calculation system. Sale prices are fixed at competitive level yielding a satisfactory profit contribution.

5. Promotion

Mang'ula Machine Tools continues with its efforts to promote its products (see advertising).

6. Advertising

The company uses local news papers and radio to advertise its products.

7. Location

The company is located in Morogoro some 400 km from Dar Es Salaam, along side the Tazara railway line.

8. Distribution

Rail and road transport are the major means of distributing the agricultural implements and auto spares. Due to the present economic situation with low grade of infrastructure and shortage of haulage equipment this leads to distribution problems for the company with consequent claims from customers.

D. Production And Operation

Mang'ula Machine Tools manufactures agricultural implements and auto spares such as Grain Dehullers Grain mills, Maize shellers, coal stoves, Land Rover parts, and other jobbing spare parts.

1. Facilities and Progress

The company comprises of seven permanent workshop sheds housing the following production sections:

- Machine Shop.
- Tool Room.
- Fabrication Shop.
- Furnace and Presses Section.
- Foundry Section.
- Finished Products Ware House.
- Design Section.

2. Materials Handling

Due to the fact that workshop sheds are located away from the storage areas difficulties are being experienced in planning material flows and work in progress.

3. Production Cost

.Following are the production costs broken down for the year 1990 with percentages.

	1990 ('000)	%
Direct Labor	17,300	61.0
Electricity and Water	8,560	30.2
Repair and Maintenance	2,371	8.4
Other Direct Costs	135	0.4
Total	<u>28,366</u>	<u>100.0</u>

4. Product Quality

The Technical Department also includes a Quality Control section which handles all aspect of quality control from the design stage to the packing stage.

5. Product Delivery

As mentioned above, the market for agricultural implements exists in rural areas where small farmers depend on agricultural equipments for processing agricultural produce. Delivery of the products to these customers is mainly through the Regional Trade Corporations (RTC's) and the appointed agents in the regions.

E. Competitive Strengths/Weaknesses

Strength

- Technical Assistance by Chinese.

Weaknesses

- Location.
- Liquidity.
- Marketing Personnel.

F. Strategy and Plans

The Company's objectives of the manufacturing is to manufacture high quality products at affordable prices and to compete in both local and foreign markets. The strategy being used to achieve this objective is to further strengthen the quality control section in order to ensure that a higher quality of product is delivered to the customer.

1. **Expansion Plans**

There are no future plans to expand Mang'u'a Machine Tools activities.

2. **Capital Requirements**

The People's Republic of China has approved a total of TAS. 60 million for which the utilization is as follows:

- About 34.144 million for machineries and parts.
- About 21.156 million for various production inputs.
- TAS 4.7 million for purchase of a vehicle.

G. Management

1. **Organizational Structures**

The organizational structure of MMM is as shown below:

Board of Directors

General Manager

Finance Manager	Material Manager	Technical Manager	Commercial Manager	Branch Workshop Manager
Production	Maintenance	Quality	Design Control	Engineer

2. Key Management Personnel

The top management personnel of MRT is as follows:

General Management	-	R.A. Maseta (Acting)
Technical Manager	-	R.A. Maseta
Commercial Manager	-	Vacant
Finance Manager	-	J. Kitaju (Acting)
Material Manager	-	Vacant
Personnel and Material Manager	-	P.A. Wika

3. Management Compensation

Management compensation is similar to other NDC companies and is consistent with SCOPO salary levels. In addition medical insurance, housing, meal allowances and transportation allowances are also provided.

4. Board of Directors

The current Institutional composition of the Board of Directors consist of one from each of the following entities:

- **National Development Corporation.**
- **Ministry of Industries.**
- **Ministry of Agriculture.**
- **University of Dar es Salaam.**
- **Tanzania Investment Bank.**
- **MP of Kilombaro District.**
- **National Bank of Commerce.**
- **JUWATA.**

5. Supporting Professional Services

Accounting Audits are conducted by the Tanzania Audit Corporation. Legal services are provided by the Corporation Secretary of NDC. Other Consulting services are from TISCO and University of Dar es Salaam.

H. Human Resources

1. Composition and Skills

Mang'ula Machine Tools employs 243 persons including one Swedish expert in tool and die design and making. Employee break down follows:

	<u>1990</u>	<u>%</u>
Senior Managers	6	1.1
Middle Managers	21	4.0
Supervisors	52	9.9
Clerical	37	7.0
Skilled/Manual	380	72.2
Unskilled/Manual	<u>30</u>	<u>5.8</u>
Total	526	100.0

2. Compensation and Trends

The compensation package consists of:

- Base Wage.
- Overtime.
- Medical Insurance.
- Housing Allowance.
- Transportation Allowance.
- Meal Allowance.

Benefits and allowances are used extensively to avoid the 50% tax rate on wages. A hardship allowance is also provided in the case of MMM.

3. Productivity

Productivity in the firm is very low. Output for the firm is as follows:

Tshs Sales per Employee	- 472,000
Tons Sales per Employee	-2,063
Profit in Tshs per Employee	-4,794

4. Training Program and Needs

Training of Company employees is undertaken on the basis of current skills required and available financial resources.

I. Finances

1. Sales, Revenues, Profitability

MMM has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table VI Profit and Loss. However, when this is translated into both dollars and constant shilling terms, MMM has shown a marked decline in sales.

MMM has maintained small levels of profit since 1984. In 1989 after-tax profit was 2.9 million. Operating Expense Breakdown MMM show that administrative costs and overheads have increased markedly faster than increases in sales. Administrative costs increased by an average of forty five percent per annum from 1985 to 1989 while sales increased less than twenty five percent during this same period. MMM does import the bulk of its raw materials, thus, it does not have an acute foreign exchange problem. Approximately 75 to 85 % of its raw materials are purchased locally.

Financing costs are not a major issue as bank overdrafts have been maintained at about Tsh 15 m. - Tsh 20 m. over the past four years.

2. Assets and Liabilities

How well MMM uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such the current ratios, debt/equity, ratios, etc or in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash and low returns on working capital. Returns in MMM should exceed the costs of financing them; and at least match the opportunity cost of capital.

a. Balance Sheet

MMM shows considerable weakness and a worsening trend in its balance sheet. At first glance, balance sheet has shown an increase in total assets and liabilities. However, closer analysis reveals that receivables increased. MMM is on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms.

b. Ratio Analysis

Dependence on short term debt has decreased 46% to total liabilities to 14 percent of total liabilities. Since 1984 material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

c. Short Term Liquidity

Short term liquidity analysis shows that MMM has suffered a weakening in its liquidity. The current ration has declined from 1.7 in 1985 to 1.5 in 1989.

The acid test ratio -- cash divided by current liabilities has remained at about 0 throughout the period. This indicates that MMM would be able to cover its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

3. Cash Flow

The Cash Flow situation is not that bad with the majority of it coming from increases in sales.

Uses of funds are increasingly going to overhead costs and to financing charges. Administration expenses in 1989 amounted to Ts. 39 million or about 50% of sales. Again, this is a significant trend and indicates serious financial weakness in the Company.

4. Foreign Exchange and Capital Requirements

a. Sources and Uses of Foreign Exchange

MMM does not import most of its raw materials and as such is not greatly affected by foreign exchange losses.

b. Sustainable Growth Rate

MMM's sustainable growth rate cannot be calculated as it is losing money and it is unclear whether the margins will change substantially as it approaches profitability.

5. Estimates of Valuation

a. Book Value

Book value is Ts. 198 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In MMM's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

b. Going Concern

Valued as a going concern, the profits of MMM are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 900 thousand. MMM is worth more as a going concern than were it to be liquidated. This indicates that MMM has general viability as an enterprise.

c. Price Earnings Ratio

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the MMM would be valued at Ts. 29

million shillings. This is the price that MMM would fetch on a stock market that valued earnings at this rate.

Appendix 5 Attachments: Mang'ula Mechanical & Machine Tools

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Mang'ula Mechanical and Machine Tools Co. Ltd.

(millions of shillings)

Product	Units	Description	Actual			Est'd		1989
			1984	1985	1986	1987	1988	
1. Rice Hullers	0		5	4	11	19	17	14
2. Maize Mills	0		0	2	12	21	15	10
3. Sorghum Hullers	0		0	0	0	0	0	0
4. Paddy Threshers	0		0	0	0	0	0	0
5. Water Pumps	0		2	0	0	0	1	1
6. Coffee Pulpers	0		0	0	0	0	0	0
7. Concrete Mixers	0		0	0	0	0	0	0
8. Concrete Block Makers	0		0	0	0	0	0	0
9. Roof Tile Makers	0		0	0	0	0	0	0
10. Food Expanders	0		0	0	0	0	0	0
11. Steel Structures	0		4	2	1	0	5	11
12. Automobile Spares	0		14	12	6	0	4	8
13. Industrial Spares	0		3	3	12	22	27	33
14. Furniture	0		2	0	0	0	0	0
15. Oxygen	0		0	0	0	0	0	0
16. Auto Major Repairs	0		2	3	1	0	0	0
17. Auto Medium Repairs	0		2	1	1	0	0	0
18. Auto Minor Repairs	0		2	2	1	0	0	0
19. Others	0		1	0	13	25	22	19
Total			37	29	58	87	91	95
Units/Employee			1	0	0	0	0	0

TABLE II

Table : Actual Production

Mang'ula Mechanical & Machine Tools Company

Product	Units	Description	(Thousands of tons)					
			1984	1985	Est'd 1986	1987	Est'd 1988	1989
1. Rice Mullers	PCS	0	5	272	330	388	194	295
2. Maize Mill	PCS	0	0	100	233	366	232	97
3. Sorghum Hullers	PCS	0	0	1	1	0	0	0
4. Paddy Tresters	PCS	0	0	10	5	0	0	0
5. Water Pumps	PCS	0	2	0	4	7	4	0
6. Coffee Pulpers	PCS	0	0	15	8	0	0	0
7. Concrete Block	PCS	0	0	0	3	0	0	0
8. Makers	PCS	0	0	1	1	0	0	0
9. Concrete Mixers	PCS	0	0	1	1	0	1	1
10. Roof Tile Makers	PCS	0	0	1	1	0	0	0
11. Food Expanders	PCS	0	0	0	0	0	0	0
12. Steel Structures	Shs.'000'	0	4	0	0	0	1	2
13. Automobile Spare	Shs.'000'	0	14	7	13	20	16	12
14. Industrial Spare	Shs.'000'	0	3	5	3	0	16	31
15. Furniture&other no space	Shs.'000'	0	3	6	3	0	0	0
Total			31	419	600	781	462	144
Capacity Utilization			NA	NA	NA	NA	NA	NA
Units per Employee			NA	NA	NA	NA	NA	NA

TABLE II

Table : Actual Purchases

Mangula Mechanical Machine Tools

		(millions of shillings)					
Local currency		1984	1985	Est'd 1986	1987	Est'd 1988	1989

1.	Raw materials	7	7	16	26	13	0
2.	Spares & accessories	2	0	1	2	1	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0

6.	Subtotal	9	7	17	28	14	0
Foreign currency							

7.	Raw materials	6	7	3	0	0	0
8.	Spares & accessories	0	0	0	0	0	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0

12.	Subtotal	6	7	3	0	0	0
13.	Total	14	13	21	28	14	0
14.	In Dollars	\$1	\$1	\$0	\$0	\$0	\$0

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Mang'ula Mechanical & Machine Tools

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	3.5	0.0	0.0	4.5	0.0	0.0
2. Plant & machinery	0.0	2.6	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	3.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.6	0.2	0.0	2.2	0.0	0.0
5. Other	0.0	0.0	0.0	0.0	0.0	0.0
Total Expenditures	4.1	5.9	0.0	6.7	0.0	0.0
Source of Funds						
1. Equity - NDC	3.5	9.5	0.0	4.5	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	3.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.6	0.3	0.0	2.2	0.0	0.0
8. Other, Unaccounted For	(0.0)	(6.9)	0.0	0.0	0.0	0.0
Total Sources	4.1	5.9	0.0	6.7	0.0	0.0

Table : Actual Manpower

TABLE V

Mang'ula Mech. & Mechine Tools Company

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	3	3	3	3	3	3
2 Middle Managers	14	16	20	23	23	23
3 Supervisors	53	58	55	52	46	40
4 Clerical	34	41	38	35	35	35
5 Skilled Manual	348	48	215	382	376	369
6 Unskilled Manual	35	344	192	40	31	22
Total	487	510	523	535	514	492
Expatriate	34	34	0	6	0	10
Total Employees	521	544	523	541	514	502

TABLE VI

Table : Actual Profit and Loss Recorded/Trend

Mangula Machine Tools Company

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	31	48	52	72	78	0	0
Less: Cost of Sales	12	25	20	28	31	0	0
Gross Profit	18	24	32	45	47	0	0
Less: Operating Expenses	16	17	24	33	39	0	0
Administration	16	17	24	33	39	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	2	6	8	12	8	0	0
Add: Other Income	0	0	0	0	1	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	2	7	8	12	9	0	0
Less: Provision for Taxes	0	0	0	5	4	0	0
Profit After Tax	2	7	8	6	4	0	0
Statement of Retained Earnings							
Balance Brought Forward	(15)	(16)	(9)	(1)	(1)	4	4
Prior Year Adjustment	(3)	0	0	0	0	0	0
Balance Brought Forward R	(18)	(16)	(9)	(1)	(1)	4	4
Add: Net Profit for the Year	2	7	8	6	4	0	0
Profit Available for Appr	(16)	(9)	(1)	5	4	4	4
Less: Miscellaneous Appropriati	0	0	0	6	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	(16)	(9)	(1)	(1)	4	4	4
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	2	3	1	1	1	0	0
Cost of Sales	1	2	0	0	0	0	0
Operating Expenses	1	1	0	0	0	0	0
Profit After Tax	0	0	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Mang'ula Mechanical and Machine Tools Company Ltd.

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	15	13	55	143	139	0	0
2. Current Assets	48	49	62	82	160	0	0
3. Stocks	33	28	36	61	134	0	0
4. Trade Debtors	15	19	0	0	0	0	0
5. Debtors and Prepayments	0	0	20	20	22	0	0
6. Cash and Bank Balances	0	2	6	1	4	0	0
7. Current Liabilities	28	25	29	38	103	0	0
8. Trade Creditors	11	8	14	18	47	0	0
9. Bank Overdrafts	13	12	12	9	15	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	0	0	0	5	12	0	0
12. Other Current Liabiliti	4	5	3	7	29	0	0
13.Net Current Assets/Liabil	20	24	32	44	56	0	0
14.Total Net Assets	35	37	87	187	196	0	0
15.Financed by:							
16. Share Capital	(11)	47	88	88	88	0	0
17. Capital Reserves	82	(0)	(0)	(0)	(0)	0	0
18. Profit and Loss Account	(35)	(9)	(1)	99	107	0	0
19. Long Term Loans	0	0	0	0	0	0	0
20.Debt	28	25	29	38	103	0	0
21.Equity	35	37	87	187	196	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

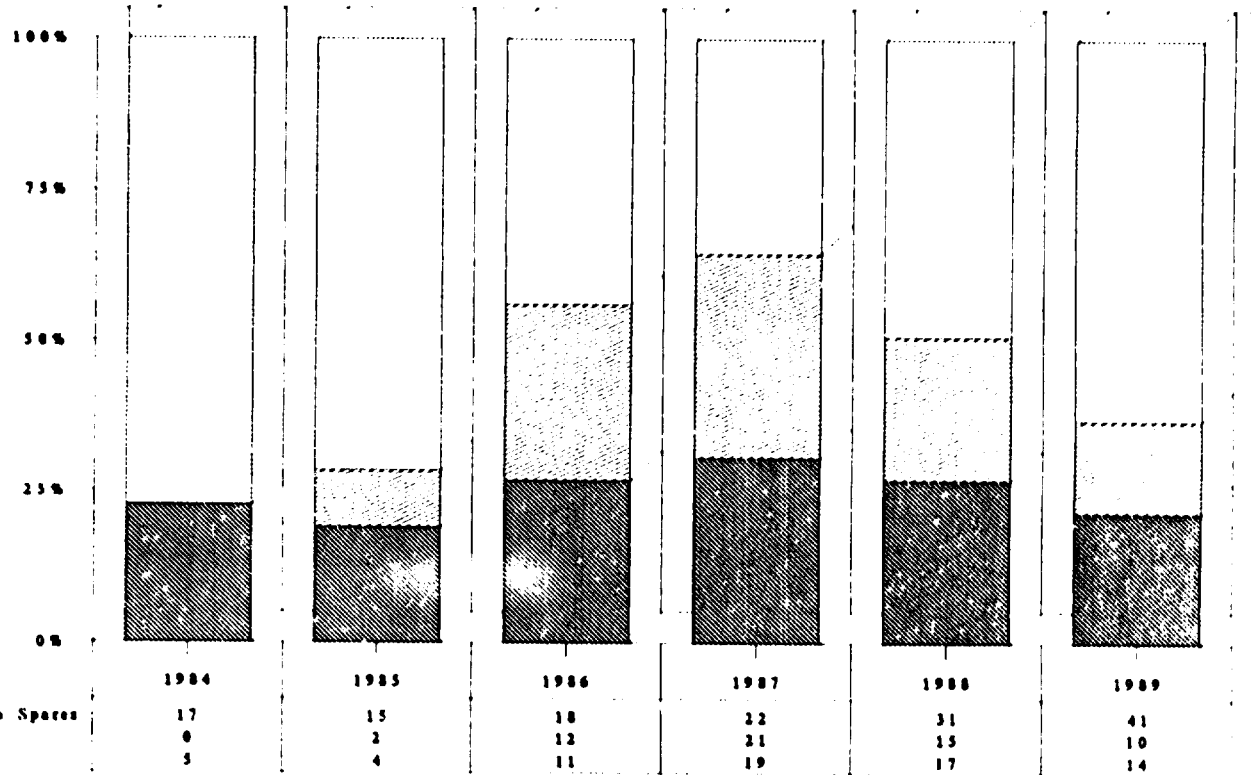
In Current Dollars

1. Net Fixed Assets	1	1	1	2	1	0	0
2. Current Assets	3	3	1	1	1	0	0
7. Current Liabilities	2	1	1	0	1	0	0
13.Net Current Assets/Liabil	1	1	1	1	0	0	0
14.Total Net Assets	2	2	2	2	2	0	0
20.Debt	3	2	0	0	0	1	0
21.Equity	0	2	1	1	1	1	0

Product Sales Breakdown

Mung'wa Mechanical & Machine Tools

% BREAKDOWN OF PRODUCT SALES



Indust & Auto Spares
Maize Mills
Rice Hullers

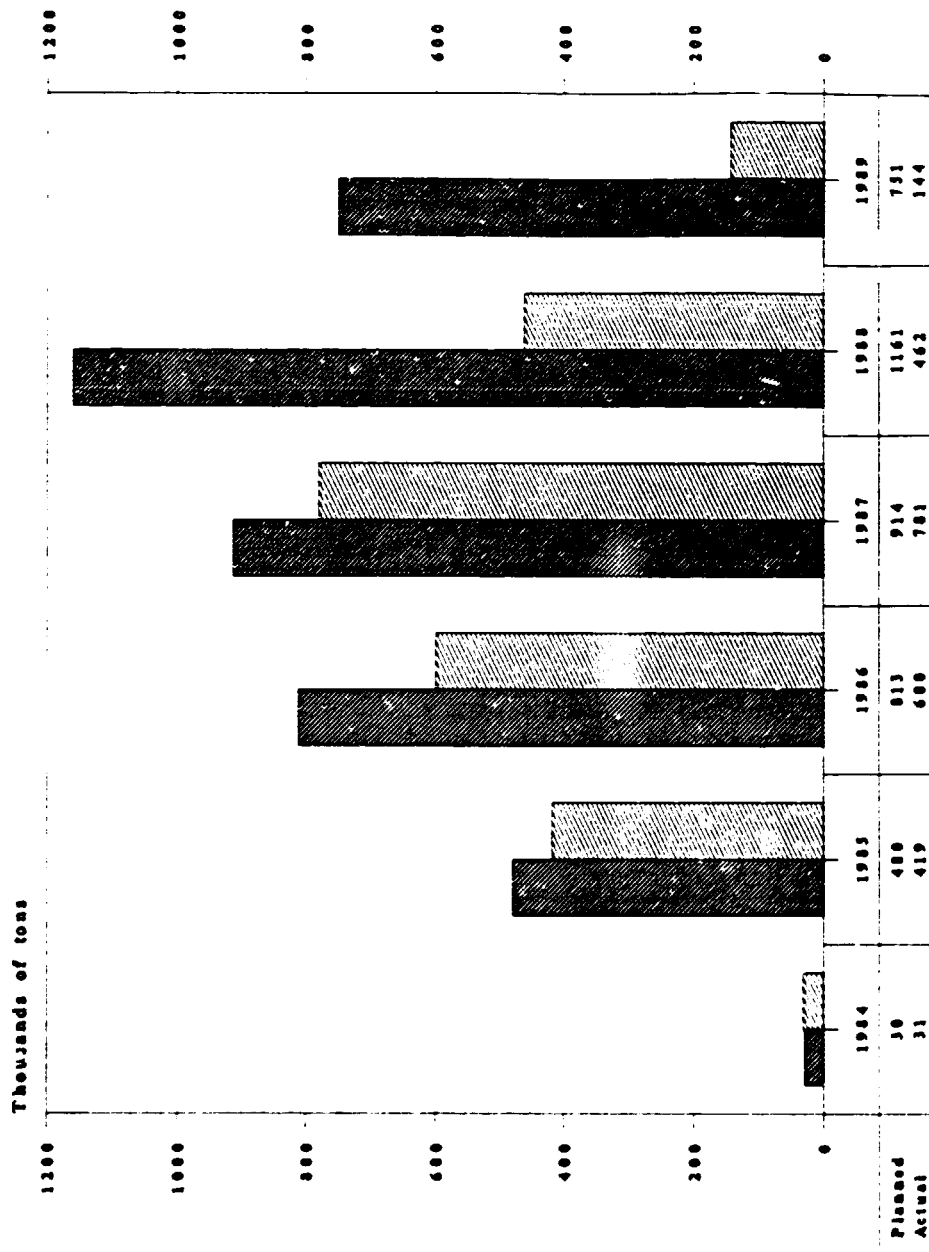
MILLIONS OF SHILLINGS

■ Rice Hullers □ Maize Mills □ Indust & Auto Spares



Planned vs. Actual Production

Mang'ula Mechanical & Machine Tools



Production
 ■ Planned
 ▨ Actual

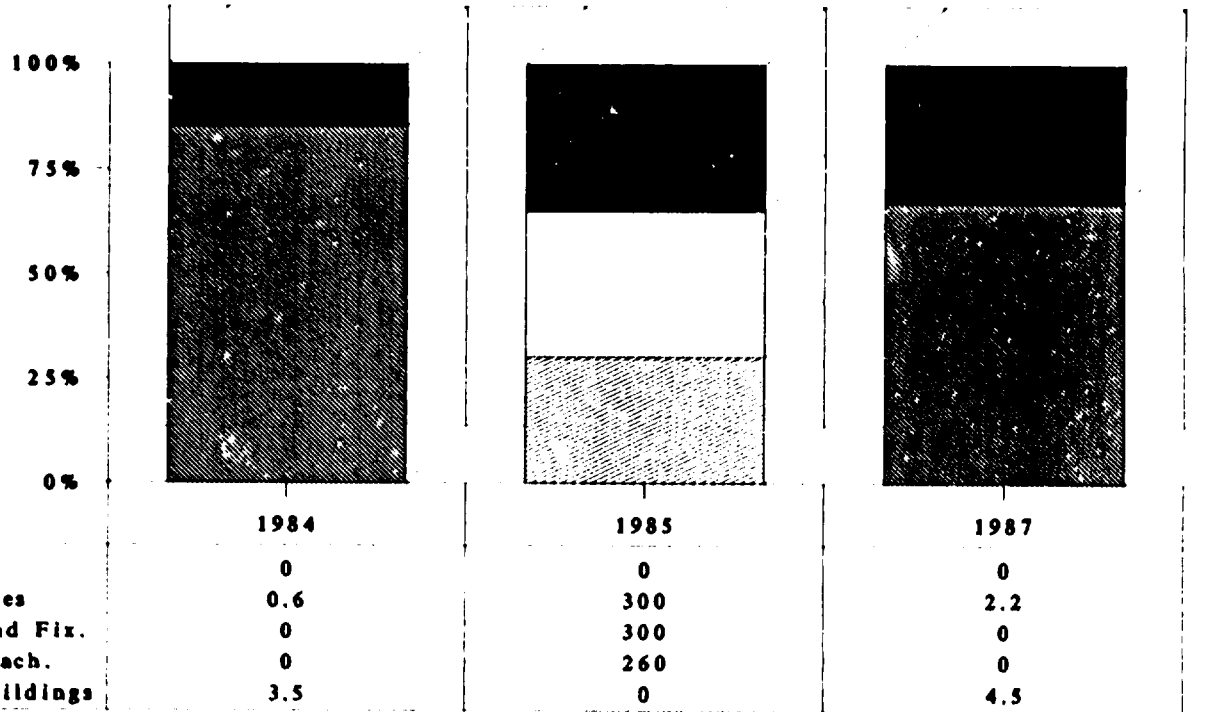


UNIDO/Tanzania/
 NDC Assistance - 1989

Capital Expenditure Breakdown

Mang'ula Mechanical & Machine Tools

MILLIONS OF SHILLINGS



Data not available FY86.

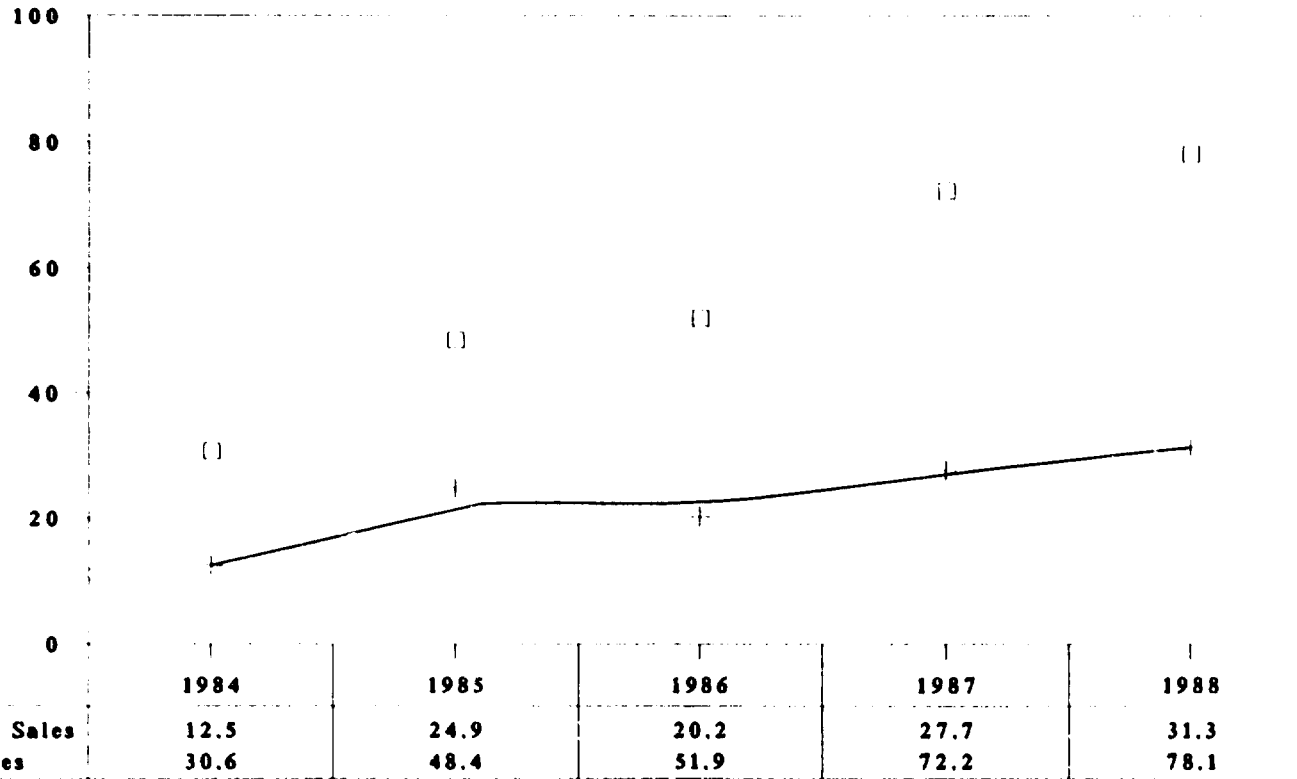


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Mang'ula Mechanical & Machine Tools

MILLIONS OF SHILLINGS

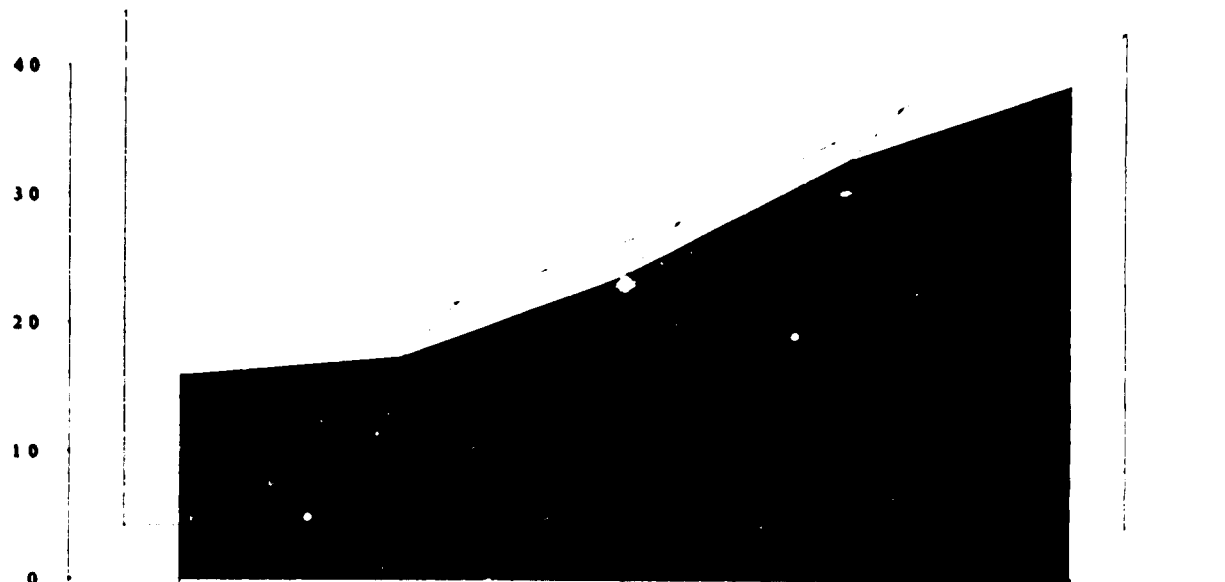


□ Net Sales + Cost of Sales

Operating Expense Breakdown

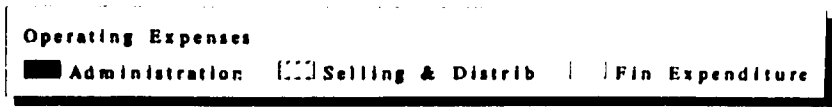
Mwanag'ulla Mechanical & Machine Ltd.

Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	0	0	0	0	0
Selling & Distrib	0	0	0	0	0
Administration	15.9	17.4	23.7	32.7	38.5

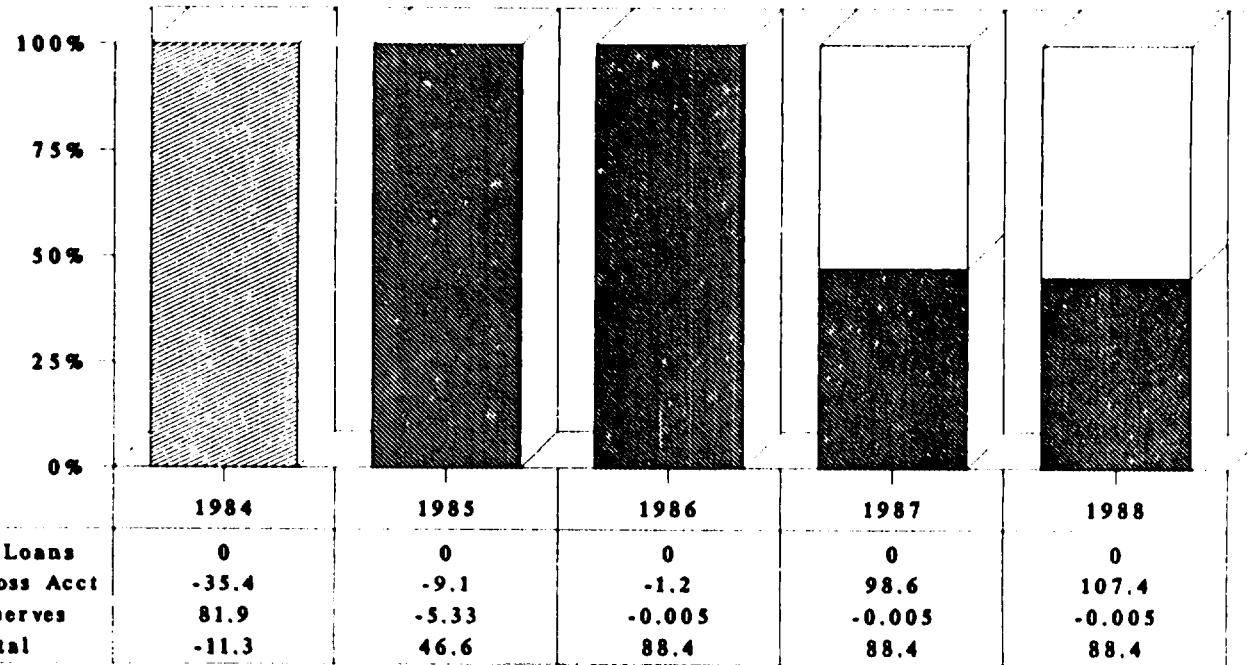
Tshillings



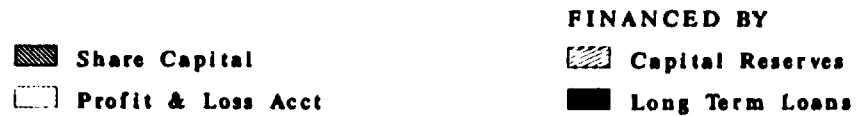
Total Net Assets

Mang'ula Mechanical & Machine Tools

MILLIONS OF SHILLINGS

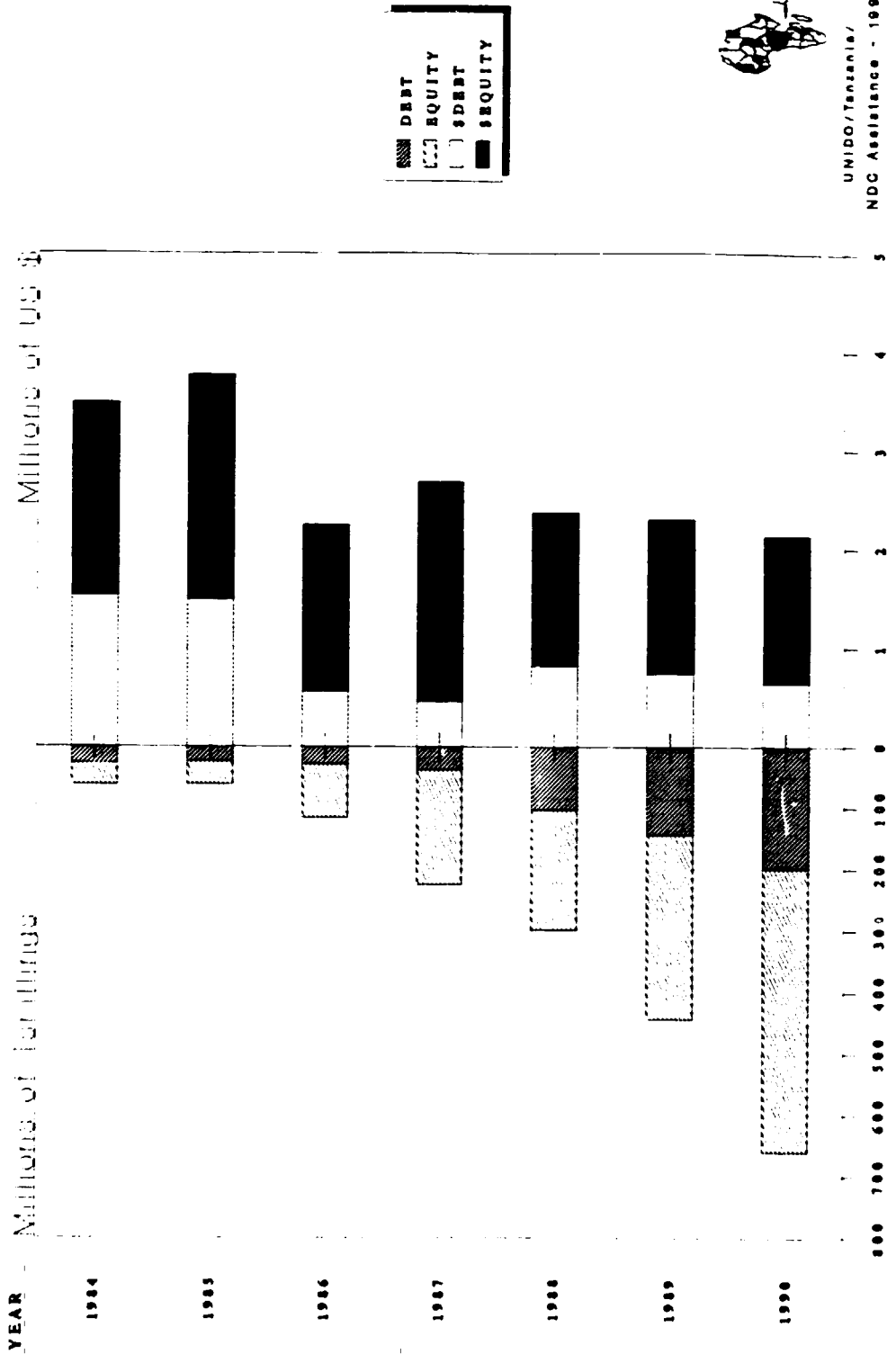


MILLIONS OF SHILLINGS



Debt/Equity Ratio

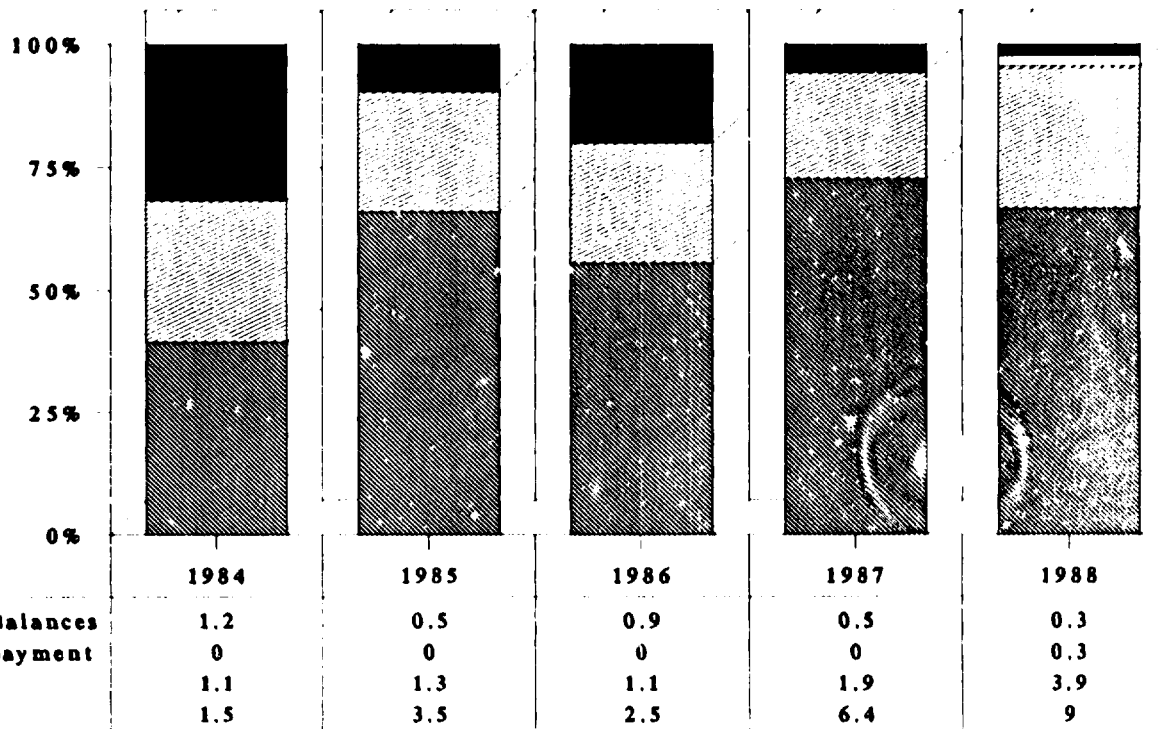
Manag'ulla Mechanical & Machine Tools



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NDC Assistance - 1991

Current Assets Breakdown

Mammy's Mechanical & Machine Tools



MILLIONS OF SHILLINGS

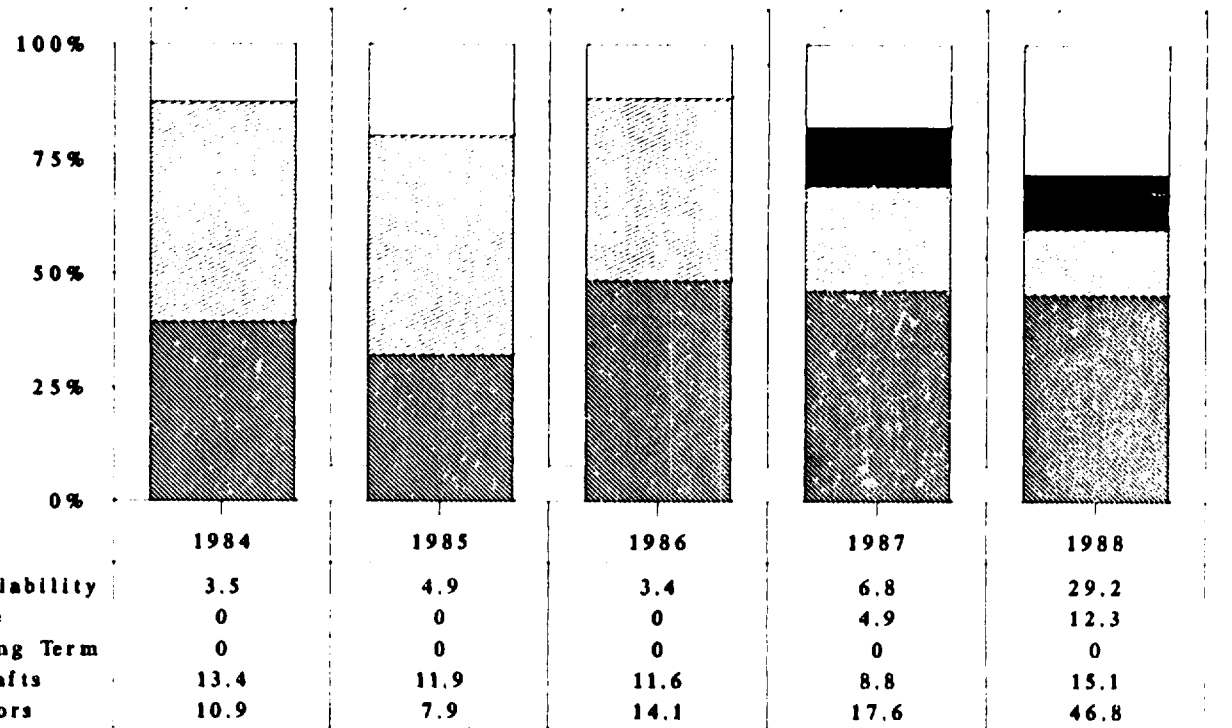
Stocks
 Trade Debtors

Debtors & Prepayment
 Cash & Bank Balances



Current Liabilities Breakdown

Mammy's Mechanical & Machine Tools



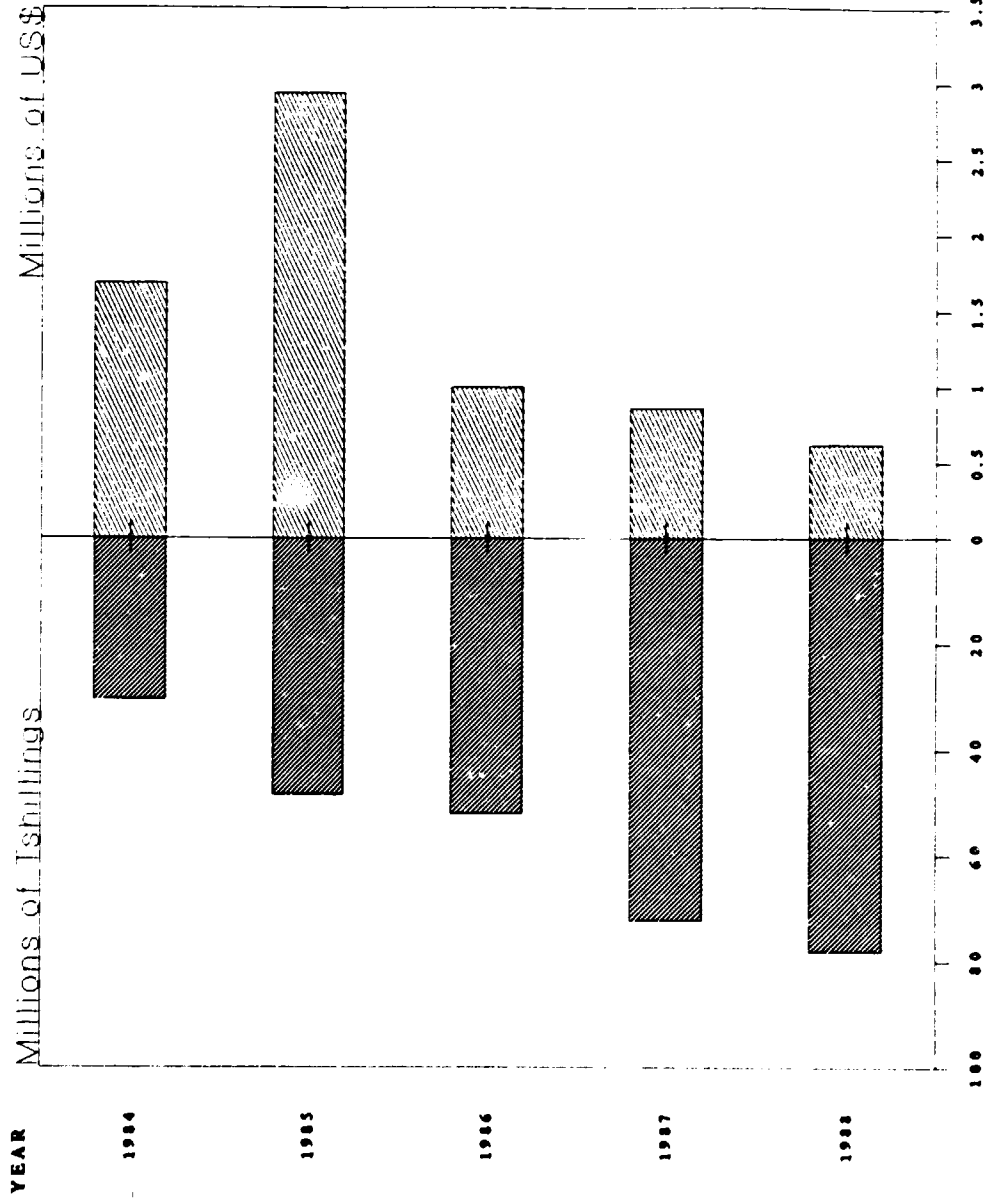
MILLIONS OF SHILLINGS



Trade Creditors
 Bank Overdrafts
 Matur of Long Term
 Other Cur Liability
 Taxes Payable

Net Sales

Mang'ula Mechanical & Machine Tools



UNIDO/Tanzania/
NDC Assistance - 1991

Appendix 6: Motor Mart (T), Ltd.

APPENDIX 6: MOTOR MART (T) LIMITED

I. RECOMMENDATIONS AND ACTION PLAN

Motor Mart (T) Limited (MMT) fits neither NDC's key customer segments nor its production skills. It is a repair business that is primarily household oriented. As a production business, it does not appear to have much expertise and has steadily lost market share. Motor Mart does not benefit from NDC's overhead and is hindered by the reporting requirements of the larger NDC structure.

We recommend that NDC sell Motor Mart to the company's management and employees. Alternately, it should be closed. There is relatively little debt on the corporation and that can be assumed by management.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

Motor Mart (T), Ltd. (MMT) was incorporated in 1960 by NDC. The company Repairs Refrigerators and on occasion assembles refrigerators, deep freezers, coolers, and mortuary cooling units for the domestic market.

Annual sales in 1989 were Ts. 23.4 million against a target of Ts. 42.6 million -- an unfavorable short fall of Ts. 19.2 million.

The Company's strategy has been to focus on coordinating repairs on an as-needed basis on requests. It is looking into the possibility of improving its facilities for its repair shop.

B. Industry and Competitor Analysis

1. Market Overview

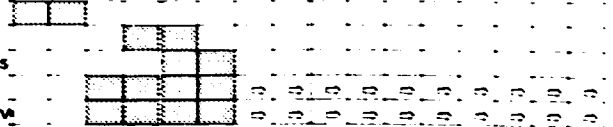
The refrigeration repair market in Tanzania appears to be a good business. Since the climate is hot, much refrigeration is needed. Refrigerators are kept beyond their useful lives. As such, repairs are extensive.

10 YEAR DEVELOPMENT PROGRAM MMT

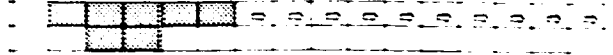
Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

Inbound logistics

- 1. Recognize the importance of purchasing to profitability
 - a. Conduct an in-depth training program for procurement managers
 - b. Establish and enforce ethical procurement standards and practices
 - c. Work with suppliers and shippers to lower shipping costs
 - d. Work with suppliers and shippers to increase the frequency of delivery



- 2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model.



- 3. Lower procurement costs
 - a. Reduce the number of suppliers to those delivering the optimal product quality, price, delivery, and terms contracts



D. Organization

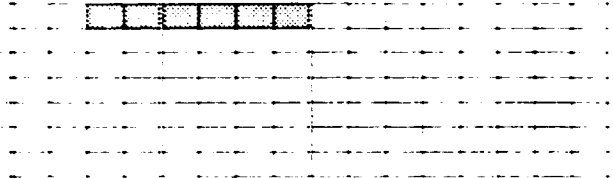
- 1. Structure the organization to achieve its targets.
 - a. Sell all shares to managers/investors



- 2. Lower administrative/overhead procedural costs
 - a. Streamline administrative paperwork.
 - b. Eliminate paperwork.
 - c. Automate the routine and voluminous

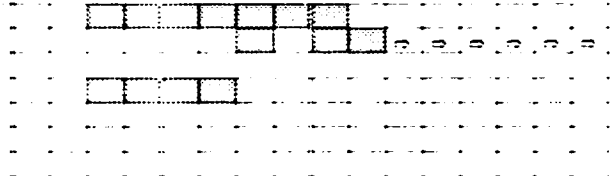


- 3. Conduct 'make or buy' analysis on ancillary services, e.g.:
 - a. Medical
 - b. Janitorial
 - c. Security
 - d. Food services
 - e. Housing maintenance, gardening
 - f. Vehicle maintenance & repair

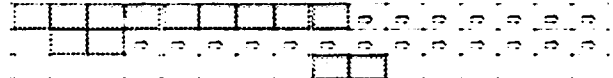


Privatization

- 1. Prepare company for privatization
 - a. Prepare communication program for employees
- 2. Establish goals for privatization
 - a. Increase employee involvement and commitment
 - b. Broaden share-ownership in Tanzania
 - c. Rid company of assets/companies that no longer 'fit'

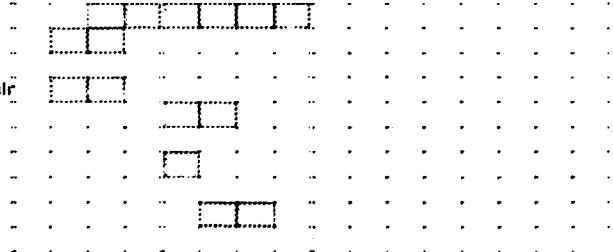


- 3. Build a reputation for integrity, adhere to commitments
 - a. Meet or exceed delivery schedules and promises
 - b. Guarantee product quality



E. Management

- 1. Flatten the management hierarchy
 - a. Prepare job descriptions and skill levels required to determine the needed requirements
 - b. Where workloads are low, expand job descriptions and responsibilities
 - c. Increase the span of control to 25 to 50 for production and lower skill levels
 - d. Eliminate management responsibility, the position for any position with less than 5 persons reporting directly.
 - e. Reduce the management hierarchy to three levels, four maximum, within the firm



2. Customer Characteristics

Refrigeration repair customers are almost all private individuals. Cold storage rooms are purchased by government institutions.

3. Market Size and Trends

As noted above, the market for refrigeration repair is expanding. This would indicate a ready market for MMT's services, in the event the company was to become more productive.

Furthermore, the volume and diversity of the refrigerator market in Tanzania is expanding. There is little export potential for either repair work or custom cold rooms.

4. Competition

Daidir, a Japanese refrigerator company manufactures locally. There are also a number of small repair shops. Most refrigerators are imported.

Macroeconomic policies that affect the MMT include exchange rate regulations and access to foreign exchange. Parts and most materials are imported.

The OGL system gives MMT equal access to foreign exchange so that it is not constrained in its ability to purchase materials. MMT does have cash flow problems, and relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

C. Marketing

1. Overall Marketing Strategy

MMT's basic strategy is to handle customer demand as it comes to the shop. MMT did advertise once, but was unable to service the demand. MMT wants to undertake more assembly and manufacturing.

2. Customers

Repair customers are private households. Cold storage units are purchased by government institutions. MMT does not appear to have many private sector customers in this area, which suggests that a stronger competitor is handling this business.

3. Sales Tactics

MMT uses no sales tactics. Customers place a cash deposit when they leave their units for repairs.

4. Customer Service

MMT is a service company but outside of basic repairs there is little apparent service given. Customers drop-off and pick-up their refrigerators.

5. Pricing

The products are not under control of the government's Pricing Commission. It is unclear how MMT determines its prices. However the firm makes a profit. Inventory management appears to be a problem. Refrigerators may set MMT for months while the company awaits spare parts.

6. Promotion

The company spent TS 257,345 in 1988 on Trade Fair and exhibition expenses to promote its products.

7. Advertising

The company does not appear to have a regular advertising program. Advertising expenses totalled less than Ts 14,000 for the years 1987 and 1988. As mentioned when it did advertise once, it was unable to meet demand.

8. Location

MMT's one and only facility is located in Dar Es Salaam. It is located on the edge of an industrial zone.

D. Production and Operations

1. Geographical Location

MMT repair and assembly facility is located in Dar Es Salaam.

2. Facilities and Processes

MMT's shop consists of a large warehouse that is tightly packed with old refrigerators. MMT feels it needs a new facility, but more careful use of space and elimination of old refrigerators would solve most of this problem.

The process of making cold storage units is labor intensive and few machines are used. Production staff numbers 24 persons. Refrigerators are moved about by hand on two-wheel carts.

3. Product Quality

Product quality at mail is a function of management's interest. As MMT is in a labor-intensive business, the level of training and supervision are critical to the quality of the service.

The decrease in market share of MMT indicates that MMT's ability to deliver the right product in a timely fashion at a good price has declined in the last few years. Furthermore, the load of manufacturing orders indicates weaknesses in MMT's skills and products.

4. Competitive Strengths/Weaknesses

As for strengths, MMT has an established location and reputation, and experienced workers. This should give it a competitive position. At the same time, MMT's work force is relatively large and expensive in comparison to its competitors. Its overhead costs are especially high.

5. Strategy and Plans

MMT wants to move a larger facility. It is unclear how this will improve its operations.

6. Expansion Plans

The firm would like to manufacture and assemble cold storage units and refrigerators. It had a study commissioned by TISCO to assist in this area but the consultants did not have an opportunity to review the study.

E. Management

Management compensation at MMT is higher than their private sector counterparts. Base salaries are within scope guidelines and are low. However, benefit packages are quite extensive. Benefits include: Housing and maintenance, vehicles for officers, medical care and insurance and life insurance. As far as could be determined, management compensation is not linked to performance.

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NCD's legal secretary. Also, MMT has made use of consultants from TISCO in recent years.

F. Human Resources

1. Composition and Skills

MMT employs 47 persons. (see Table V: Actual Manpower for details). Since 1986, the firm expanded staffing by almost 50%, despite a reduction in overall repair and production work.

2. Compensation and Trends

The Company is able to attract and retain a reasonably qualified work force for its operations. Salary levels are set by SCOPO. Turnover is low. The compensation package consists of a base wage, medical insurance, transportation allowances, tea allowances, and uniforms.

3. Productivity

Productivity in the firm is low compared to other NDC companies:

	Productivity 1989	
	MMT	NDC
Total Revenue	23,000,000	148,000,000
Sales per Employee	498,000	1,478,000
Profits per Employee	79,000	95,000

MMT should conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training includes basic work practices as well as the more technical aspects of training. MMT's budget for training in 1988 was TS 442,095 or 2.23% of sales.

G. Finances

1. Sales, Revenue, Profitability

MMT has shown an upward trend in sales in Shilling terms over the last five years as shown in Table VI, Actual Profit and Loss. However, when this is translated into both dollar and constant shilling terms, MMT has shown a marked decline in sales.

MMT makes a profit. It could be much more profitable were it more leanly staffed. Administrative costs and overheads have increased markedly faster than sales in recent years. The Cost of Goods Sold measured against sales, however, has decreased (see graph on cost of sales/net sales). This partly reflects a decline in assembly work. Financing costs are also increasing.

2. Assets and Liabilities

The MMT shows considerable weakness and a worsening trend in its balance sheet. At first glance the balance sheet has shown an increase in total assets and liabilities as shown in Table VII: Balance Sheet. However, closer analysis reveals that available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. MMT is on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms. The graph on Debt and Equity shows this dramatically.

Total net assets, current assets, and current liabilities shows the relative changes in the various categories of the balance sheet of MMT. The significant changes at MMT are:

- Cash has declined from 33% percent of total assets in 1984 to 0% percent of total assets in 1988
- Dependence on short term debt has increased from 0% of total liabilities to 50% percent of total liabilities
- MMT has suffered a weakening in its liquidity. The current ratio declined from 2 in 1985 to 1.4 in 1988

The acid ratio -- cash and cash equivalents divided by current liabilities has declined dramatically from 0.5 to 0 during this period. This indicates that MMT would not be able to cover short-term liabilities in the given year effectively converting most short-term liabilities into long term debt.

Foreign exchange to purchase these products come through the OGL and PTA mechanisms described in the main report. The Company had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. The company must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.)

Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Estimates of Valuation

Let us examine various indicators of MMT's worth as a company from a financial perspective. The economic factors of linkages or the political factors of maintaining employment despite losses have not been considered in these estimates.

Book value is Ts. 6 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In MMT's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Valued as a going concern, the profits of MMT are divided by the discount rate to obtain a value of Ts 589,000. MMT is worth more as a going concern than were it to be liquidated. This indicates that MMT has general viability as an enterprise.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the MMT would be valued at Ts. 19 million. This is the price that MMT would fetch on a stock market that valued earnings at this rate.

Appendix 6 Attachments: MOTOR MART (T)., LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Motor Mart Limit

(millions of shi
Est'd

Product	Units	Description	1984	1985	1986	1987
1. Deep Freezers UDF 15	0		1	1	1	0
2. Deep Freezers UDF 12	0		0	0	0	0
3. Deep Freezers UDF 7.5	0		0	0	0	0
4. Juice Coolers	0		0	0	0	0
5. Bottle Coolers CB 2	0		0	0	0	0
6. Bottle Coolers CB 1	0		0	0	0	0
7. Bottle Coolers 9.2 Ft	0		0	0	0	0
8. Water Coolers	0		0	0	0	0
9. Cold Rooms 5.0 HP	0		0	0	0	0
10. Cold Rooms 3.0 HP	0		0	1	0	0
11. Cold Rooms 1.5 HP	0		0	0	0	0
12. Mortuary Cooling Units	0		1	0	0	0
13. Ice Plants	0		0	0	0	0
14. Counter Cabinets	0		0	0	0	0
15. Blood Banks	0		0	0	0	0
16. Medice Storage Cabinets	0		0	0	0	0
17. Repair Works	0		7	8	12	16
18. Deep Freezers UDF 9.2	0		0	0	0	0
19. Deep Freezers UDF 4.5	0		0	0	0	0
20. Cold Rooms 7.5 KW	0		0	0	0	0
Total			9	10	13	16
Units/Employee			0	0	0	0

TABLE II

Table : Actual Production

Motor Mart Limited

Product	Units	Description	(Production in Units)					
			1984	1985	Est'd		Est'd	
					1986	1987	1988	1989
1. Deep Freezers	0	UDF 15	29	35	19	2	1	0
2. Deep Freezers	0	UDF 12	17	0	1	1	1	0
3. Deep Freezers	0	UDF 7.5	0	0	2	3	2	1
4. Juice Coolers	0	0	3	0	0	0	0	0
5. Bottle Coolers	0	CB 3	0	0	0	0	0	0
6. Bottle Coolers	0	CB 1	0	0	0	0	0	0
7. Bottle Coolers	0	92 FT*3	3	0	0	0	0	0
8. Water Coolers	0	0	0	0	0	0	0	0
9. Cold Rooms	0	1.5/3.0/2.2 KW	0	4	3	1	1	0
10. Mortuary Cooling Units	0	0	5	1	1	0	0	0
11. Ice Plants	0	0	0	0	0	0	0	0
12. Counter Cabinets	0	0	0	0	1	2	2	1
13. Blood Banks	0	0	0	0	0	0	0	0
14. Medicine Storage Cabinets	0	0	0	0	0	0	0	0
15. Repair Works	0	0	625	664	652	640	598	556
Total			682	704	677	649	604	558

TABLE III

Table : Actual Purchases

Motor Mart Limited

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	1	1	0	0	0	0
2.	Spares & accessories	2	3	2	2	3	3
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	3	3	3	2	3	3
Foreign currency							
7.	Raw materials	0	0	0	0	0	0
8.	Spares & accessories	1	1	3	4	4	4
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	1	2	3	4	4	4
13.	Total	4	5	6	6	7	7
14.	In Dollars	\$0	\$0	\$0	\$0	\$0	\$0

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Motor Mart (T) Limited

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	0.0	0.0	0.0	0.0	0.0
2. Plant & machinery	0.6	0.0	0.0	0.0	0.0	0.1
3. Furniture & fixtures	0.0	0.1	0.0	0.0	0.0	0.0
4. Motor vehicles	0.3	0.3	0.0	0.0	0.0	0.0
5. Other	0.1	0.0	0.0	0.0	0.0	0.0
Total Expenditures	1.0	0.5	0.0	0.0	0.0	0.1
Source of Funds						
1. Equity - MDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	1.0	0.5	0.0	0.0	0.0	0.1
8. Other, Unaccounted For	0.0	(0.0)	0.0	0.0	0.0	0.0
Total Sources	1.0	0.5	0.0	0.0	0.0	0.1

TABLE V

Table : Actual Manpower

Motor Mart(T) Limited Company

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	2	3	3	3	3	3
2 Middle Managers	4	4	2	0	3	5
3 Supervisors	11	13	11	9	12	15
4 Clerical	5	3	3	3	3	3
5 Skilled Manual	11	13	13	12	12	12
6 Unskilled Manual	6	5	5	5	7	9
Total	39	41	37	32	40	47
Expatriate	0	0	0	0	0	0
Total Employees	39	41	37	32	40	47

TABLE VI

Table : Actual Profit and Loss Motor Mart Limited Company

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	9	10	11	15	20	0	0
Less: Cost of Sales	5	5	6	8	7	0	0
Gross Profit	5	5	5	7	13	0	0
Less: Operating Expenses	3	4	4	7	12	0	0
Administration	3	4	4	7	12	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	2	1	1	0	1	0	0
Add: Other Income	0	0	0	0	0	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	2	1	1	0	1	0	0
Less: Provision for Taxes	1	1	1	0	1	0	0
Profit After Tax	1	1	1	0	1	0	0
Statement of Retained Earnings							
Balance Brought Forward	0	2	3	3	0	1	1
Prior Year Adjustment	0	0	(0)	(3)	0	0	0
Balance Brought Forward R	0	2	3	1	0	1	1
Add: Net Profit for the Year	1	1	1	0	1	0	0
Profit Available for Appr	1	3	3	1	1	1	1
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	1	3	3	1	1	1	1
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	1	1	0	0	0	0	0
Cost of Sales	0	0	0	0	0	0	0
Operating Expenses	0	0	0	0	0	0	0
Profit After Tax	0	0	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Motor Mart (T) Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	1	1	1	1	1	0	0
2. Current Assets	4	5	4	9	14	0	0
3. Stocks	2	4	3	6	9	0	0
4. Trade Debtors	1	1	1	2	4	0	0
5. Debtors and Prepayments	0	0	0	0	0	0	0
6. Cash and Bank Balances	1	0	1	0	0	0	0
7. Current Liabilities	2	3	2	6	10	0	0
8. Trade Creditors	0	0	0	1	3	0	0
9. Bank Overdrafts	0	1	0	3	5	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	1	1	1	0	1	0	0
12. Other Current Liabiliti	1	1	1	2	1	0	0
13. Net Current Assets/Liabil	2	2	3	3	4	0	0
14. Total Net Assets	3	3	4	4	4	0	0
15. Financed by:							
16. Share Capital	0	0	0	3	3	0	0
17. Capital Reserves	0	(0)	(0)	(0)	(0)	0	0
18. Profit and Loss Account	3	3	4	1	1	0	0
19. Long Term Loans	0	0	0	0	0	0	0
20. Debt	2	3	2	6	10	0	0
21. Equity	3	3	4	4	4	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

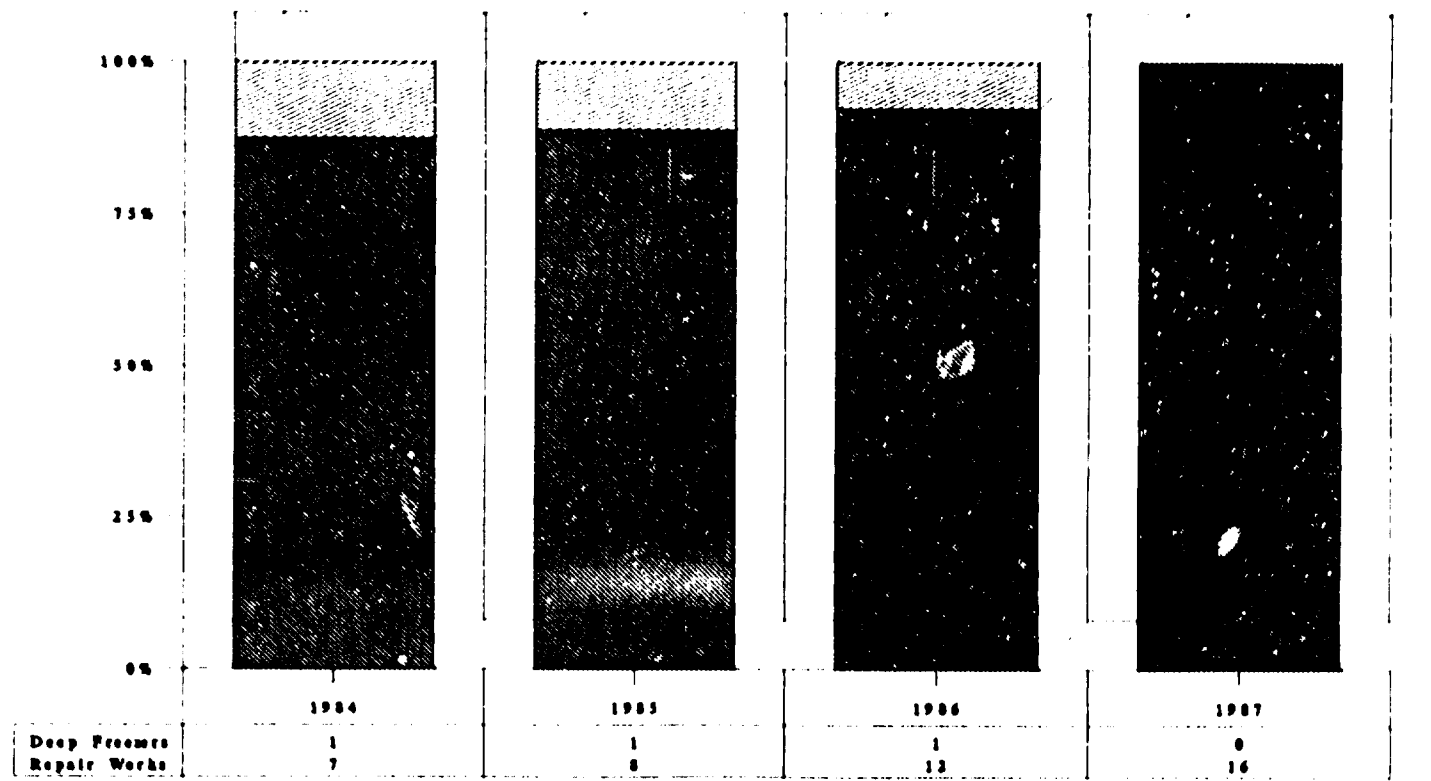
In Current Dollars

1. Net Fixed Assets	0	0	0	0	0	0	0
2. Current Assets	0	0	0	0	0	0	0
7. Current Liabilities	0	0	0	0	0	0	0
13. Net Current Assets/Liabil	0	0	0	0	0	0	0
14. Total Net Assets	0	0	0	0	0	0	0
20. Debt	0	0	0	0	0	0	0
21. Equity	0	0	0	0	0	0	0

Product Sales Breakdown

Motor Mount Limited

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS



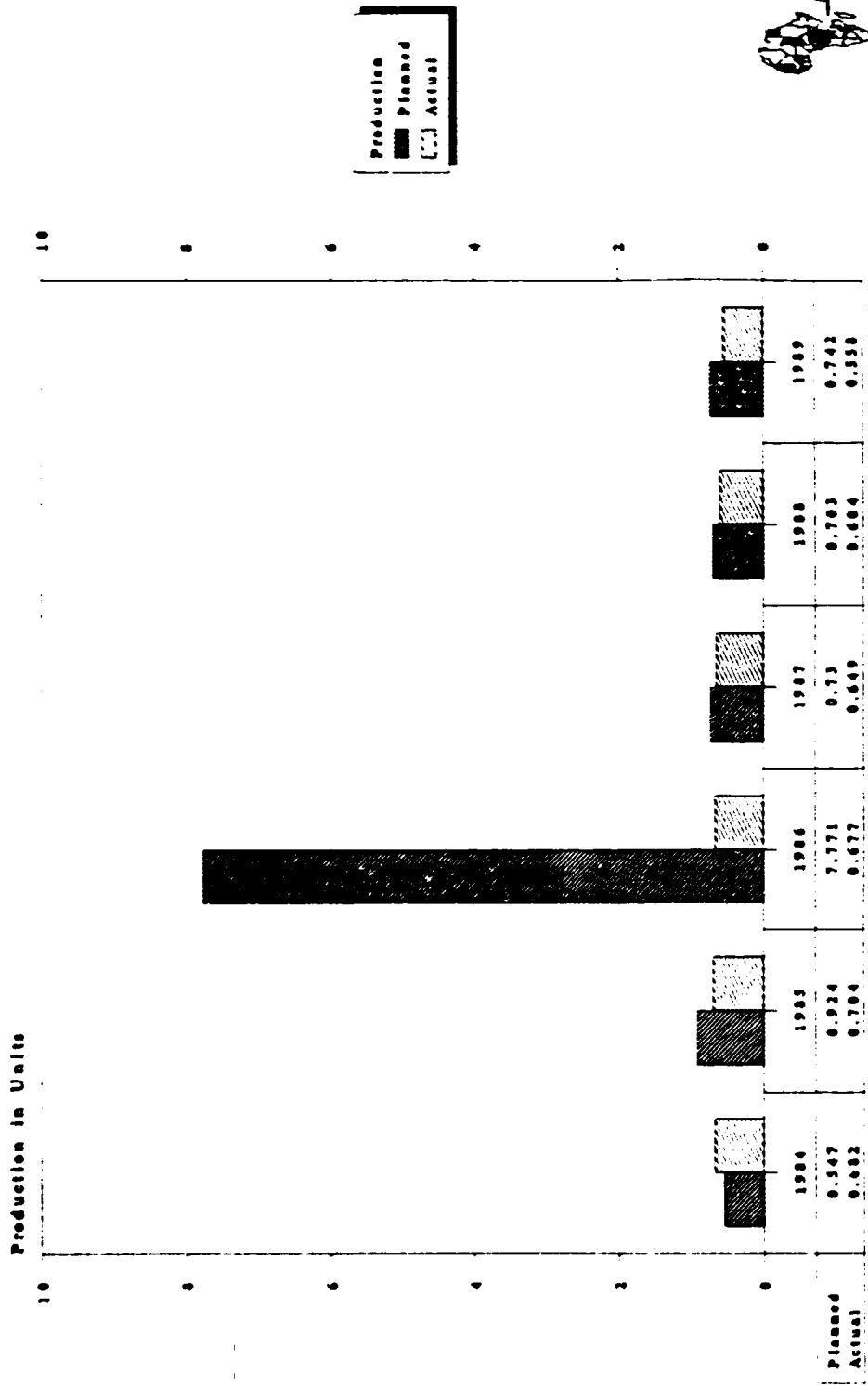
UNIDO/Tanzania/NDC Assistance - 1991

■ Repair Works □ Deep Freezers

(Data not available for 1987-88)

Planned vs. Actual Production

Motor Mart Limited

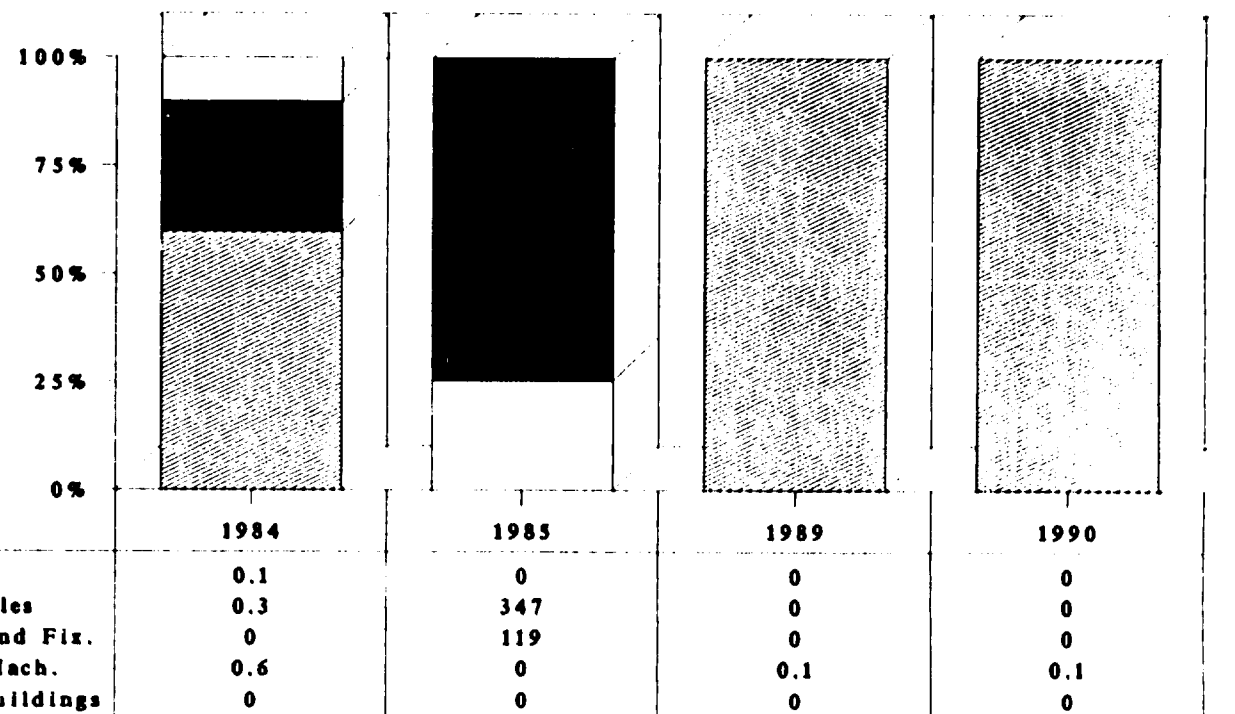


UNIDO/Teknika/
NDC Assistance - 1991

Capital Expenditure Breakdown

Motor Mairt (T), Ltd.

MILLIONS OF SHILLINGS



Data not available FY86-88.

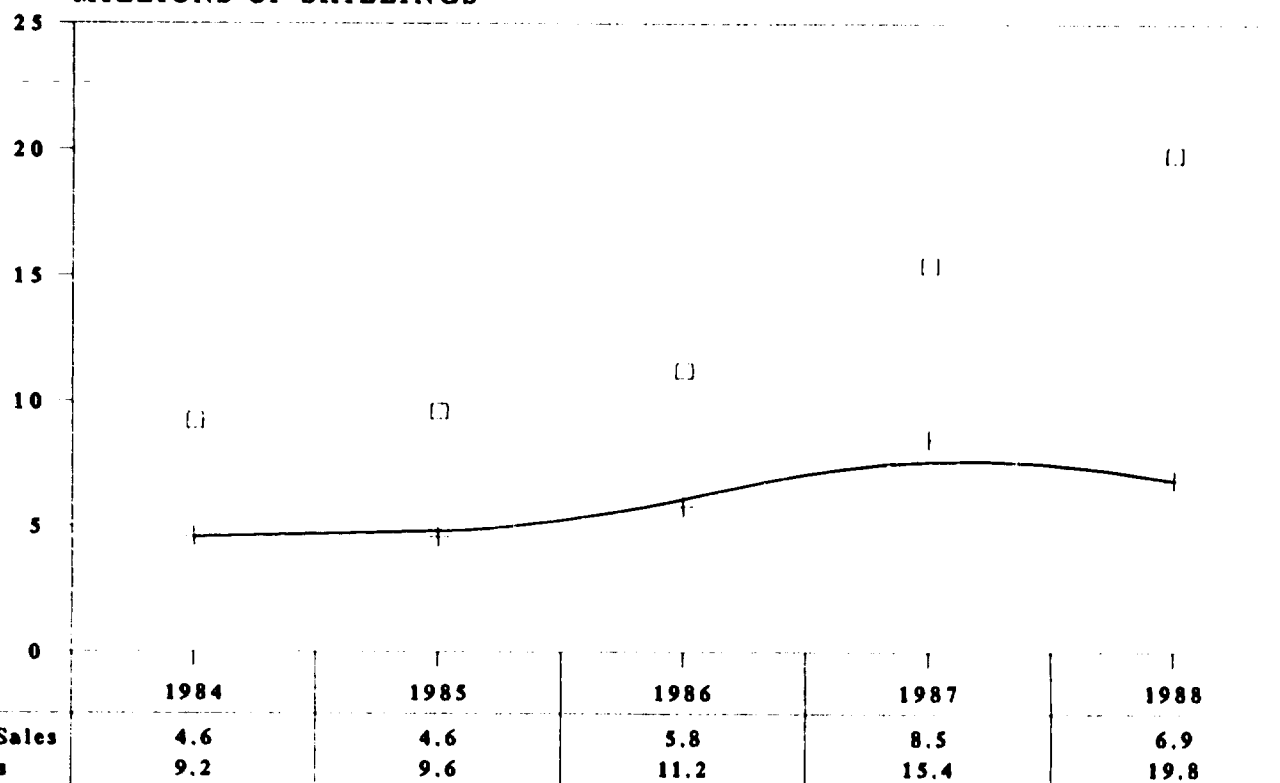


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Other

Cost Of Sales/Net Sales

Motor Mart (T) Ltd.

MILLIONS OF SHILLINGS



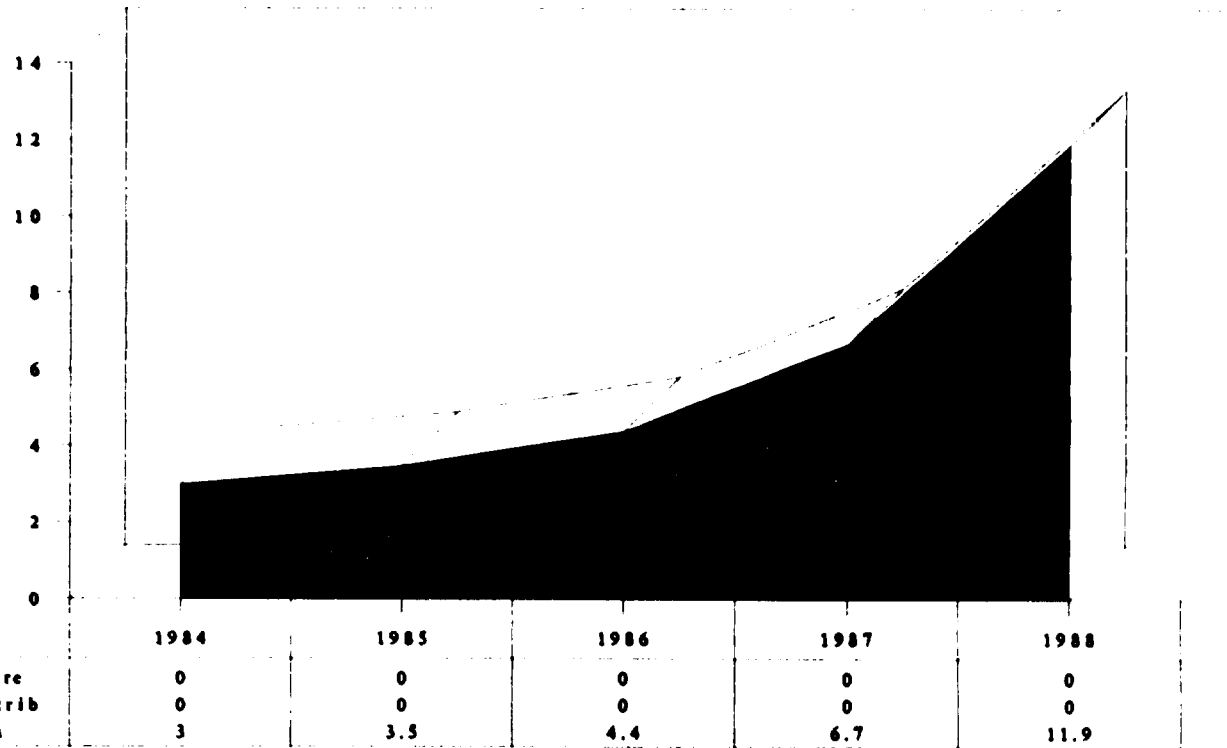
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Motor Mart (T) Ltd.

Millions of Tshillings



Operating Expenses

■ Administration

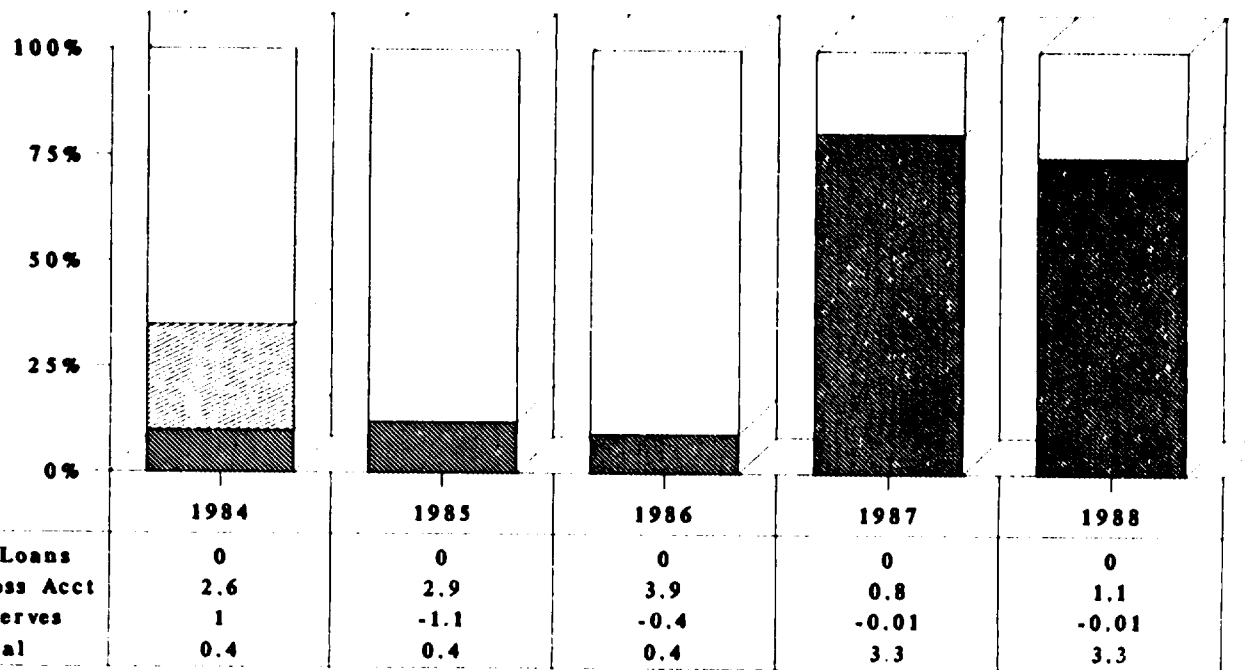
▨ Selling & Distrib

□ Fin Expenditure

Total Net Assets

Motom Mairit (T), Ltd.

MILLIONS OF SHILLINGS

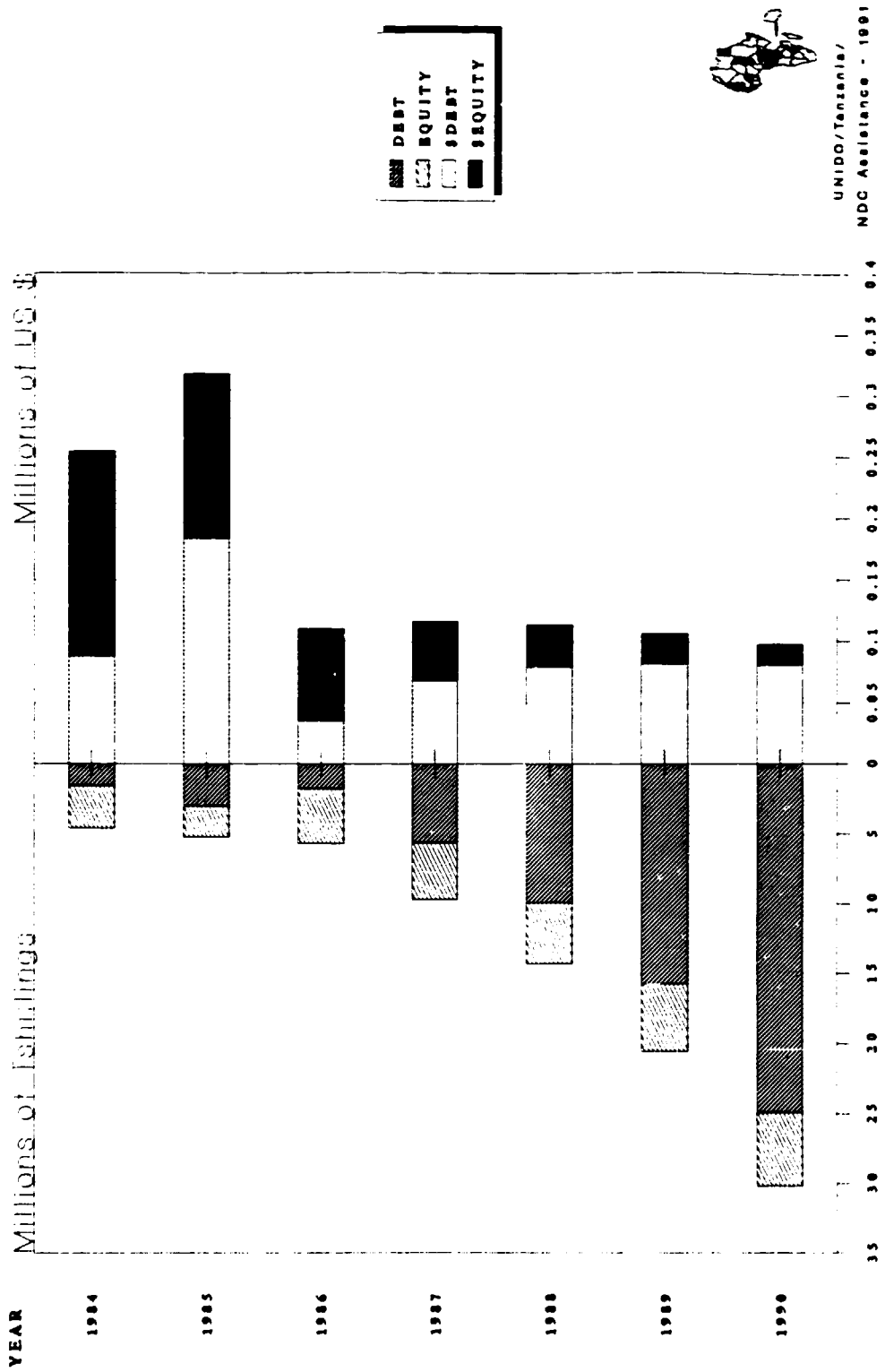


MILLIONS OF SHILLINGS



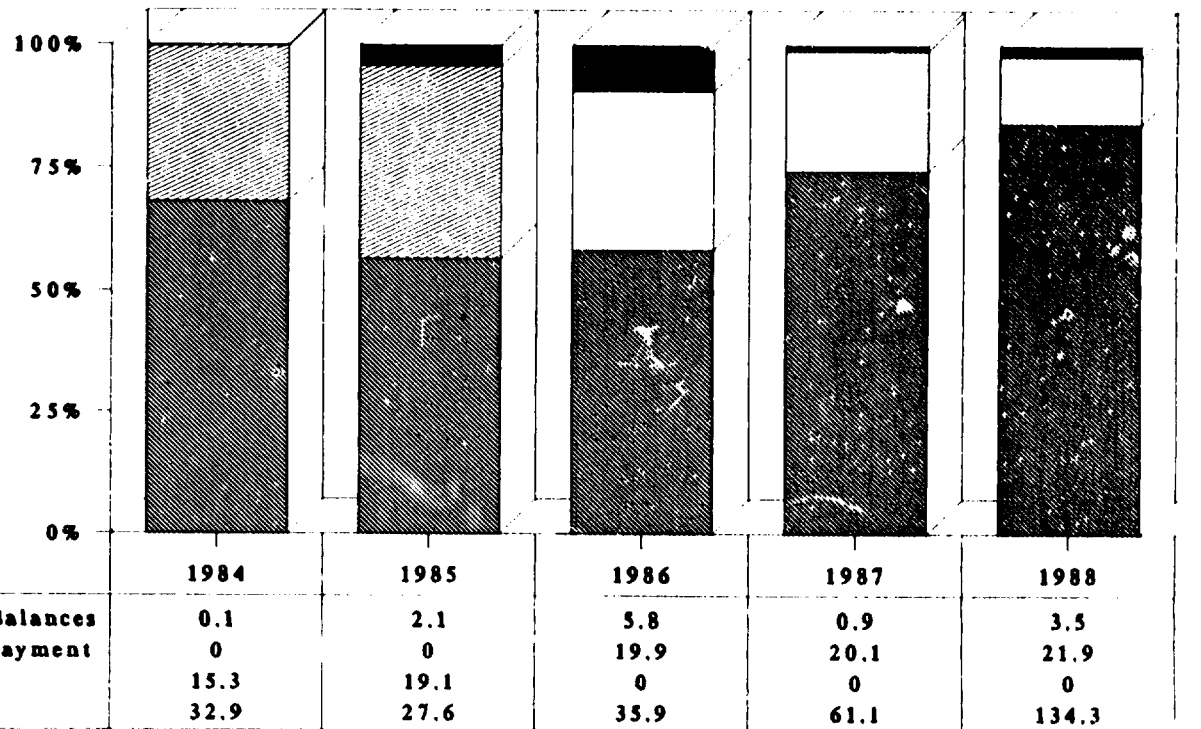
Debt/Equity Ratio

Motor Mart (T) Ltd.



Current Assets Breakdown

Motor Mart (T), Ltd.

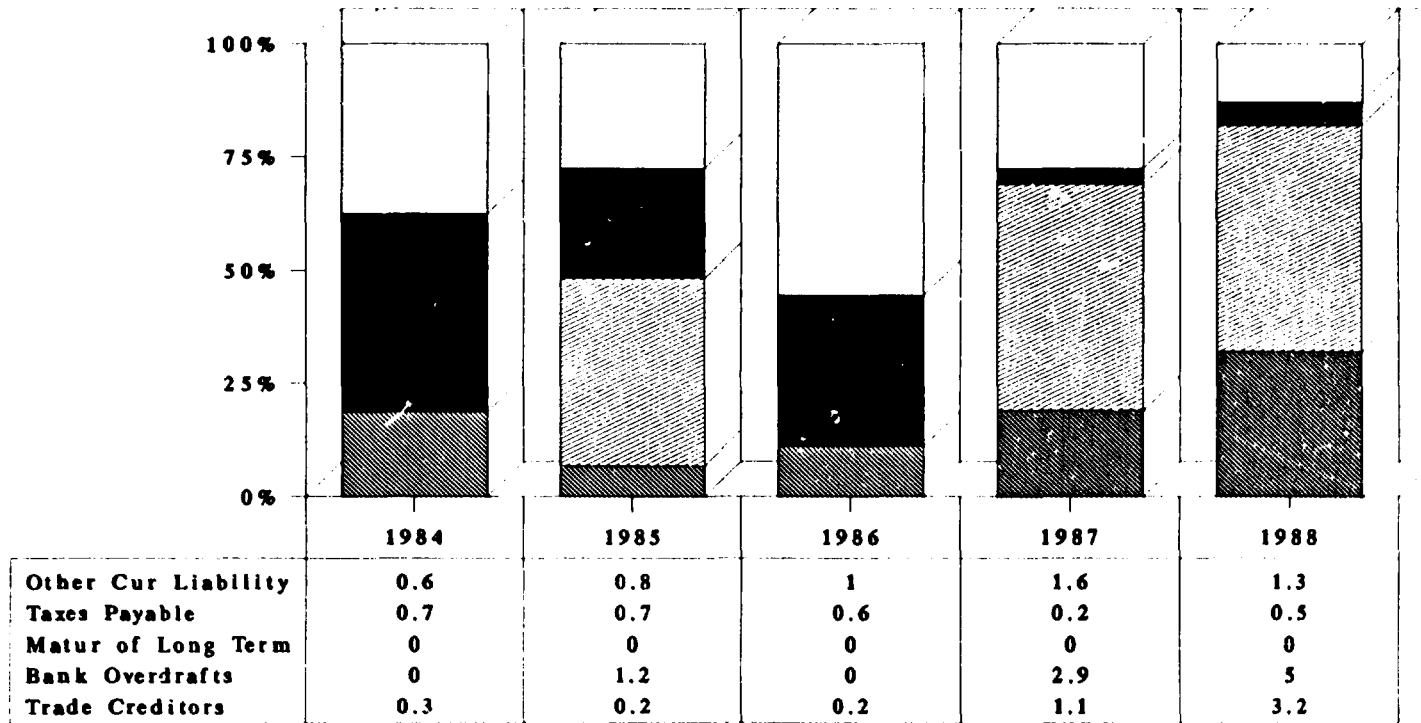


MILLIONS OF SHILLINGS



Current Liabilities Breakdown

Motor Mart (T) Ltd.



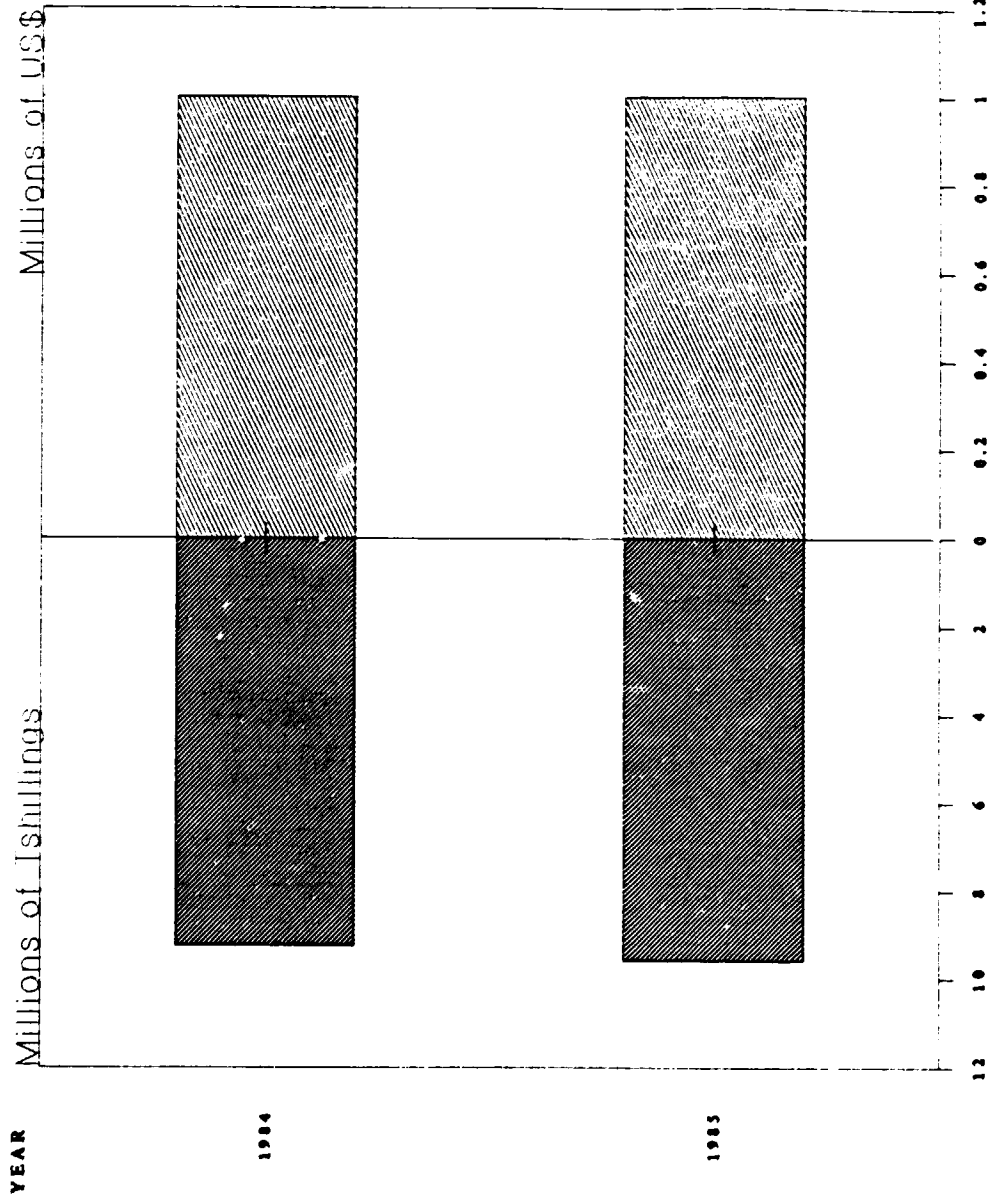
MILLIONS OF SHILLINGS



Trade Creditors
 Bank Overdrafts
 Matur of Long Term
 Taxes Payable
 Other Cur Liability

Net Sales

Motor Mart (T), Ltd.



NET SALES
NET SALES



UNIDO/Tanzania/
NDC Assistance - 1991

Appendix 7: National Bicycle Co., Ltd.

APPENDIX 7: NATIONAL BICYCLE COMPANY (NABICO)

I. RECOMMENDATIONS AND ACTION PLAN

National Bicycle does not fit NDC's core group of customers as defined in this report, even though, farmers and the rural population do make use of its bicycles. It does have several industrial processes that fit NDC's needs; however, at present, they are not in production.

NDC could obtain the most benefit from and create the most benefit for Tanzania by better using National Bicycles facilities. While the Company could continue to produce select parts and assemble bicycles; the unused portions of its facility could better be utilized by smaller contractors.

For these reasons, we recommend that the company be broken into smaller units either by creating subcontractors, by leasing the machines and space to subcontractors, or by selling the machines to independent entrepreneurs.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

Also, more detailed production oriented recommendations are contained on pages 8 and 9, below.

II. FINDINGS AND ANALYSES

A. Overview

NABICO first began to produce bicycles in the mid 70s. Production, however, ceased in 1982 due to a foreign exchange crisis.

The original plan for NABICO was that it should produce about 60,000 cycles a year. Only some of the parts would be produced in-house and the remainder (balancing parts) would be imported. The cycle would then be assembled from the two sets. A cabinet decision, however, forced an eventual installed capacity up to 150,000 cycles per year and decreed that all the parts be manufactured in- house.

This decision led to machinery sourcing problems. For example, purchasing a chain making plant to make 1 million chains a year is relatively simple. Finding a plant to make just 150,000 is much more difficult, and there is an inherent rise in the capital cost per unit of production. Production was discontinued and workers laid off.

10 YEAR DEVELOPMENT PROGRAM NBC

Year 1

Year 2

I II III IV I II III IV 5 6 7 8 9 10

NDC Companies

A. General Strategy

- 1. Choose a generic strategy
 - a. Cost leader

B. Marketing

- 1. Determine product's value to customers, e.g.:
 - a. Utility
 - b. Price
 - c. Quality
 - d. Delivery
 - e. Financing
 - f. Appearance

- 2. Determine company's position vis-a-vis competition

- 3. Develop a Market Program (ZZK model and modify), e.g.:
 - a. Product characteristics
 - b. Pricing
 - c. Distributing, etc.

- 4. Increase product visibility
 - a. Place products in regional depots
 - b. Arrange credit program to ship and sell excess inventories
 - c. Arrange consignment sales to distributors and agents
 - d. Participate in regional fairs in Tanzania
 - e. Participate in regional fairs in SADCC/PTA countries
 - f. Advertise and promote products

- 5. Increase numbers of persons marketing products
 - a. Find marketing-oriented individuals within the company
 - b. Replace non-productive sales staff
 - c. Establish regional distributors, agents

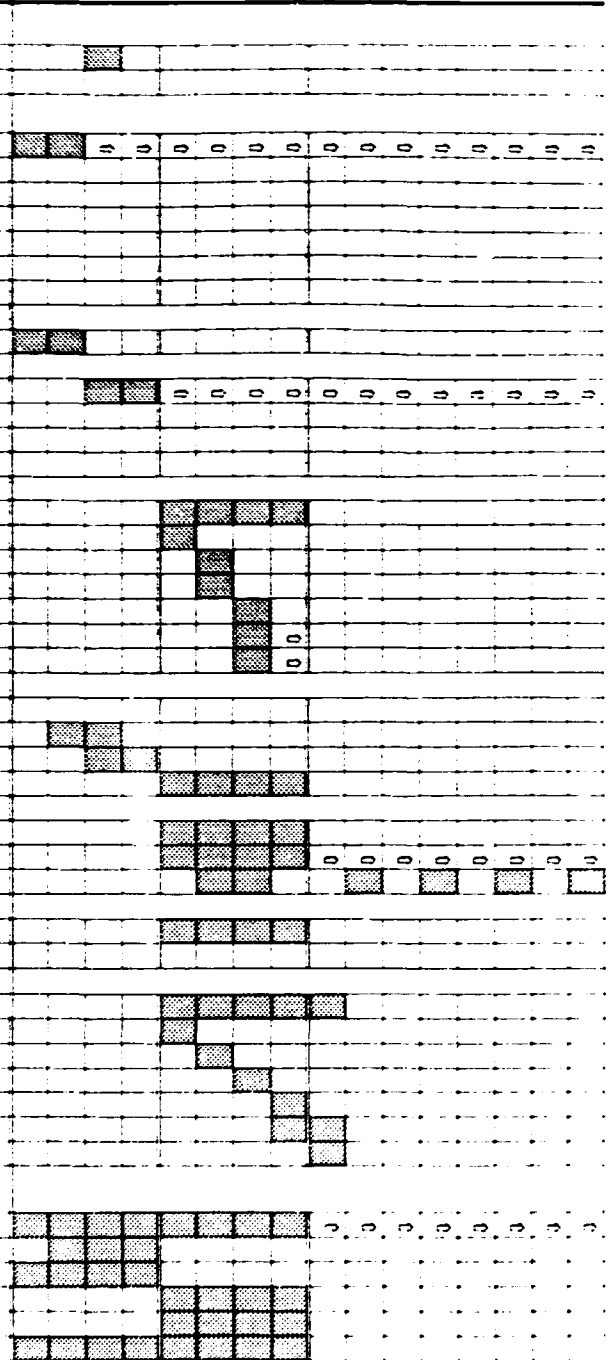
- 6. Improve quality of marketing effort, e.g.:
 - a. Train salespersons and distributors
 - b. Redesign sales and promotional literature

- 7. Implement market intelligence program, e.g.:
 - a. Conduct monthly, quarterly, annual surveys

- 8. Improve after-sales service and support
 - a. Collect customer feedback
 - b. Give input to production to improve product and features
 - c. Build better product
 - d. Train customers in proper use and maintenance
 - e. Train servicemen to repair quickly and correctly
 - f. Sell related goods and services

C. Production and Operations

- 1. Lower production costs
 - a. Speed throughput time
 - b. Eliminate extraneous material and machines
 - c. Improve product quality
 - d. Lower raw material costs (Production)
 - e. Improve equipment maintenance and repair



10 YEAR DEVELOPMENT PROGRAM NBC

Year 1 Year 2
 I II III IV I II III IV 5 6 7 8 9 10

2. Improve the quality and training of production staff
- a. Move NDC HQ engineers into operating/technical positions
 - b. Enroll engineers and technicians in MEIDA and technical seminars
 - c. Conduct field trips for production staff
 - d. Conduct in-house seminars

3. Improve the appearance and safety of facilities
- a. Fix and repair leaks, damaged structures, etc.
 - b. Remove unnecessary materials from plant grounds and facilities
 - c. Identify hazardous processes
 - d. Provide workers with adequate safety equipment

Inbound logistics

1. Recognize the importance of purchasing to profitability
- a. Have purchasing manager report directly to the general manager
 - b. Conduct an in-depth training program for procurement managers
 - c. Establish and enforce ethical procurement standards and practices
 - d. Work with suppliers and shippers to lower shipping costs
 - e. Work with suppliers and shippers to increase the frequency of delivery

2. Lower raw material costs (Purchasing)
- a. Build an economic order quantity (EOQ) model
 - b. Form a buying cooperative/pool orders with NDC companies
 - c. Review/establish quality standards for raw materials

3. Lower procurement costs
- a. Reduce the number of suppliers to those delivering the optimal product quality, price, delivery, and terms contracts
 - b. Pool vehicle and other bids with NDC group companies

Outbound logistics

1. Reduce outbound transportation costs for customers:
- a. Ship by rail
 - b. Negotiate volume discounts with overland shippers
 - c. Establish selling depots in key regions and ship in bulk
 - d. Package product to minimize breakage
 - e. Ship parts and assemble closer to the customer

D. Organization

1. Structure the organization to achieve its targets:
- a. Obtain outside partners
 - b. License technology
 - c. Negotiate management contracts
 - d. Sell all shares to managers/investors
 - e. Break-up into smaller units

2. Lower management expense:
- a. Increase span-of-control
 - b. Reduce corporate staff positions
 - c. Flatten hierarchy

3. Lower administrative/overhead procedural costs
- a. Streamline administrative paperwork,
 - b. Eliminate paperwork,
 - c. Automate the routine and voluminous

4. Conduct 'make or buy' analysis on ancillary services. e.g.:
- a. Medical
 - b. Janitorial
 - c. Security
 - d. Food services
 - e. Housing maintenance, gardening
 - f. Vehicle maintenance & repair

10 YEAR DEVELOPMENT PROGRAM NBC

Year 1 Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

Privatization

- 1. Prepare company for privatization
 - a. Improve operating performance
 - b. Improve financial performance

- 2. Establish goals for privatization
 - a. Equity infusion
 - b. Access to technical expertise
 - c. Increase employee involvement and commitment
 - d. Broaden share-ownership in Tanzania
 - e. Rid company of assets/companies that no longer "fit"

- 3. Build a reputation for integrity, adhere to commitments
 - a. Repay bank debts ahead of schedule
 - b. Meet or exceed delivery schedules and promises
 - c. Guarantee product quality

E. Management

- 1. Flatten the management hierarchy
 - a. Prepare job descriptions and skill levels required to determine the needed requirements
 - b. Where workloads are low, expand job descriptions and responsibilities
 - c. Increase the span of control to 5 to 9 for senior management
 - d. Increase the span of control to 25 to 50 for production and lower skill levels
 - e. Eliminate management responsibility/the position for any position with less than 5 persons reporting directly.
 - f. Reduce the management hierarchy to three levels, four maximum, within the firm

F. Employees

- 1. Increase employee involvement and commitment
 - a. Establish cross-functional groups to solve key problems
 - b. Institute employee suggestion programs
 - c. Establish profit-sharing, phantom stock, or employee stock-ownership programs
 - d. Establish regular employee recognition awards

- 2. Revamp compensation package
 - a. Conduct/obtain a salary and benefits survey
 - b. Cost-out benefit components
 - c. Set upper-limit on benefit compensation
 - d. Establish "cafeteria plan" of benefits
 - e. Obtain exemption from SCOPO guidelines
 - f. Substitute profit-sharing, "phantom-stock," or ESOP for additional compensation

- 3. Revise the position classification system
 - a. Look for "over-grading"
 - b. Establish more general, flexible position descriptions

- 4. Reduce employment
 - a. Reduce number of managers.
 - b. Reduce administrative/overhead personnel.
 - c. Eliminate non-critical functions.
 - d. Eliminate non-productive personnel.
 - e. Reduce number of production workers.

- 5. Manage the employment reduction process
 - a. Early retirement
 - b. Voluntary incentives
 - c. Redistribute to growing companies, functions
 - d. Provide retraining programs
 - e. Encourage ex-employees to bid on contracts

NABICO began to import thousands of bicycles from India as Complete Knocked Down (CKD) kits. These they sold in Tanzania to finance future production. They have failed to sell them all and have hundreds still in cases and assembled in store.

Production restarted in May 1990. So, it is essentially a business which is only some nine months old. However, it carries the debt burden of the previous attempt at manufacturing and has an antiquated production line.

1. General

The current strategy is to start small. It will import parts that are not made locally for sale under the Swala name. They have limited production on a single model, a utility bicycle capable of carrying a load of up to 200kg.

Their plant is capable of producing all the parts of a bicycle. Management wants to bring more parts into production as they gain experience and trained personnel.

Management is aware that it may be more cost-effective to buy parts or services from sub-contractors. There is a SIDO supported company already producing racks, stands, bells, and pumps.

They have also experimented with local companies plating items such as head, stock-bearing cups. Based on quality, a company in Moshi seems favored to win a contract.

In addition, they realize that they have some unique processes and capabilities at their disposal and are not adverse to the IDEA of selling off whole processes, such as chain manufacture, to sub-contractors who could make use of the excess capacity by diversifying into other markets. The management are also keen to subcontract out excess capacity in certain processes such as electro plating.

The tool room currently does outside contract work, which can yield up to 100,000/= per week.

B. Industry and Competition Analysis

1. Market Size and Trends

The market for all types of bicycle products is expanding. Bicycles are an important form of transportation in the rural areas and in smaller towns.

Local services in rural areas are minimal, and private cars are a luxury. The demand for bicycles will keep step with the population growth rate.

2. Competition

NABICO is the only local producer of bicycles. However, it faces stiff competition from superior quality, lower priced imports from India and China.

3. Policy and Regulatory Framework

The policy and regulatory environment has encouraged competition in the bicycle industry in Tanzania. Assembled bicycle imported from India and China are not subject to sales taxes. Raw materials used to manufacture bicycles by NABICO are, however, subject to sales taxes.

After NABICO ceased production in 1982, imports of assembled bicycles from India and China has increased.

C. Marketing

NABICO has no marketing strategy. They wait for customers or agents to place orders and then proceed to satisfy the demand, if possible. No additional information is available on the current or future marketing strategy of NABICO.

D. Production and Operations

1. Factory Layout

The factory is laid out according to processes. The work flow is disjointed and not conducive to high volume production. For example, all the presses (35 in total) are in one area, heat treatment in another, chain production in another. Such a layout makes some sense for the small batch production runs currently taking place. Certainly the cost of altering the factory layout to a production line cannot, currently, be justified.

2. Machinery

Currently there are 368 machines on the shop floor. All are under-utilized, and some have never been used. Most come from India and appear to be in a reasonable condition.

It is unrealistic to list the utilization of all the machinery in the plant as more than 75% is not used at all. For example, the chain plant is not used due to a current difficulty in obtaining the steel required. The free wheel area is still in moth balls despite its two broaching machines (to cut square holes and internal keyways) unique to the country and potentially in high demand.

In the press shop, out of 35 presses -- ranging between 35 and 350 tons and both hydraulic and pneumatic -- only 3 were being used when the consultant visited. Four were being repaired!

The heat treatment area is also of great potential commercial benefit to the company; only two annealing ovens were utilized.

The electroplating plant is non-operational. It needs new tanks and an overhaul of pipework/valves. All the necessary refurbishment items could be produced in Dar Es Salaam. No direct access to foreign exchange should be necessary.

The rim rolling plant has been tried out successfully and once the electro plating plant is operational, production should commence. In the mean time they have been trying out local platers for small parts such as bearing cups.

3. Maintenance

There is no planned maintenance program for the machinery. On breakdown, one simply moves to another machine. The maintenance staff complained of frequent breakdowns, especially of wearing parts such as the bearings of presses. They attributed this to the supposed poor quality of the Indian machine tools, though I suspect that it is more likely to be caused by misuse by under-trained operators.

The tooling is another matter. Staff are getting to know, by experience, how long tools will last. New tools are being produced in anticipation of failure or wear.

4. Stock Levels

Stock levels are enormously high; but are inherited from the pre-1982 business. The following figures, from the February 1991 stock audit, highlight the situation:

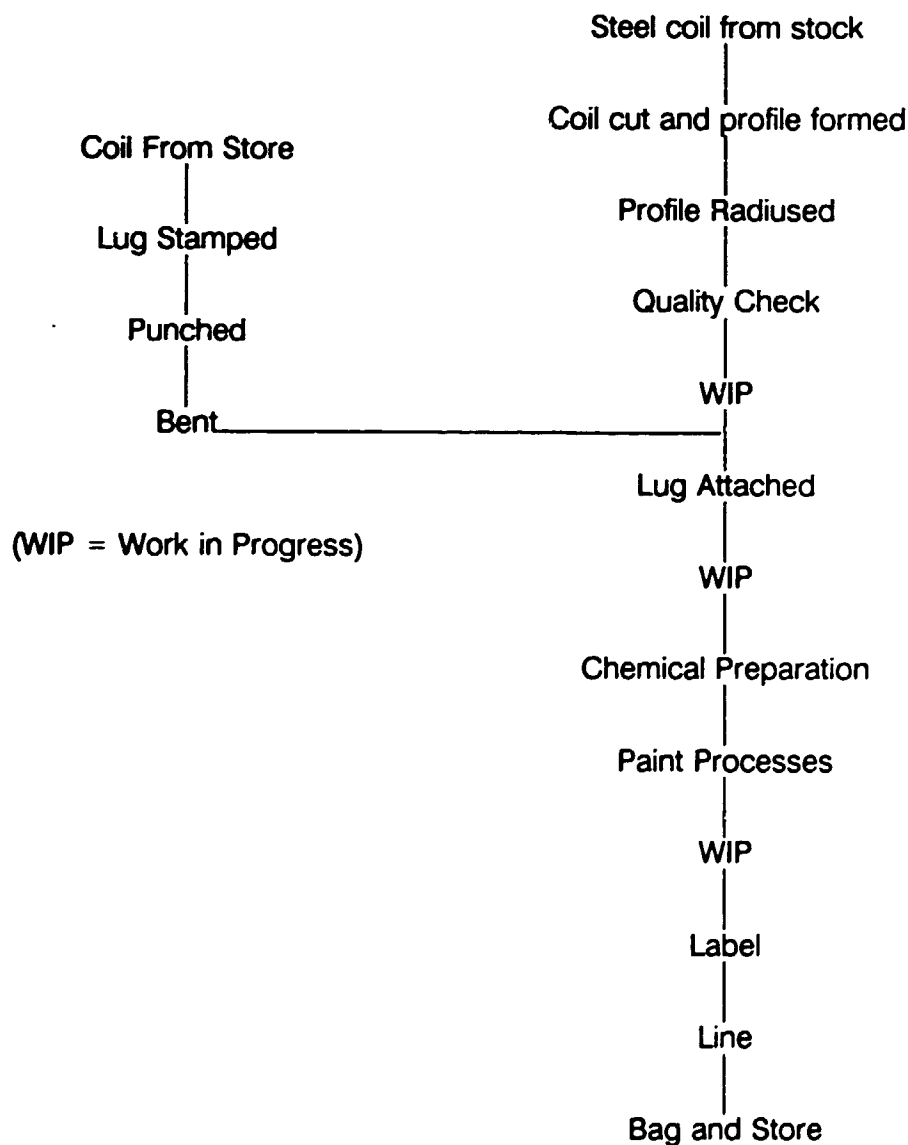
<u>Item</u>	<u>Stock</u>	<u>Work in Progress</u>
Top Tube	35,000	7,000
Seat Stay Liner	48,500	12,400
Top Tube Liner	16,500	76,000
Bottom Liner	18,600	
Front Mudguard	3,100	1,600
Rear Mudguard	1,900	600
Finished Items:		
Frames	8,000	
Forks	1,000	
Mudguards(R)	17,000	
Mudguards(F)	25,000	

There are no figures for the completed Indian cycles still held.

As can be seen from the above figures there are gross over stocking. Some of the items, such as frame tubes are held cut to size and along with lugs, are of no use other manufacturers. However some items such as the tool steel held in bar diameters from 3/8" to 3" are also overstocked and potentially in great demand and of high value.

5. Production Processes

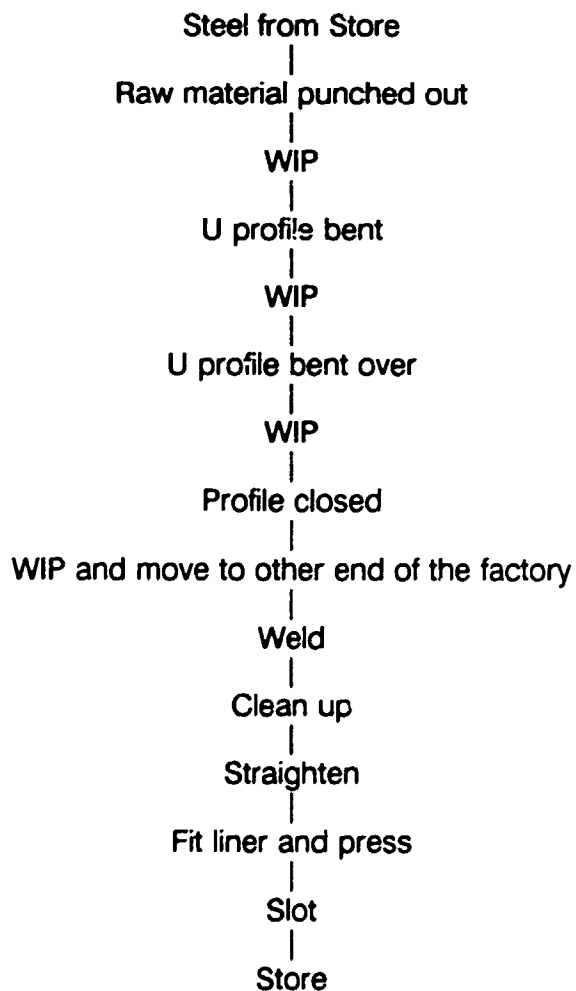
The plant currently operates on a batch process at the average level of 250 complete units per day. However, there are serious anomalies in the current production system. For example over production of parts such as the front mudguards. Only 18,300 sets of balancing parts are being imported, yet 25,000 mudguards have been produced.



The most serious bottleneck is the chemical debussing facility that is currently up to full capacity, or 13 frames in 25 minutes. This calculates to 250 frames in an 8 hour shift or 62,500 in a 50-week year!

As can be seen from the above chart there are a number of inefficient storage or racking operations that are a potential for damage and costly in terms of inventory, manpower and equipment. Savings even at the present production rates could be made by smoothing work flows.

The front forks are a better example of a more integrated operation but only if a separate press is used one for each of the punching and bending operations. A single press with tool changes (which induces further losses) is utilized at present.



Essentially, even with batch production economies of scale are achievable. Any possible economies currently are lost with all the storage and racking, as well as the time semi-finished goods spend in store.

Some experimentation to improve the current production processes has been carried out by the staff; these include trying out local paint products and jig improvements.

6. Quality Control

There is limited quality control at present through the use of Go-NoGo gauges. Further investigation revealed that, at times, parts just outside a limit were still passed.

There is no control on the quality of the finished product. Also work in progress was treated so badly that one batch of mud guards I saw were all scratched.

7. Process Planning

Process planning is underway, but is complicated by the need to plan against vague foreign exchange commitments.

Currently some 18,300 balancing parts are scheduled to arrive at Dar es Salaam docks from India, but it will be at least 4 months before the next shipment will arrive.

A team of Indian experts is due to arrive in the next few months as part of a 120m/= package to NABICO. It is hoped that they will help to streamline production and improve quality through running training programmes.

During 1991 the company plan to begin to produce their own rims and spokes. The only technical constraint is the need to rehabilitate the electro-plating plant.

There are also future plans to diversify production into volume markets such as bicycle trailers. They do and will continue to sell specific parts to other producers of non volume items such as the local manufacturer of the hand driven tricycle wheelchairs.

The level of actual production planning is poor as shown by the over production of front mudguards. (See Stocks and Production Rates)

8. Comments and Recommendations

- a) The present NABICO manufacturing cycle is an all new venture after at least 8 years of shut down. The 'ramp up' approach to full production over a period of years, as experience and funding is gained, seems the correct way of operating.

At present there is no advantage in reorganizing the factory for a continuous production process. Current and future needs and capabilities should be examined in a thorough technical and market survey to enable the company to shed its

undoubted excess capacity. This means that a new marketing department must be established with a leading role in the company's planning.

- b) The electro plating plant must be refurbished and removed from the central production area, perhaps to a separate facility such as one of the stores. This will enable the environmental problems associated with the process to be contained and operators properly protected.
- c) That the excess capacity of the electro-plating plant should be sub contracted out to other manufacturers. As the majority of the plants capacity will be taken up with bicycle parts it makes no sense to sell off the plant.

NOTE: b) & c) should also apply to the heat treatment shop.

- d) The debrassing (currently the major bottle neck) and the chemical paint preparation processes should be abandoned and replaced by a single shot blasting process. This will eliminate the production bottleneck, the foreign exchange drain that the chemicals represent and the associated disposal problem.

Shot blasting is a tried, tested and relatively simple technique used world wide as a pre-painting process. It represents a relatively small forex investment (as a compressed air supply is already available) of no more than \$ US 5,000. This can be offset against the current expenditure on chemicals.

- e) Certain processes should be sold off as a job lot to businesses that are able to make good use of the excess capacity. A good example of this would be the chain plant.

The chain plant is oversized even for full scale production of 150,000 cycles plus spares per annum. A more adaptable i.e. smaller, manufacturer should be able to use this capacity to break into other markets such as industrial drive systems.

- f) A more flexible manufacturing system should be instigated as part of any future reorganization that will allow the over capacity machines that cannot be sold -- such as one or both of the broaching machines -- to be sub contracted out; again as a revenue supplier for NABICO.
- g) Within the current production system, the paint shop should be reorganized. A minimal investment, in the region of \$5,000 in a spray system should be considered. Given the relatively high cost of paints, and especially if they remain a for ex drain, an electro static spray system should be considered.

Prior to any investment, the hand dipping process should be enclosed to reduce the level of contamination. It should be streamlined to reduce the time spent on racking and deracking and its associated scratching of the paint work. Hand lining seems a reasonable way to continue, even at higher production rates.

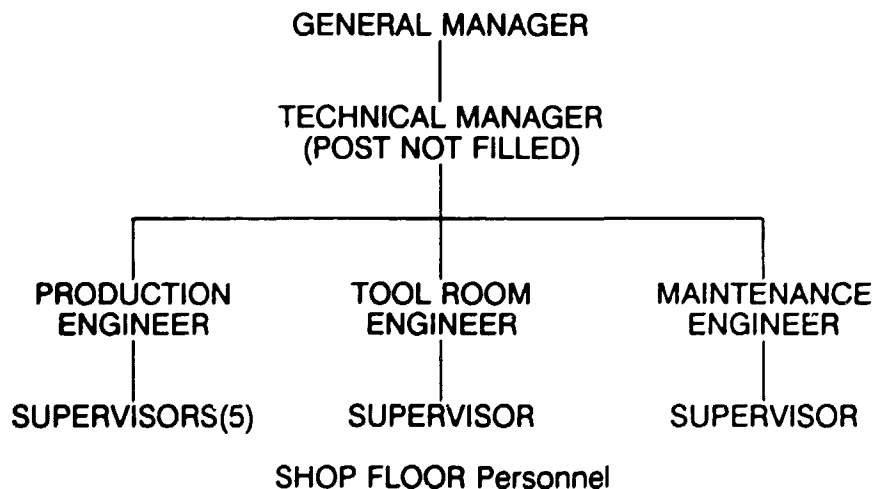
- h) New quality control measures should be introduced, with proper recording of the information. For example although rough GO - NOGO jiggling is used for frame alignment, each alignment is only checked against the crank tube and not against each other, allowing cycle frames that are out of alignment to be passed.
- i) Electro Resistance or Induction welding technique should be introduced for the fork tubes. This will eliminate the slow oxy-acetylene welding currently used.
- j) The bicycle model currently being produced is of an old and heavy design. Consequently it is materials inefficient. In the future (bearing in mind the high stock levels) some thought should be given to improving the design of the bicycle in the light of modern knowledge about bicycles used in rough and adverse terrain.
- k) NABICO should consider widening its product range in the light of market requirements. For example, cycle trailers and hand carts.

E. Management and Human Resources

There are currently 170 people on the production staff, of which only 30 are considered to be skilled. Obtaining staff with sufficient levels of skill is a constraint on increased production. There have been and continue to be problems with staff who are not used to operating machines. Lack of skill has resulted in broken dies and consequent lost production.

Out of the 170 production staff, only 3 are designated as being responsible for quality control; 4 are supervisors. In addition there are 10 maintenance people and about 15 working in the tool shop.

The factory personnel are organized thus:



Staff are paid at SCOPO rates which do not seem likely to rise significantly in the foreseeable future. In addition to their basic salary staff, are provided a meal allowance of Ts. 200 p/m, transportation allowance of Ts. 1,000 p/m and a housing allowance equivalent to 20 percent gross salary. Medical and pension benefits are also provided.

Pilferage is a major problem. There are no figures for losses due to theft. The poor wage structure does not attract people to the industry.

F. Finances

1. Sales

NABICO has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table VI: Profit and Loss. However, when this is translated into dollar terms, NABICO has shown a marked decline in sales.

2. Assets and Liabilities

a. Balance Sheet

NABICO shows considerable weakness and a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VII: Balance Sheet. It seems that a reevaluation of assets took place in 1988, however, there is no further information provided as to the basis for this action.

b. Ratio Analysis

The significant changes at NABICO after reevaluation in 1987 are: Cash has increased from 8.38 percent of total assets to 22 percent of total assets in 1988.

Revaluation of plant and stores occurred in 1987. This gave temporary protection to the balance sheet for financial purposes and does more adequately reflect both the market and replacement value of those assets than would a more conservative approach of keeping assets at purchase value. Furthermore, it enables NABICO to shelter more cash flow from taxation through increased depreciation charges based upon the substantially increased assets. It is difficult to determine the accuracy of the revaluation except by comparing that reevaluation relative to some depreciation, comparative land values, and dollar or hard currency terms.

c. Short-term Liquidity

Short-term liquidity analysis shows that NABICO has improved its liquidity position. This is mainly due to the revaluation of assets. The increase on the balance sheet is shown to have been financed out of capital reserves, although it is not clear how this was done.

4. Estimates of Valuation

i. Book Value

Book value in 1988 Ts. 253 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the NABICO. In NABICO's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

ii. Going Concern

Valued as a going concern, the profits of NABICO are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 8.37. NABICO is worth more as a going concern than were it to be liquidated. This indicates that NABICO has general viability as an enterprise.

iii. Price Earnings Ratio

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the NABICO would be valued at Ts. 270 million shillings. This is the price that NABICO would fetch on a stock market that valued earnings at this rate.

G. Summary

NABICO should isolate its bicycle assembly activities as potentially profitable, and restructure its excess capacity in other areas such as electro plating and heat treatment. These activities should be restructured within the larger framework of NDC's industrial activities.

Appendix 7 Attachments: NATIONAL BICYCLE CO., LTD.

TABLES:

PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
CAPITAL EXPENDITURE
DEBT/EQUITY
NET SALES

TABLE I

Table : Actual Profit and Loss National Bicycle Company

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	7	62	0	155	356	0	0
Less: Cost of Sales	9	21	0	84	312	0	0
Gross Profit	(2)	41	0	71	44	0	0
Less: Operating Expenses	13	15	0	13	16	0	0
Administration	13	15	0	13	16	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	(16)	26	0	59	27	0	0
Add: Other Income	1	6	0	23	10	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	(15)	31	0	82	37	0	0
Less: Provision for Taxes	0	0	0	0	0	0	0
Profit After Tax	(15)	31	0	82	37	0	0
Statement of Retained Earnings							
Balance Brought Forward	(82)	(97)	(65)	(101)	(25)	11	11
Prior Year Adjustment	0	0	0	(6)	(2)	0	0
Balance Brought Forward R	(82)	(97)	(65)	(107)	(27)	11	11
Add: Net Profit for the Year	(15)	31	0	82	37	0	0
Profit Available for Appr	(97)	(65)	(65)	(25)	11	11	11
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	(97)	(65)	(65)	(25)	11	11	11
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	0	4	0	2	3	0	0
Cost of Sales	1	1	0	1	2	0	0
Operating Expenses	1	1	0	0	0	0	0
Profit After Tax	(1)	2	0	1	0	0	0

Table : Balance Sheet

National Bicycles Company Limited

Actual

(Millions of TShillings)

Balance Sheet	Unaudited		Unaudited		Unaudited		1990
	1984	1985	1986	1987	1988	1989	
1. Net Fixed Assets	29	24	0	363	345	0	0
2. Current Assets	27	65	0	140	216	0	0
3. Stocks	19	44	0	90	92	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	7	20	0	23	37	0	0
6. Cash and Bank Balances	0	0	0	27	86	0	0
7. Current Liabilities	102	88	0	181	154	0	0
8. Trade Creditors	33	29	0	106	96	0	0
9. Bank Overdrafts	23	30	0	0	0	0	0
10. Current Maturity or LT	25	7	0	61	47	0	0
11. Taxes Payable	0	0	0	0	0	0	0
12. Other Current Liabiliti	21	30	0	14	11	0	0
13. Net Current Assets/Liabil	(75)	(24)	0	(42)	62	0	0
14. Total Net Assets	(46)	(0)	0	322	407	0	0
15. Financed by:							
16. Share Capital	50	50	0	50	50	0	0
17. Capital Reserves	0	0	0	297	346	0	0
18. Profit and Loss Account	(97)	(50)	0	(25)	11	0	0
19. Long Term Loans	0	0	0	0	0	0	0
20. Debt	102	88	0	181	154	0	0
21. Equity	(46)	(0)	0	322	407	0	0

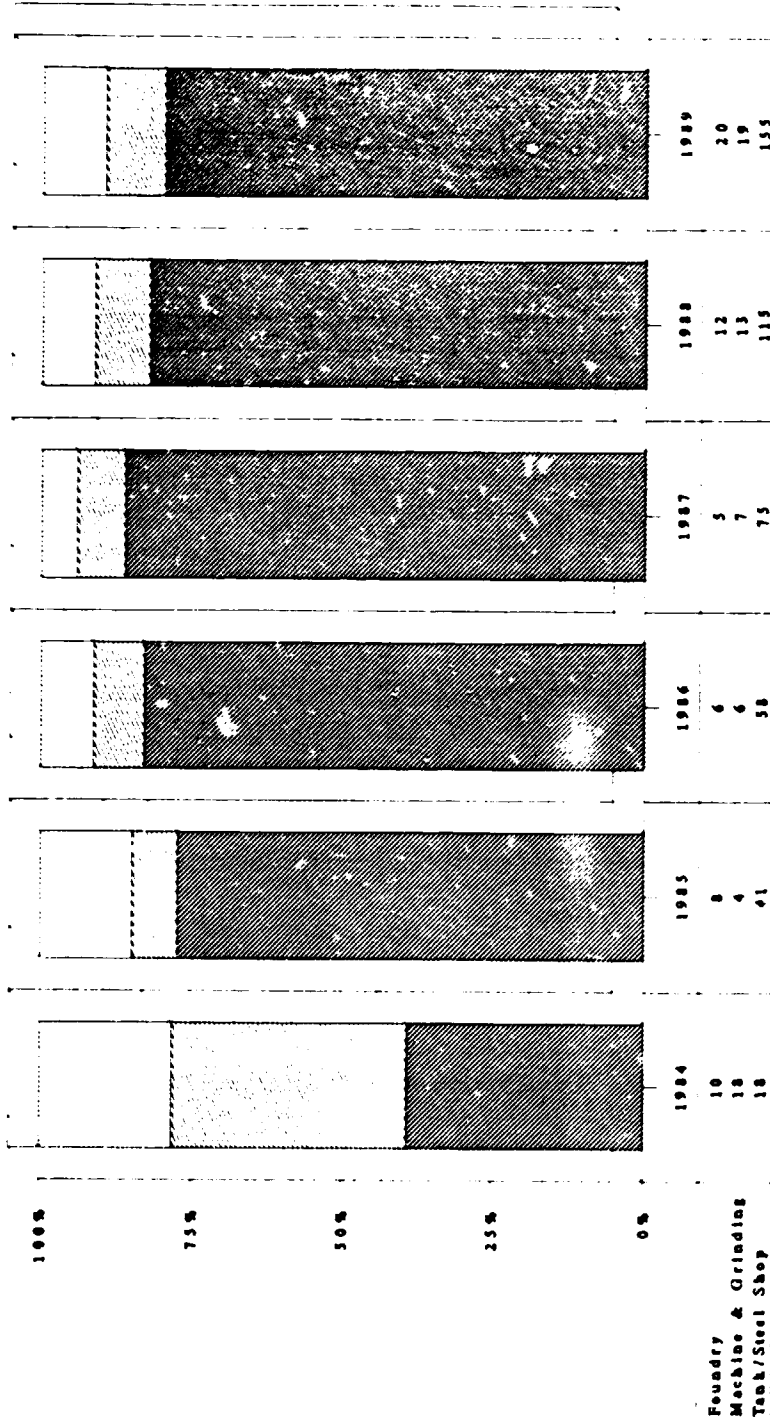
Notes : No Information Available on Revaluation of Assets

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0
In Current Dollars							
1. Net Fixed Assets	2	1	0	4	3	0	0
2. Current Assets	1	4	0	2	2	0	0
7. Current Liabilities	6	5	0	2	1	0	0
13. Net Current Assets/Liabil	(4)	(1)	0	(0)	0	0	0
14. Total Net Assets	(3)	(0)	0	4	3	0	0
20. Debt	0	6	2	0	1	1	0
21. Equity	0	(3)	(0)	0	3	2	0

Product Sales Breakdown

National Engineering Company

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS

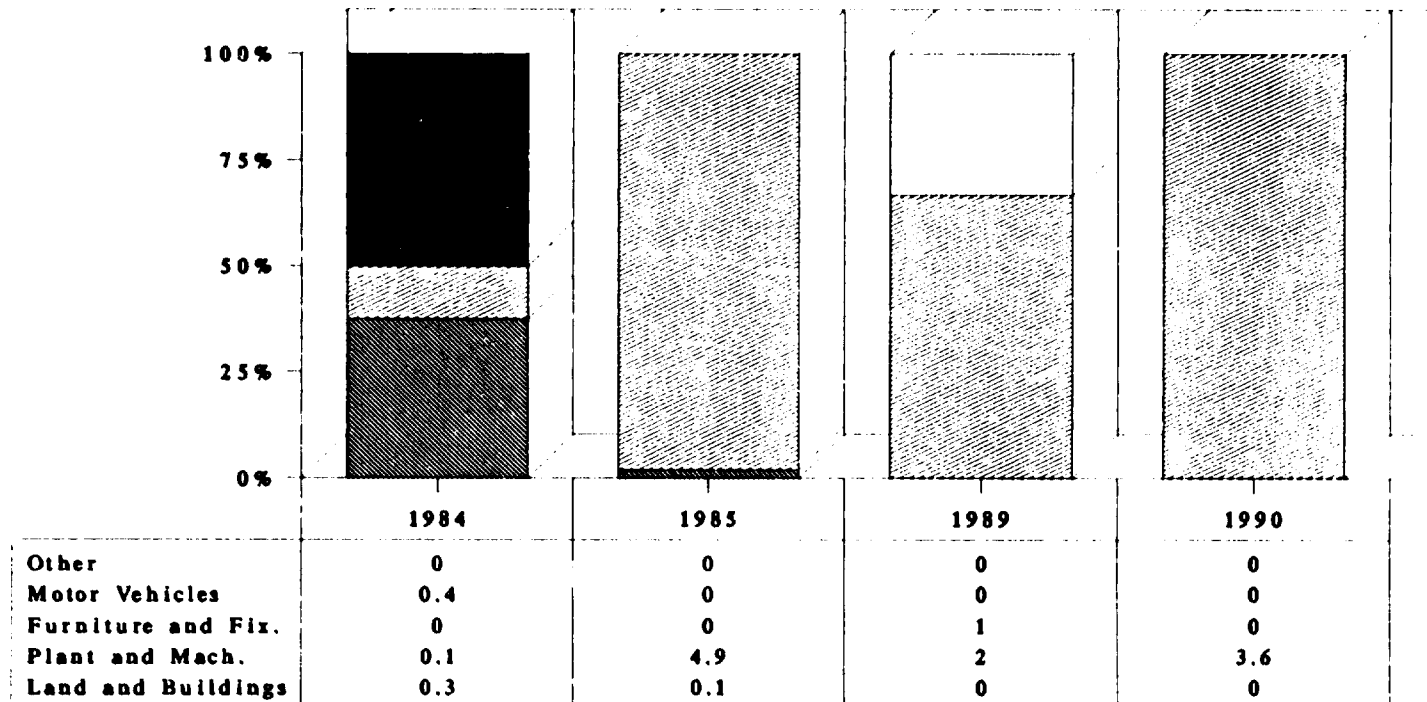
Tank/Steel Shop Machine & Grinding Foundry



Capital Expenditure Breakdown

National Bicycle Co., Ltd.

MILLIONS OF SHILLINGS



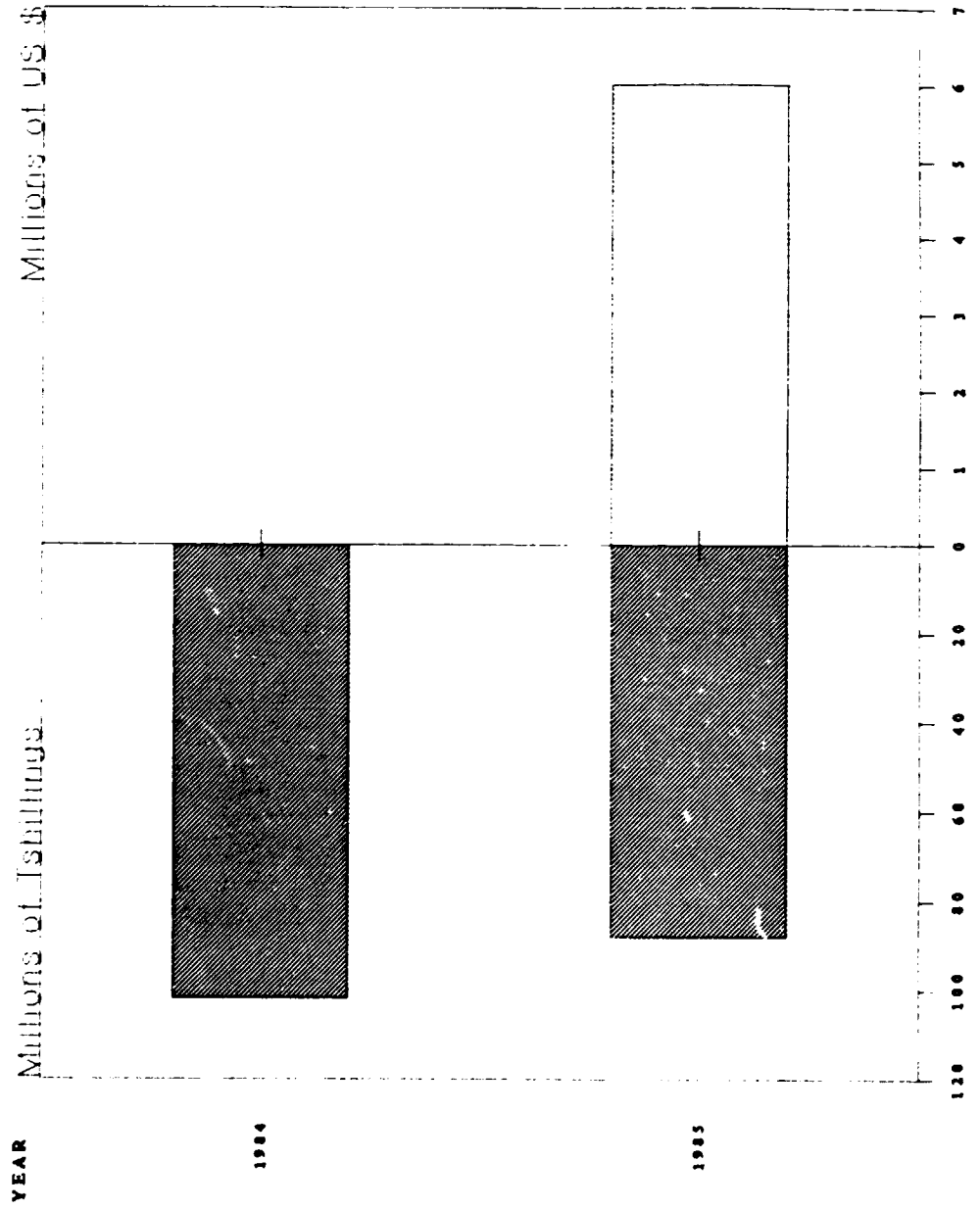
Data not available FY86-88.



Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Other

Debt/Equity Ratio

National Bicycles Company Ltd.



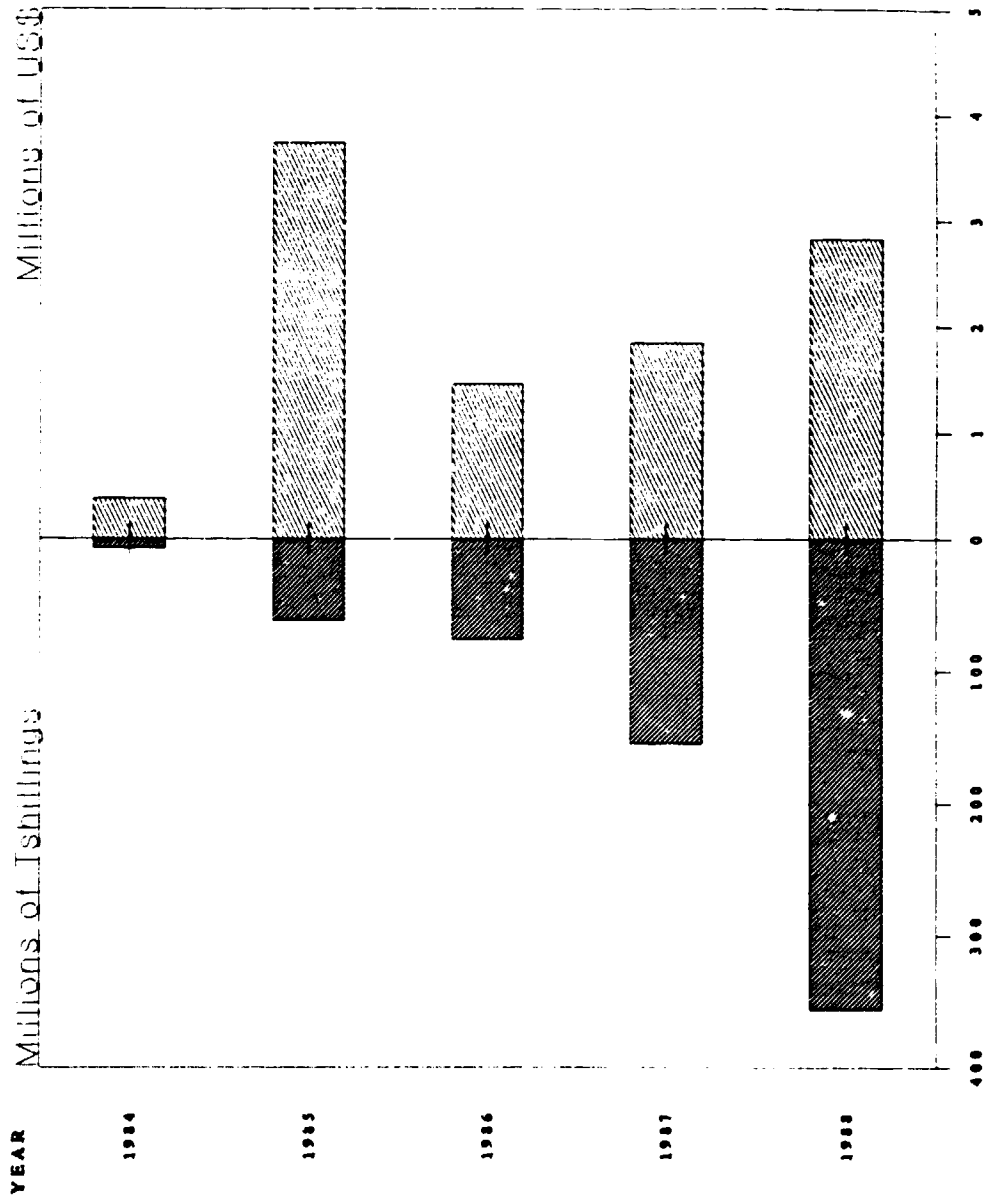
DEBT
EQUITY
\$DEBT
\$EQUITY



UNIDO/Tanzania/
NDC Assistance - 1991

Net Sales

National Bicycle Co., Ltd.



Appendix 8: National Engineering Co., Ltd.

APPENDIX 8: NATIONAL ENGINEERING COMPANY

I. RECOMMENDATIONS AND ACTION PLAN

National Engineering Company is a diversified producer of castings, machined parts, and fabrications. It produces for both the construction and industrial markets and, thus, fits with the market strategy we have proposed for NDC. It is profitable and well-managed. Our recommendations for the company are concentrated on production aspects, and make up the remainder of this section.

Detailed Production-Oriented Recommendations

- a) New investment is required in the machine shop and to a lesser extent in the foundry. It is difficult to recommend that NEC purchase its machine tools from Kilimanjaro machine tools given the poor state of their current KMTC machines. There is no point in penalizing a company just to boost the sales of another company.
- b) The foundry and machine shop should continue to operate as under a single department and continue to interact. In addition, the light fabrication shop or at least some of its functions, namely welding and some sheet work be absorbed into the production department to increase the department capabilities.
- c) The design house is upgraded and its abilities enhanced by forming links with say the university. In addition, it attempts to subcontract itself to other businesses as a revenue earner.
- d) The foundry should improve its laboratory equipment to allow it to quality control its output. As Steelcast plan to update their lab perhaps the equipment they discard could be purchased by NEC; if it is deemed to be appropriate.

Some additional small scale investment may be necessary for the foundry but largely in the form of spares to rehabilitate and maintain rather than replace equipment.
- e) To make the most of investment the foundry needs to begin serial production. This will mean new steel patterns and again a marketing department to drive the initiative.
- f) To build up experience and quality in the foundries, some of the skilled manpower should be dedicated to the ferrous section and some to the nonferrous.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks

indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSES

A. Overview

1. Company

The National Engineering Company (NEC) was incorporated on July 6, 1967 as a result of the nationalization of a Machining and Foundry facility owned by M/S. Maatschapay Twertsche Overseas Trading Company. This was later amalgamated with a Steel Construction Company then known as Sarantis and Panayotopoulos. NDC owns 82 percent of the shares and rest is owned by the Workers Development Corporation (10 percent) and Tanzania Investment Bank (8 percent).

The Company business includes manufacture and supply of structural steel works, erection of steel structures, tank container production, ferrous and nonferrous casting as well as engineering services.

NEC is split into 3 distinct departments, namely, Finance and Administration, Production, and Steel Construction. There is a maintenance section, two design departments, one mechanical, and one civil which also handles direct sales or customer liaison (they are by no stretch of the imagination a marketing section).

Annual sales in 1989 were Ts. 130 million. NEC made an operation profit of Ts. 10 million.

2. Corporate Philosophy

The National Engineering Company does not have a stated corporate philosophy.

3. Corporate Strategy

The National Engineering Company's strategy for the future is geared towards maximizing plant capacity utilization and improving the quality of products and services. Preventive maintenance will be strengthened so as to minimize machine breakdowns. Another strategy of the Civil Construction Division is to upgrade the status of NEC to the current grade III level.

There is no combined strategy at present, though the line managers are aware of some of their shortfalls and have some ideas about how to overcome them. To help their thinking and planning, NEC has independently commissioned a report about their 'condition' -- in terms of equipment -- and what they should plan for. They know for instance, that their capabilities are poorly advertised and that they must overcome this shortfall.

10 YEAR DEVELOPMENT PROGRAM NEC

Year 1				Year 2											
I	II	III	IV	I	II	III	IV	3	4	5	6	7	8	9	10

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Focus

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-a-vis competition

3. Develop a Market Program (ZZK model and modify), e.g.:

a. Product characteristics

b. Pricing

c. Distributing, etc.

4. Increase product visibility

a. Place products in regional depots

b. Participate in regional fairs in Tanzania

c. Participate in regional fairs in SADCC/PTA countries

d. Advertise and promote products

5. Increase numbers of persons marketing products

a. Find marketing-oriented individuals within the company

b. Replace non-productive sales staff

6. Improve quality of marketing effort, e.g.:

a. Redesign sales and promotional literature

7. Implement market intelligence program, e.g.:

a. Conduct monthly, quarterly, annual surveys

8. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

c. Build better product

d. Train customers in proper use and maintenance

C. Production and Operations

1. Lower production costs

a. Speed throughput time

b. Eliminate extraneous material and machines

c. Improve product quality

d. Lower raw material costs (Production)

e. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

a. Enroll engineers and technicians in MEIDA and technical seminars

b. Conduct field trips for production staff

c. Conduct in-house seminars

3. Improve the appearance and safety of facilities

a. Clean plant grounds and landscape

b. Identify hazardous processes

c. Provide workers with adequate safety equipment

10 YEAR DEVELOPMENT PROGRAM NEC

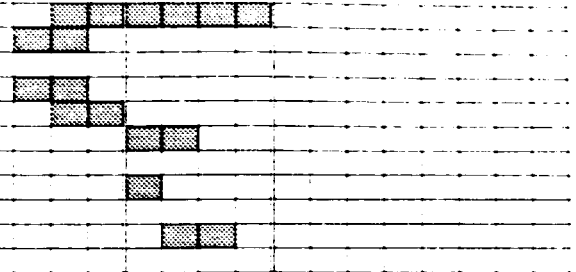
Year 1

Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

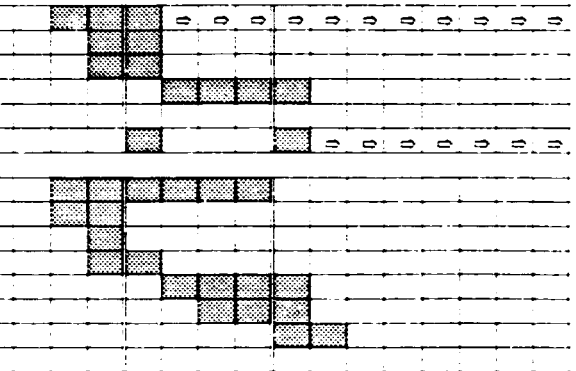
E. Management

1. Flatten the management hierarchy
 - a. Prepare job descriptions and skill levels required to determine the needed requirements
 - b. Where workloads are low, expand job descriptions and responsibility
 - c. Increase the span of control to 5 to 9 for senior management
 - d. Increase the span of control to 25 to 50 for production and lower skill levels
 - e. Eliminate management responsibility/position for any position with less than 5 persons reporting directly.
 - f. Reduce the management hierarchy to three levels, four maximum, within the firm



F. Employees

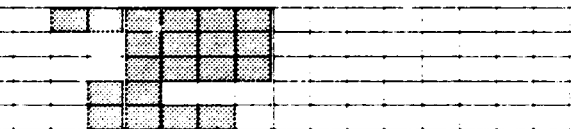
1. Increase employee involvement and commitment
 - a. Establish cross-functional groups to solve key problems
 - b. Institute employee suggestion programs
 - c. Establish profit-sharing, phantom stock, or employee stock-ownership programs
 - d. Establish regular employee recognition awards
2. Revamp compensation package
 - a. Conduct/obtain a salary and benefits survey
 - b. Cost-out benefit components
 - c. Set upper-limit on benefit compensation
 - d. Establish "cafeteria plan" of benefits
 - e. Obtain exemption from SCOPQ guidelines
 - f. Substitute profit-sharing, "phantom-stock," or ESOP for additional compensation



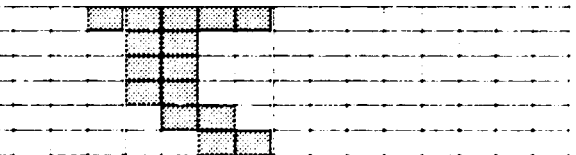
3. Revise the position classification system
 - a. Look for "over-grading"
 - b. Establish more general, flexible position descriptions



4. Reduce employment
 - a. Reduce administrative/overhead personnel.
 - b. Eliminate non-critical functions.
 - c. Eliminate non-productive personnel.
 - d. Reduce number of production workers.

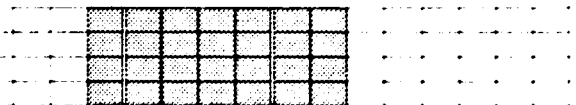


5. Manage the employment reduction process
 - a. Early retirement
 - b. Voluntary incentives
 - c. Redistribute to growing companies, functions
 - d. Provide retraining programs
 - e. Encourage ex-employees to bid on contracts



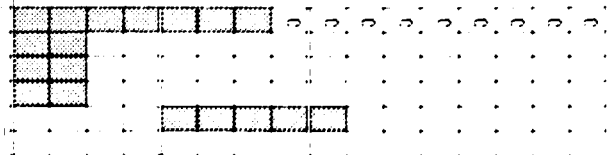
Board of Directors

1. Change the composition of the Board of Directors e.g.:
 - a. Increase the number of private sector managers/investors
 - b. Reduce the numbers of government officials on the Board
 - c. Increase the number of industry knowledgeable members



G. Finance

1. Increase return on assets
 - a. Sell or scrap obsolete inventories and stocks
 - b. Sell or scrap unused/underutilized machines and equipment
 - c. Fund routine and preventive maintenance programs
 - d. Fund elimination of bottlenecks to increase production volume
 - e. Fund employee suggestion program



The National Engineering Company's strategy has been to produce a wide range of products to meet customer demands. It has not been well-focused but responds to various market opportunities.

B. Industry and Competitor Analysis

1. Market Overview

The market for Diversified Steel Products in Tanzania at present is somewhat limited by the size and nature of the economy. Nevertheless, the market does have some significant tonnage requirements and there are a wide variety of products within this broad market.

NEC has not conducted any market survey for its range of products.

2. Customer Characteristics

NEC has a wide range of customers in all sectors. The main customers are:

- Manufacturing Industries for Spares, etc.
- Building Industries for Steel Structures, etc.
- Governmental Installations for Tanks, etc.
- Individuals for spares, etc.

3. Market Size and Trends

The market volumes for NEC are increasing locally and the company should look for opportunities in the Regional Market of SADCC and PTA.

4. Competition

The fabrication industry is composed of a small number of local competitors, notably Truck Body Builders, mechanical engineering firms such as AUTOMECH, DM Investment and Foundry Facilities like SDIO in Dar Es Salaam. These firms are often able to gain a fair amount of control over certain market segments due to their lower overhead or location. At the same time, there is ample room for high quality fabricators such as NEC.

Competition in this market will grow in the future. Currently, the competitors to NEC are local but specialists may enter to handle large infrastructure projects. Offshore fabrication, unless in the form of kits, is relatively impractical and cost prohibitive. This affords NEC with a fair amount of geographical protection.

It should be noted that one company will never completely dominate the market for fabricated products in Tanzania or the local areas. That is because there are so many

different types of fabrication and as there are proprietary processes for producing the more specialized structures.

5. Substitutes

With the National Engineering Company, there are no other substitutes as the range of products produced is large.

6. Sales History

The National Engineering Company has shown progressively larger sales revenues since inception [check]. However, when measured in dollars, these revenues have been on the decline.

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Revenues (millions of Ts.)	49	56	76	88	130

7. Distribution Channels

Products are sold directly to end users. There is no distribution network in place.

8. Policy and Regulatory Environment

Geography, more so than the policy and regulatory environments has limited competition in this market. Fabricators such as NEC are protected by transport costs, labor costs, import duties, sales taxes, and delivery charges on imported fabrication. However, NEC also had preferential access to foreign exchange over the past few years. This enabled it to purchase inputs and supplies at a subsidized price.

Macroeconomic policies that affect the NEC include exchange rate regulations and access to foreign exchange. The Open General License (OGL) system gives NEC equal access to foreign exchange so that it is not constrained in its ability to purchase materials. NEC does have some cash flow problems, however, that raise the cost of its foreign purchases, since it relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

The tariff on imported fabricated products of all type is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this

area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms.

C. Marketing

1. Overall Marketing Strategy

The National Engineering Company does not have any marketing strategy, since it does not have even a marketing department or section to handle marketing activities.

NEC's responds to customer requests and produces for them. It has not aggressively sought export opportunities. Prices are set to match, but not exceed local construction costs and standards.

2. Customers

Customers are businesses, parastatals, and government ministries.

3. Products

<u>Division</u>	<u>Products</u>
Steel Shop	Fabricated products and steel frames for buildings (e.g., warehouse transit sheds, air craft hangers, bridges).
Tank Production	Stationary tanks (above or below ground) for water, oil, and chemicals. Mobile tanks for lorries or railway wagons.
Machining and Grinding	Repairs and mechanical operations on bearing, cylinders, crank shafts. Also, turning, milling, boring, drilling, shaping, and grinding operations.
Foundry	Pattern creation. Nonferrous castings -- brass, bronze, cast metal alloys, and aluminum. Cast iron -- industrial spares, machine parts, flanges, manhole covers, water pumps.
Machinery Installation	Installs and rehabilitates industrial machinery.

4. Customer Service

Customer service is an important part of some products. Although the products are basic and low technology, much design and engineering is built into the custom work.

NEC does not maintain a customer service department, but engineering fulfills some of these functions.

5. Pricing

Pricing is set through an estimation process. The products are not under control of the government's Pricing Commission.

Finished goods inventory management is usually not a major problem. NEC produces according to demand.

6. Promotion and Advertising

The National Engineering Company does little, if any, promotion of its products. There is no regular advertising program.

7. Distribution

Products are sold directly from the factory.

D. Production and Operations

The National Engineering Company, Ltd. is one of Tanzania's leading manufacturers of structural steel works. It provides engineering facilities for outside work to be carried out in the Foundry, undertakes ferrous and nonferrous casting, machinery installation and fabricates tanks and containers.

1. Factory Layout

The department is housed in three large open sided units, one is for light fabrication (up to 3.5mm) and the remaining two for heavy work (above 3.5mm). There are distinct areas for materials storage, quillotines and rolling, but manufacture takes place in the remaining space available. Such a layout is consistent with any jobbing shop worldwide.

2. Geographical Location

NEC is well situated in Dar Es Salaam along Pugu Road which is an Industrial area.

3. Facilities and Processes

There is very little production planning, as the company sees itself as a jobbing shop with only a few items in serial production. They do, however, respond to what is happening outside the gates. For example, an expanded road program or major new contract about to begin will mean an increased demand for manhole covers.

There has been some attempt at serial production of in-house designed items such as centrifugal pumps and maize shellers. However, last year only five pumps and two maize shellers were produced.

NEC has five production divisions:

- Foundry Division: The foundry is divided into three sections:
 - Pattern shop: Produces an extensive variety of wooden patterns.
 - Nonferrous section: Offers a wide range of casting of different sizes produced from bronze, brass, gun metal alloys and aluminum.
 - Cast iron section: Includes a great variety of industrial spares, machine parts, flanges, manhole covers, water pumps, etc.
- Steel Shop Divisions: This division offers a wide range of services for steel fabrication and steel frames for industrial and commercial buildings, warehouse transit sheds, air craft hangers, bridges, etc.
- Tank Production Division: Fabrication of stationary tanks (above or below ground) for water, oil, storage and processing of liquid chemicals. Also fabrication of mobile tanks mounted on lorries or railway wagons.
- Machining and Grinding Division: Machine shop carries a wide range of repair work i.e., refitting bearings, re-boring cylinders, re-grinding crank shafts, etc. It also provides services for turning, milling, boring, drilling, shaping and grinding.
- Machinery Installation Division: Deals with installation and rehabilitation of industrial machinery.

These sections are dealt with separately below.

a. Foundry

The foundry can be split into three: the ferrous section, the nonferrous section, and the pattern shop. There is an installed capacity of 400T per annum for Cast Iron and 150 percent per annum for nonferrous. Last year the actual production figures were 150T for Cast Iron and 10T for nonferrous, that is 30 percent of total capacity. This gave a turnover of 20/ =million.

Sand casting -- with Carbon Dioxide hardening -- is the only method of casting used, which gives reasonable quality at low production rates. The sand, however, does have too much fines in it. This can spoil the surface finish and so a greater machining tolerance is needed, i.e. more metal for the same size of finished product.

Both the ferrous and nonferrous foundries use a scrap supplemented where necessary by imported pig iron, copper, tin and zinc.

The foundry excluding the pattern shop employs 40 people, with personnel floating between the ferrous and nonferrous sections as required.

1. Pattern Shop

This shop has a rare capability within Tanzania and makes patterns for other industries such as Tazara, in addition to the NEC foundries. There are ten workers in the pattern shop, of which four are skilled pattern makers. The shop is housed in a building next to the ferrous section of the foundry.

All the patterns are made of wood and hence can only be used in low volume or one off, e.g. a manifold for the motor of one of the navys' patrol boats. A mold was being constructed for a bath, which should become a serial item once the bath has been test marketed.

Excess capacity is utilized by producing furniture, currently for the new offices. I would recommend, however, that high value and high skill levels present in the pattern shop be put to a revenue earning capacity again in conjunction with a new marketing department.

The shop is well equipped with both hand and machine tools. All the machines are in good condition. They are well utilized at present, given its current additional line of furniture production.

If the foundry is to go into some serial production, then a copy lathe and/or milling machine (or access to one) would allow the production of metal patterns that can withstand repeated use.

2. Ferrous Foundry

This is housed in an open-sided shed at the perimeter of the complex.

Machinery

The main items of equipment are the two furnaces. Both are coke fired and, at present, are only fired once a day and so are heavily under utilized (maximum 30 percent of capacity).

The sand reclamation plant operates well though is in need of some maintenance. For example, a number of the conveyer belts need replacing.

The laboratory only tests sand. It needs to be upgraded to improve continuity of melts and their quality. A controlled quality of melt will be impossible in the new induction

furnace without analysis. This means that the furnace will not be able to work to its potential whatever the capacity of utilization.

A new air compressor is being installed to replace the existing model which sounds awful. An external air intake should be fitted to the new compressor to reduce contamination and hence wear.

Of the two sand compactors, one has never worked, it should be scrapped.

The core shooter needs repairing.

There are plenty of sand boxes all in reasonable condition. If it is decided to replace any, they should make their own.

The new induction furnace is being installed, and it should be ready to run in a couple of months and will be capable of a 0.5 tonne melt. This will enable steel to be cast to improve the product range.

Stocks

Against current production levels input stocks are high.

Coke	75 tonnes	2 years supply
Pig Iron	80 tonnes	2 years supply
Coal Dust		5 years supply

Although there may be mitigating circumstances, these high stock levels indicate again the need for a good stock system.

Some finished and semi-finished goods are held in stock. The semi-finished goods are waiting for machining or customers, such as the Cast Iron bushes. Also, items such as manhole covers (about 1 month's supply at present rates of sale) and clothes iron bodies have had no movement in the past year.

Products

Parts such as P-traps and elbows are being made for the construction industry and their own construction department. Spares for the mechanical department and spares for other industries such as the large (0.5m diameter) roller being cast when I visited for the sugar estates. This range of items will be enhanced by a range of cast steel (i.e. weldable) pipe products for the construction department and a wider market.

The foundry, to increase utilization in common with the rest of the company, needs to aim towards some serial production along side its jobbing function.

New Products

Potential new product lines are:

Blanks for gears and pulleys
Automotive spares, especially in aluminum
Flanges
Pipe fittings
Machine bodies (KMTC)
Baths
Sinks
Drain sumps
Pipes.

3. Nonferrous Foundry

This section is now housed separately from the ferrous foundry now that the induction furnace is being installed. It casts brass, bronze and aluminum gain by sand casting. It utilizes mainly scrap but uses imported copper, tin and zinc to supplement the scrap.

Machinery

The equipment consists of two oil fired furnaces, one of 500kg and one of 250kg capacity. Both are in good condition. All the sand box work is done in the main ferrous foundry.

In addition, a shot blasting booth is housed in the shed and is used, at present, to clean up castings prior to machining. Its use could be extended.

Again, the equipment is under utilized, but has a great potential value.

Products

At present, they produce items such as pump impellers and blanks for the machine shop. To get the most from the current level of investment serial production linked to a market needs to be initiated. I would estimate that items such as pump impellers as spares, but also for in-house production, would be a market of great potential and enable much of the excess capacity of both of the foundries to be utilized.

b. Machining and Grinding Services

This section provides the machining capability of the firm. It currently has an installed capacity of 100,000 hours but only managed 56,000 last year. That is 45 percent of capability, with a turnover of 19/ = million.

Layout

The machine shop is housed in a brick building at the main gate edge of the site. The machine tools are generally placed against the walls allowing a central alleyway. This layout is fairly 'classical', but ought to be altered as it does not provide enough space to use the hollow head stocks on the lathes for serial production.

Staffing

The machine shop is overseen by a superintendent who, in turn, has some 50 workers under him. Twelve of the staff are defined as skilled, holding a trade certificate, 25 are semi-skilled and 13 are unskilled but have on-the-job training.

The age of many of the skilled and experienced machinists presents a future problem. The older machinists, roughly half the total, are very experienced -- a commodity which you cannot buy -- and nearing retiring age. They are passing on the benefit of their experience to the younger machinists but it all takes time. These experienced personnel should be retained, if at all possible, past their retiring age. I understand that NEC's own consultants have put forward a scheme to do this.

Stocks

The warehouse section holds a variety of steel stock. The rate at which stocks are used is dependent on orders. At the present rate of consumption, some stocks bought in section will last for two or more years. For example, there are some 75mm x 3m bars of high carbon steel that have been lying unused for 15 to 20 years. They are beginning to be used as the company has now purchased Tungsten Carbide tools and tips which are capable of cutting the steel.

As the shop responds only to orders, there are essentially no stocks of finished goods and relatively few stocks of work in progress. Also, a stock and inventory systems needs to be established.

Machinery

At first glance the machine shop appears well equipped. However, most of the machines date from the 1920s and 1930s (a number of the machines were lease lent from the USA to UK during WW2) and are beyond any hope of recovery. A number of lathes cannot produce parallel cylinder nor can the vertical lathes produce flat surfaces. Almost all the tools need to be replaced including two of the three lathes from Kilimanjaro -- one of which has been cannibalized to keep the other working.

NEC have just imported a complete engine reconditioning set of machine tools from Denmark using Import Support Funds. These are in the process of being installed. Once in place, provided that the company can maintain quality with a realistic output (i.e. machine utilization), these machines should be money earners. There are a large number

of other engine reconditioners in Dar Es Salaam but only about 5 that are of a consistently high quality. This represents a good market opportunity.

When replacing the machine tools, some consideration should be given to market potential and maintaining high machine utilization (making the most out of capital). Therefore, production tools such as capstan lathes, copy lathes/millers and possibly a CNC machine should be considered (KMTTC has one that it has never used). The company should be considered buying up the excess capacity from other NDC companies where appropriate, such as a broaching machine from NABICO or subcontracting out specific processes if it can not afford them such as heat treatment.

Some items of further investment would enable NEC to increase its range and quality -- such as a heat treatment plant and surface coating facility. NEC should consider a heat treatment furnace, preferably with a controlled atmosphere, that could double as an enamelling oven. Surface hardening facilities for rollers, beds etc. and paint spraying and/or chemical blacking.

With new processes installed NEC should subcontract out its services to other industries.

Manufacture

At present, the machine shop produces mainly spare parts to order and finishes casting for the foundry such as pump impellers and pipe flanges for the construction department. They will and can do most things a customer will ask of them, for example, liners, axle refurbishment, etc. Their use of cast iron or brass from the foundry gives them a unique capability which ought to be more fully exploited. Given the poor state of the machines that they have to work with a range of reasonable quality parts including gears are turned out.

There is an opportunity in linking with other companies within the NDC group. An example would be producing pipe sockets and other fittings for Pipeco, a market running into many hundreds of items a week. Flanges are currently produced but only for the construction shop. There could be a lot of potential for serial production of standard flanges, either from blank discs or cast blanks.

Currently, the machine shop makes little use of jigs and fixtures. To improve quality and to speed up production, even of single items some fixtures should be used. The design team should be involved in the design of universal fixtures.

c. Mechanical Design

The design section currently employs five people, only one with a degree. They design mainly off machines to customer requirements.

The internal design capability should be enhanced and linked to a marketing department. They should attempt to design for serial production of equipment, that is at

a wider market. One possibility would be the production of machines for rural development.

4. Material Handling

Due to the location of the workshop building, material handling is very difficult. Cranes and forklifts are used in lifting heavy structures. A general problem is obtaining enough supplies of oxygen and acetylene, which unfortunately seems to be a common problem throughout the industrial sector.

The department uses standard fabrication equipment from a number of countries including Denmark and the United Kingdom. The equipment includes:

Heavy Shop

A single 5 ton overhead crane in each unit.

3 guillotines ranging from 3mm to 16mm capacity.

Powered rollers i) 2m x 8mm and ii) 3m x 16mm.

Circular cut off saw.

All the functioning equipment but is in need of attention and refurbishment in some cases, but not necessarily replacement. Some equipment such as tank rollers should be replaced, refurbished and updated. This can easily be done in-house.

The welding equipment is another matter though. It is an old Eastern European block system with a central rectifier and satellite rheostats (control coils). It is difficult to maintain an even current and many of the coils are worn out.

Light Shop

The light shop has general welding equipment AC for ferrous and DC for nonferrous work. The welding equipment needs replacing and possibly a TIG system bought in for the nonferrous work.

An area shielded from the wind should be constructed to prevent the gas shield from being blown away from the work by the wind for a TIG system to be used.

A guillotine for up to 3.5mm.

Hand rolling machine.

Angle guillotine -- broken.

The machines need attention and the angle guillotine needs to be replaced possibly with a cut off saw that will be more versatile.

There are no automated lines. Automated material handling involves 5-ton overhead cranes, used to move heavy castings in the foundry and especially heavy parts in the Steel Division.

5. Product Quality

There is no one person or persons in any of the departments directly responsible for quality control. It is reasoned that as they are jobbing, the individual fabricator, or machinist is and should be, responsible for quality.

The increase in market share of NEC indicates that NEC's ability to deliver the right product in a timely fashion at a good price has improved in the last few years. Furthermore, the increase in export orders is encouraging evidence of increased recognition of NEC's product quality and price.

6. Product Delivery (Outbound Logistics)

Customers bring in orders and collect the jobs from NEC. When NEC does installations at site it carries the product to the customer

7. Competitive Strength and Weakness

Strength:

- Located in Dar Es Salaam, the country's main commercial center
- Availability of experienced craftsmen
- Sound financial base
- Local market lead in steel construction
- Integrated facilities comprising of steel fabrication
- Machine shop and foundry
- Fairly new equipment in the foundry, steel shop and machine shop
- Capability of manufacturing wide range of spare parts.
- Political good will or locally motivated workforce.
- Adequate manpower development program
- Technical assistance from FRG

Weakness:

- Low product quality in foundry
- Lack of serial production or batch production in the foundry or machine shop
- Lack of adequate marketing system and strategies
- Imbalanced production equipment
- Unreliable supply of raw materials

- Inadequate power supply

8. Strategy and Plans

Studies were conducted by TISCO and GEMCO on the rehabilitation of NEC's production facilities. The aim of this investment program was among other things to acquire machinery which will replace the old and thus be able:

- to utilize all attainable capacities
- make possible production of spare parts
- improve the quality of products and services

9. Expansion Plans

From the above Investment Program, machinery required for the year 1991 are:

- Induction furnace
- Overhead crane
- Surface grinder
- Engine building room machines
- 25-ton mobile crane
- Sand blasting system
- Welding generator
- Others e.g. vehicles, etc.

In 1992 the following machinery will be required:

- Computer
- Molding machine with boxes
- Compressor
- Lathe machine
- Others

For the year 1993:

- Annealing furnace
- Holding furnace
- Lathe machine
- Others

For 1994-1995 investments:

- Galvanizing equipment
- Turret lathe
- Radial drill

- Spectrometer
- Others

10. Capital Requirement

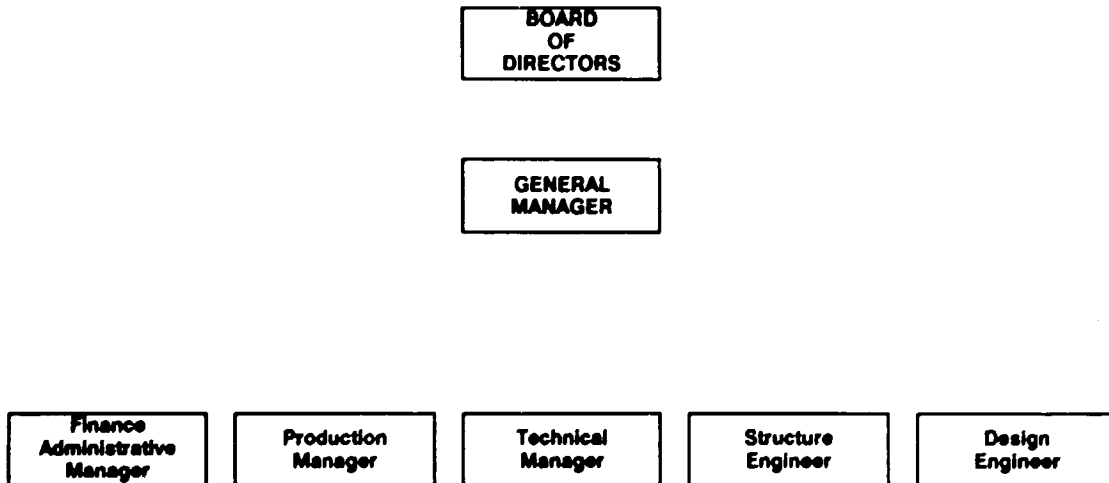
The Investment Program will require about Ts. 500 million, 50 percent of which will be in foreign currency and will be distributed as follows:

	<u>Approximately Tshs ('000')</u>
1991	200,000
1992	100,000
1993	100,000
1994-1995	<u>100,000</u>
Total	500,000

E. Management

1. Organizational Structure

The National Engineering Company's organizational structure is illustrated in the following chart:



2. Management Compensation

Management salaries are according to SCOPO directives. However senior managers they are also provided with housing, transport, medical care, entertainment allowances to supplement their basic salaries.

3. Board of Directors

The Board of Directors of NDC is selected by the Ministry of Industries through NEC. The current composition of the board is represented as follows:

- Chairman - Faculty of Engineering UDSM
- NDC
- Workers Development Corporation
- Tanzania Central Freight Bureau
- Ministry of Industries
- Meida

4. Supporting Professional Services

Accounting Audits are conducted by the Tanzania Audit Corporation. Legal services are provided by the Corporation Secretary of NDC. NEC also uses consulting services of TISCO and University of Dar Es Salaam.

F. Human Resources

1. Composition and Skills

NEC employs 346 persons. These are broken down as follows:

Senior Managers	5	1.5
Middle Managers	6	1.7
Supervisors	66	19.1
Clerical	6	1.5
Skilled manual	195	56.5
Unskilled manual	<u>68</u>	<u>19.7</u>
	346	100.0

2. Compensation and Trends

The compensation package consists of:

- a basic salary
- overtime
- medical insurance

- housing allowance
- transportation allowance
- meal allowance
- special skills allowance
- etc.

The average wage is about Tsh 1,000 per month.

3. Productivity

Productivity of NEC is relatively good. Output of the firm is as follows (1990):

	<u>NEC</u>
Tshs sales per employee	867,052
Tons sales per employee	-
Profit in Tshs per employee	24,566

4. Training Program and Needs

NEC has in place an annual training program for its employees. In 1990, 39 employees were trained in various institutions in Tanzania, with a total cost of Tshs 1,030,600.

G. Finances

1. Sales, Revenue, Profitability

NEC has shown an upward trend in sales in T.Shilling terms over the last five years as shown in Table VI: Profit and Loss. It has been doing well in the last several years. Sales have risen at an average growth rate of approximately 65 percent for the last four years. The Cost of Goods Sold have remained steady at about 75 percent of sales since 1984. In 1989 NEC imported Ts. 114 million worth of raw material. Effort has to be made to decrease the dependence on imported raw materials so as to save valuable foreign exchange.

Financing costs are high. Financing costs in 1989 exceeded annual revenues. However, this was the first year since 1984 that this had happened.

2. Assets and Liabilities

How well NEC uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc. or

in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash and low returns on working capital.

a. **Balance Sheet**

NEC has managed to improve its balance sheet over the last five years. At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VII: Balance Sheet. Closer analysis reveals that available cash and the value of raw material stocks have declined while receivables have increased. NEC has managed to maintain its positive equity position since 1989.

b. **Ratio Analysis**

The significant changes at NEC are: cash as declined from 36 percent of total assets to 0 percent of total assets, and dependence on short-term debt has increased from 0 percent of total liabilities to 4 percent of total liabilities.

c. **Short-Term Liquidity**

Short-Term Liquidity Analysis shows that NEC has maintained its liquidity position. The current ratio has declined from 1.14 in 1984 to 1.05 in 1989. The acid ratio -- cash and cash equivalents divided by current liabilities has declined dramatically from 0.18 to 0 during this period. This indicates that NEC would not be able to cover its short-term liabilities in the given year, effectively converting all short-term liabilities into long-term debt.

3. **Cash Flow**

The company's Cash Flow statement indicates that the sources of cash flow are increasingly coming from borrowed capital. Short-term borrowing increased from 0 percent of total cash in 1984 to 100 percent by 1989.

4. **Foreign Exchange and Capital Requirements**

a. **Sources and Uses of Foreign Exchange**

NEC imports most of its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms described in the main report. NEC also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

NEC had preferential access to foreign exchange in the past; but, this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time its obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the

company uses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

b. Sustainable Growth Rate

NEC's sustainable growth rate cannot be calculated as it is losing money and it is unclear whether the margins will change substantially as it approaches profitability.

5. Estimates of Valuation

i. Book Value

Book value in Ts. 38 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the National Engineering Company. In NEC's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

ii. Going Concern

Valued as a going concern, the profits of NEC are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 60.5 million. NEC is worth more as a going concern than were it to be liquidated. This indicates that NEC has general viability as an enterprise.

iii. Price Earnings Ratio

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the NEC would be valued at Ts. 1,940 million shillings. This is the price that NEC would fetch on a stock market that valued earnings at this rate.

Appendix 8 Attachments: NATIONAL ENGINEERING COMPANY,LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
CURRENT ASSETS
CURRENT LIABILITIES

TABLE I

Table : Actual Sales

National Engineering Company

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Tank/Steel Shop & Erectio	18	41	58	75	115	155
2. Machine and Grinding	18	4	6	7	13	19
3. Foundry	10	8	6	5	12	20
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	46	53	70	87	140	194
Units/Employee	4	11	14	29	28	1

TABLE II

Table : Actual Production

National Engineering Company

Product	Units	Description	(Production in Units)					1989
			1984	1985	Est'd		1988	
					1986	1987		
1. Product A	MT	T/S/E	0	810	705	600	300	0
2. Product B	HRS	M/G	0	100,000	72,000	44,000	22,000	0
3. Product C	MT	Others	0	150	115	80	40	0
4.	0	0	0	0	0	0	0	0
5.	0	0	0	0	0	0	0	0
6.	0	0	0	0	0	0	0	0
7.	0	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0
Total			0	100,960	72,820	44,680	22,340	0

TABLE III

Table : Actual Purchases

National Engineering Company

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	1	10	20	31	35	40
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	1	10	20	31	35	40
	Foreign currency						
7.	Raw materials	13	7	18	29	72	114
8.	Spares & accessories	1	0	1	2	4	6
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	14	7	19	31	76	120
13.	Total	15	17	39	62	111	160
14.	In Dollars	\$1	\$1	\$1	\$1	\$1	\$1

Notes:

- 1.
- 2.

TABLE IV

National Engineering Company

Table : Actual Investment

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	1.0	0.0	0.3	0.0	0.0
2. Plant & machinery	1.1	1.3	0.0	0.2	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	0.9	0.0	0.0	0.0	0.0
5. Other	0.0	0.1	0.0	0.0	0.0	0.0
Total Expenditures	1.1	3.3	0.0	0.5	0.0	0.0
Source of Funds						
1. Equity – NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity – Other	1.1	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	1.0	0.0	0.5	0.0	0.0
8. Other, Unaccounted For	0.0	2.3	0.0	0.0	0.0	0.0
Total Sources	1.1	3.3	0.0	0.5	0.0	0.0

Notes:

1. Cap. Exps. (\$'000's)	\$0	\$0	\$0	\$0	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	1.1	3.3	0.0	0.5	0.0	0.0
3. Nominal Index of Capital Expendit	33.3	100.0	0.0	15.2	0.0	0.0
4. Dollar Index of Capital Expenditur	30.4	100.0	0.0	3.0	0.0	0.0
5. Debt/Total Sources	91.89%	0.00%	12.77%	0.00%	0.00%	ERR
6. Foreign/Total Sources	0.00%	0.00%	0.00%	0.00%	0.00%	ERR
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	100%	39%	NA	40%	NA	NA
9. Ratio: Vehicles/Cap. Exps.	0%	27%	NA	0%	NA	NA

TABLE V

National Engineering Company

Table : Actual Manpower

Product	Employees					
	1984	1985	^{E's+a} 1986	1987	^{E's+a} 1988	1989
1 Senior Managers	2	8	6	4	4	4
2 Middle Managers	2	10	10	9	9	8
3 Supervisors	16	38	44	50	60	69
4 Clerical	34	28	17	6	7	7
5 Skilled Manual	19	197	194	190	185	190
6 Unskilled Manual	19	90	82	73	74	74
Total	92	371	352	332	337	342
Expatriate	1	5	0	3	0	0
Total Employees	93	376	352	335	337	342

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

National Engineering Co.

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	49	56	76	88	130	0	0
Less: Cost of Sales	35	42	60	71	104	0	0
Gross Profit	14	14	15	17	26	0	0
Less: Operating Expenses	6	8	7	9	16	0	0
Administration	6	7	7	8	0	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	8	7	8	8	10	0	0
Add: Other Income	0	0	2	3	2	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	8	7	10	12	12	0	0
Less: Provision for Taxes	4	4	5	6	6	0	0
Profit After Tax	3	3	5	6	6	0	0
Statement of Retained Earnings							
Balance Brought Forward	8	9	11	13	17	19	19
Prior Year Adjustment	0	0	0	0	0	0	0
Balance Brought Forward R	8	9	11	13	17	19	19
Add: Net Profit for the Year	3	3	5	6	6	0	0
Profit Available for Appr	12	12	16	19	23	19	19
Less: Miscellaneous Appropriati	0	0	0	0	2	0	0
Less: Dividends Declared	1	3	2	2	2	0	0
Retained Earnings Carried	10	9	14	17	19	19	19
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	3	3	1	1	1	0	0
Cost of Sales	2	3	1	1	1	0	0
Operating Expenses	0	0	0	0	0	0	0
Profit After Tax	0	0	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

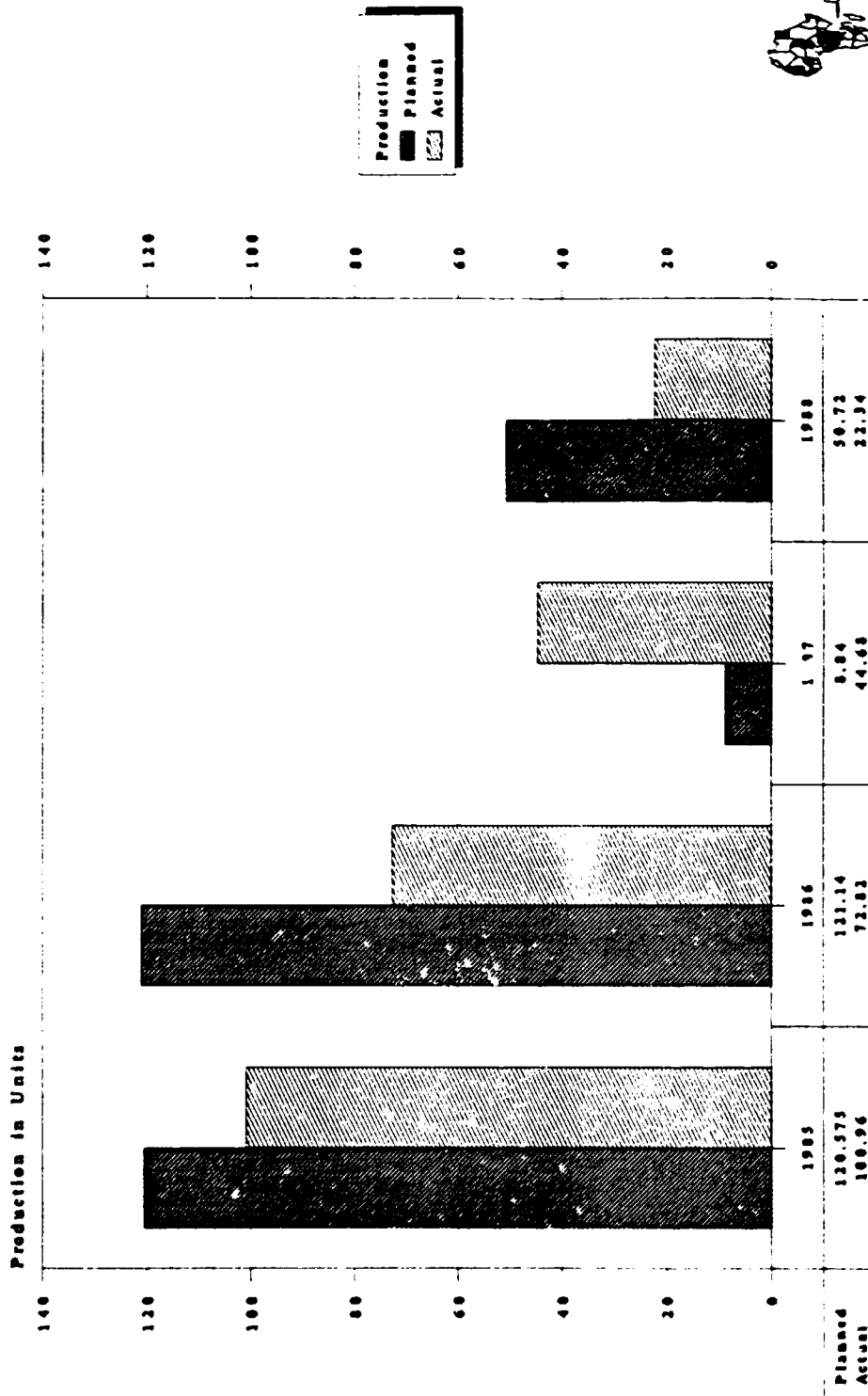
National Engineering Company Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	18	18	18	16	24	0	0
2. Current Assets	55	57	63	123	165	0	0
3. Stocks	28	35	36	51	69	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	18	18	25	50	96	0	0
6. Cash and Bank Balances	9	4	2	21	0	0	0
7. Current Liabilities	48	51	56	110	157	0	0
8. Trade Creditors	43	2	3	7	26	0	0
9. Bank Overdrafts	0	0	0	0	6	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	4	4	5	6	6	0	0
12. Other Current Liabilities	1	44	47	97	119	0	0
13. Net Current Assets/Liabilities	7	6	7	12	8	0	0
14. Total Net Assets	25	24	25	29	32	0	0
15. Financed by:							
16. Share Capital	12	12	12	12	12	0	0
17. Capital Reserves	0	0	0	0	(0)	0	0
18. Profit and Loss Account	9	11	13	17	21	0	0
19. Long Term Loans	3	2	0	0	0	0	0
20. Debt	52	52	56	110	157	0	0
21. Equity	22	23	25	29	32	0	0
Notes:							
Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0
In Current Dollars							
1. Net Fixed Assets	1	1	0	0	0	0	0
2. Current Assets	3	3	1	1	1	0	0
7. Current Liabilities	3	3	1	1	1	0	0
13. Net Current Assets/Liabilities	0	0	0	0	0	0	0
14. Total Net Assets	1	1	0	0	0	0	0
20. Debt	0	3	1	1	1	1	0
21. Equity	0	1	0	0	0	0	0

Planned vs. Actual Production

National Engineering Company

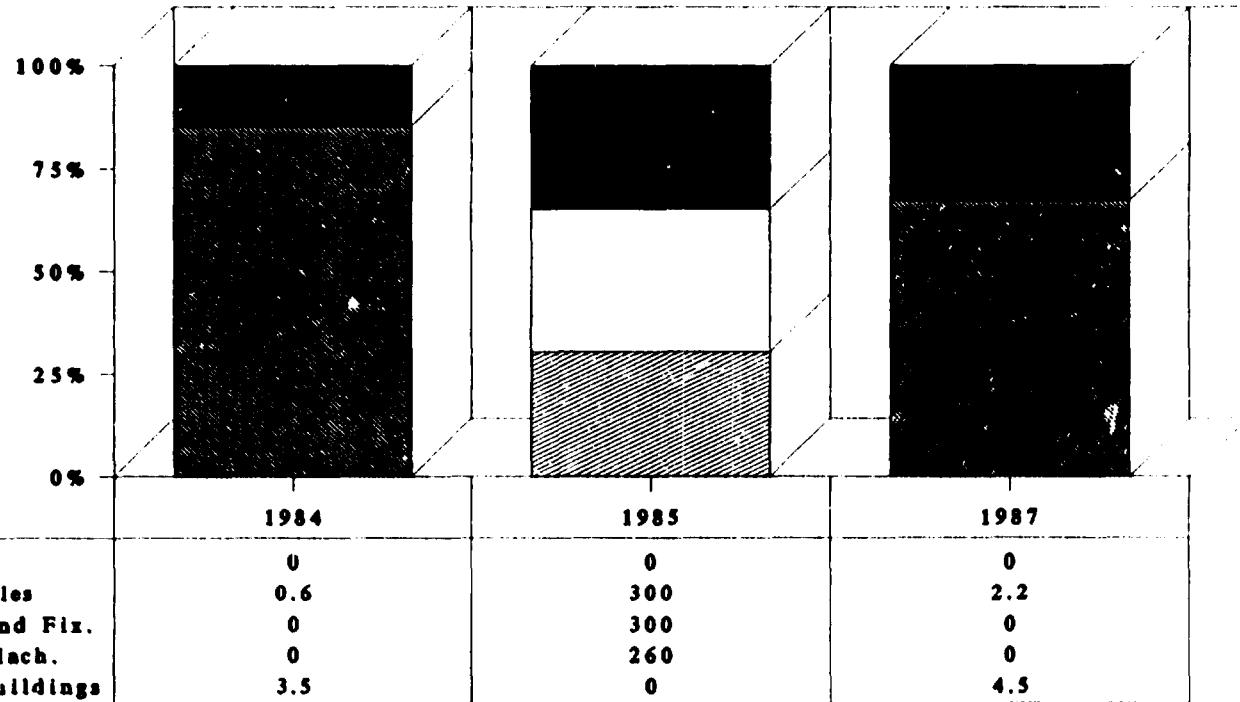


UNIDO/Tanzania/
NDC Assistance - 1991

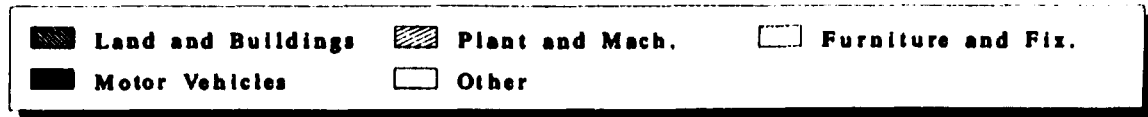
Capital Expenditure Breakdown

National Engineering Company, Ltd.

MILLIONS OF SHILLINGS



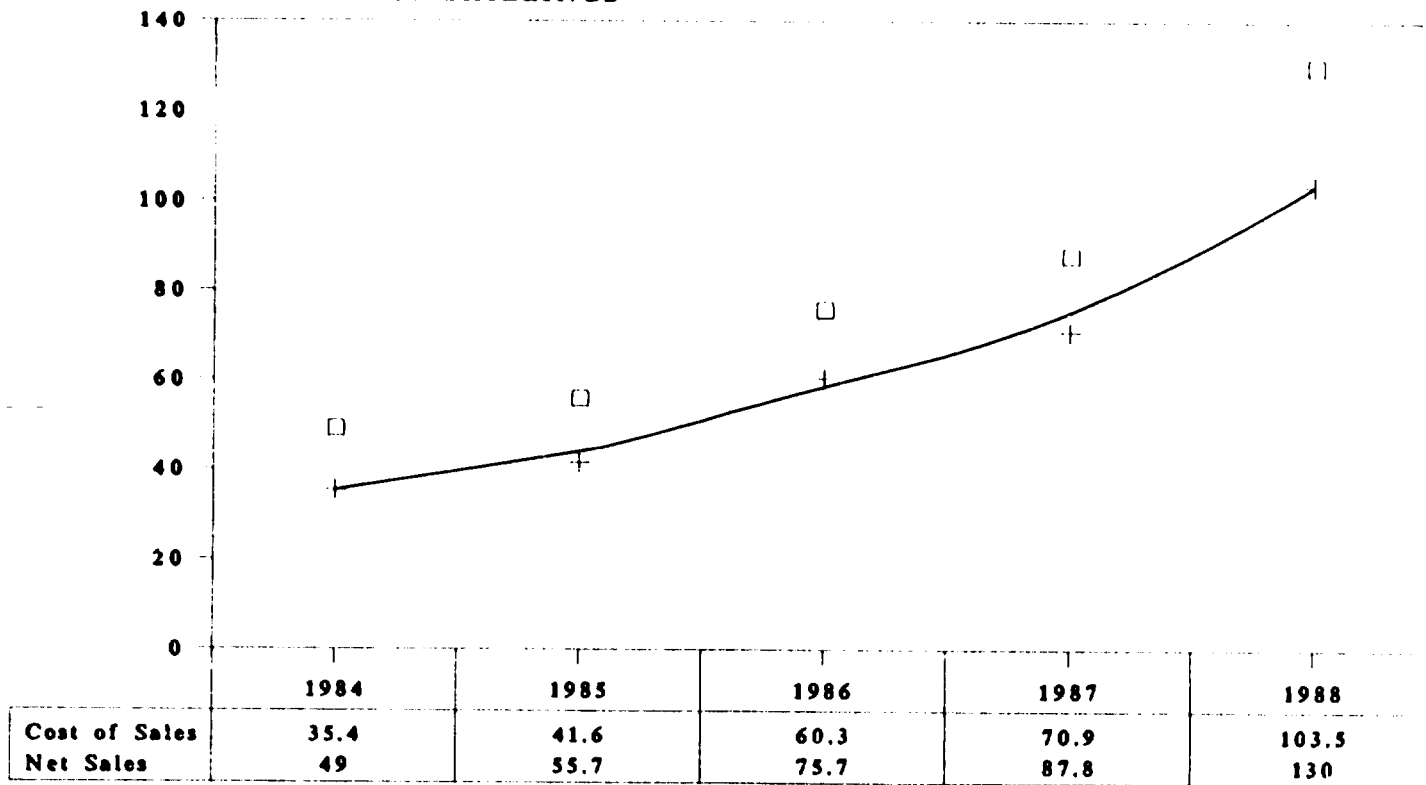
Data not available FY86 & 88.



Cost Of Sales/Net Sales

National Engineering Company, Ltd.

MILLIONS OF SHILLINGS



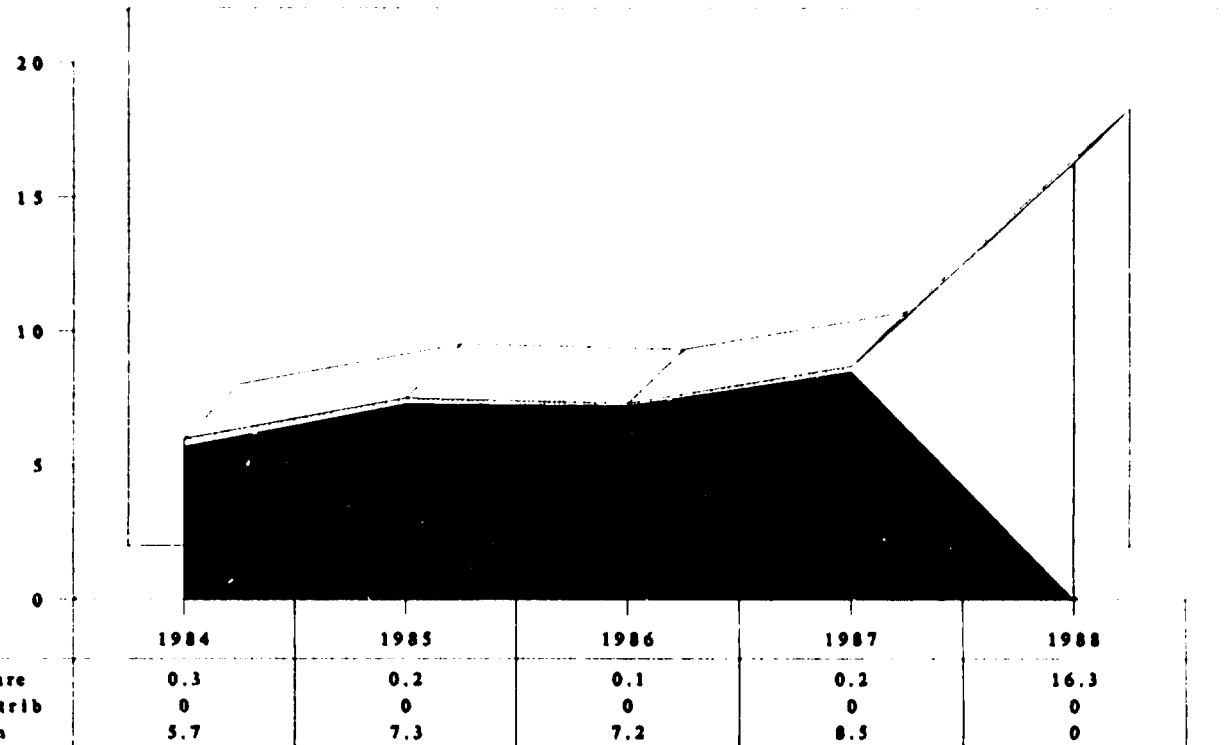
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

National Engineering Company, Ltd.

Millions of Tshillings



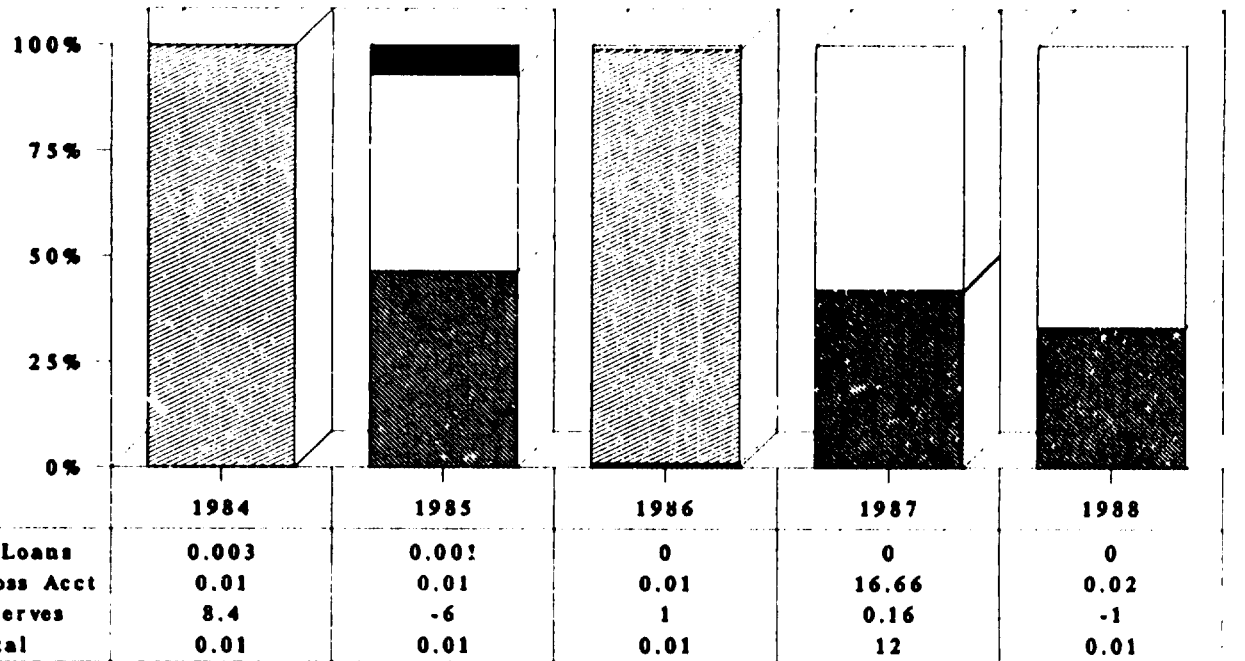
Operating Expenses

Administration
 Selling & Distrib
 Fin Expenditure

Total Net Assets

National Engineering Company, Ltd.

MILLIONS OF SHILLINGS

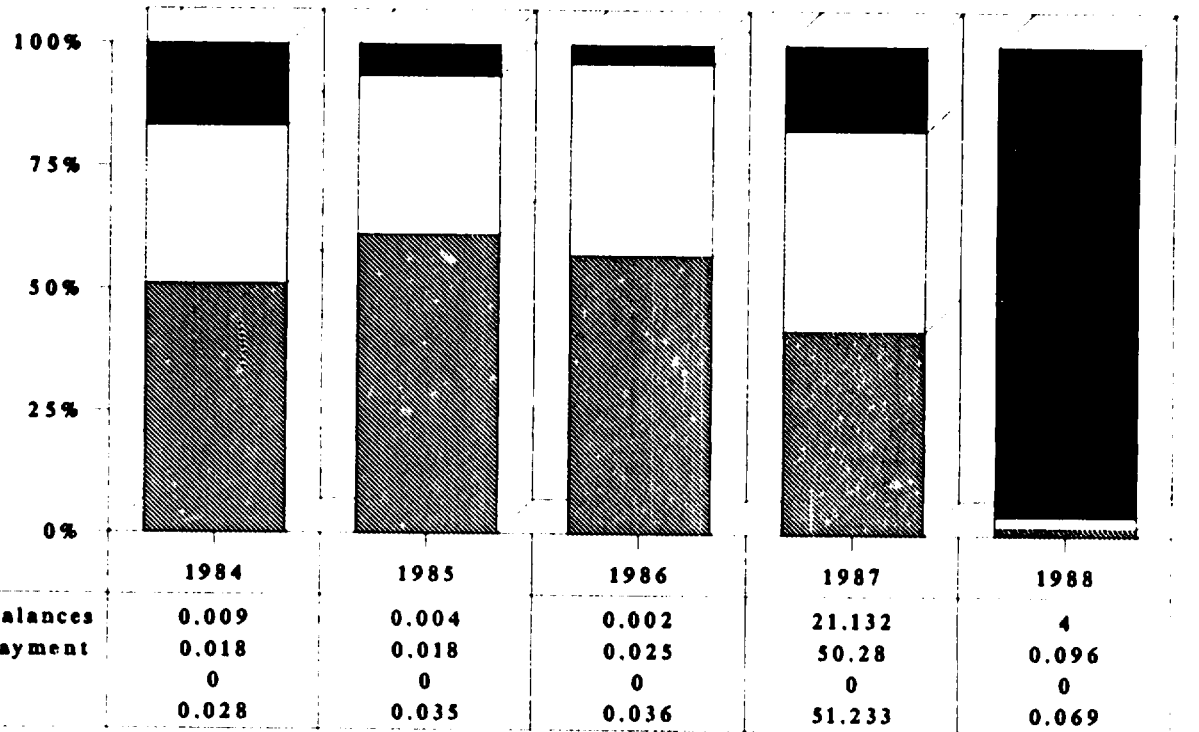


MILLIONS OF SHILLINGS



Current Assets Breakdown

National Engineering Company, Ltd.



MILLIONS OF SHILLINGS

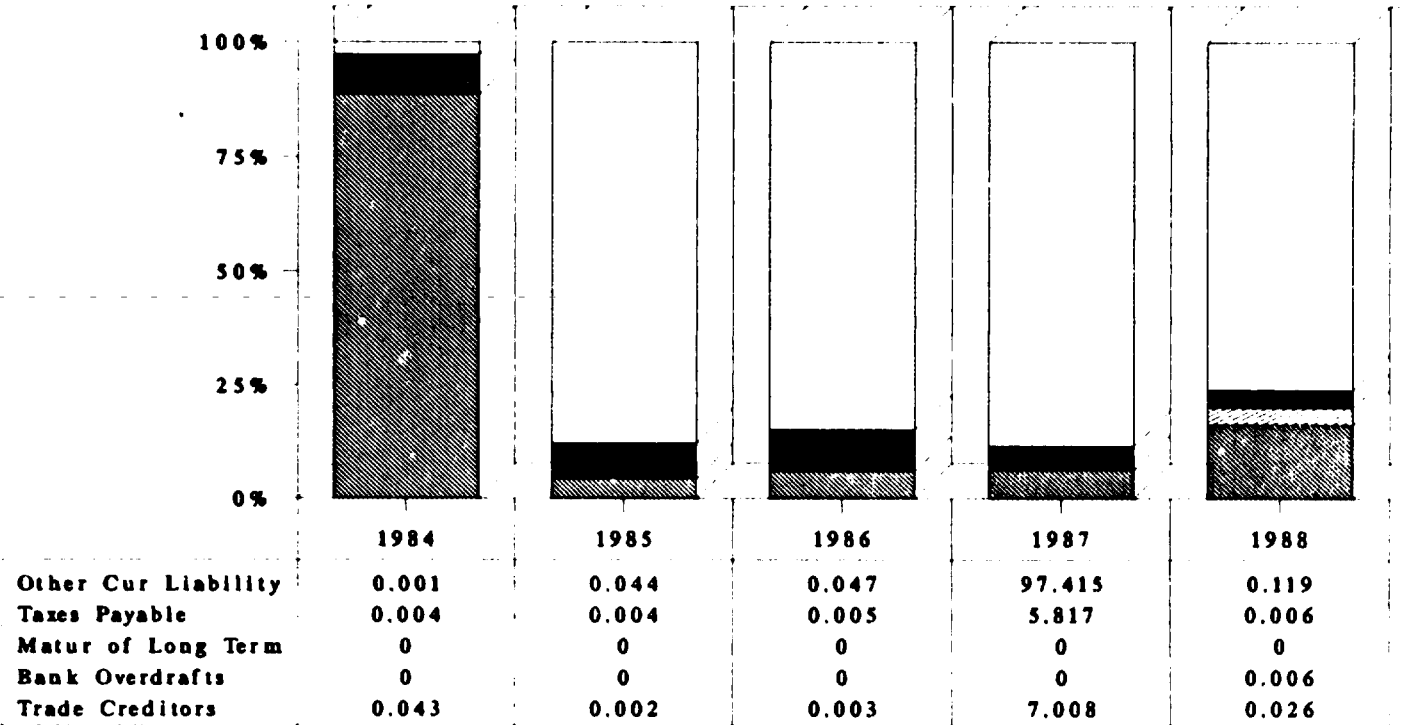


UNIDO/Tanzania/NDC Assistance - 1991

Stocks
 Trade Debtors
 Debtors & Prepayment
 Cash & Bank Balances

Current Liabilities Breakdown

National Engineering Company, Ltd.



MILLIONS OF SHILLINGS

Trade Creditors
 Bank Overdrafts
 Matur of Long Term
 Taxes Payable
 Other Cur Liability



Appendix 9: National Steel Corporation

APPENDIX 9: NATIONAL STEEL CORPORATION

I. RECOMMENDATIONS

The National Steel Corporation is an anomaly. It is quite profitable yet is in decline. Unit volumes have declined in recent years and the company is able to purchase less and less steel each year. It has lost its major customers who now buy direct, and for smaller clients it competes against more nimble private traders who operate with far less overhead and faster inventory turn-arounds.

National Steel should be merged into the Aluminium Africa Group. Its yard could be sold or used as a sales depot for all Aluminium Africa products. The concept of "one-stop" shopping makes sense but it would be better combined with the regional depot strategy of the Aluminium Africa Group. There is no need for National Steel to exist as a separate group -- existing as a trading arm of Aluminium Africa would suffice.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

A. Overview

The National Steel Corporation (NSC) must concentrate on four key tasks; (1) purchasing, (2) inventory management, (3) cash control, and (4) marketing. These are the essential skills for its niche as a steel importer and distributor. At the same time, it is not certain that National Steel Corporation will be able to develop these skills before it is effectively eliminated as a corporation by competing distributors. For this reason, the consultants have identified several organizational and/or structural options for consideration by NDC that might make best use of the existing assets of NSC before these are irretrievably lost.

These include:

1. Transfer assets and dissolve;
2. Transfer assets and structure to another company;
3. Sell assets and dissolve.

In the first case, NSC assets, including stock, land and buildings, and personnel, would be transferred to a larger steel importing company such as Aluminium Africa. Some personnel would be transferred to other sorts of positions. NSC would cease to operate as a separate company. Option 1 would preserve the most valuable aspects of NSC, its personnel, stocks, and property, within the NDC Group. At the same time, it

would eliminate redundancies in organization and operations within the NDC and help solve the recurrent financial weaknesses of the NSC.

In the second option, NDC would transfer the assets and structure of NSC into another organization and retain its structure. Absorption of NSC by a larger company as a subsidiary of that company. NSC would exist as a separate entity but would report to the larger company and not to NDC directly.

The second option would retain the character of NSC, but would place it under a company that is stronger and more successful in its importing operations than NSC. NSC would benefit from more capital strength and more direct supervision of its operations. It would be less efficient than Option 1 since more personnel would remain in the importing operation unless other rationalization measures were considered.

In the third option, the NSC would be eliminated as an operating company, its assets sold or transferred, and its personnel made redundant if suitable positions were not available. This offers the greatest immediate cost savings and cash generation, but it may be a difficult option to implement politically.

There exists, of course, a fourth option, which would be for NSC to remain operating as is. While easy, this option would be the most costly. First, it maintains unnecessary redundancy in operations and personnel at a cost to NDC and its companies. Second, NSC can be expected to maintain current cash utilization trends and eventually run out of capital. Third, increased competition from the private sector and NSC's weak performance record lead one to the opinion that NSC will be effectively eliminated unless it is heavily subsidized through favorable exchange rates and increased costs to NDC.

Even within the transfer operations, it is assumed that NSC will need to build up its skill base. Its current skill base and strengths include: purchasing knowledge and contacts, customer knowledge and contacts, knowledge of government channels, and preferential access to foreign exchange at favorable rates.

None of these strengths, however are unique, and many are duplicated within the NDC group in such companies as ALAF, Steel Rolling Mills, and CMB, among others.

Furthermore, NSC has several weaknesses including: cash and cash management, purchasing skills, aggressiveness in seeking out market opportunities and niches, and inadequate inventory control and management. Current management would need to be trained in the above techniques or new management brought in with the requisite skills. To the extent that these skills exist elsewhere in NDC, NDC would be advised to place more responsibility in the hands of those companies. Hence, the transfer options.

NDC should consider pressing for changes in the tariff structure that relate to raw material imports for value-added industries. This would include the elimination of tariffs

on materials re-exported to neighboring countries and on materials that become part of a manufactured product for domestic consumption or exports.

B. Marketing

NSC must change from a constraint driven strategy to a market driven strategy. This requires that it consult more with its customers, identify their requirements more carefully, and seek opportunities to add service and value to its commodity products. Otherwise, NSC is forced to compete on price; something it will be ill-equipped to do in the increasingly competitive and open market. For strategic reasons, NSC must assume that its key competitive advantages in this field -- preferential access to foreign exchange and artificially low exchange rates -- will be eliminated during the next ten years of structural readjustment. This means driving down the cost of its operations while increasing the value-added of its services. Otherwise, NSC could easily see itself facing record losses in its operations when these preferences are fully eliminated.

The key task for NSC is to identify customer needs, order appropriate levels at appropriate times, and provide any necessary services to insure expansion of its businesses. NSC's current approach is to:

- 1) look at historic stocking patterns,
- 2) assume a continuing trend,
- 3) match demand to foreign exchange and PTA allocations,
- 4) eliminate slow moving items , EVEN IF CRITICAL,
- 5) order the fastest moving items within the allocations.

This is an organizational and constraint driven approach to business. It is not market driven. Since it does not meet the demands or requirements of the market, it is a losing strategy as demonstrated by NSC's declining shares in unit volume, turnover, and customer base.

C. Production

As a distributor, NSC has little in the way of production or operations. At the same time, if one considers that the processing of materials and supplies is its chief operation, then one could develop a strategy for this area.

The company's key task is to reduce the throughput time (number of inventory turns) of its operation. That means that NSC must reduce the lead times on orders, the time it takes to process any document relating to an order in its operation, the amount of stock relative to sales of its product lines, increase the diversity of stock, and finally, reduce the collection time on sales of product.

D. Management

NDC should consider replacing current management with experienced buyers/distributors while current managers are trained in the core skills of the distribution business.

Management must develop core business skills: purchasing, inventory management, cash management, collections, and customer service. A training program should be developed incorporating both on the job and long term training.

E. Human Resources

NDC should consider absorbing redundant workers in other areas of the NDC Group. Current staffing is quite high relative to the volume of sales, the actual workload, and private sector distribution companies in Tanzania and abroad.

If the NDC contemplates other areas of expansion, it is recommended that these workers, be given preferential access to those positions within the NDC group.

F. Finance

NDC should consider bringing NSC into a stronger cash position through its absorption/subsidiary status within a larger organization. NSC is currently constrained by a lack of cash, due primarily to ineffective cash management over the last few years.

II. FINDINGS AND ANALYSIS

A. Overview

National Steel Corporation (NSC) was organized in 1966 as the state trading corporation. NDC assumed control in 1973. For years NSC had a monopoly on the importation of steel and basic steel products into Tanzania. This monopoly was gradually eliminated and now companies may import steel and products directly. Consequently, NSC has seen its role and market share fall dramatically. In 1990, NSC imported only 11,000 tons of steel products. Despite decreasing volumes and turnover since 1985, employment has increased over 80 percent during this period.

During its period of monopoly, NSC had priority access to foreign exchange and was able to arrange the "loan" of these funds without putting up matching funds of its own. This amounted to a low or no cost loan for working capital. An inability to manage its cash despite these subsidies has resulted in a shortage of cash in the NSC. NSC absorbs working capital through its operational costs and by selling products at less than their replacement cost. This has also resulted in a downward spiral in its ability to reorder stock.

NSC regards itself as an important player in the development of Tanzania although the market data seems to suggest otherwise. There does not appear to be a corporate philosophy.

The Company's strategy has been to survey past trends and buy an annual consignment of steel to meet historic patterns. This has resulted in a hit or miss approach to the market's and Tanzania's needs. Products which are slow moving but perhaps vital or high profit margin are ignored; while, fast moving but easily found products have been ordered. To be fair, foreign exchange allocation methods made rational market planning more difficult by requiring NSC to use up foreign exchange allocations quickly rather than space out orders throughout the year.

Currently, the company appears to be without direction. It is making a number of small diversification attempts including the marketing of products produced by other NDC companies. The Company's idea is to develop itself as a one-stop shop for small builders and construction contractors. Simultaneously, it has attempted to export makonde wood carvings, an activity which is completely out of its normal scope of operations.

B. INDUSTRY AND COMPETITOR ANALYSIS

1. Market Overview

The market for steel products in Tanzania at present is somewhat limited by the size and nature of the economy. None the less, the market does have some significant tonnage requirements and requires a wide variety of products within this broad market.

Demand as estimated by NSC:

	<u>Tons</u>	<u>%</u>
Estimated Total Demand of which:	400,000	100.0%
1. Aluminum Africa		
GALCO	75,000	
PIPECO	15,000	
STEELCO	<u>10,000</u>	
Subtotal	100,000	25.0%
2. Bongo Farm Implements	5,000	
3. Zania AS Kilimo	2,000	
4. Body Building Cos.	1,500	
5. National Steel Co. Up to	<u>15,000</u>	
Subtotal	123,000	30.9%
6. Other	276,500	69.1%

2. Customer Characteristics

End users are primarily metal-working companies and construction firms. Customer types include:

- Large, relatively sophisticated organizations who handle their own importation of raw materials either directly from the source or more likely through offshore distributors.
- Medium sized companies with inadequate access to foreign exchange who must turn to local distributors for supply.
- Small companies and construction firms who buy primarily from local distributors.

3. Market Size and Trends

The market for all types of steel is expanding. This would indicate a ready market for NSC's services, were the company more competitive. Also, the diversity of the steel market import line is increasing. Until or unless, Tanzania builds a domestic steel production capability, there will be a market for basic steel imports of the range of NSC.

4. Competition

Since the dissolution of NSC's monopoly, the largest of its former customers have begun to provide the same products and services and have in fact become NSC's competitors in certain markets. Furthermore, other private and public companies act as importers and distributors of steel products. Within the NDC Group, for example, Steel Rolling Mills of Tanga operates a small portion of NSC's yard to sell its steel bars. Steel Rolling Mills acts as a distributor for NSC and itself in a yard they maintain in Dodoma.

Competition in this market will grow in the future. Currently, competitors are able to obtain the same access to foreign exchange as NSC. Furthermore, to the extent that they are better capitalized, they can invade NSC's core markets. As its larger customers grow, they too will move to order directly from suppliers. This leaves NSC with a pool of small, manufacturing and construction firms for its customer base.

Competition will then shift to purchasing skill, delivery ability, service levels, and financing capabilities. NSC is weak on all these fronts.

5. Substitutes

Substitutes for imported steel raw materials are other materials such as plastics, wood, etc. and finished products. In the future, should Tanzania develop primary steel production capability, domestically produced steel items would be substituted for the most

basic of the product categories. This would further narrow the range of market and products serviced by NSC.

6. Policy and Regulatory Environment

The policy and regulatory environment has limited competition in this market until recently. NSC and other parastatals were protected and given monopoly rights on imports, preferential access to foreign exchange and tariff protection.

While there is currently more liberal access to foreign exchange than previously, the Treasury requires a deposit of 100 percent of the foreign exchange purchased in Tanzanian Shillings when a letter of credit is opened (OGLs). The funds are not tied as are PTA's and other forms of tied aid.. This benefits most companies as they now have the ability to purchase from a wider range of suppliers and have faster access to foreign exchange. At the same time, companies in a weak cash position, such as NSC, have found their costs increased since they must now obtain bank overdrafts at 31 percent per annum to cover the OGLs. The bank charges must be factored into their operating costs with the end result that consumers must pay a higher amount for steel coming through NSC.

The opening of the import market has exposed NSC to increased competition. This is good for the country in that the competition should result in lower pricing and improved service relative to the former NSC concession. In this case, what was good for the country, was not good for NSC which has seen its margins and share erode. The NSC has encountered more difficult going in the market as competitors provide an equivalent or superior product at a lower cost.

The tariff on steel products of all types is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms. There is debate on a rebate of duty on raw materials used in products that are exported. If so, this would give a positive impetus to exports.

C. Marketing

1. Overall Marketing Strategy

NSC's basic strategy appears to be to wait for customers to order products from it. For years they approached their market in much the same way with few changes in either product characteristics or channels of distribution. Large buyers were financed with credit, much of which remains unpaid.

In the last two years, NSC has faced increased competition from former customers and private sector importers. In addition, it has been precluded from importing products

competing with NDC companies, notably Aluminum Corporation of Africa. As a result NSC has been forced to find other market niches.

NSC is contemplating moving downstream into a wholesaling operation. The concept is that NSC will be a "one-stop outlet" for smaller construction contractors. NSC would broaden its line to carry non-metal products to supply local contractors with all the basic materials required in construction. An advertisement in the Tanzanian daily news listed the following products are being available:

- electric cables
- electric conduits
- chainlink fencing wire
- chicken wire mesh
- corrugated iron sheets
- furniture pipes
- plastic water pipes
- welded wire mesh
- barbed wire
- nails
- galvanized water pipes
- roofing nails

NSC has also begun selling a line of locally produced goods of NDC sister companies, notably galvanized sheet products.

It appears that the NSC will attract primarily smaller companies without access to foreign exchange. The larger companies can order more efficiently on their own and would tend to use NSC only to the extent that those companies encountered foreign exchange constraints. Those with sufficient access to foreign exchange do not need NSC's preferential access to foreign exchange.

2. Sales Tactics

NSC does not appear to have any particular sales tactics. It appears to be slow in reacting to/or meeting customer demands.

3. Customer Service

The products are basic steel products used in construction and downstream processing activities. Little, if any, customer service is provided.

4. Pricing

Pricing is set by the government's Pricing Commission on an annual basis. Prices are determined by taking past import prices, adding duty, taxes, transportation, NSC's overhead, and a small margin. Exchange rates are calculated, sometimes estimated, to determine the final local shilling price for the coming year. This works until a devaluation takes place or until any component of the cost base increases. Then, it is a rather involved and cumbersome project to change prices.

For those products that are not price controlled, the NSC is bounded by market competition in its ability to pass on costs.

Weak inventory management has resulted in slow turnover of stock. The time value of money, changes in the exchange rate, and changes in the replacement cost of stock are not taken into account in determining the final price of goods sold. For these reasons, NSC has been consuming its "seed stock" over the last few years by underpricing goods. (For example, while NSC may nominally sell a product for more in shilling terms than it cost to buy it, the shillings captured are insufficient to purchase an equivalent of replacement stock at current prices. Thus, NSC purchases a decreasing volume of steel products annually and has a smaller and smaller base on which to spread its overhead.) Conversely, slow moving inventory is kept on the books resulting in a loss of working capital. To make up for the loss of those funds, NSC must resort to bank overdrafts at an interest rate of 31 percent per annum.

It is unclear whether NSC has the flexibility to sell product at lower than the set price; although, this would might be advisable in the event of slow moving stock. On the other hand NSC would benefit were it free to set the prices of its stock based upon the market exchange rate and the replacement value of stock.

5. Promotion

The company does little, if any, promotion of its products.

6. Advertising

The company does not appear to have a regular advertising program. The bulk of the advertising budget was spent on the newspaper advertisement:

7. Location

NSC's one and only yard is located in Dar Es Salaam. Two covered warehouses are located on the grounds as well as an office building. All storage, sales, and loading are done from the yard.

NSC shares this yard with Steel Rolling Mills which maintains an eight member sales office in Dar Es Salaam. Steel Rolling Mills acts as a distributor for NSC in Dodomo where it sells NSC products at a 25 percent markup.

D. Production and Operations

NSC is not a producer, it is a distributor. At the same time, we can analyze the distribution process -- how NSC orders, takes delivery, warehouses, and distributes its product. Similarly, we can analyze the ways in which it manages the paper and cash of its business as these are critical to managing the distribution process.

NSC's overall processing strategy can be described as an annual batch process. It analyzes the historic sales, attempts to gain foreign exchange, and, based upon the two orders roughly a years' worth of inventory at a time.

This is a reasonably efficient process managerially and results in a low commitment on management's time. Unfortunately, it is an extremely inefficient process for determining the correct product mix and does not maximize the use of the firm's key constraint--cash. First, the product mix is set for the year even if the market changes in the meantime. Second, NSC ties up precious cash in inventory. Alternately, it borrows funds at 31 percent and cuts into its operating margins.

The clerical, stocking, and loading operations are labor intensive. Skill levels here are quite low. All of the steps involved in the processing of orders should be straightforward and reasonably quick. Thus, the number of clerical personnel is puzzling.

1. Location and Facilities

NSC has one yard located approximately in the industrial zone of Dar Es Salaam. The total facility consists of 3 main buildings. The warehousing facilities consist of 2 covered and semi-covered warehouses. There is a rail line that connects to the yard. It has not been used for 2 years. The change in the customer and product mix, the proximity of most customers, and the low volumes of product sold result in all products being transported by truck.

2. Merchandising Operations

There is no automation of paper flow, no computerized inventory systems, no use of automated management information systems. This is a key weakness in the organization since the process should be routine, fast, and efficient to minimize overhead costs and waiting in the value-added delivery chain.

3. Materials Handling

There is one lorry, 15 skilled and 29 unskilled laborers to handle materials within the yard. The process is labor intensive.

4. Product Quality

NSC's ability to respond to customer demands, to determine an adequate product mix, to manage inventory turns, all suffer in comparison to private sector firms and those in the distribution business.

The Consultant believes that management is responsible for solving the basic business problem given the constraints imposed upon them by their system. In some cases, these are difficult to change, i.e. foreign exchange allocation procedures. Still, management can determine better ways of meeting market requirements and the current loss in share is not attributable to lack of foreign exchange but to lack of effective and cost efficient management.

The decline in market share of NSC indicates that NSC's ability to deliver the right product in a timely fashion at a competitive price suffers in comparison with other sources of supply. For example, ALAF, SRM, and UFI all order product directly. NSC's share of market even to NDC companies has declined. SRM uses NSC's yard, but feels that it is better able to market its products than NSC.

5. Product Delivery

NSC stockpiles goods at its yard. Customers come to the yard to pick up product. NSC's lorry is only used to pick up materials from the port and does not serve customers.

6. Competitive Strengths/Weaknesses

NSC has experience in purchasing, knowledge of the steel market, preferential access to foreign exchange, and a position within the NDC Group. Its greatest strength is preferential access to foreign exchange. Were this eliminated, it is unlikely that NSC would survive for long against its more efficient and capable competitors.

As for weaknesses, NSC lacks the ability to determine appropriate order quantities, to respond quickly to the market, or to manage its cash cycle carefully. A key weakness is lack of aggressiveness in what is essentially a highly competitive industry -- distribution.

Finally, the cost structure places NSC at a significant disadvantage vis-a-vis local competitors since NSC carries a relatively high staff and overhead component relative to other distributors. A private sector competitor with equivalent volume for example, might have a cost structure that is 20 percent of NSC's.

7. Strategy and Plans

NSC is investigating the alternative markets. In one area, the company is expanding into a one-stop center for construction contractors. In another, somewhat curious move, the NSC has recently tendered for ebony woodcarvings and handicrafts.

8. Expansion Plans

The firm has no plans to expand the capacity of its yard or to acquire other yards in the country. It has sufficient capacity to handle a 400 percent increase in steel stocked.

9. Capital Requirements

There are no existing feasibility studies for the diversification proposals described above. Both would require additional working capital but no capital expenditure.

E. Management

1. Compensation

Management compensation at NSC is higher than their private sector counterparts. Base salaries are low, however benefit packages are quite extensive. Benefits include: housing, vehicles, medical, and life insurance. As far as could be determined, management compensation is not geared to performance.

Staff welfare and benefits were 159 percent of salaries in 1988, a significant increase from 1987 when they were 116 percent.

2. Other Professional Services

Legal services are provided by the legal secretary of NDC.

F. Human Resources

1. Composition and Skills

NSC employs 81 persons, in the following positions:

	<u>1989</u>	<u>Percent</u>
Warehousing and yard		
Foremen/supervisors	15	18%
Unskilled labor	29	36%
Sales and Marketing		
General and Administrative		
Managerial	28	35%
Clerical/other	9	11%
Total	81	100%

2. Compensation and Trends

The Company is able to attract and retain a qualified workforce for its yard operations. Salary levels are set by SCOPO. Turnover is low. The compensation package retirement, consists of allowances and a base wage, medical insurance, housing, transportation.

3. Productivity

Productivity in the firm is low. Output for the firm was as follows in 1988:

(Ts. '000's)	<u>NSC</u>	<u>NDC</u>
TS sales per employee	6,714	2,071
Profits per employee	715	200

While NSC appears high in relation to other NDC firms, note that it is a trading company and should have high volumes and profits.

4. Training Programs and Needs

NSC invests few if any resources in training.

G. Finances

1. Sales, Revenue, Profitability

NSC has shown an upward trend in sales in Ts. terms over the last five years as shown in Table VI: Actual Profit and Loss. However, when this is translated into both dollar and constant shilling terms, NSC has shown a marked decline in sales.

Profits have also declined during this period. Again, measured in dollar and constant shilling terms, we see a contraction of the Company. The ratio of profitability to sales has also decreased during the last several years.

2. Assets and Liabilities

How well NSC uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc. or in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash and low returns on working capital.

a. Balance Sheet

The NSC shows some strength in its balance sheet. However the trends in the last two years are negative.

b. Ratio Analysis

Short-Term Liquidity Analysis shows that NSC has suffered a weakening in its liquidity. The current ratio has declined from 1.9 in 1985 to 1.1 in 1989. The acid ratio

-- cash and cash equivalents divided by current liabilities has declined dramatically from 1.0 to 0.2 during this period. This indicates that NSC would be able to cover only 20 percent of its short-term liabilities in the given year, effectively converting most short-term liabilities into long term debt.

3. Cash Flow

A review of the financial reports indicates that the sources of cash flow are increasingly coming from borrowed capital. Uses of funds are increasingly going to overhead costs and to financing charges.

4. Foreign Exchange and Capital Requirements

Virtually all the products sold by NSC require foreign exchange. Steel and iron products and coke are all imported with the exception of products produced by NDC Group companies. All of these products contain large imported components.

Foreign exchange to purchase these products come through the OGL and ISF mechanisms described earlier. Tied foreign exchange purchases in the past have resulted in poor purchasing decisions.

The Company had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. The company must now use the Open General License (OGL) mechanism to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash and/or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

5. Estimates of Valuation

Book value is Ts. 136 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In NSC's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Valued as a going concern, the profits of NSC are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 135 million. NSC's worth as a going concern is approximately equal to that if it were to be liquidated. This indicates that NSC has limited viability as an enterprise.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the NSC would be valued at Ts. 580 million. This is the price that NSC would fetch on a stock market that valued earnings at this rate.

H. Summary

The prognosis for NSC is not optimistic given its current position in the market, its range of skills, and its financial position. Key weaknesses include the declining market share, declining capital position, the increasing level of indebtedness, the high overhead and heavy staffing relative to its competitors. NSC's continued viability as a company depends upon three factors: products, a change in the cost structure of the firm, or a change in the company's markets. This would be counter to current management's approach which has been to increase staffing and costs despite drops in volume. Finally, to attack new markets requires a leap of faith in the firm's ability to succeed in an unrelated business when it has not shown a track record of success in a protected environment to date.

Appendix 9 Attachments: NATIONAL STEEL CORPORATION

TABLES

**SALES/MARKETING
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET**

GRAPHS

**PRODUCT BREAKDOWN
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES**

TABLE I

Table : Actual Sales

National Steel Corporation

(Millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Local Materials	23	45	37	30	67	105
2. Imported Materials	15	75	226	378	248	118
3. Other Products	3	0	0	0	0	0
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	3	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	41	120	264	407	315	223
Units/Employee*	0	2	4	6	4	3

TABLE II

Table : Actual Purchases

National Steel Corporation

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	24	3	14	25	70	115
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	24	3	14	25	70	115
Foreign currency							
7.	Raw materials	9	6	160	315	460	606
8.	Spares & accessories	0	0	0	0	0	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	9	6	160	315	460	606
13.	Total	33	9	174	340	530	721
14.	In Dollars	\$2	\$1	\$3	\$4	\$4	\$4

Notes:

- 1.
- 2.

TABLE III

Table : Actual Investment

National Steel Company

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	3.0	2.5	0.0	4.9	0.0	4.2
2. Plant & machinery	0.0	0.0	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	1.3	0.0	0.0
4. Motor vehicles	0.0	0.2	0.0	5.0	0.0	10.4
5. Other	0.0	0.3	0.0	0.0	0.0	2.7
Total Expenditures	3.0	3.0	0.0	11.2	0.0	17.3
Source of Funds						
1. Equity – NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity – Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	1.0	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	2.0	3.0	0.0	11.2	0.0	17.2
8. Other. Unaccounted For	0.0	0.0	0.0	0.0	0.0	0.1
Total Sources	3.0	3.0	0.0	11.2	0.0	17.3

Notes:

1. Cap. Exps. (\$'000's)	\$0	\$0	\$0	\$0	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	3.0	3.0	0.0	11.2	0.0	17.3
3. Nominal Index of Capital Expendit	101.0	100.0	0.0	377.1	0.0	582.5
4. Dollar Index of Capital Expenditur	92.1	100.0	0.0	74.3	0.0	50.0
5. Debt/Total Sources	122.22%	132.28%	90.74%	0.00%	0.00%	0.00%
6. Foreign/Total Sources	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	0%	0%	NA	0%	NA	0%
9. Ratio: Vehicles/Cap. Exps.	0%	7%	NA	45%	NA	60%

TABLE IV

Table : Actual Manpower

National Steel Corporation L

Employees

Product	1984	1985	1986	1987	1988	1989
1 Senior Managers	0	2	0	3	0	5
2 Middle Managers	0	8	0	12	0	16
3 Supervisors	0	7	0	5	0	7
4 Clerical	0	15	0	14	0	9
5 Skilled Manual	0	14	0	13	0	15
6 Unskilled Manual	0	16	0	18	0	29
Total	0	62	0	65	0	81
Expatriate	0	0	0	0	0	0
Total Employees	0	62	0	65	0	81

TABLE V

Table : Actual Profit and Loss

National Steel Company

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	36	137	229	436	302	0	0
Less: Cost of Sales	29	103	178	318	232	0	0
Gross Profit	7	34	51	117	70	0	0
Less: Operating Expenses	7	33	65	27	40	0	0
Administration	6	11	16	21	28	0	0
Selling and Distributio	0	0	0	0	1	0	0
Foreign Exchange Losses	0	20	45	(10)	0	0	0
Financial Expenses	0	1	4	15	2	0	0
Depreciation	1	0	1	2	8	0	0
Operating Profit (Loss)	(0)	2	(14)	89	30	0	0
Add: Other Income	1	1	1	2	12	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	1	3	(13)	92	42	0	0
Less: Provision for Taxes	0	8	0	46	20	0	0
Profit After Tax	1	(5)	(13)	46	21	0	0
Statement of Retained Earnings							
Balance Brought Forward	16	16	10	(2)	7	11	11
Prior Year Adjustment	0	0	1	0	0	0	0
Balance Brought Forward R	16	16	11	(2)	7	11	11
Add: Net Profit for the Year	1	(5)	(13)	46	21	0	0
Profit Available for Appr	16	11	(2)	44	28	11	11
Less: Miscellaneous Appropriati	0	0	0	9	4	0	0
Less: Dividends Declared	0	1	0	27	13	0	0
Retained Earnings Carried	16	10	(2)	7	11	11	11
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest							
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	2	8	4	5	2	0	0
Cost of Sales	2	6	3	4	2	0	0
Operating Expenses	0	2	1	0	0	0	0
Profit After Tax	0	(0)	(0)	1	0	0	0

TABLE VI

Table : Balance Sheet
Actual

National Steel Corporation Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	14	16	17	16	18	0	0
2. Current Assets	31	82	122	123	0	0	0
3. Stocks	3	36	42	51	0	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	11	36	34	50	0	0	0
6. Cash and Bank Balances	17	10	47	21	0	0	0
7. Current Liabilities	16	76	154	110	0	0	0
8. Trade Creditors	7	18	58	7	0	0	0
9. Bank Overdrafts	0	0	69	0	0	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	1	9	12	6	0	0	0
12. Other Current Liabilities	8	50	15	97	0	0	0
13. Net Current Assets/Liabilities	14	6	(31)	12	0	0	0
14. Total Net Assets	29	22	(15)	29	18	0	0
15. Financed by:							
16. Share Capital	6	6	6	12	0	0	0
17. Capital Reserves	0	(0)	(25)	0	18	0	0
18. Profit and Loss Account	23	16	4	17	0	0	0
19. Long Term Loans	0	0	1	0	0	0	0
20. Debt	16	76	154	110	0	0	0
21. Equity	29	22	(15)	29	18	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

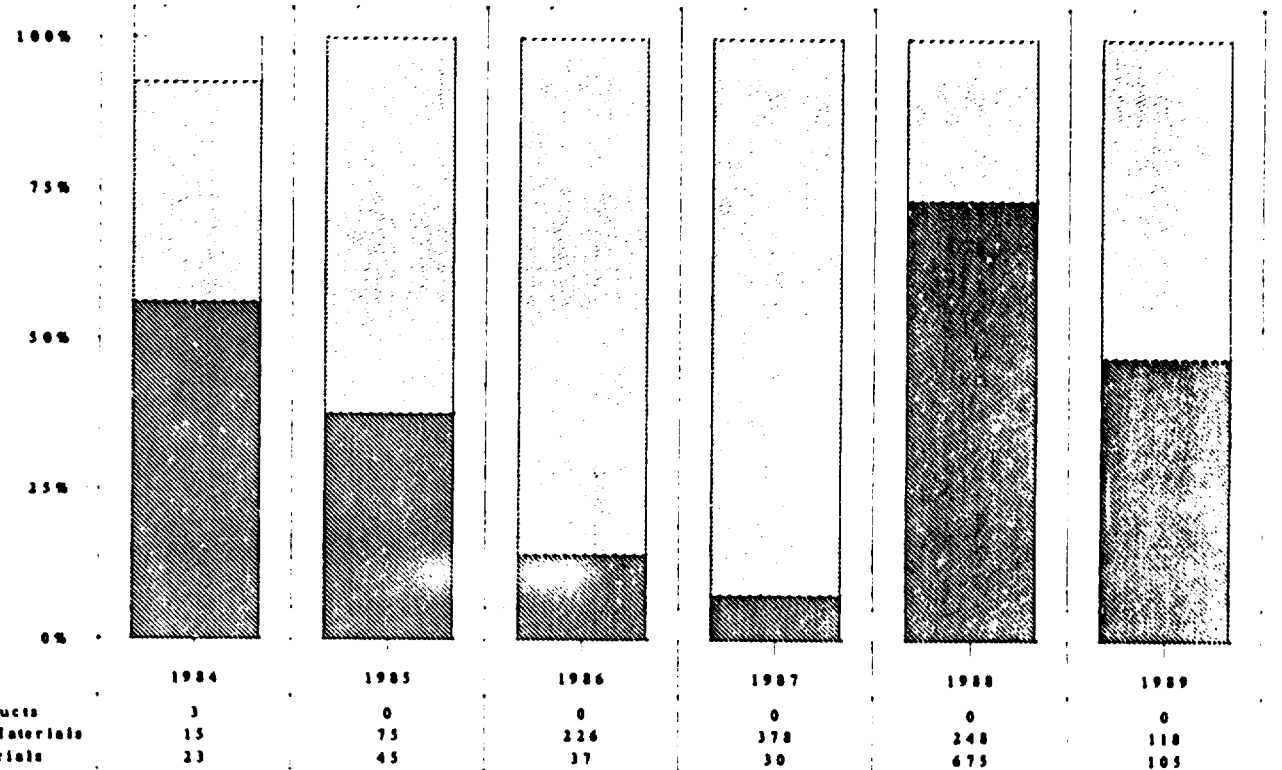
In Current Dollars

1. Net Fixed Assets	1	1	0	0	0	0	0
2. Current Assets	2	5	2	1	0	0	0
7. Current Liabilities	1	5	3	1	0	0	0
13. Net Current Assets/Liabilities	1	0	(1)	0	0	0	0
14. Total Net Assets	2	1	(0)	0	0	0	0
20. Debt	0	1	1	2	1	0	0
21. Equity	0	2	0	(0)	0	0	0

Product Sales Breakdown

National Steel Corporation

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS

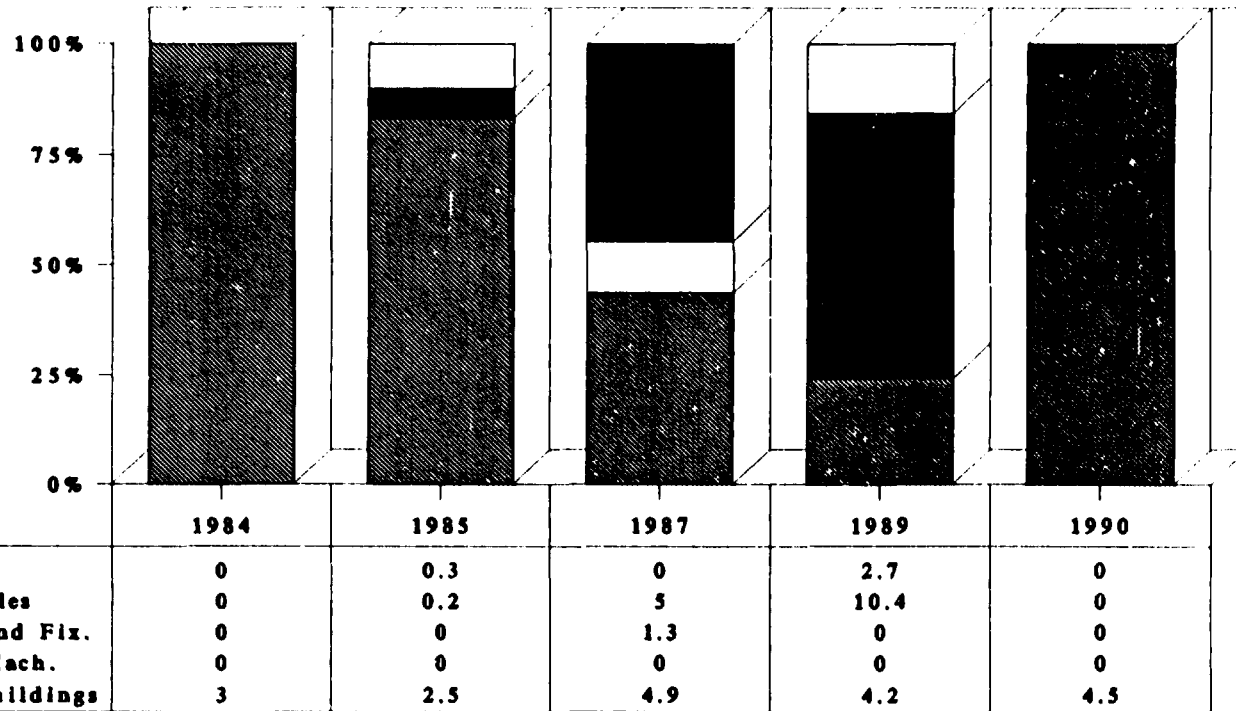
Local Materials
 Imported Materials
 Other Products



Capital Expenditure Breakdown

National Steel Corporation

MILLIONS OF SHILLINGS



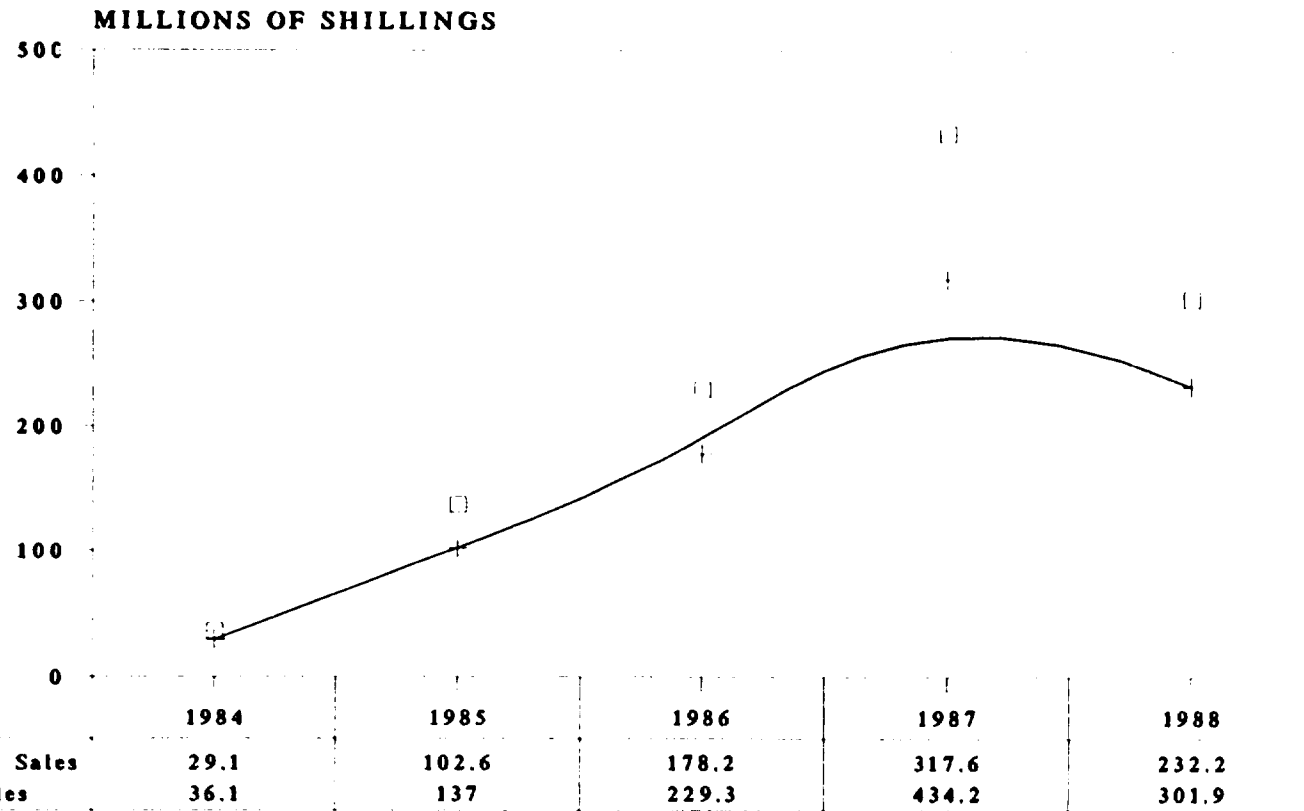
Data not available FY86 & 88.



Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

National Steel Corporation



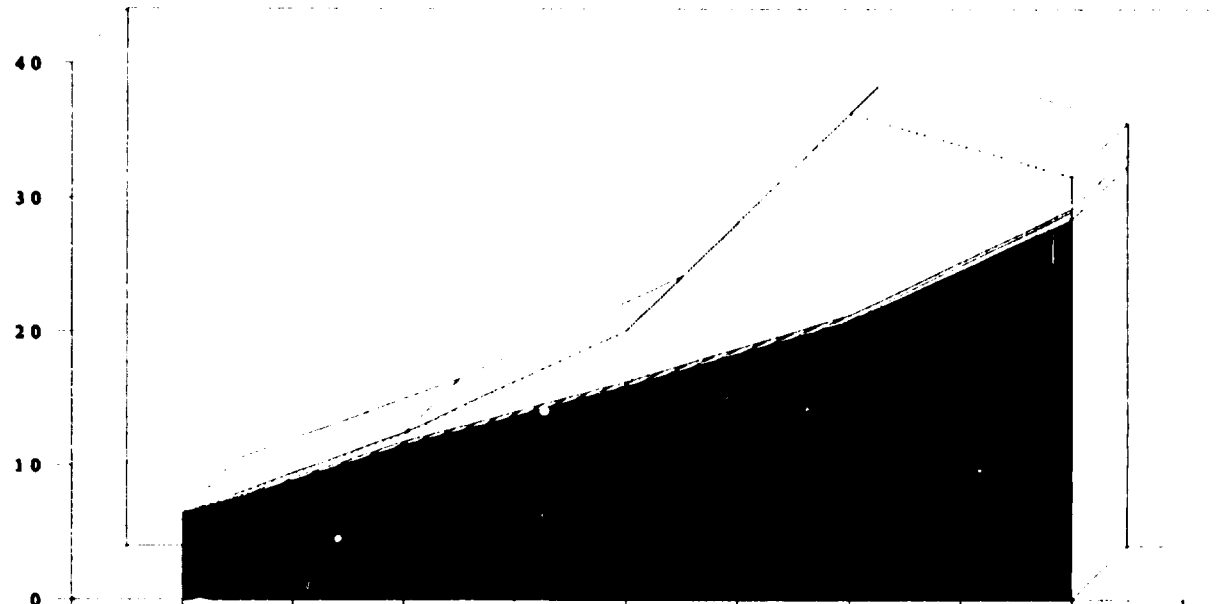
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

National Steel Corporation

Millions of Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	0.1	0.7	3.9	15.1	2.4
Selling & Distrib	0.1	0.2	0.3	0.4	0.8
Administration	6.2	11.5	15.9	20.8	28.4



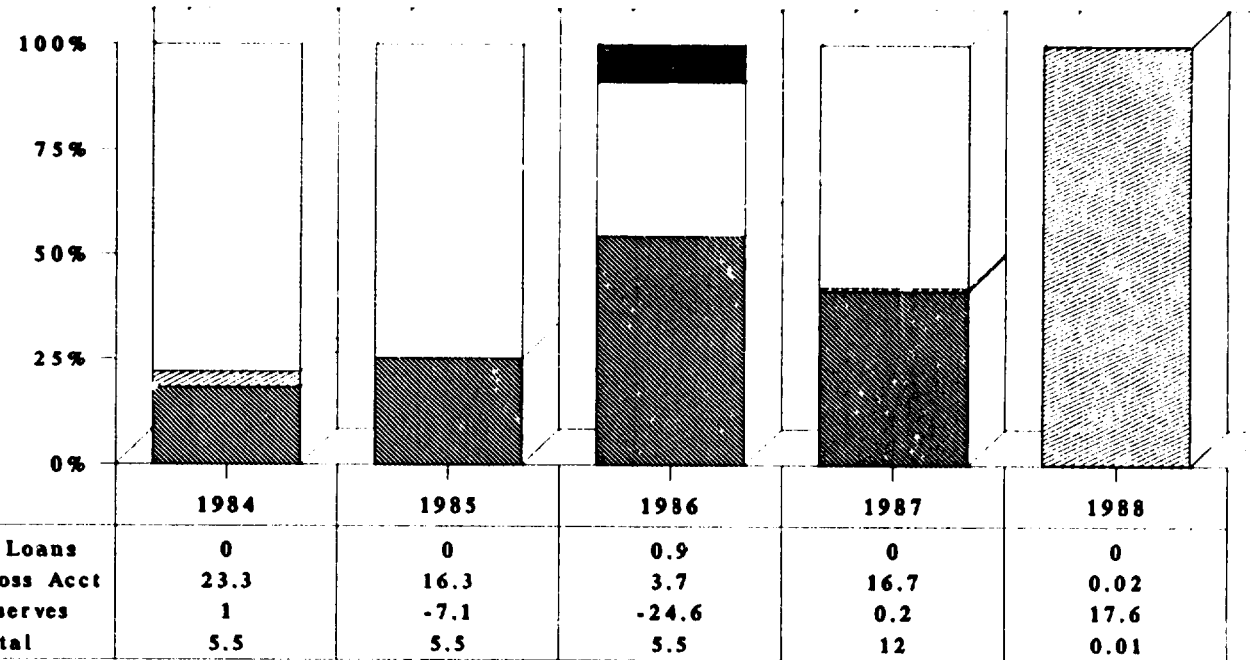
Operating Expenses

- Administration
- ▨ Selling & Distrib
- ⋯ Fin Expenditure

Total Net Assets

National Shell Corporation, Ltd.



MILLIONS OF SHILLINGS



MILLIONS OF SHILLINGS

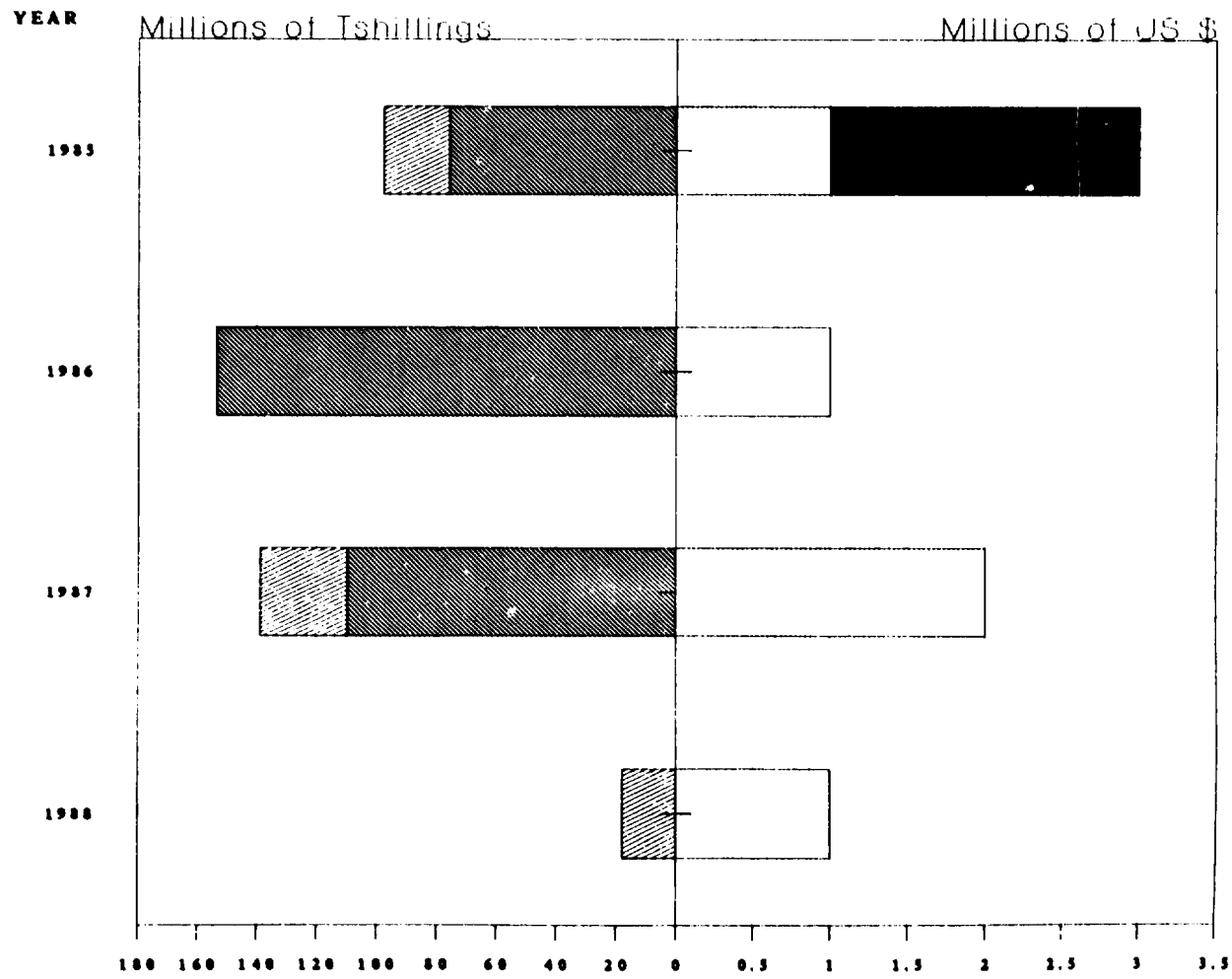


 Share Capital
 Profit & Loss Acct

FINANCED BY
 Capital Reserves
 Long Term Loans

Debt/Equity Ratio

National Steel Corporation



■ DEBT

 ▨ EQUITY

 □ DEBT

 ■ EQUITY

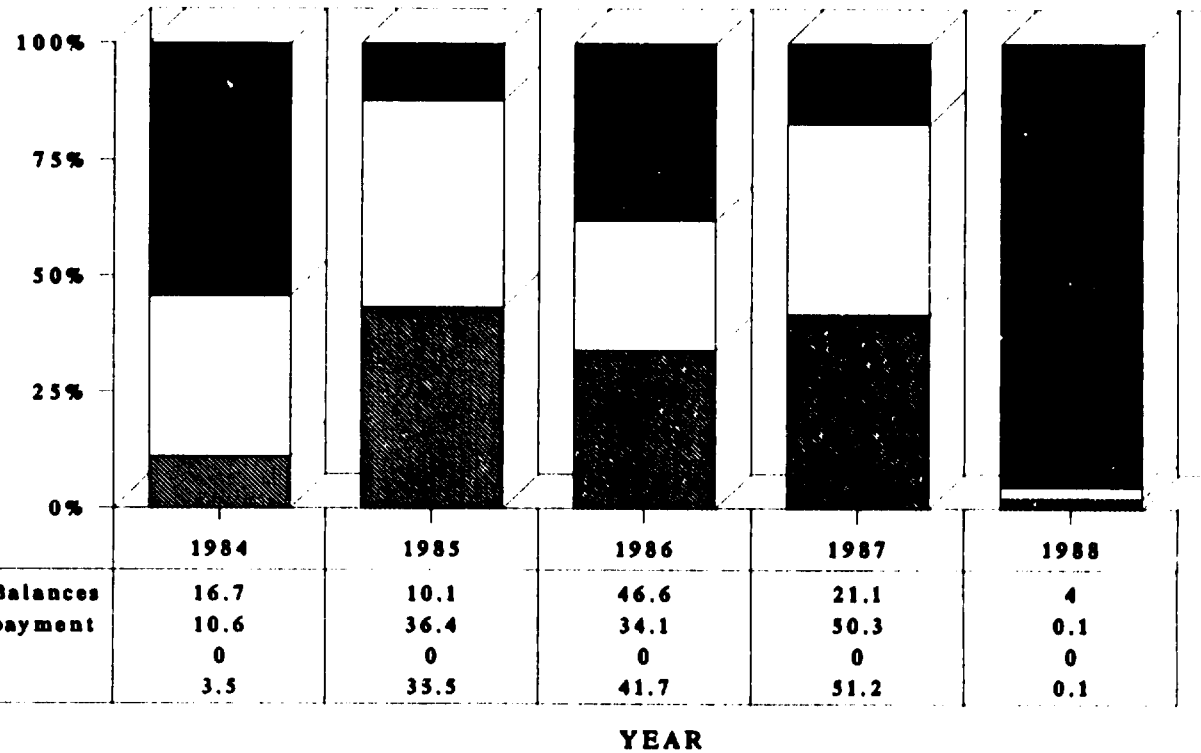


UNIDO/Tanzania/
 NDC Assistance - 1991

Current Assets Breakdown

National Steel Corporation

MILLIONS OF SHILLINGS



Cash & Bank Balances	16.7	10.1	46.6	21.1	4
Debtors & Prepayment	10.6	36.4	34.1	50.3	0.1
Trade Debtors	0	0	0	0	0
Stocks	3.5	33.5	41.7	51.2	0.1

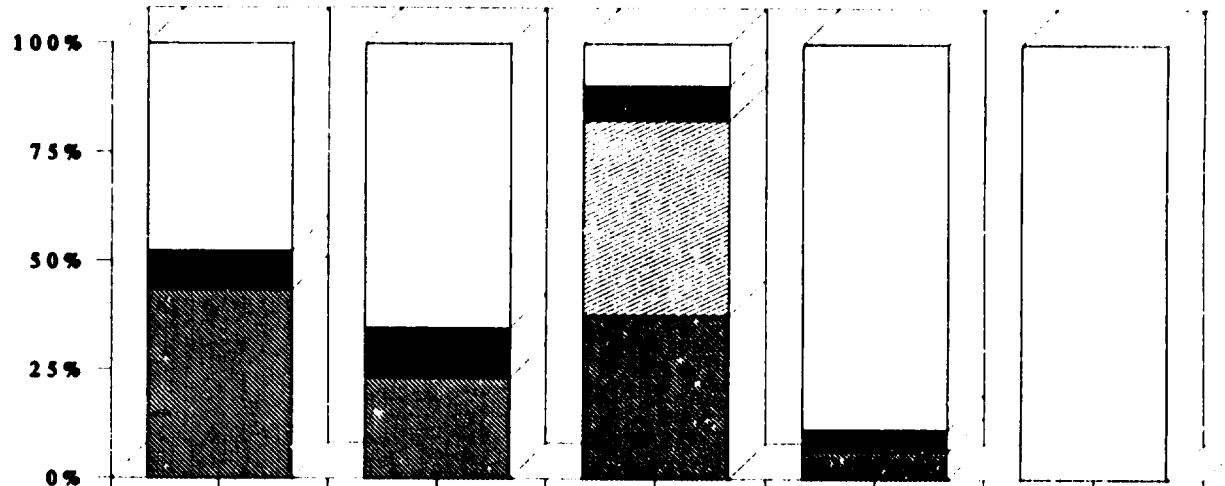


Stocks
 Debtors & Prepayment
 Cash & Bank Balances
 Trade Debtors

Current Liabilities Breakdown

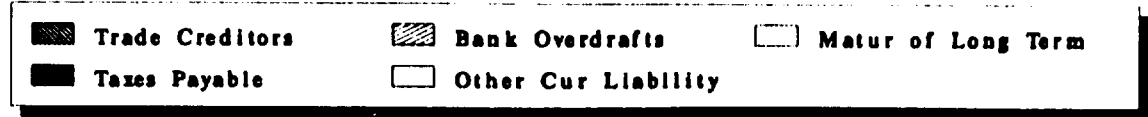
National Steel Corporation

MILLIONS OF SHILLINGS



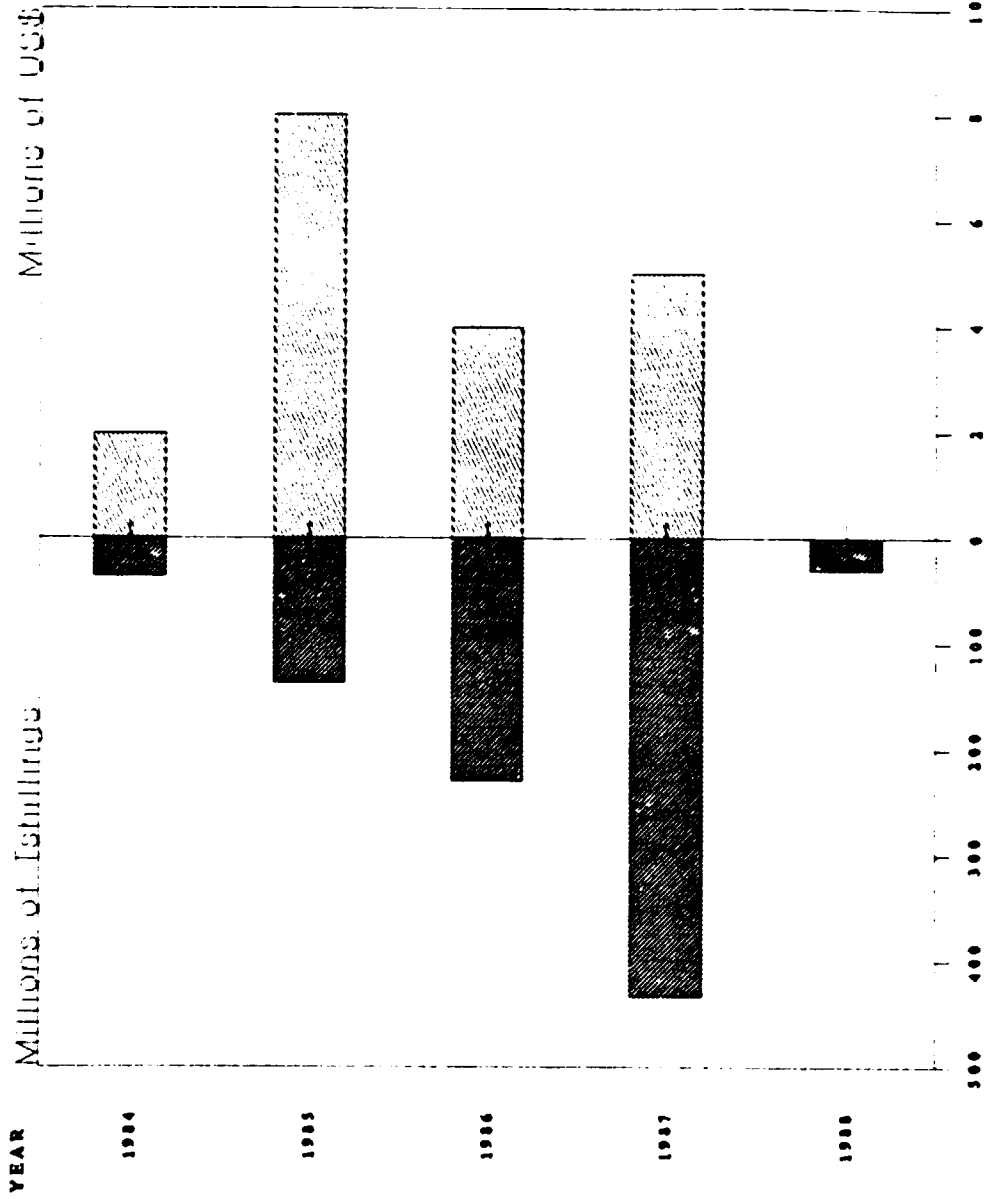
	1984	1985	1986	1987	1988
Other Cur Liability	7.788	49.587	14.778	97.415	0.119
Taxes Payable	1.5	8.7	12.3	5.8	0
Matur of Long Term	0	0	0	0	0
Bank Overdrafts	0	0	68.6	0	0
Trade Creditors	7.1	17.6	57.9	7	0

YEAR



Net Sales

National Steel Corporation



UMICOR/Tenaris/
NDC Asistencia - 1991

Appendix 10: Southern Paper Mills Co., Ltd.

APPENDIX 10: SOUTHERN PAPER MILLS CO., LTD.

I. RECOMMENDATIONS AND ACTION PLAN

The Southern Paper Mills, while being a good idea conceptually, has been difficult to implement. The plant is located in an area with plentiful rainfall and sunshine, vast timber reserves, and adequate water and power. However, producing paper involves a complex set of processes, disciplines, and skills that NDC and Tanzania have yet to develop. Marketing the volume of paper that would enable Southern Paper Mills to reach break even requires greater access to export markets. Moreover, Southern Paper Mills is burdened with high financing costs as a result of under-capitalization during building.

Southern Paper Mills may eventually be profitable. However, the losses until then will be substantial. NDC should seek an outside partner to invest additional equity, expertise, and market access. Eventually, NDC should sell off all shares as Southern Paper Mill's products and processes fall outside its core group of skills and customers. It should do so soon while the plant is on the upswing so that it might achieve the most favorable terms.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

The Southern Paper Mills (SPM) was incorporated in 1978 by the National Development Corporation, but production began in 1986. SPM is the only modern, newsprint and kraft paper mill in Tanzania. Located in the Imonga region, it is about 500 kilometers from its main customer base in Dar es Salaam.

SPM markets basic types of newsprint and kraft paper in Tanzania and neighboring countries. Exports accounted for 32 percent of total sales in 1989. It maintains relatively little finished goods inventories due to the high demand for its products.

SPM's plant was originally designed to produce 60,000 tons per annum of 8-10 types of newsprint and kraft paper for the local market. It is currently producing 2 types of newsprint and kraft paper with a production of 32 thousand tons in 1989 or 53 percent of capacity. Production volumes have been low in the last few years due to problems acquiring spare parts, insufficient emphasis on preventive maintenance, and high levels of equipment breakdown.

10 YEAR DEVELOPMENT PROGRAM SPM

	Year 1				Year 2				3	4	5	6	7	8	9	10
	I	II	III	IV	I	II	III	IV								
Board of Directors																
1. Change the composition of the Board of Directors																
a. Increase the number of private sector managers/investors																
G. Finance																
1. Improve cash management										0	0	0	0	0	0	0
a. Limit use of bank overdrafts and short-term debt																
b. Institute and enforce credit and receivables policies																
c. Convert short-term debt to long-term																
2. Increase return on assets										0	0	0	0	0	0	0
a. Fund routine and preventive maintenance programs																
b. Fund elimination of bottlenecks to increase production volume																
c. Fund employee suggestion program																
3. Lower finance costs											0	0	0	0	0	0
a. Seek equity infusion																
b. Convert debt to equity										0	0	0	0	0	0	0
c. Pay down short-term debt										0	0	0	0	0	0	0
d. Convert short-term debt into long-term debt																
e. Expand use of supplier financing																
f. Shorten the cash conversion cycle																
4. Strengthen the budgeting and planning process										0	0	0	0	0	0	0
a. Prepare five year targets with running monthly comparisons on key performance measures																
5. Reduce administrative costs, e.g.:																
a. Automate financial record-keeping																
b. Improve documentation systems to lower audit costs																
6. Strengthen capital structure																
a. Issue shares																
b. Swap shares for debt																
c. Pay off debt										0	0	0	0	0	0	0

Annual sales in 1988 were Ts. 1,951 million versus expenses of Ts. 3,900 million. SPM made a loss of Ts. 1,949 million, enough to offset the net profits of the entire NDC Group of companies. Currently, the plant has a management contract with various managers who provide overall plant supervision, etc.

The Southern Paper Mills's strategy has been to limit the range of products to simplify the skill levels required and to better control production quality. It is looking at a saw mill and a NFDS dedicated newsprint plant.

B. Industry and Competitor Analysis

1. Market Overview

The market for newsprint and kraft paper in Tanzania at present is somewhat limited by the size and nature of the economy. Nevertheless, there are some significant tonnage requirements in the broader paper market, that is for other types of paper products.

2. Customer Characteristics

End users are publishers who use the newsprint products for printing daily and weekly papers.

3. Market Size and Trends

According to SPM, the local market for all types of newsprint and kraft paper products is expanding at 3-4% per annum. This would indicate a ready market for SPM's services, were the company more productive. Export potential in the region is also strong.

4. Competition

SPM is the only producer of newsprint and kraft paper in Tanzania and in the surrounding region. It has a production monopoly locally in newsprint and kraft paper.

However, the paper industry is composed of a small number of well-capitalized foreign competitors, notably Canadian and Swedish companies. These firms are often able to gain a fair amount of control over certain market segments such as newsprint. Attempting to compete in these markets against well-funded competitors who can absorb temporary losses would require substantial capital assets on the part of SPM.

Competition in this market will grow in the future. Currently, the competitors to SPM are offshore, which means that they have high transport costs as well as slow delivery times. Furthermore, they are used to dealing with large order sizes. This presents an opportunity for SPM to dominate locally and to export regionally if it is able to establish a reputation for reliability, speed, quality, and flexibility; e.g. small lot sizes.

It should be noted that SPM will never completely dominate the market for paper products in Tanzania or the local areas. That is because there are so many different types of paper and as there are proprietary processes for producing the more specialized papers such as glossy finish, rag content, bonds, etc. However, in basic paper products, it can begin to build a position of strength.

5. Policy and Regulatory Environment

The policy and regulatory environment has limited competition in this market. As the sole local source of newsprint and kraft paper, SPM is protected by import duties, sales taxes, and delivery charges on imported newsprint and kraft paper. Furthermore, SPM has had preferential access to foreign exchange over the past few years. This enables it to purchase inputs and supplies at a subsidized price.

Macroeconomic policies that affect SPM include exchange rate regulations and access to foreign exchange. The Open General License (OGL) system gives SPM equal access to foreign exchange so that it is not constrained in its ability to purchase materials. SPM does have some cash flow problems, however, that raise the cost of its foreign purchases. It must rely on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

SPM has accessed PTA funds and exported products. SPM benefits from and has used the currency regulations that enable PTA member countries to purchase SPM's products using their local currencies. This has not always worked well, as there are apparently some delays and mishaps with the system. All in all, however, such policies are a significant support to SPM. Furthermore, it maintains a foreign currency account with the Treasury so that it may use export earnings to cover the foreign exchange requirements for spare parts.

The tariff on imported newsprint and kraft paper products of all types is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would give a further, positive impetus to exports of SPM products.

C. Marketing

1. Overall Marketing Strategy

SPM's strategy is to produce a few basic products that allow it to maximize volumes and that are in high demand in the region. It has sought export opportunities and is increasing exports. At the same time, sales volumes are well under break-even level.

2. Customers

Customers for newsprint are publishers and distributors in Tanzania as well as the region. It sells approximately 6,000-7,000 tons of newsprint per year locally and exports 4,000 to 5,000 tons of newsprint.

The Southern Paper Mills uses few sales tactics. Credit is extended for 30 days. Collection is generally not a problem as newsprint is the net raw material for a publisher, and SPM is the most convenient supplier.

SPM does not absorb transportation charges for large orders. Customers in neighboring countries are encouraged to make use of the PTA Clearing House. This enables them to purchase SPM products using their local currency, which is a significant competitive weapon for SPM.

Customer service is minor. The products are basic and low technology. SPM does not maintain a customer service department.

Pricing is set by SPM to match the landed cost of imported products, or in neighboring countries to beat competitor pricing. The products are under control of the government's Pricing Commission. SPM has raised prices significantly in the last two years and expects to continually raise prices to recoup a loss of margins during 1988.

Inventory management is usually not a major problem. SPM has a small finished goods warehouse that holds no more than a week's worth of inventory at full capacity.

The Southern Paper Mills does little, if any, promotion of its products. The Southern Paper Mills does not appear to have a regular advertising program. Selling and distribution expenses totalled less than Ts. 115 million for the years 1986 to 1988. Most advertising is for tenders and requests for proposals.

D. Production and Operations

1. Geographical Location

SPM's one and only factory is located in Imongo, about 45 kilometers south of Iringa. It is located far from its major customers, but is well-situated for production. SPM maintains sales offices in the NDC building in Dar Es Salaam.

2. Facilities and Processes

SPM has a large plant and produces newsprint and kraft paper on a continuous flow line. Newsprint and kraft paper making at SPM consists of the following steps:

1. Debank Chip making
2. Chemical/Mechanical Pulp

3. Bleaching
4. Causticizing
5. Mix
6. Forming
7. Dry
8. Place on Roll.

The process is extremely capital intensive and highly automated. SPM has Ts. 11.3 million (24,876 : 2,200) of capital equipment invested per employee. Production staff numbers about 1,100, about 250-300 persons per shift. Paper is produced on a continuous flow-line so almost all materials handling is automated.

The high capital costs and the automation however, require constant attention and careful maintenance. Furthermore, short power interruptions cause significant losses of material, up to 5 tons for a few second interruption.

There is automation of newsprint and kraft paper flow, computerized inventory systems, and use of automated management information systems. SPM is better equipped than most NDC companies in this area.

3. Product Quality

SPM has been making efforts to improve the quality of their products. This involves limiting the product line and increasing production volumes. Delivery times can still be extended; most buyers probably carry extra inventory to handle such contingencies. The increase in export orders is encouraging evidence of increased recognition of SPM's product quality and price.

4. Product Delivery (Outbound Logistics)

SPM transports the bulk of its products via overland truckers. A limited amount is shipped on the TAZARA Rail Line. A spur of the line was extended 100 miles to SPM for this purpose. SPM has an agreement with Tazara to ship 9 wagons of product every week, however, TAZARA can rarely provide more than four wagons. The cost of transportation has been increasing by 20-25% per year.

5. Competitive Strengths/Weaknesses

As for strengths, SPM has adequate water, vast reserves of timber located close by, adequate electricity, a relatively new plant, and experienced management. This should give it a strong competitive position.

At the same time, SPM's work force is relatively large and inexperienced; lack of maintenance has aged the plant dramatically; lack of equity capital has kept SPM from reinvesting in its plant and equipment; a high debt burden further reduces cash flow; and it has few capital resources to finance large quantities of exports.

6. Strategy and Plans

SPM is attempting to improve the newsprint and kraft paper line with continuous measurement device for the paper rolling line. This investment is expected to pay for itself in short-order based upon lowered scrap rates.

7. Expansion Plans

In 1987, SPM operated at 48% of capacity, and in 1988 at 53% of capacity. As it uses only half of its capacity at present, it has room for increased production. Nevertheless, the firm has proposed to build a sawmill. A dedicated newsprint plant has also been proposed. This would require an outside partner.

8. Capital Requirements

There are no existing feasibility studies for the expansion proposals described above. If any of them proceed, the sawmill is estimated to cost \$10-15 million; and a newsprint plant would cost in excess of \$350 million plus \$50 million if an additional power source is required.

E. Organization

The Company is wholly owned by NDC.

F. Management

The General Manager, Mr. J. A. Keith, has worked with SPM for two years as its General Manager. He has managed paper plants in various locations around the world.

1. Management Compensation

Management compensation at SPM is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low; however, benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for officers, medical care and insurance, life insurance, and many company-sponsored activities. As far as could be determined, management compensation is not linked to performance.

The Board of Directors of SPM is selected by NDC and the Ministry of Industry all over thecs. The Board operates autonomously of the NDC. Presently, the Board consists of nine members selected from the Ministry of Finance, the Ministry of Forestry, the NDC, the Tanzania Railways, the Ministry of Trade and Industry, the Regional Director of PLanning, Juawata, and the Chandi JV group. The General Manager attends board meetings as an observer but does not have a vote.

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel. SPM has not made use of consultants from TISCO or the National Productivity Institute in recent years. However, SPM does use a number of expatriate experts and technical managers.

G. Human Resources

1. Composition and Skills

SPM employs approximately 2,200 persons. Employment was reduced by some 200 persons or about 10% in 1990. The level of supervisors to workers is quite high at 1:5. In addition, the percentage of overhead, administrative, and other personnel to direct production workers is quite high at 46%. This reflects the high cost of ancillary services at SPM -- the company built and operates a "Company Town" as the factory is located in a remote area.

2. Compensation and Trends

The Southern Paper Mills is able to attract and retain workers for its operations. Wages and benefits are quite high relative to the alternatives in the area. Salary levels are set by SCOPO. Turnover is low.

The compensation package consists of a base wage, medical insurance, housing, transportation to and from work, and many company-sponsored services.

3. Productivity

Productivity in the firm is low, as shown in the attached table.

<u>Productivity - 1989</u>	<u>SPM</u>	<u>NDC Avg.</u>
Sales per employee (Ts)	1,228	2,071
Profits per employee	-502	200

To be fair, productivity appears to have increased in the last few years. As data were not available for 1990 or 1991, more historic data has been used.

4. Training Programs and Needs

SPM is the only paper mill in Tanzania. As it is one of the most modern facilities in the region, it should conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training should include basic work practices as well as the more technical aspects of training. A number of plant operators received 1 year of training in Norway at the time of plant start-up.

Training is planned for maintenance personnel and is badly needed. Other areas for training would include: technical, managerial, sales and marketing, and statistical quality control.

H. Finances

1. Sales, Revenue, Profitability

SPM has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table I. It had an operating loss of Ts. 2,277 million in 1988. SPM managed to reduce its annual losses to 1,205 in 1989; however, it still has a long way to go to achieve profitability.

Financing costs are high. While the company managed to make a small gross profit in 1988, financing costs in that year exceeded annual revenues. SPM's large short-term debt burden that has made operations quite difficult within the last five years.

2. Assets and Liabilities

SPM shows considerable weakness in its balance sheet. The Balance Sheet reveals that available cash and the value of raw material stocks have declined while payables, and accumulated losses have increased. This is magnified when the figures are translated into constant shilling and dollar terms. The Debt-Equity ratio graph shows this trend.

The graphs on Financial Structure, Current Assets, and Current Liabilities show the significant changes at SPM. Cash has declined while stocks have increased. Maturity of long-term loans has increased to almost fully cater for current liabilities (1984-1988). This gives the company very little flexibility to incur further current liabilities. Material stocks have increased in unit volume and in real terms as a percentage of the firm's capital.

SPM imports some raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms describe in the main report. SPM also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

SPM had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the Southern Paper Mills). Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the Southern Paper Mills loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the Southern Paper Mills does not bear any exchange rate risk and effectively locks in the

current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Estimates of Valuation

Book value is Ts. 11,226 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Southern Paper Mills. In SPM's case, liquidation of the Southern Paper Mills would transfer a gain of this amount to the NDC Group balance sheet.

Valued as a going concern, the profits of SPM are divided by the discount rate to determine its value. As SPM has no profits, it has no value as a going concern. Similarly, we cannot apply a Price Earnings ratio to estimate the worth of the company, since earnings are negative.

I. Summary

The prognosis for SPM is not optimistic given its declining capital position, the heavy level of indebtedness, the weak performance of the Southern Paper Mills over the last few years, and its high administrative burden relative to its competitors. The company is still struggling despite a local production monopoly and significant advantages in raw material costs. SPM's continued viability as a Southern Paper Mills depends upon 5 factors: continued access to capital infusions despite limited ability to repay, productivity improvements, increasing production volume, increasing market share, and access to export markets.

SPM has three basic options:

The first option, and SPM's current strategy, is to concentrate production on a few products. This allows workers to gain intensive familiarity with a few products so that, one hopes, productivity will increase and costs will decline. However, it means SPM has a less visible role in Tanzania and that the market is left open a wider range of competitive imported paper products.

The second option, SPM's original strategy, is to produce a range of products to meet a variety of paper market segments. This allows SPM to meet more market segments, opens up more regional export possibilities, maintains a more visible role for SPM, and lowers national imports. This strategy is much more difficult to implement. SPM would need to make dramatic improvements in production skills and efficiency to handle the wider product line. Furthermore, marketing would need to be improved substantially to meet a wider range of customers and distribution channels. For these reasons, SPM chose to narrow its product line and focus its resources and skills to obtain greater volume and success.

The third option is to continue a market-focussed strategy, but in partnership with a major outside firm. SPM has a well-situated plant and what appears to be a strong

comparative advantage due to geography. It lacks capital and market access. An alliance, partnership, or joint-venture with an outside firm could provide the necessary access to export markets, capital infusions, and additional technical expertise. and access to the marketing savvy and contacts of the partner. SPM should move to a profitable status relatively quickly, since the outside partner would be strongly motivated to stop annual losses. The partner would help boost sales through established contacts, assist in productivity improvements, and work to reduce overall costs of production. Although NDC would trade debt for outside equity in time, NDC's shares would be more valuable.

The Team recommends that SPM actively search for a strategic alliance with a local or foreign partner. The partner must have sufficient market contacts and financial resources to take on an equity position in SPM. NDC needs to boost the earnings of SPM while lowering its capital risks.

There are two main reasons for this recommendation. First, the ongoing capital requirements of SPM are large compared to NDC's and Tanzania's financial resources. To maintain equipment, to purchase spares, to continually upgrade the facility, and to expand into other product lines, SPM will require substantial funds.

Second, this is a concentrated industry with large, well-capitalized competitors. On its own, SPM is a weak player despite its comparative natural advantages. To generate foreign exchange requires market contacts and access to multiple export markets. SPM must, with its relatively weak track record, break into markets which are dominated by Swedish and Canadian companies. This will be an expensive and slow process. SPM must produce and sell high volumes of newsprint and kraft paper to reach break even. This would be eased dramatically through a strategic alliance or a foreign partner with already established markets and customers. It is unclear that SPM could compete effectively against such firms despite a possible cost and delivery advantage.

Appendix 10 Attachments: SOUTHERN PAPER MILLS CO., LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Southern Paper Mills

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Domestic News Print	0	0	67	134	324	515
2. Domestic Culturals	0	0	81	162	455	748
3. Domestic Kraft	0	0	114	228	470	712
4. Exports	0	0	230	461	701	942
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	0	0	492	984	1,951	2,917
Units/Employee	NA	NA	NA	NA	NA	NA

TABLE II

Table : Actual Production

Southern Paper Mills Company

(Thousands of tons)

Product	Units	Description	1984	1985	1986	1987	1988	1989
1. Sack Kraft R	0	0	0	0	0	0	0	0
2. Back Kraft R	0	0	0	0	0	0	0	0
3. Back Kraft S	0	0	0	0	0	0	0	0
4. Kraft Liner R	0	0	0	0	0	0	0	15
5. Yellow Kraft R	0	0	0	0	0	18	0	0
6. Cultural paper	0	0	0	0	0	5	0	10
7. News Print R	0	0	0	0	0	0	0	0
8. Mech. Ptg R	0	0	0	0	0	0	0	0
9. Coloured PTG	0	0	0	0	0	7	0	0
10. Manilla	0	0	0	0	0	0	0	0
11. Mech. Ptg S	0	0	0	0	0	0	0	0
12. Duplicating S	0	0	0	0	0	0	0	0
13. W.F. White Ptg. R	0	0	0	0	0	0	0	0
14. W.F. White Ptg. S	0	0	0	0	0	0	0	7
15. W.F. Bond S	0	0	0	0	0	0	0	0
Total			0	0	0	29	0	32

Table : Actual Purchases

TABLE III

Southern Paper Mills

		(millions of shillings)					
Local currency		1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	0	0	0	0	0	0
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	0	0	0	0	0	0
Foreign currency							
7.	Raw materials	0	0	0	0	0	0
8.	Spares & accessories	0	0	0	0	0	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	0	0	0	0	0	0
13.	Total	0	0	0	0	0	0
14.	In Dollars	\$0	\$0	\$0	\$0	\$0	\$0

Notes:

1.

2.

TABLE IV

Table : Actual Investment

Southern paper Mills Company

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	0.0	0.0	61.7	0.0	177.6
2. Plant & machinery	0.0	0.0	0.0	64.4	0.0	1,023.8
3. Furniture & fixtures	0.0	0.0	0.0	148.5	0.0	5.2
4. Motor vehicles	0.0	0.0	0.0	0.0	0.0	21.7
5. Other	0.0	0.0	0.0	0.0	0.0	0.0
Total Expenditures	0.0	0.0	0.0	274.6	0.0	1,228.3
Source of Funds						
1. Equity - MDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	0.0	0.0	0.0	0.0	0.0
8. Other, Unaccounted For	0.0	0.0	0.0	274.6	0.0	1,228.3
Total Sources	0.0	0.0	0.0	274.6	0.0	1,228.3

Table : Actual Manpower

TABLE V

Southern Paper Mills Co. Ltd.

Product	Employees					
	1984	1985	E'sta 1986	1987	E'sM 1988	1989
1 Senior Managers	0	6	8	9	12	14
2 Middle Managers	0	0	12	24	33	41
3 Supervisors	0	2	123	243	289	335
4 Clerical	0	2	48	93	235	377
5 Skilled Manual	0	7	543	1078	1045	1011
6 Unskilled Manual	0	0	293	585	605	624
Total	0	17	1025	2032	2217	2402
Expatriate	0	0	0	53	0	13
Total Employees	0	17	1025	2085	2217	2415

TABLE VI

Table B: Actual Profit and Loss & Trend
& Loss/Trend

Southern Paper Mills Co.

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	0	0	405	1,019	1,674	0	0
Less: Cost of Sales	0	0	546	1,247	1,421	0	0
Gross Profit	0	0	(142)	(227)	253	0	0
Less: Operating Expenses	0	0	820	1,670	2,479	0	0
Administration	0	0	328	527	649	0	0
Selling and Distributio	0	0	8	45	62	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	484	1,098	1,769	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	0	0	(961)	(1,898)	(2,227)	0	0
Add: Other Income	0	0	15	43	99	0	0
Less: Other Expense	0	0	10	0	0	0	0
Net Profit Before Tax	0	0	(957)	(1,855)	(2,128)	0	0
Less: Provision for Taxes	0	0	0	0	0	0	0
Profit After Tax	0	0	(957)	(1,855)	(2,128)	0	0
Statement of Retained Earnings							
Balance Brought Forward	0	0	0	(957)	(2,811)	(4,939)	(4,939)
Prior Year Adjustment	0	0	0	0	0	0	0
Balance Brought Forward R	0	0	0	(957)	(2,811)	(4,939)	(4,939)
Add: Net Profit for the Year	0	0	(957)	(1,855)	(2,128)	0	0
Profit Available for Appr	0	0	(957)	(2,811)	(4,939)	(4,939)	(4,939)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	0	0	(957)	(2,811)	(4,939)	(4,939)	(4,939)
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	NA	NA	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	0	0	8	12	13	0	0
Cost of Sales	0	0	11	15	11	0	0
Operating Expenses	0	0	16	20	20	0	0
Profit After Tax	0	0	(19)	(22)	(17)	0	0

TABLE VII

Table : Balance Sheet
Actual

Southern Paper Mills Company Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	2,408	3,271	6,901	10,972	16,349	0	0
2. Current Assets	141	294	594	1,029	1,605	0	0
3. Stocks	79	164	331	426	854	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	61	123	229	501	692	0	0
6. Cash and Bank Balances	1	8	34	102	60	0	0
7. Current Liabilities	254	151	177	2,590	5,407	0	0
8. Trade Creditors	249	115	122	201	174	0	0
9. Bank Overdrafts	6	36	55	72	74	0	0
10. Current Maturity of LT	0	0	0	2,147	4,955	0	0
11. Taxes Payable	0	0	0	0	0	0	0
12. Other Current Liabiliti	0	0	0	170	204	0	0
13. Net Current Assets/Liabil	(113)	143	417	(1,560)	(3,802)	0	0
14. Total Net Assets	2,294	3,414	7,318	9,411	12,547	0	0
15. Financed by:							
16. Share Capital	1,281	1,797	2,461	2,992	3,285	0	0
17. Capital Reserves	(718)	(1,157)	(3,126)	(6,267)	(1,141)	0	0
18. Profit and Loss Account	696	577	1,563	2,803	(4,369)	0	0
19. Long Term Loans	1,036	2,197	6,420	9,882	14,772	0	0
20. Debt	1,290	2,348	6,597	12,472	20,179	0	0
21. Equity	1,258	1,217	898	(471)	(2,225)	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

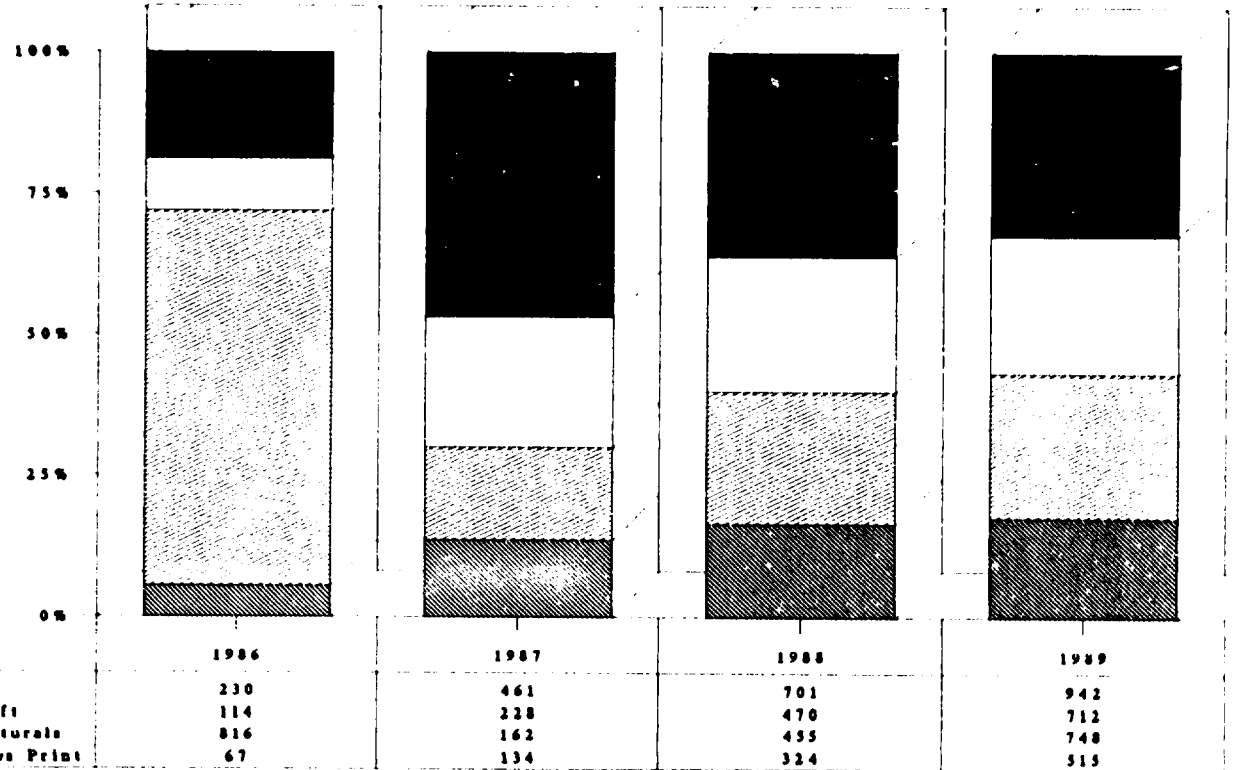
In Current Dollars

1. Net Fixed Assets	133	198	133	131	130	0	0
2. Current Assets	8	18	11	12	13	0	0
7. Current Liabilities	14	9	3	31	43	0	0
13. Net Current Assets/Liabil	(6)	9	8	(19)	(30)	0	0
14. Total Net Assets	127	207	141	112	100	0	0
20. Debt	0	78	45	79	99	105	0
21. Equity	0	76	24	11	(4)	(12)	0

Product Sales Breakdown

Southern Paper Mills

% BREAKDOWN OF PRODUCT SALES



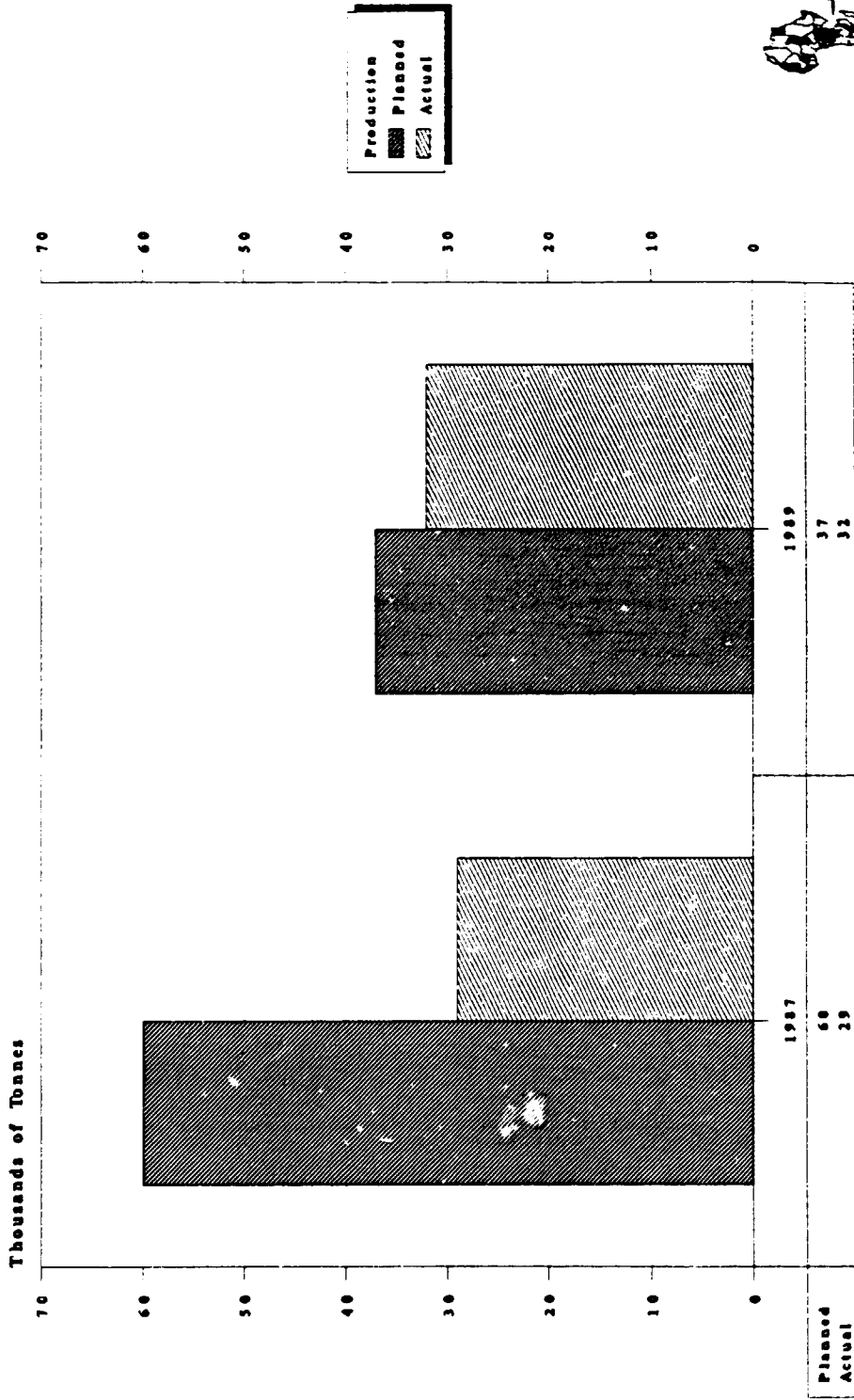
MILLIONS OF SHILLINGS

Exports
 Domestic Cultural
 Domestic Craft
 Domestic News Print



Planned vs. Actual Production

Southern Paper Mills Company



Data not available FY88.

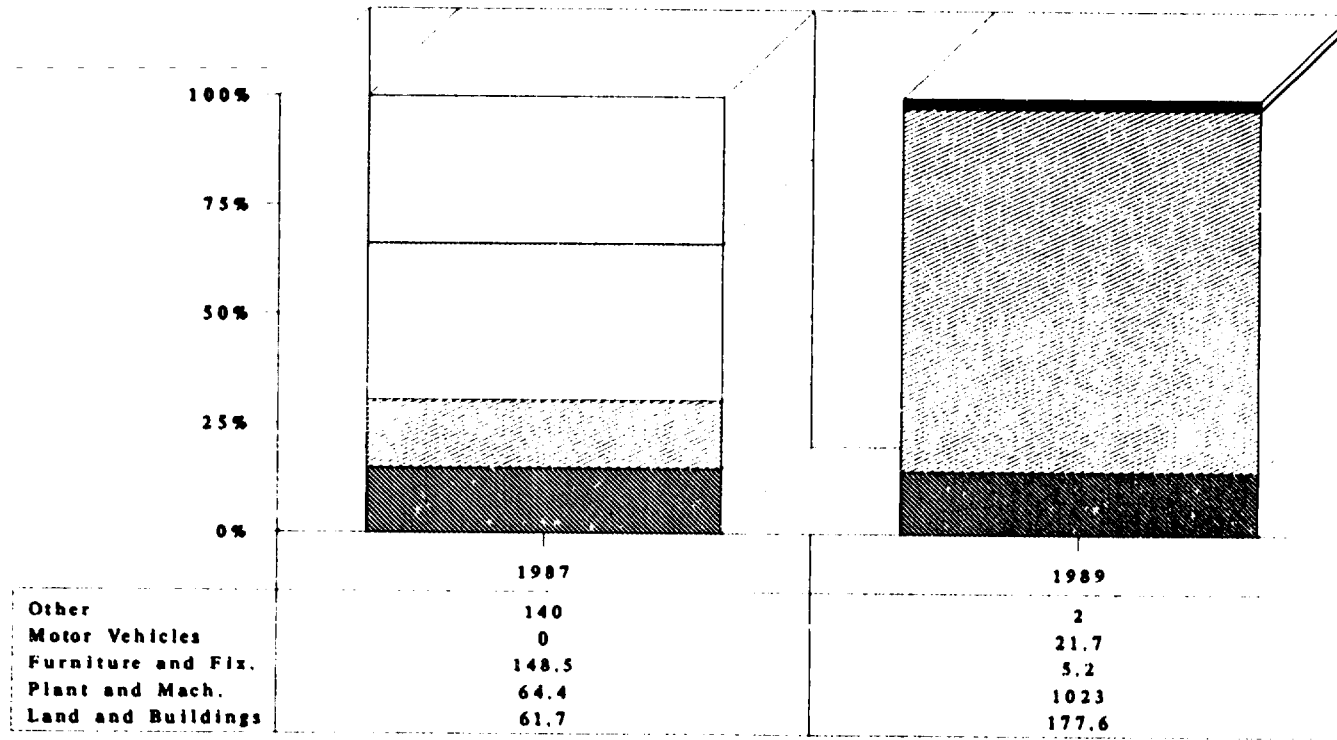
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Capital Expenditure Breakdown

Southern Paper Mills Co.

MILLIONS OF SHILLINGS



Data not available FY88.

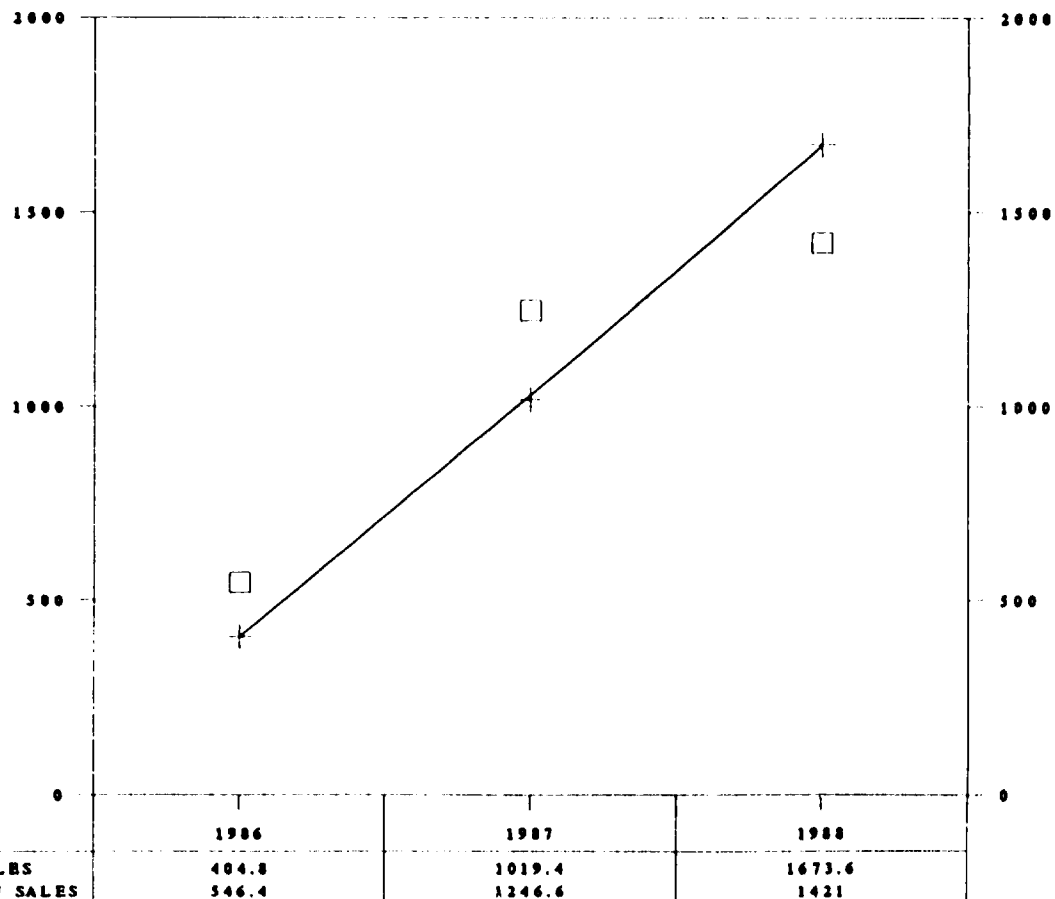


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost of Net Sales/Net Sales

Southern Paper Mills Co. Ltd.

MILLIONS OF SHILLINGS

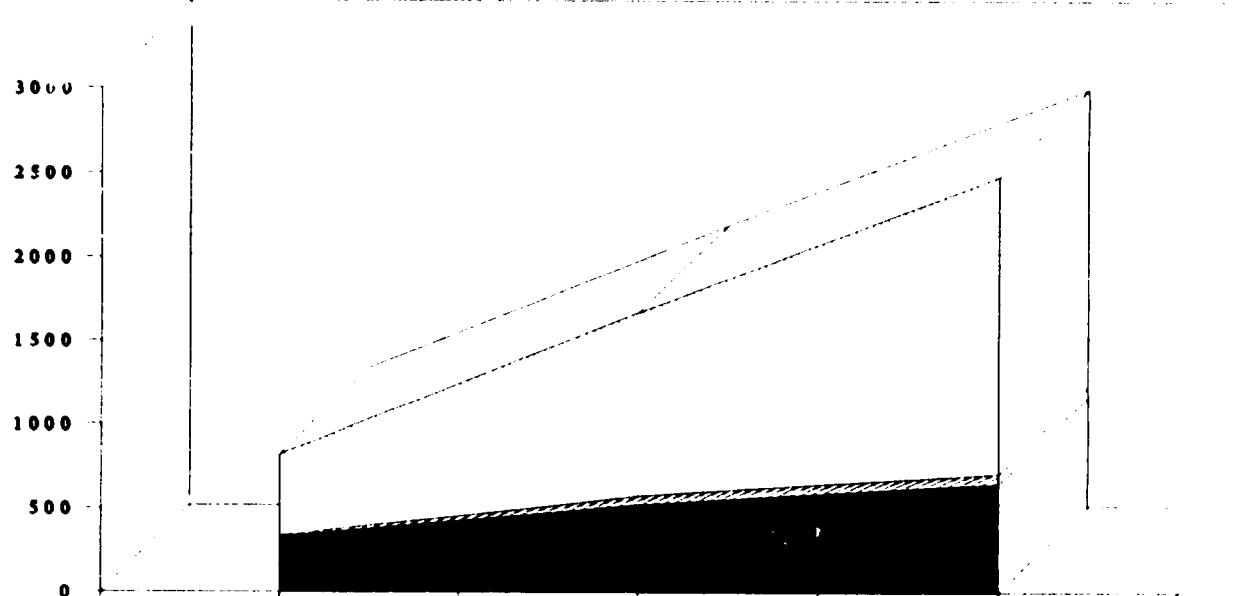


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NDC Assistance - 1991

Operating Expense Breakdown

Southern Paper Mills Co., Ltd.

Millions of Tshillings



	1986	1987	1988
Fin Expenditure	483.5	1097.7	1768.9
Selling & Distrib	7.9	45.4	61.8
Administration	328.1	527.2	648.7



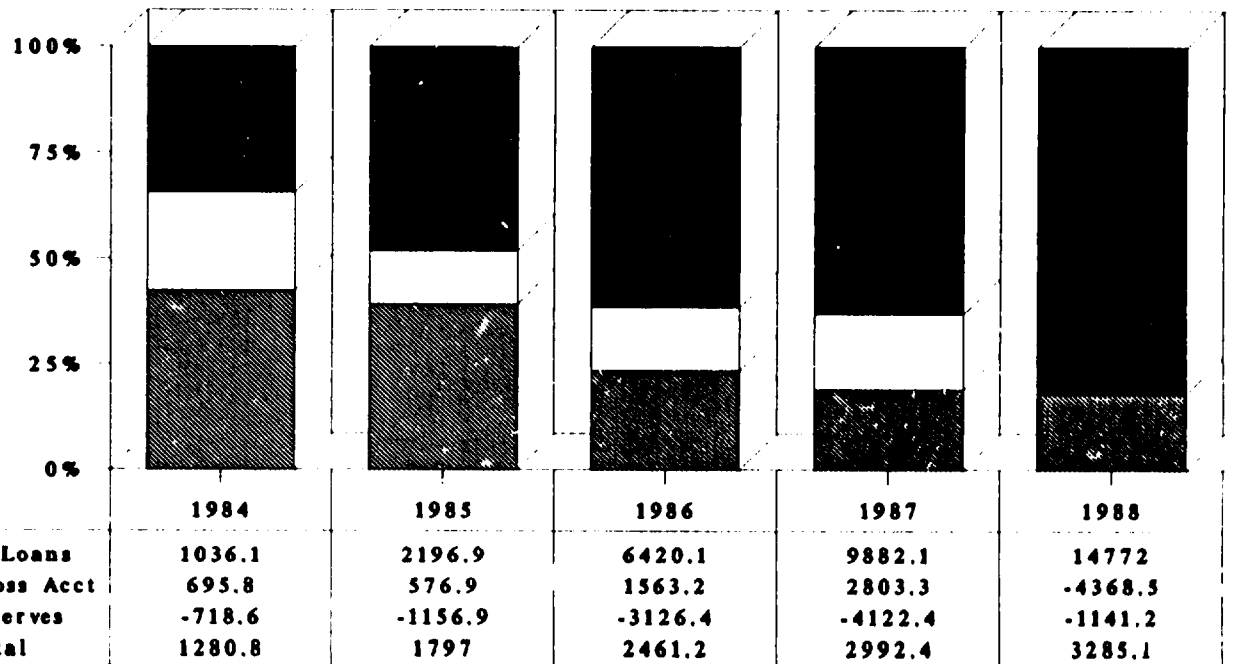
Operating Expenses

Administration
 Selling & Distrib
 Fin Expenditure

Total Net Assets

Southern Paper Mills Co., Ltd.

MILLIONS OF SHILLINGS

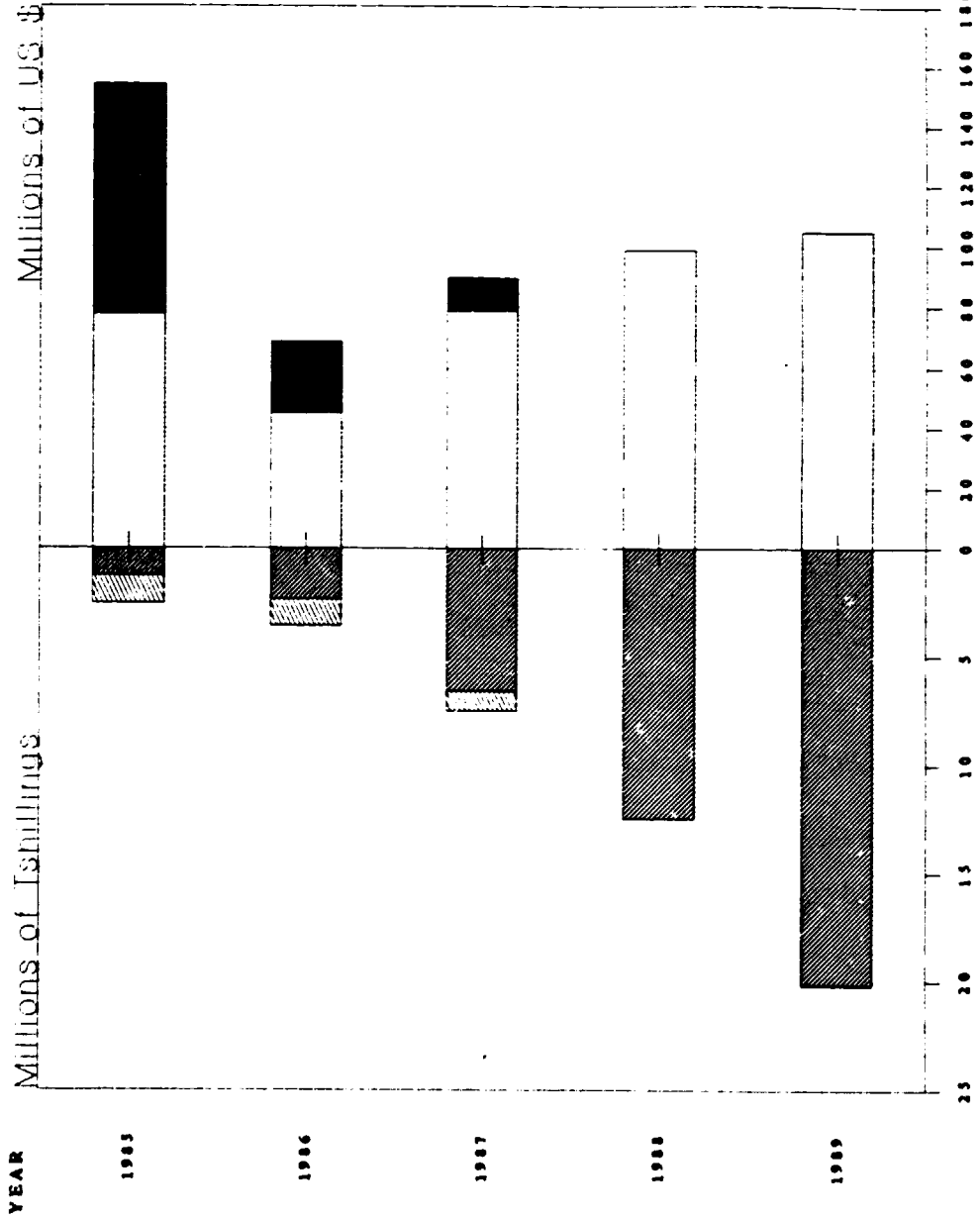


MILLIONS OF SHILLINGS



Debt/Equity Ratio

Southern Paper Mills Company Ltd.



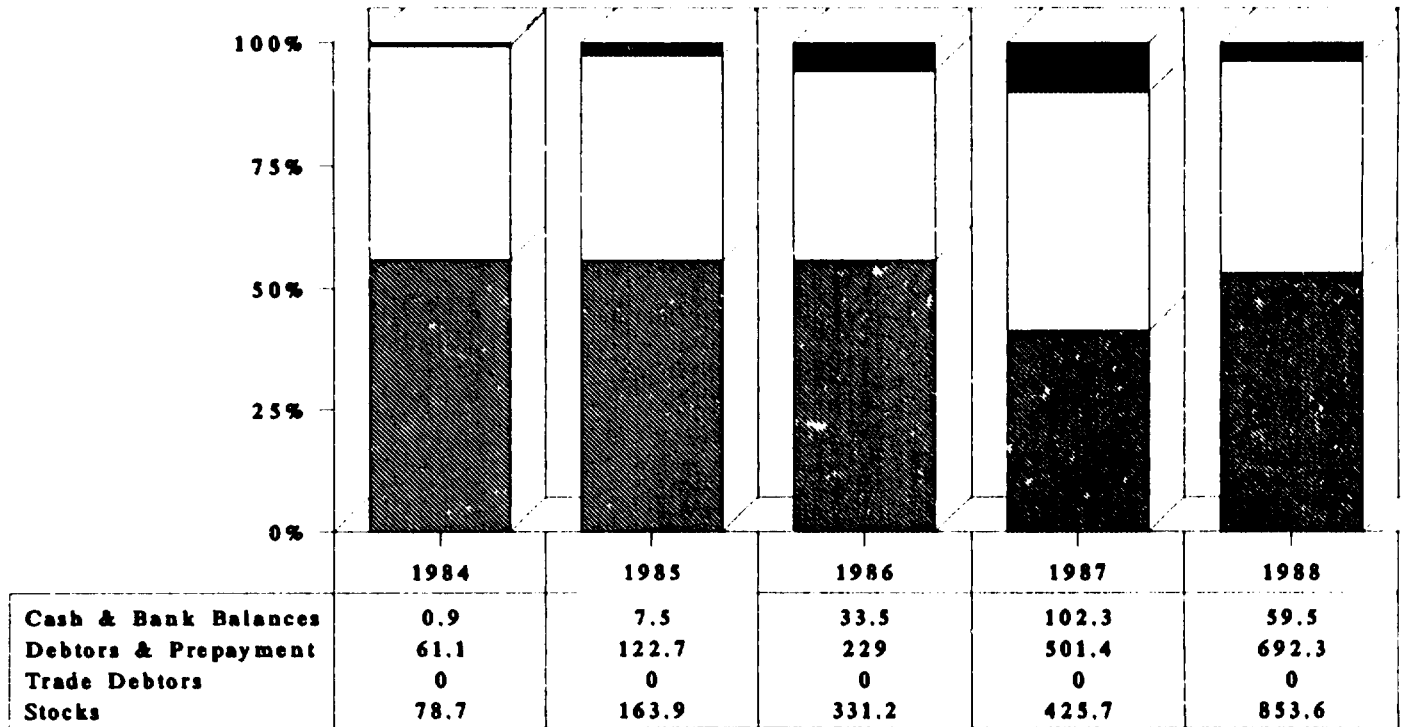
DEBT
 EQUITY
 SDEBT
 SEQUITY



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NDC Assistance - 1989

Current Assets Breakdown

Southern Paper Mills Co., Ltd.



MILLIONS OF SHILLINGS



 Stocks

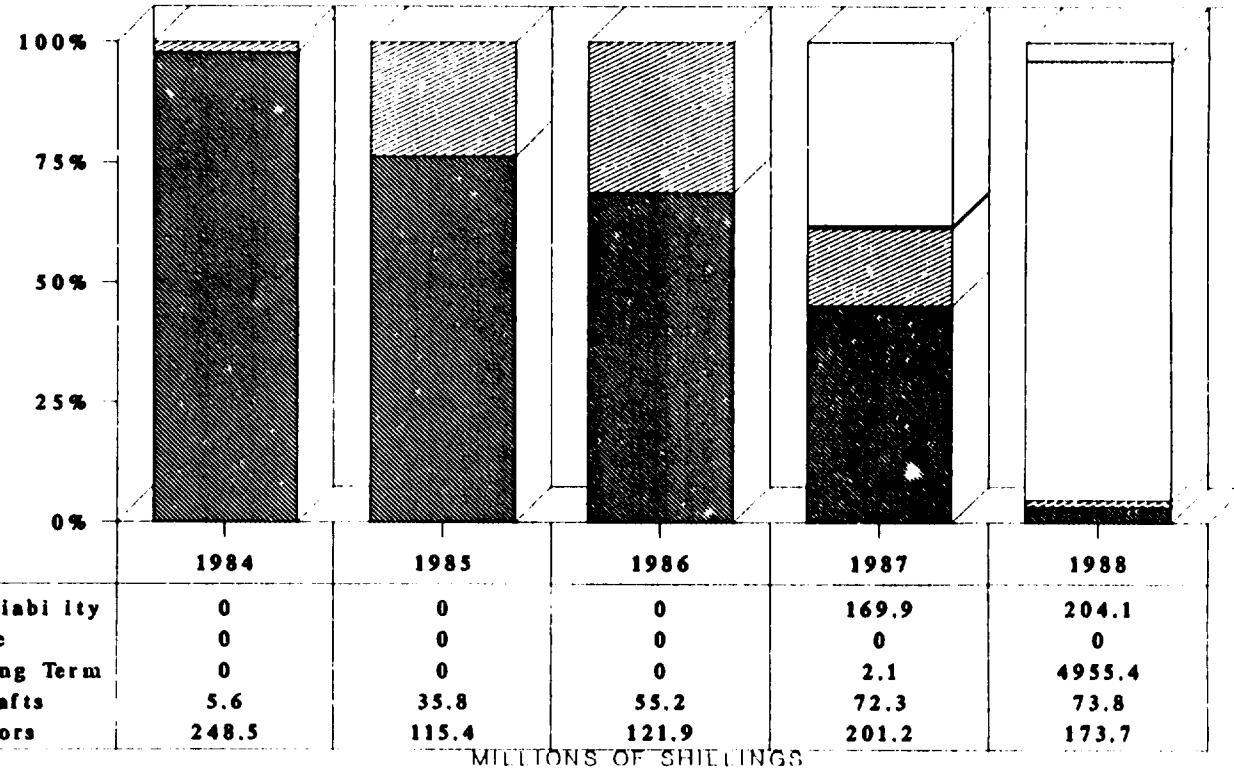
 Debtors & Prepayment

 Trade Debtors

 Cash & Bank Balances

Current Liabilities Breakdown

Southern Paper Mills Co., Ltd.



	1984	1985	1986	1987	1988
Other Cur Liability	0	0	0	169.9	204.1
Taxes Payable	0	0	0	0	0
Matur of Long Term	0	0	0	2.1	4955.4
Bank Overdrafts	5.6	35.8	55.2	72.3	73.8
Trade Creditors	248.5	115.4	121.9	201.2	173.7

MILLIONS OF SHILLINGS

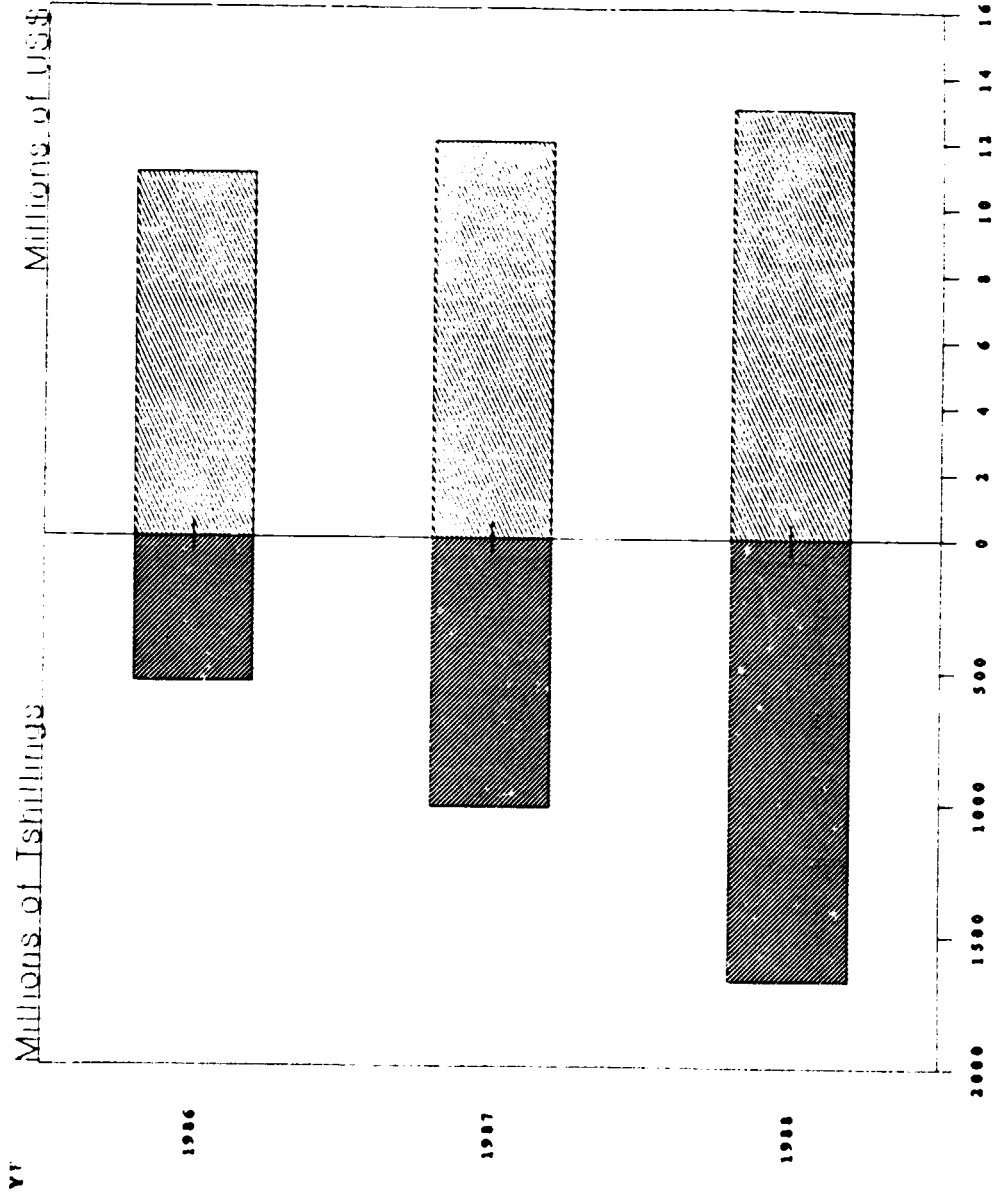


Trade Creditors
 Bank Overdrafts
 Matur of Long Term

Taxes Payable
 Other Cur Liability

Net Sales

Southern Paper Mills Co., Ltd.



UNIDO/Tanzania/
NDC Assistance - 1981

Appendix 11: Steel Rolling Mills Co., Ltd.

APPENDIX 11: STEEL ROLLING MILLS CO., LTD.

I. RECOMMENDATIONS AND ACTION PLAN

Steel Rolling Mills fits NDC's core group of skills and customers. Unfortunately, Steel Rolling Mills is poorly positioned geographically such that it costs NDC and customers substantially to transport steel billets and steel rod.

The Consultants recommend that Steel Rolling Mills be integrated into Aluminium Africa. The least expensive strategy would be to move the plant close to the Steel Cast group. Alternately, the company could build a new plant in Dar es Salaam that would cast directly from scrap to bar or plate.

There does not appear to be sufficient market close to Tanga to justify its own furnace. Steel Rolling Mills would run through all available local scrap in a matter of months and then become import dependent. As this would require additional foreign exchange, it would only serve to increase the country's overall foreign exchange burden for what would be an uneconomical undertaking.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSES

A. Overview

1. Company

Steel Rolling Mills Limited (SRM) was incorporated in 1966. It is a joint venture between NDC and Daniel S.P.A. of Italy who own 97.8% and 2.2% of the shares respectively. It started commercial production in March 1971.

The Company manufactures various sizes of reinforcement steel bars (10mm - 25mm) with an installed capacity of the rolling mill at 25,000 tons a year on a single shift. Apart from manufacturing reinforcement steel bars the Company has two old projects namely the Wire Rods and Wire Products plants which have not been commissioned. The installed capacities of the Wire Rods and Wire Products plants are 18,000 tones and 12,000 tones a year respectively. SRM has a workforce of 383 employees, 183 of them in the Production Department.

Steel Rolling Mills Ltd. plant was originally designed to produce 25,000 tons per annum of various sizes of reinforcement steel for the local market. It is currently

10 YEAR DEVELOPMENT PROGRAM SRM

Year 1 Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

- a. Cost leader
- b. Focus

B. Marketing

1. Determine product's value to customers, e.g.:

- a. Utility
- b. Price
- c. Quality
- d. Delivery
- e. Financing
- f. Appearance

2. Determine company's position vis-a-vis competition

3. Develop a Market Program (ZZK model and modify), e.g.:

- a. Product characteristics
- b. Pricing
- c. Distributing, etc.

4. Increase product visibility

- a. Place products in regional depots

5. Increase numbers of persons marketing products

- a. Establish regional distributors, agents

6. Improve quality of marketing effort, e.g.:

- a. Train salespersons and distributors
- b. Redesign sales and promotional literature

7. Implement market intelligence program, e.g.:

- a. Conduct monthly, quarterly, annual surveys

8. Improve after-sales service and support

- a. Collect customer feedback
- b. Give input to production to improve product and features
- c. Build better product
- d. Train customers in proper use and maintenance
- e. Sell related goods and services

C. Production and Operations

1. Lower production costs

- a. Speed throughput time
- b. Eliminate extraneous material and machines
- c. Improve product quality
- d. Lower raw material costs (Production)
- e. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

- a. Enroll engineers and technicians in MEIDA and technical seminars
- b. Conduct field trips for production staff

3. Improve the appearance and safety of facilities

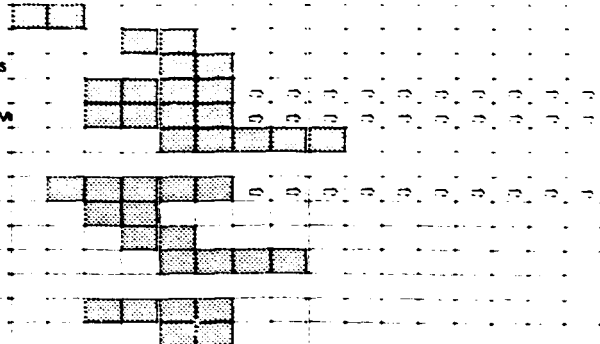
- a. Fix and repair leaks, damaged structures, etc.
- b. Remove unnecessary materials from plant grounds and facilities
- c. Paint factories and buildings when they show signs of wear or age
- d. Identify hazardous processes
- e. Provide workers with adequate safety equipment

10 YEAR DEVELOPMENT PROGRAM SRM

Year 1 Year 2
 I II III IV I II III IV 5 6 7 8 9 10

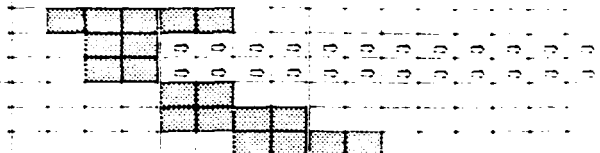
Inbound logistics

1. Recognize the importance of purchasing to profitability
 - a. Conduct an in-depth training program for procurement managers
 - b. Establish and enforce ethical procurement standards and practices
 - c. Work with suppliers and shippers to lower shipping costs
 - d. Work with suppliers and shippers to increase the frequency of delivery
 - e. Move the factory closer to suppliers
2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model
 - b. Form a buying cooperative/pool orders with NDC companies
 - c. Review/establish quality standards for raw materials
3. Lower procurement costs
 - a. Pool vehicle and other bids with NDC group companies



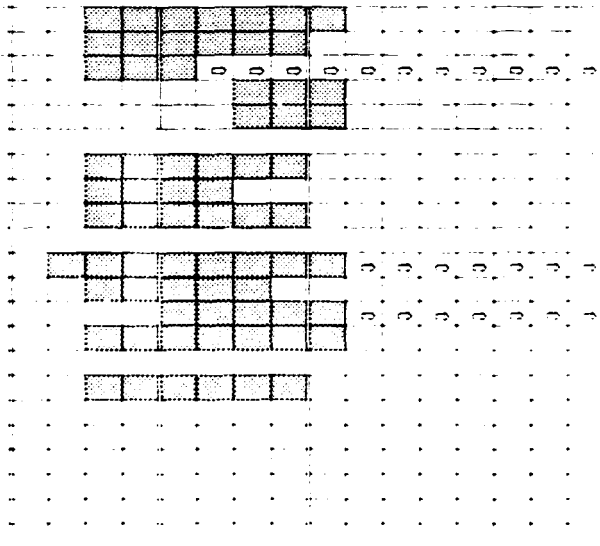
Outbound logistics

1. Reduce outbound transportation costs for customers:
 - a. Ship by rail
 - b. Negotiate volume discounts with overland shippers
 - c. Establish selling depots in key regions and ship in bulk
 - d. Orient production cycles to shipping/train schedules
 - e. Locate factory closer to customers



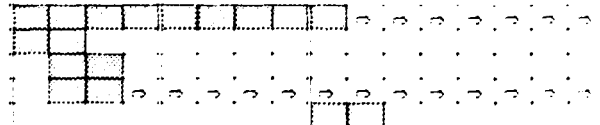
D. Organization

1. Structure the organization to achieve its targets:
 - a. Obtain outside partners
 - b. License technology
 - c. Sell some shares of the company to management/investors
 - d. Merge into other NDC companies
2. Lower management expense:
 - a. Increase span-of-control
 - b. Flatten hierarchy
3. Lower administrative/overhead procedural costs
 - a. Streamline administrative paperwork
 - b. Eliminate paperwork
 - c. Automate the routine and voluminous
4. Conduct 'make or buy' analysis on ancillary services, e.g.:
 - a. Medical
 - b. Janitorial
 - c. Security
 - d. Food services
 - e. Housing maintenance, gardening
 - f. Vehicle maintenance & repair



Privatization

3. Build a reputation for integrity, adhere to commitments
 - a. Pay suppliers on time
 - b. Pay management contracts on time
 - d. Meet or exceed delivery schedules and promises
 - e. Guarantee product quality



producing reinforcement Steel Bars, Nuts and bolts, with a 4 percent production capacity in 1990. Production volumes have been low in the last few years due to some problems acquiring spare parts, insufficient emphasis on preventive maintenance, and consequently higher levels of equipment breakdown.

Annual sales in 1988 were Ts. 478 million. SRM made a loss of Ts. 97 million on those sales.

2. Corporate Philosophy

The Steel Rolling Mills is the only company producing reinforcement steel bars, so it plays an important part in the construction industry in Tanzania. Their corporate philosophy is to produce as much volume as possible to satisfy market demand.

3. Corporate Strategy

The Company strategy for the future is to increase production of reinforcement steel bars and to commission the Wire Rods and Wire Products Plants (products include nails, wood screws, fencing wires, galvanized wire, wiremesh, weld mesh and barbed wires). However, due to trade liberalization and the OGL facility, some importers are putting the company in a difficult position due to the low prices of imported products.

B. Industry and Competitor Analysis

1. Market Overview

The TISCO demand projections for various kinds of steel is estimated to be 200,000 tones in 1991 with a growth rate of 10% per annum for subsequent years. As this study is not based on particularly realistic data, the company should carry out another market study in the future.

2. Customer Characteristics

The primary customers of steel reinforcement bars are as follows:

a. Building Contractors	50%
b. Regional Trading Companies (RTC)	15%
c. Government Institutions	10%
d. National Steel Corporation	20%
e. Others e.g. Small Builders	5%

Almost all bars end up in housing or building as reinforcement rods or security bars.

3. Market Size and Trends

As indicated by TISCO, the market size should increase by 10% per annum for all steel products. These steel products could be sold to neighboring countries which lack production facilities e.g Uganda, Burundi, Sudan etc -- but SRM is a high cost producer and will find it difficult to capture these markets.

4. Competition

SRM is the only producer of steel bars in Tanzania. It has a production monopoly locally in the products. However, the steel bar industry is composed of a small number of importers. These firms are often able to gain a fair amount of control over certain market segments such as tensile bars.

Competition in this market will grow in the future. Currently, the producers are offshore which means that they have high transport costs as well as slow delivery times. Furthermore, they are used to dealing with large order sizes. This presents an opportunity for SRM if it is able to establish a reputation for lower costs reliability, speed, quality, and flexibility; e.g. small lot sizes.

It should be noted that SRM will never completely dominate the market for steel bar products in Tanzania or the region. This is because steel bar is a basic product, there are many low-cost competitors, and transport costs for steel bars and billets are roughly equivalent on a tonnage basis. However, in basic steel bar products, it can begin to build a defensive position through first, response and second, value-added service enhancements.

Steel Rolling Mills is competing with the National Steel Corporation and some private companies which act as importers and distributors of steel products with cheap prices. Competition in this market will grow in future. Currently, the competitors to SRM are able to obtain the same access to foreign exchange for purchase of steel products as does SRM.

However, the company should make all the efforts to commission the Wire Rods and Wire Products plants as soon as possible to cater for products like fencing wire, barbed wire, nails etc, to the construction industry.

5. Substitutes

The construction industry requires reinforcement steel bars, and there are no substitutes for these products.

6. Estimated Market Shares

There are no established market shares for these products as the National Steel Corporation and private companies also import the same products.

7. Sales History

Year	1985	1986	1987	1988	1989	1990
Tshs	195,835,760	296,678,956	331,319,259	478,101,289	-	1,360,016,000

8. Policy and Regulatory Environment

Historically, the policy and regulatory environment has limited competition in this market. As the sole local source of Steel Bar, SRM was protected by import duties, sales taxes and delivery charges on imported Steel Bars. Furthermore, SRM has had preferential access to foreign exchange over the past few years. This enabled it to purchase inputs and supplies at a subsidized price. Not until 1986 were other companies and private individuals authorized to import and to distribute steel products such as reinforcement steels.

Macroeconomic policies that affect the SRM include exchange rate regulations and access to foreign exchange. The Open General License (OGL) system gave SRM equal access to foreign exchange so that it was not constrained in its ability to purchase materials. SRM does have some cash flow problems, however, that raise the cost of its foreign purchases, since it relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

SRM would benefit from the currency regulations that enable PTA member countries to purchase SRM's products using their local currencies if it had competitive prices.

The opening of the import market has exposed SRM to increased competition. This is good for Tanzania in that the competition should result in lower pricing. It does however place great pressure on SRM to lower its prices and costs.

C. Marketing

1. Overall Marketing Strategy

SRM's basic strategy appears to be wait for customer to buy, even though they have yards in Dar es Salaam and Dodoma. It is not an aggressive marketer of its products. It produces a few basic products that allow it to maximize volumes and that are in high demand in the region. It has not aggressively sought export opportunities. At the same time, sales volumes are well under break-even level. Prices are set to match, but not exceed, landed import prices. SRM has sought diversification in wire products.

2. Sales Tactics

The Company has introduced a sales policy as follows:

Company shall strive to sell at price offered by National Price Commission. When such prices are not adequate, the Board's approval shall be sought to sell at profitable prices from the factory.

Sales on payment before delivery either by bank cheque/drafts/T.T. etc.

Credit sales must obtain GM's approval.

A quantity discount of 1% on the invoice value exceeding purchase 100 tons is offered.

3. Customer Service

Little if any customer service is provided.

4. Pricing

Pricing is set by the Government's pricing commission on request of a price increase. The pricing policy of SRM is to set the price almost equal to those of imported steel products. Short length bars will sell at an ex-factory price less a discount of 15%. Retail prices at selling depots are set by adding a mark up of 10% on the ex-factory price plus freight.

5. Promotion

The company does little if any, promotion of its products.

6. Advertising

The company is using the local Dailies (Uhuru and Daily News) for advertising the Company and, secondarily, its products especially during important National holidays and festivals.

7. Location

SRM is located in Tanga about 400 km from DSM. Due to this location, transport costs significantly increase product prices. Billets have to be transported from DSM to Tanga and then finished steel products from Tanga to DSM where the primary Customer base is located. Overall, consumers in Dar Es Salaam must pay an additional percentage for steel bars to support NRM's poorly chosen location.

8. Distribution

SRM sells its products through several channels. Main customers and their approximate sharing of sales are:

a.	Building Contractors	50%	of	sales
b.	Regional Trading Companies	15%	"	"
c.	Government Institutions	10%	"	"
d.	National Steel Corporation	20%	"	"
e.	Small Builders (Individuals)	5%	"	"

D. Production and Operations

SRM produces reinforced steel bars of sizes ranging from 10mm - 25mm in diameter.

1. Geographical Location

Raw materials (billets) from Steel Cast (ALAF) must be transported to Tanga for rolling. Then, finished products must be transported back to Dar es Salaam where most customers are located.

2. Facilities and Progress

The total facility consists of six buildings. The Rolling Milling is housed in one building with open ends to facilitate material flow and circulation of air. There is a rail line siding that connects the rolling material intake. The process flow of production of reinforced steel is as follows:

- a. Shearing
- b. Heating
- c. Rolling (Several Passes)
- d. Cooling
- e. Bending

The process is capital intensive and fairly automated. SRM has Tsh 6,857 of capital equipment invested per employee. Production staff numbers 183 persons per shift.

The capital equipment are over 20 years old and require constant attention and careful maintenance. Furthermore, short power interruptions cause significant losses of material.

There is limited automation of Steel Bar flow. SRM does not use computerized inventory systems, or of automated management information systems. Relative to a similar operation elsewhere, it is under automated in the basic Steel Bar work processes. Additional effort in this area should make such processes more routine, faster, and efficient to minimize overhead costs and waiting in the value-added delivery chain.

3. Materials Handling

Incoming materials are being handled by forklifts and cranes while the finished products are being bent to size by laborers (from 40' to 20' size in double).

4. Production Cost

Following are the actual direct production costs for the year 1990, relative percentages.

	1990 <u>(000)</u>	<u>%</u>
Direct Labor	16,860	8.2
Electricity	19,750	9.6
Water	114	0.1
Repair and Maintenance	46,530	22.6
Fuel Oil	64,550	33.4
Depreciation	30,360	14.7
Other Direct Costs	<u>27,620</u>	<u>13.4</u>
 TOTAL EXPENSES	 205,784	 100.0
	=====	=====

5. Product Quality

The quality of SRM products is determined by the quality control section of the Production Department. Customers on these products tend to look first on the price per ton rather than quality, so competitors at cheap prices win the market.

SRM has not made significant efforts to improve the quality of their products. It appears that products may fall under standard, bars are slightly thinner than specifications to produce excess short bars which are sold at a good price. Delivery times can be delayed; most buyers probably carry extra inventory to handle such contingencies.

The decrease in market share of SRM indicated that SRM's ability to deliver the right product in a timely fashion at a good price has decreased in the last few years.

6. Product Delivery

SRM has two depots in Tanzania, one at Dodoma and one at DSM (the NSC yard). Customers come to the yards to pickup products. SRM's trucks are used to pick up billets from the port or Steel Cast (ALAF) and, on their return, they carry products to the DSM yard. A limited amount is shipped by rail, the least costly method.

7. Competitive Strengths/Weaknesses

As for strengths, SRM is the sole local producer of steel bar, has experienced craftsmen, and has political goodwill. This should give it a strong competitive position.

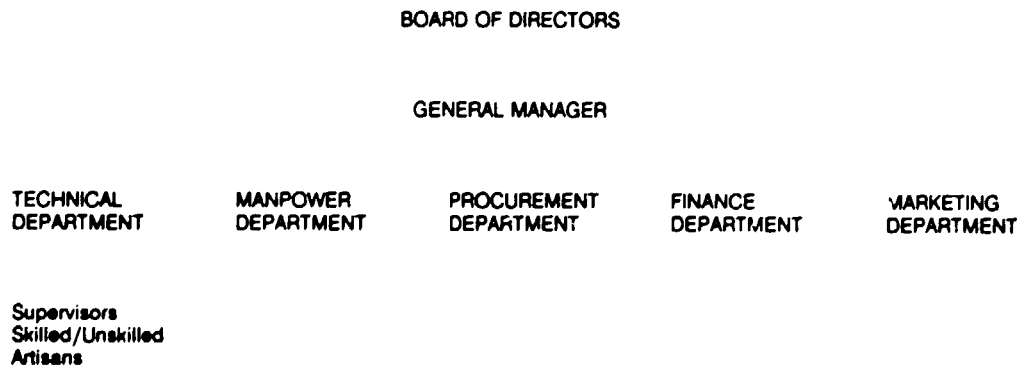
At the same time, SRM's work force is relatively large and inexperienced in comparison to its offshore competitors, lack of maintenance has aged its plant dramatically, lack of equity capital has kept SRM from reinvesting in its plant and equipment, lack of marketing strategy means it competes on price, and excessively high transport costs and lack of capital resources have rendered it unable to finance large quantities of exports.

8. Strategy and Plans

SRM hopes to produce more wire rod products. It has a full plant that has never been commissioned due to a series of disputes with its partner and supplier Daniel. The Company awaits funds from the government or Italian aid for the rehabilitation and commissioning of the project.

E. Management

1. Organizational Structure



2. Management Compensation

Management compensation at SRM is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low. However, benefit packages are quite extensive. Benefits for senior managers include: Housing and maintenance, vehicles for officers, medical care and insurance, life insurance, and an entertainment allowance to supplement their base salaries. As far as could be determined, management compensation is not linked to performance.

3. Board of Directors

The Board of Directors of SRM is selected by the Ministry of Industries through NDC. The Board operates autonomously of the NDC. The current composition of the board consists of six (6) members elected to three year terms. They represent the following areas:

a.	University of Dar es Salaam, (FOE)	Chairman
b.	Treasury Department	Member
c.	TDFL Member	
d.	Juwata Regional (Mkoani)	Member
e.	NDC Member	
f.	Ministry of Industries and Trade	Member

5. Supporting Professional Services

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel. SRM has not made use of consultants from TISCO or the National Productivity Institute in recent years. SRM's main consultants are Daniel of Italy who also supply machines and spares.

F. Human Resources

1. Composition and Skills

SRM employs 391 persons. The break down is as follows:

	1990	%
Technical Dept.	183	46.8
Manpower Dept.	98	25.1
Procurement Dept.	47	12.0
Marketing Dept.	36	9.2
Finance Dept.	<u>27</u>	<u>6.9</u>
<u>Total</u>	<u>391</u>	<u>100.0</u>

The Technical Department (Production) has 183 employees.

Engineers	3
Technicians	4
Skilled	40
Unskilled	136

2. Compensation and Trends

All salary levels are set by SCOPO. The compensation package consists of base wage (salary) overtime, free medical care, housing allowances, transport allowances, medical allowances, heat allowances, bonus (according to target). All these allowances are used extensively to avoid the 50% tax rate on wages.

3. Productivity

Productivity in the firm is low, due to low plant capacity utilization. In 1990, production was 49% of planned capacity. This is not due to low workers' morale but mainly due to plant down time.

4. Training Program and Needs

SRM invests substantially in manpower training. For local training, workers (selected) attend symposia, seminars and workshops in their respective fields, while others get scholarships such as SADCC/PTA to Angola. Also, others attend long courses to obtain Diplomas, Degrees, etc. in their respective fields.

G. Finances

1. Sales, Revenue, Profitability

SRM has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table VI: Profit and Loss. However, when this is translated into both dollar and constant shilling terms, SRM has shown a marked decline in sales. See graph: Net Sales.

Financing costs are high. Financing costs in 1988 exceeded annual revenues. This is due to low profitability and an excessive reliance on short-term borrowing to cover the short-term. This places a large debt burden on SRM that has made operations quite difficult within the last five years.

2. Assets and Liabilities

SRM shows considerable weakness and a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities. However, closer analysis reveals that available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. SRM is on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms.

Dependence on short term debt has increased from 22 percent of total liabilities in 1984 to 9 percent of total liabilities in 1988. Material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

Short-Term Liquidity Analysis shows that SRM has suffered a weakening in its liquidity. The current ratio has declined from 0.42 in 1984 to .15 in 1988. (This means that it has insufficient funds to cover short-term liabilities.) The acid ratio -- cash and cash equivalents divided by current liabilities has declined dramatically from .08 to .01 during this period. This indicates that SRM would be able to cover only 10 percent of its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

3. Estimates of Valuation

Book value is Ts. 253 million in 1989. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In SRM's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Based on the 1989 values presented in the NDC consolidated Group company plan, the profits of SRM are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts 42.2 million. SRM is worth more as a going concern than were it to be liquidated.

H. Summary

The prognosis for SRM is not optimistic given increasing competition, low rates of production, an overly large workforce, and a weak financial position. The declining capital position, the heavy level of indebtedness, the weak performance of the company over the last few years, and its high administrative burden relative to its competitors. SRM's continued viability as a company depends upon several factors: ability to reduce costs continued access to capital infusions despite limited ability to repay, productivity improvements, and increasing market share.

SRM does have three key factors in its favor: A low cost labor market, a preferential access to foreign exchange and capital, and political support.

Appendix 11 Attachments: STEEL ROLLING MILLS CO., LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Steel Rolling Mills

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Reinforcement Steel bars	88	186	253	321	833	1,345
2. Bolts and Nuts	0	0	7	14	23	33
3. Wire Products	0	0	0	0	0	0
4. Wire Rods	0	0	0	0	0	0
5. Others	0	0	0	0	3	5
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	88	186	260	335	858	1,382
Units/Employee	0	1	1	1	2	4

TABLE II

Table : Actual Production

Steel Rolling Mills Company

(Production in Metric Tonnes)

Product	Units	Description	(Production in Metric Tonnes)					
			1984	1985	Est'd 1986	1987	Est'd 1988	1989
1. Reinforcement Steel Bars	0	G	8,180	11,900	10,527	9,153	5,325	1,496
2. Bolts and Nuts	0		12	0	199	397	199	0
3. Wire Products	0		0	0	0	0	0	0
4. Wire Rods	0		0	0	0	0	0	0
5. Others	0		0	0	0	0	265	529
6. Six	0		0	0	0	0	0	0
7. Seven	0		0	0	0	0	0	0
8. Eight	0		0	0	0	0	0	0
9. Nine	0		0	0	0	0	0	0
10. Ten	0		0	0	0	0	0	0
11. Eleven	0		0	0	0	0	0	0
12. Twelve	0		0	0	0	0	0	0
13. Thirteen	0		0	0	0	0	0	0
14. Fourteen	0		0	0	0	0	0	0
15. Fifteen	0		0	0	0	0	0	0
Total			8,192	11,900	10,725	9,550	5,788	2,025
Capacity Utilization			NA	NA	NA	NA	NA	NA
Units per Employee			NA	NA	NA	NA	NA	NA

TABLE III

Table : Actual Purchases

Steel Rolling Mills

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	0	108	111	113	358	603
2.	Spares & accessories	0	8	12	15	25	35
3.		0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	0	117	122	128	383	638
	Foreign currency						
7.	Raw materials	0	3	66	129	220	312
8.	Spares & accessories	0	0	6	13	38	63
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	0	3	72	142	259	375
13.	Total	0	119	194	270	642	1,013
14.	In Dollars	\$0	\$7	\$4	\$3	\$5	\$5

Notes:

1.

2.

TABLE IV

Table : Actual Investment

Steel Rolling Mills

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989
Capital Expenditures						
1. Land & building	28.2	0.5	0.0	1.7	0.0	0.0
2. Plant & machinery	77.8	4.6	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	1.1	0.0	2.4
4. Motor vehicles	0.0	0.0	0.0	0.0	0.0	0.0
5. Other	40.6	2.7	0.0	0.0	0.0	0.0
Total Expenditures	146.6	7.8	0.0	2.8	0.0	2.4
Source of Funds						
1. Equity – NDC	44.3	0.0	0.0	2.8	0.0	0.0
2. Equity – Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	102.3	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	7.0	0.0	0.0	0.0	8.8
8. Other, Unaccounted For	0.0	0.8	0.0	0.0	0.0	(6.4)
Total Sources	146.6	7.8	0.0	2.8	0.0	2.4

Notes:

1. Cap. Exps. (\$'000's)	\$8	\$0	\$0	\$0	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	146.6	7.8	0.0	2.8	0.0	2.4
3. Nominal Index of Capital Expendit	1,879.5	100.0	0.0	35.9	0.0	30.8
4. Dollar Index of Capital Expenditur	1,712.8	100.0	0.0	7.1	0.0	2.6
5. Debt/Total Sources	60.81%	30.90%	25.33%	0.00%	0.00%	0.00%
6. Foreign/Total Sources	168.92%	0.00%	0.00%	0.00%	0.00%	0.00%
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	53%	59%	NA	0%	NA	0%
9. Ratio: Vehicles/Cap. Exps.	0%	0%	NA	0%	NA	0%

Table : Actual Manpower

TABLE V

Steel Rolling Mills Limited

Product	Employees					
	1984	1985	1986	1987	1988	1989
1 Senior Managers	6	5	4	3	5	6
2 Middle Managers	14	13	14	14	13	11
3 Supervisors	106	10	9	8	13	17
4 Clerical	32	48	42	36	33	30
5 Skilled Manual	55	117	127	136	141	146
6 Unskilled Manual	136	148	143	137	139	140
Total	349	341	338	334	342	350
Expatriate	1	0	0	0	0	0
Total Employees	350	341	338	334	342	350

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

Steel Rolling Mills Co.

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	88	196	297	331	478	0	0
Less: Cost of Sales	71	147	221	282	456	0	0
Gross Profit	17	48	76	50	22	0	0
Less: Operating Expenses	26	39	65	91	119	0	0
Administration	19	25	34	46	65	0	0
Selling and Distributio	4	8	14	14	16	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	3	6	17	30	38	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	(10)	9	11	(41)	(97)	0	0
Add: Other Income	3	3	8	15	24	0	0
Less: Other Expense	0	0	0	0	1	0	0
Net Profit Before Tax	(7)	12	19	(26)	(73)	0	0
Less: Provision for Taxes	0	7	8	0	0	0	0
Profit After Tax	(7)	6	11	(26)	(73)	0	0
Statement of Retained Earnings							
Balance Brought Forward	4	(5)	2	11	(31)	(105)	(105)
Prior Year Adjustment	(2)	1	(2)	(15)	0	0	0
Balance Brought Forward R	2	(4)	0	(4)	(31)	(105)	(105)
Add: Net Profit for the Year	(7)	6	11	(26)	(73)	0	0
Profit Available for Appr	(5)	1	11	(30)	(105)	(105)	(105)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	1	0	0	0
Retained Earnings Carried	(5)	1	11	(31)	(105)	(105)	(105)
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	5	12	6	4	4	0	0
Cost of Sales	4	9	4	3	4	0	0
Operating Expenses	1	2	1	1	1	0	0
Profit After Tax	(0)	0	0	(0)	(1)	0	0

TABLE VII

Table : Balance Sheet
Actual

Steel Rolling Mills Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	203	210	350	480	656	0	0
2. Current Assets	78	89	138	148	118	0	0
3. Stocks	45	63	70	81	78	0	0
4. Trade Debtors	0	0	0		0	0	0
5. Debtors and Prepayments	18	25	66	65	30	0	0
6. Cash and Bank Balances	15	2	2	2	10	0	0
7. Current Liabilities	182	209	399	587	808	0	0
8. Trade Creditors	63	68	101	84	162	0	0
9. Bank Overdrafts	40	25	48	71	72	0	0
10. Current Maturity of LT	62	71	217	352	517	0	0
11. Taxes Payable	0	7	8	5	2	0	0
12. Other Current Liabiliti	18	39	26	75	55	0	0
13. Net Current Assets/Liabil	(104)	(119)	(261)	(439)	(690)	0	0
14. Total Net Assets	100	91	88	42	(35)	0	0
15. Financed by:							
16. Share Capital	25	25	25	25	25	0	0
17. Capital Reserves	(1)	(1)	(1)	(2)	(1)	0	0
18. Profit and Loss Account	28	23	29	(12)	(59)	0	0
19. Long Term Loans	47	43	35	31	0	0	0
20. Debt	229	252	434	618	808	0	0
21. Equity	52	47	53	11	(35)	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

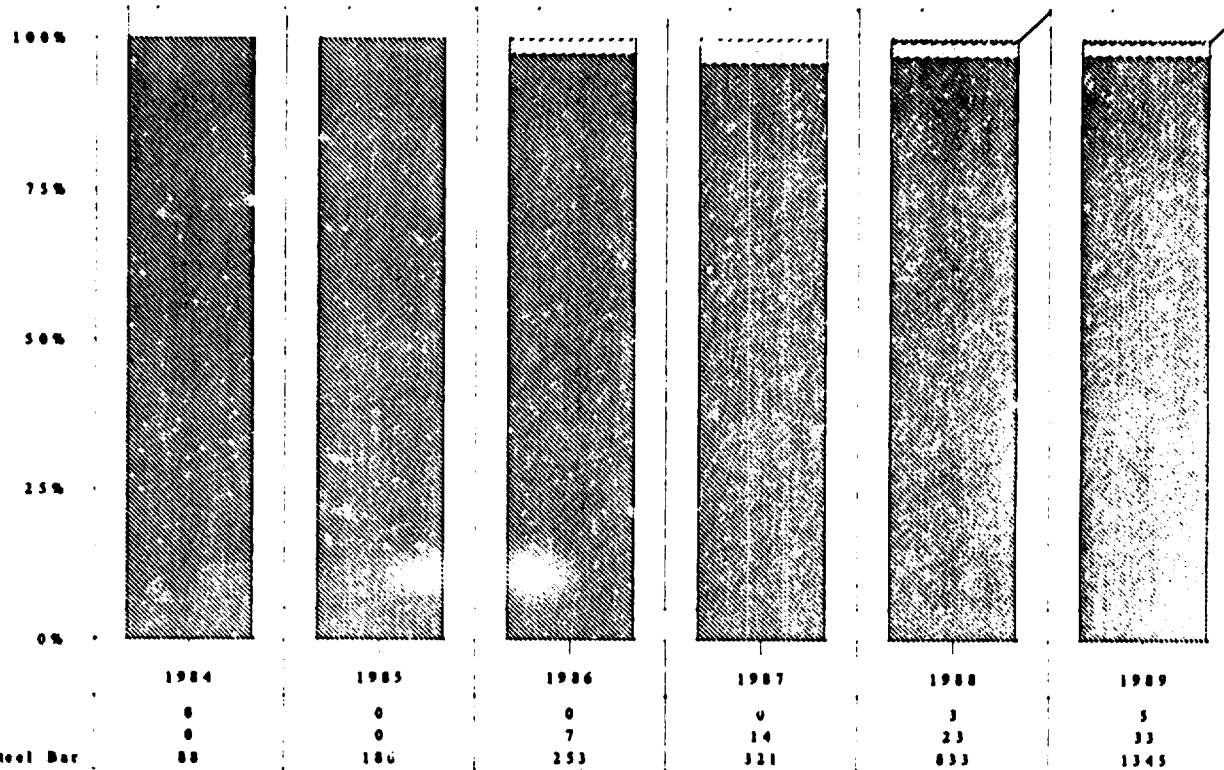
In Current Dollars

1. Net Fixed Assets	11	13	7	6	5	0	0
2. Current Assets	4	5	3	2	1	0	0
7. Current Liabilities	10	13	8	7	6	0	0
13. Net Current Assets/Liabil	(6)	(7)	(5)	(5)	(5)	0	0
14. Total Net Assers	5	5	2	0	(0)	0	0
20. Debt	0	14	5	5	5	4	0
21. Equity	0	3	1	1	0	(0)	0

Product Sales Breakdown

Steel Rolling Mills

% BREAKDOWN OF PRODUCT SALES



MILLIONS OF SHILLINGS

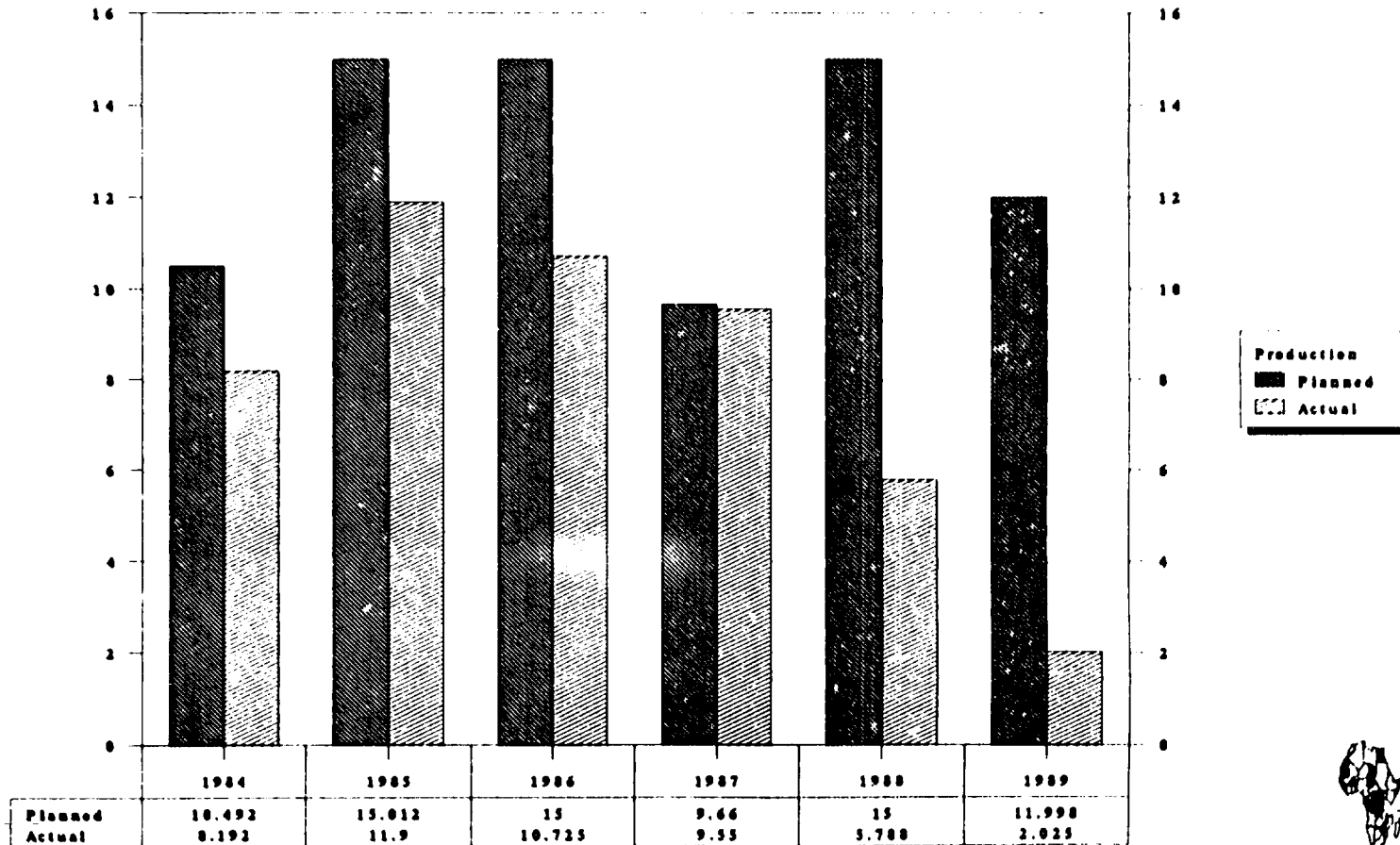


Reinforcement Steel Bar
 Bolts & Nuts
 Other

Planned vs. Actual Production

Steel Rolling Mills Company

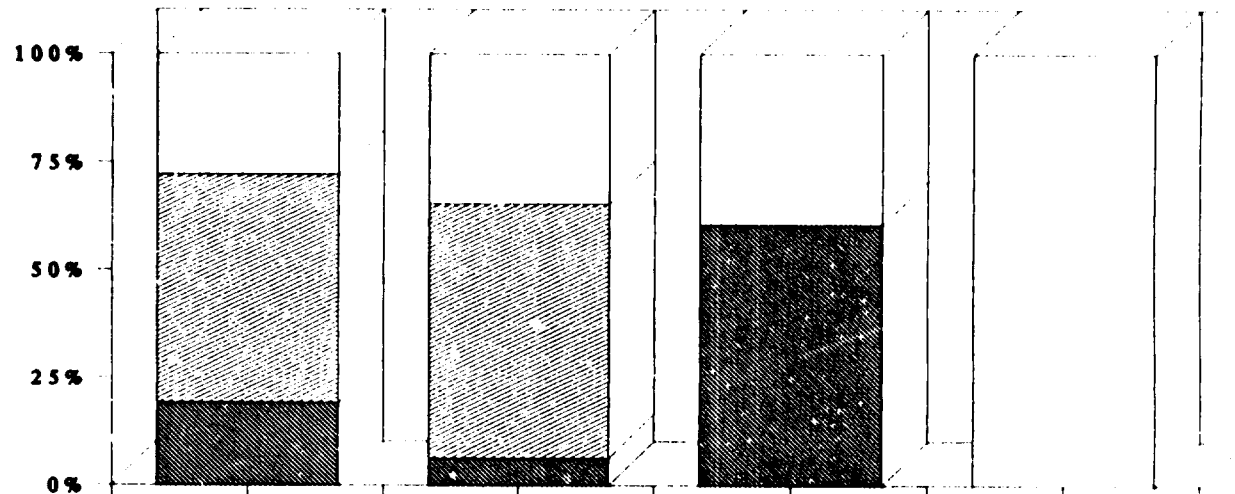
Production in Metric Tonnes



Capital Expenditure Breakdown

Steel Rolling Mills Co., Ltd.

MILLIONS OF SHILLINGS



	1984	1985	1987	1989
Other	40.6	2.7	0	0
Motor Vehicles	0	0	0	0
Furniture and Fix.	0	0	1.1	2.4
Plant and Mach.	77.8	4.6	0	0
Land and Buildings	28.2	0.5	1.7	0

Data not available FY86 & 88.

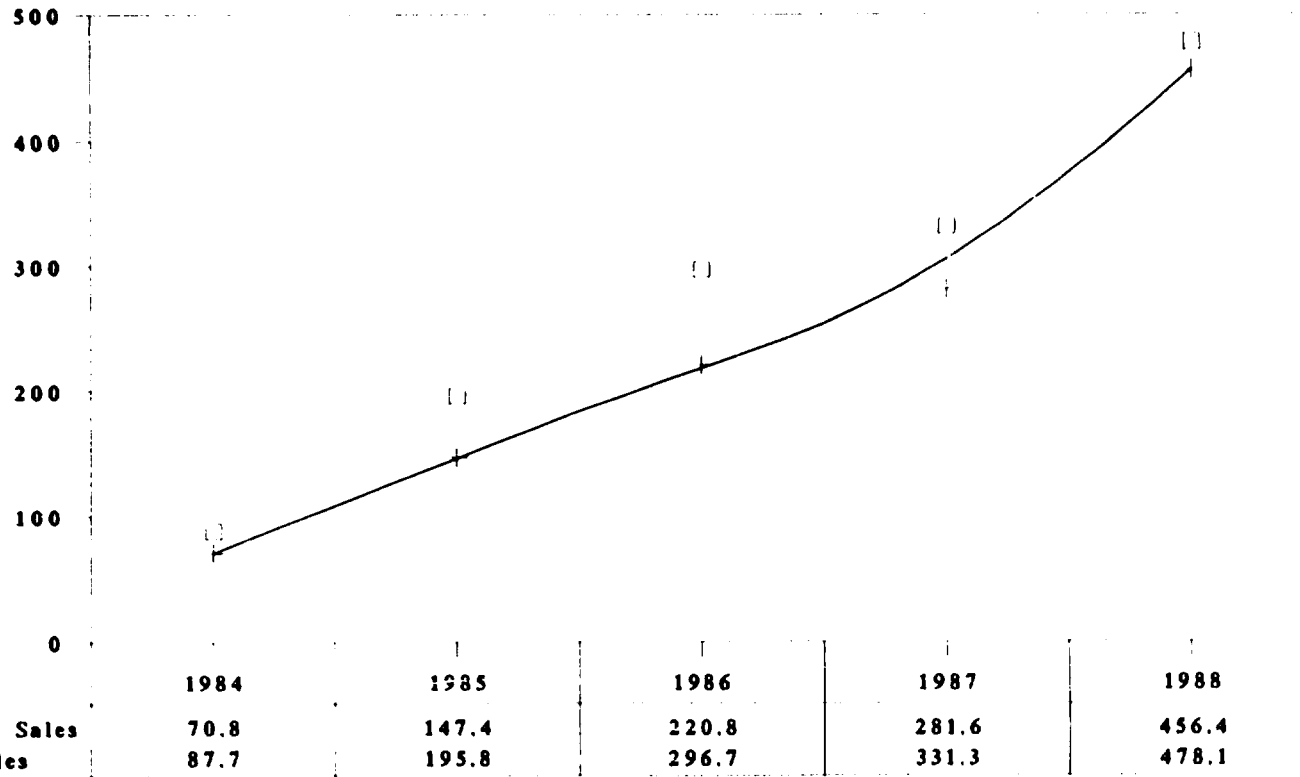


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Steel Rolling Mills Co., Ltd.

MILLIONS OF SHILLINGS



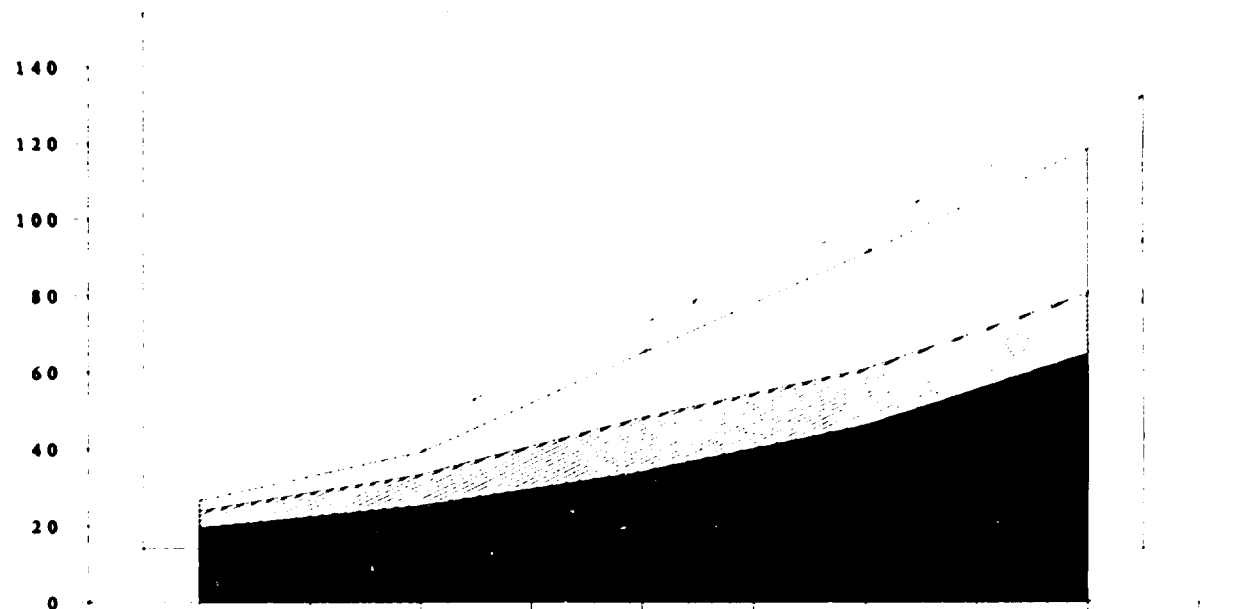
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□ Net Sales + Cost of Sales

Operating Expense Breakdown

Steel Rolling Mills Co., Ltd.

Millions of Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	2.6	5.8	16.9	30.4	37.9
Selling & Distrib	4.4	8	14	14.5	15.7
Administration	19.5	25.3	34.1	46.2	64.9



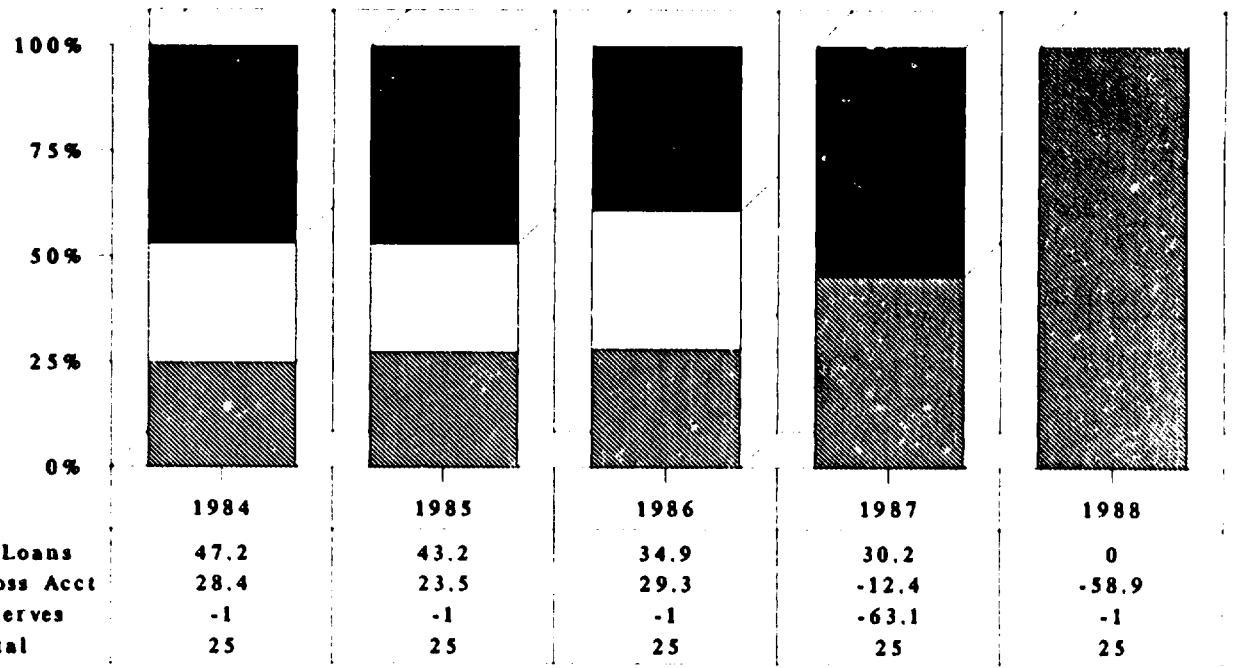
Operating Expenses

Administration
 Selling & Distrib
 Fin Expenditure

Total Net Assets

Steel Rolling Mills Co., Ltd.

MILLIONS OF SHILLINGS



Long Term Loans
Profit & Loss Acct
Capital Reserves
Share Capital

MILLIONS OF SHILLINGS

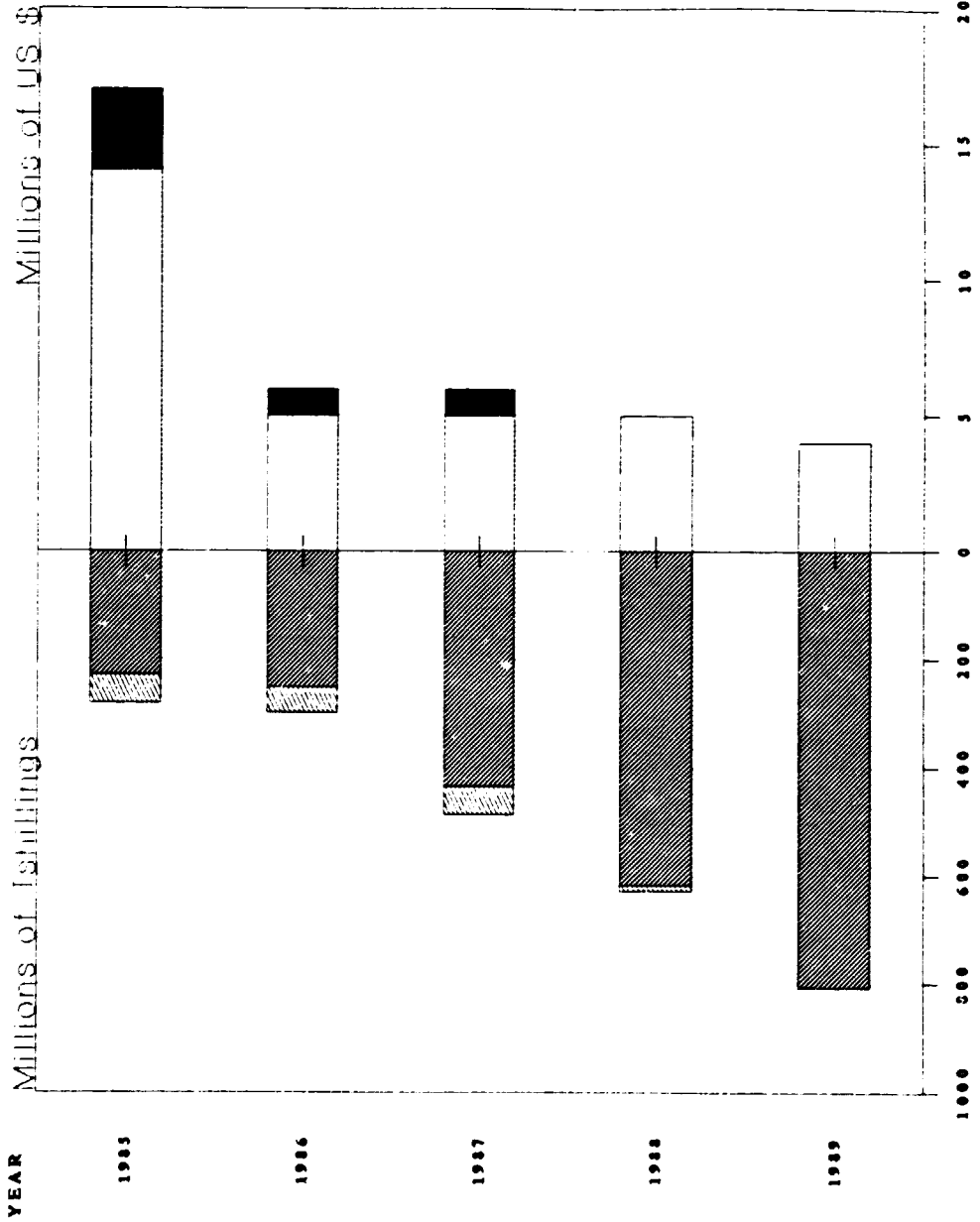
FINANCED BY

Share Capital
 Capital Reserves
 Profit & Loss Acct
 Long Term Loans



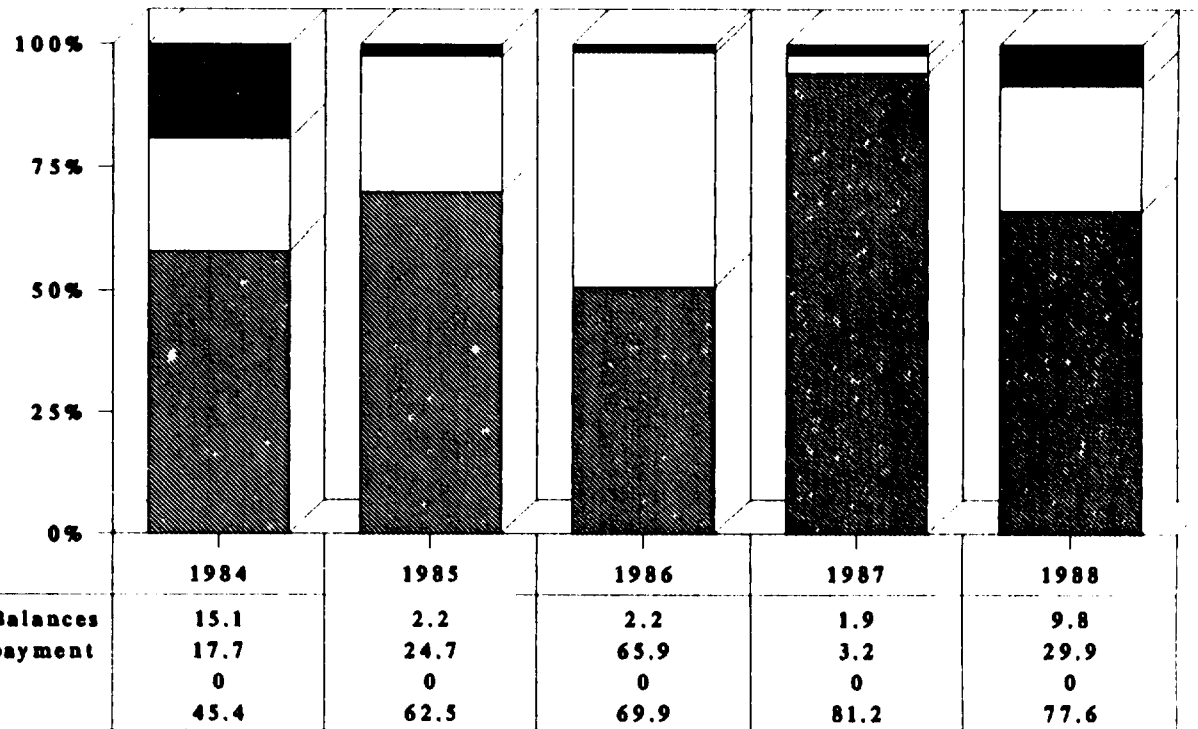
Debt/Equity Ratio

Steel Rolling Mills Co., Ltd.



Current Assets Breakdown

Steel Rolling Mills Co., Ltd.



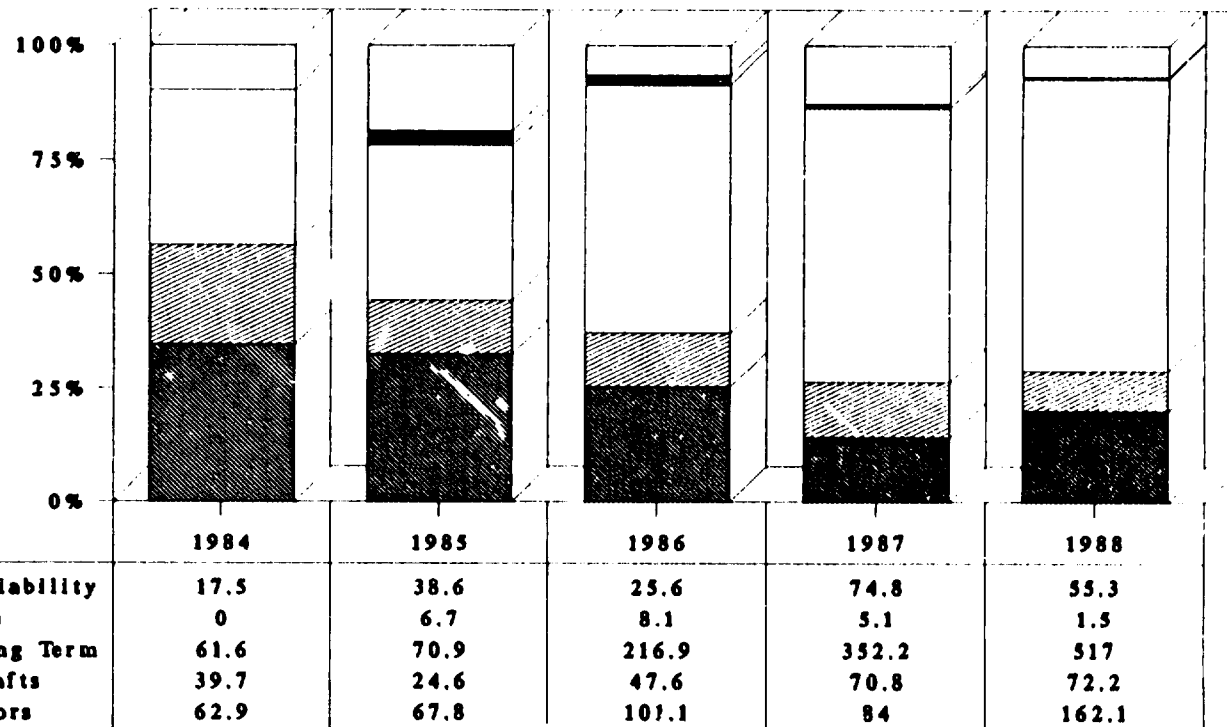
MILLIONS OF SHILLINGS



Stocks
 Trade Debtors
 Debtors & Prepayment
 Cash & Bank Balances

Current Liabilities Breakdown

Steel Rolling Mills Co., Ltd.



MILLIONS OF SHILLINGS

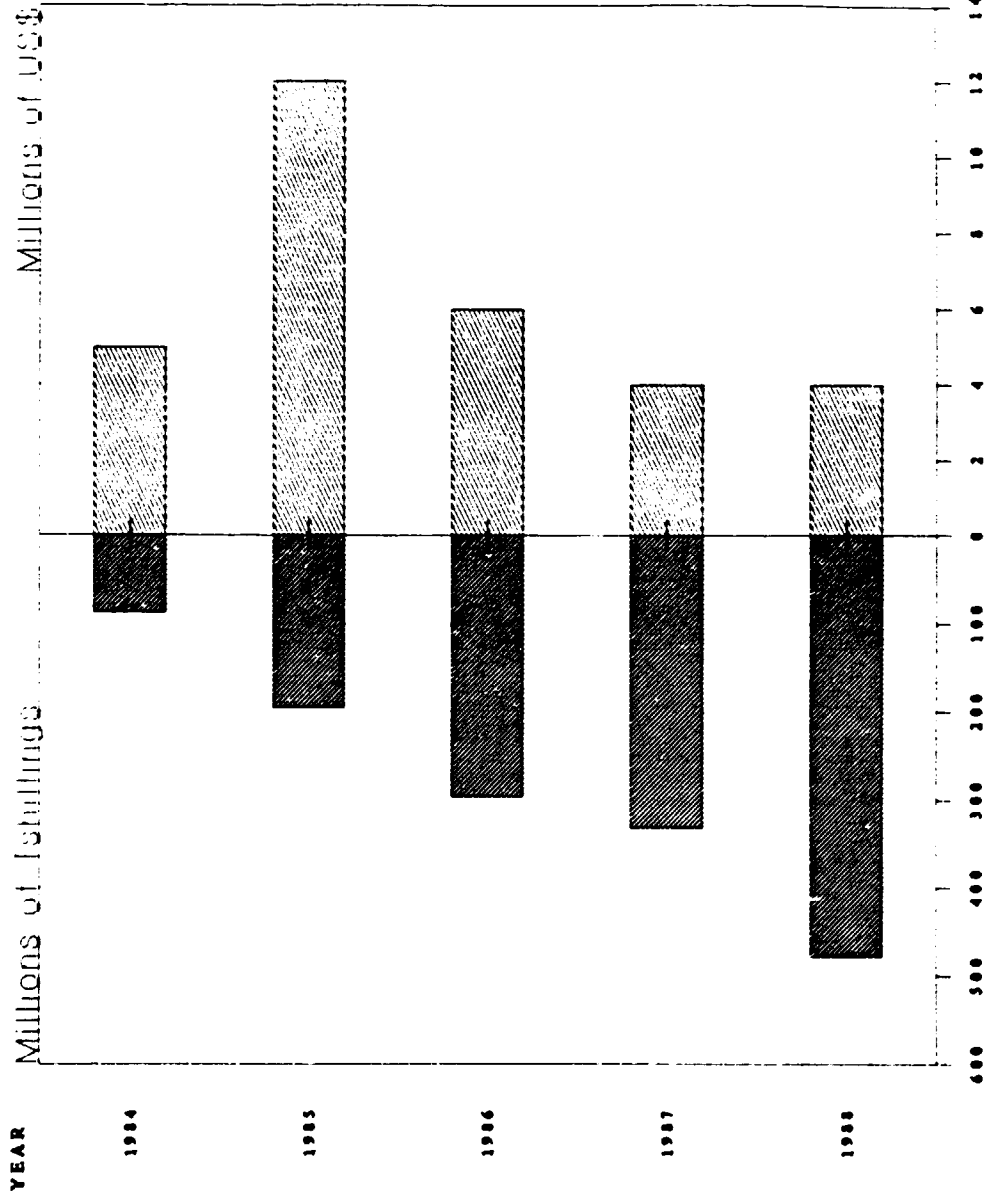


Trade Creditors
 Bank Overdrafts
 Matur of Long Term

Taxes Payable
 Other Cur Liability

Net Sales

Steel Rolling Mills Co., Ltd.



NET SALES
GNET SALES



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Appendix 12: Tanzania Cables, Ltd.

APPENDIX 12: TANZANIA CABLES, LTD.

I. RECOMMENDATIONS

Tanzania Cable is a well-run company that produces key products for both the construction and industrial markets. It should remain a part of the NDC group.

Attention should be paid to further reducing production costs and to selectively increasing the range of products produced.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

Tanzania Cable Ltd. (TCL) was organized in 1977 by the National Development Corporation. It is jointly owned by NDC (51%), Paper Products (29%), TDFL (10%) and TANESCO (10%). TCL is the only modern, wire and cable producer in Tanzania. Located in an industrial park in Dar Es Salaam, it is close to its major customer base.

TCL markets 5 types of aluminum and copper wire and cable to TANESCO (electric power utility) and construction suppliers. Demand is high and TCL maintains relatively little finished goods inventories.

The plant is currently producing 5 types of wire and cable with a production of 671 tons in 1989 as opposed to planned production, 770 tons. Production volumes has been increasing the last few years, mainly due to increase in demand generated by the construction sector.

Annual sales in 1989 were Ts. 446 mil. TCL made a profit of Ts. 25.0 mil on those sales. Until 1981 the plant had a management contract with Comcraft Services Ltd. who provided overall plant supervision, etc.

The Company's strategy has been to focus on several product lines to simplify the skill levels required and to better control production quality. It is looking at the potential of a telephone cable line.

10 YEAR DEVELOPMENT PROGRAM TCL

Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Focus

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-à-vis competition

3. Develop a Market Program (ZZK model and modify), e.g.:

a. Product characteristics

b. Pricing

c. Distributing, etc.

4. Increase product visibility

a. Place products in regional depots

b. Arrange consignment sales to distributors and agents

c. Participate in regional fairs in Tanzania

d. Participate in regional fairs in SADCC/PTA countries

e. Advertise and promote products

5. Increase numbers of persons marketing products

a. Establish regional distributors, agents

6. Improve quality of marketing effort, e.g.:

a. Train salespersons and distributors

b. Redesign sales and promotional literature

7. Implement market intelligence program, e.g.:

a. Conduct monthly, quarterly, annual surveys

8. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

c. Build better product

d. Train customers in proper use and maintenance

e. Sell related goods and services

C. Production and Operations

1. Lower production costs

a. Speed throughput time

b. Eliminate extraneous material and machines

c. Improve product quality

d. Lower raw material costs (Production)

e. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

a. Enroll engineers and technicians in MEIDA and technical seminars

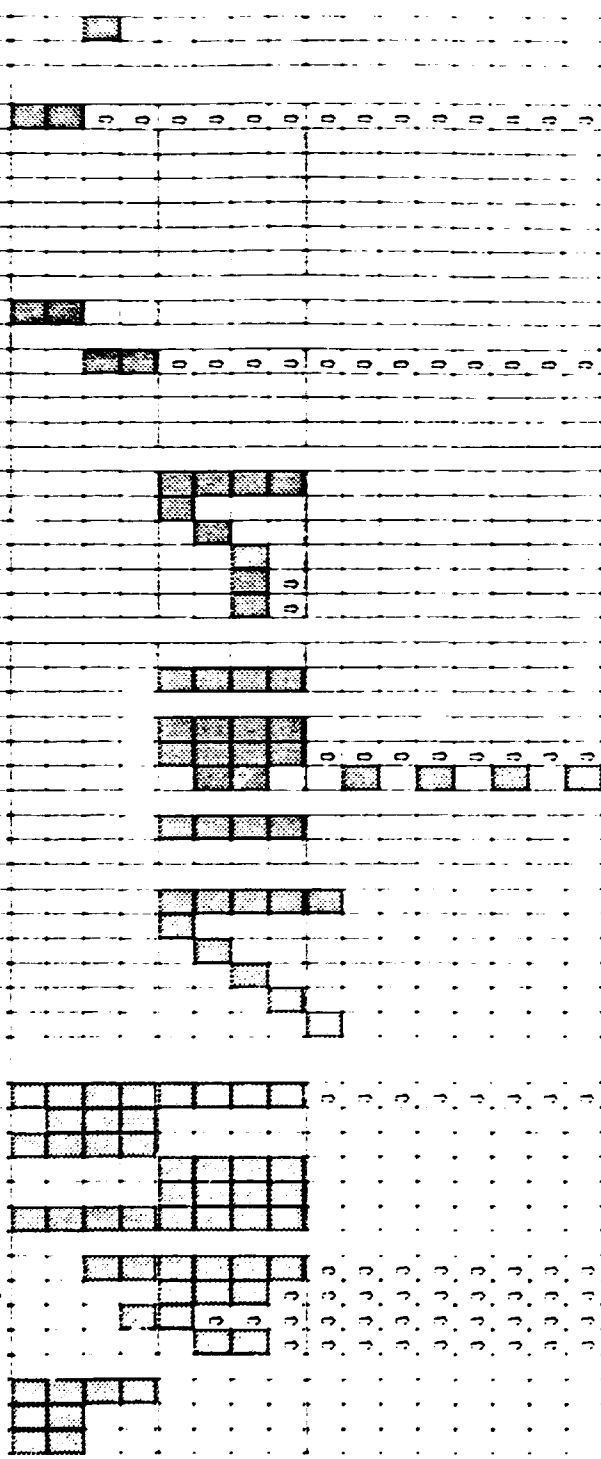
b. Conduct field trips for production staff

c. Conduct in-house seminars

3. Improve the appearance and safety of facilities

a. Remove unnecessary materials from plant grounds and facilities

b. Identify hazardous processes

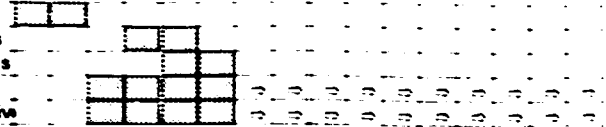


10 YEAR DEVELOPMENT PROGRAM TCL

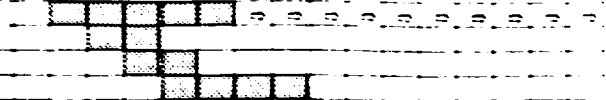
Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

Inbound logistics

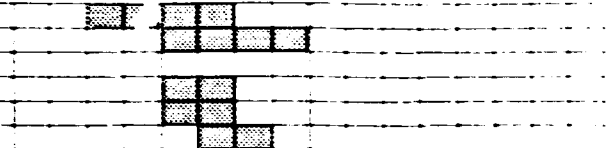
1. Recognize the importance of purchasing to profitability
 - a. Conduct an in-depth training program for procurement managers
 - b. Establish and enforce ethical procurement standards and practices
 - c. Work with suppliers and shippers to lower shipping costs
 - d. Work with suppliers and shippers to increase the frequency of deliv



2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model
 - b. Form a buying cooperative/pool orders with NDC companies
 - c. Review/establish quality standards for raw materials

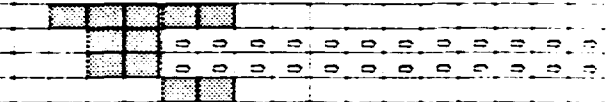


3. Lower procurement costs
 - a. Reduce the number of suppliers to those delivering the optimal product quality, price, delivery, and terms contracts
 - b. Conduct more multi-unit bids with staggered delivery
 - c. Pool vehicle and other bids with NDC group companies
 - d. Use life-cycle cost BID specifications



Outbound logistics

1. Reduce outbound transportation costs for customers:
 - a. Ship by rail
 - b. Negotiate volume discounts with overland shippers
 - c. Establish selling depots in key regions and ship in bulk



D. Organization

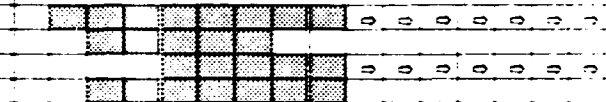
1. Structure the organization to achieve its targets:
 - a. License technology
 - b. Sell some shares of the company to management/investors



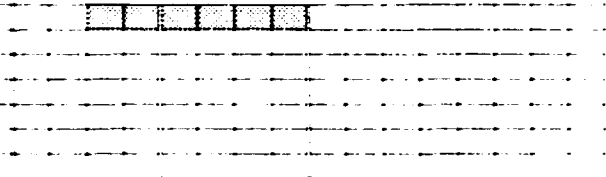
2. Lower management expense:
 - a. Increase span-of-control



3. Lower administrative/overhead procedural costs
 - a. Streamline administrative paperwork.
 - b. Eliminate paperwork.
 - c. Automate the routine and voluminous



4. Conduct 'make or buy' analysis on ancillary services, e.g.:
 - a. Medical
 - b. Janitorial
 - c. Security
 - d. Food services
 - e. Housing maintenance, gardening
 - f. Vehicle maintenance & repair

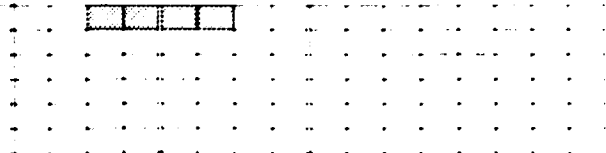


Privatization

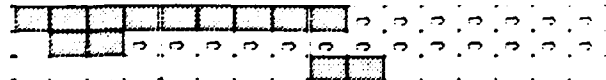
1. Prepare company for privatization
 - a. Improve operating performance
 - b. Improve financial performance
 - c. Obtain audits from reputable local or international firm
 - d. Prepare communication program for employees



2. Establish goals for privatization
 - a. Equity infusion
 - b. Access to technical expertise
 - c. Realization of capital appreciation on invested assets
 - d. Increase employee involvement and commitment
 - e. Broaden share-ownership in Tanzania



3. Build a reputation for integrity, adhere to commitments
 - a. Meet or exceed delivery schedules and promises
 - b. Guarantee product quality

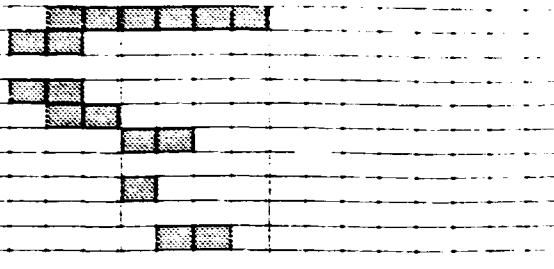


10 YEAR DEVELOPMENT PROGRAM TCL

Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

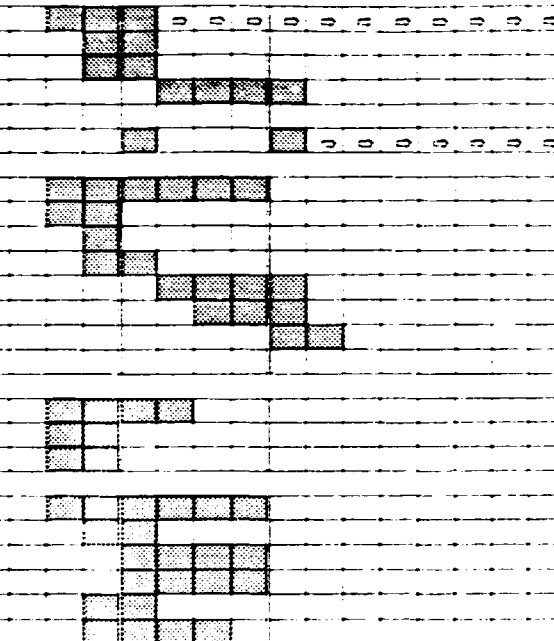
E. Management

- 1. Flatten the management hierarchy
 - a. Prepare job descriptions and skill levels required to determine the needed requirements
 - b. Where workloads are low, expand job descriptions and responsibilities
 - c. Increase the span of control to 5 to 9 for senior management
 - d. Increase the span of control to 25 to 50 for production and lower skill levels
 - e. Eliminate management responsibility/position for any position with less than 5 persons reporting directly.
 - f. Reduce the management hierarchy to three levels, four maximum, within the firm



F. Employees

- 1. Increase employee involvement and commitment
 - a. Establish cross-functional groups to solve key problems
 - b. Institute employee suggestion programs
 - c. Establish profit-sharing, phantom stock, or employee stock-ownership programs
 - d. Establish regular employee recognition awards
- 2. Revamp compensation package
 - a. Conduct/obtain a salary and benefits survey
 - b. Cost-out benefit components
 - c. Set upper-limit on benefit compensation
 - d. Establish "cafeteria plan" of benefits
 - e. Obtain exemption from SCOPQ guidelines
 - f. Substitute profit-sharing, "phantom-stock," or ESOP for additional compensation
- 3. Revise the position classification system
 - a. Look for "over-grading"
 - b. Establish more general, flexible position descriptions
- 4. Reduce employment
 - a. Reduce number of managers.
 - b. Reduce administrative/overhead personnel.
 - c. Eliminate non-critical functions.
 - d. Eliminate non-productive personnel.
 - e. Reduce number of production workers.



B. Industry and Competitor Analysis

The market for wire and cable products in Tanzania is highly dependent on the extension of electric and telephone cables and secondarily on the construction market. These markets had been relatively stagnant until recently. But, large scale projects have been proposed and the construction market has been expanding. This expansion would indicate a ready market for TCL's products, were the company more productive. Furthermore, the volume and diversity of the wire and cable market in Tanzania is expanding. Export potential in the region however is limited.

Competition in this market will grow in the future. Currently, the competitors to TCL are offshore which means that they have high transport costs as well as slow delivery times. Furthermore, they are used to dealing with large order sizes. This presents an opportunity for TCL to control certain portions of the market if it is able to establish a reputation for quality, reliability, speed, and small lot sizes.

It should be noted that TCL will never completely dominate the market for wire and cable products in Tanzania or the local areas. There are many different types of wire and cable and there are proprietary processes for producing the more specialized wire and cables such as glossy finishes, laminated wire and cables.

Substitutes for wire and cable are radio and transmission media as well as fiber optics. These have not been a serious threat to date; although, costs are coming down dramatically in both of these markets.

The legal and regulatory environment has limited competition in this market. As the sole local source of wire and cable, TCL is protected by import duties, sales taxes, and delivery charges on imported wire and cable. TCL adds significant value to its raw material inputs so that it has some protection from offshore competitors.

Policies and environmental factors that affect the TCL include exchange rate regulations, access to foreign exchange, and tariff regulations. The key problem has been that the official rate overvalues the Tanzanian Shilling relative to the parallel or market rate so that it makes exports noncompetitive and discounts factor prices -- it encouraged greater use of imported products by those who had access to subsidized foreign exchange.

The OGL system gives TCL and other companies equal access to foreign exchange so that it is not constrained in its ability to purchase materials. TCL does have some cash flow problems, however, that raise the cost of its foreign purchases, since it relies on bank overdrafts at 31 percent per annum to meet the 100 percent cash cover of the OGL.

The tariff on imported wire and cable products of all types is 30 percent. The Government does not distinguish between raw, intermediate, or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of the processed materials are

taxed, and sale of the end product is taxed. The result is to increase the overall cost to the consumer and dampen any export potential of the producing firms.

The Government has debated whether or not to rebate the duty on raw materials used in products that are exported. If so, this would give a positive impetus to exports of TCL products.

C. Marketing

1. Overall Marketing Strategy

TCL's strategy is to produce a few basic products that allow it to maximize volumes that are in high demand in the region.

2. Customers

End users are the utilities, electrical goods manufacturers, and building construction companies.

3. Sales Tactics

Sales are usually on a cash basis. TCL does not absorb transportation charges for large orders.

4. Customer Service

Customer service is minor. The products are basic wire and cable products. TCL does cut down the size of rolls so that its smaller customers can handle the wire and cable more easily.

5. Pricing

70 percent of TCL's products are regulated by the Pricing Commission. Prices are set through a process of negotiation. The other 30 percent are free of pricing restrictions; but are bounded by the import price of goods. This has not been a major problem to date.

Inventory management is usually not a major problem. TCL has a small finished goods warehouse that holds no more than a weeks worth of inventory at full capacity.

D. Production and Operations

1. Facilities and Processes

TCL's factory is located in an industrial area of Dar Es Salaam, close to its primary customers. TCL has a large plant and produces wire and cable on a continuous flow line. The process is moderately capital intensive and automated. The high capital costs and the automation however, require constant attention and careful maintenance. Short power interruptions cause significant losses of material.

2. Materials Handling

Wire, moves through the plant to the far end where it is rolled onto drums. The only significant material handling involves placing the feeder rolls and moving the wire and cable rolls out of the plant.

3. Production

In 1989 TCL imported raw material worth Ts 362 mil., over 98% of its total purchases. Were TCL to compete on a level playing field where the controlled currency is not overvalued, this would have little effect on the profitability of the company. However, TCL could run into few problems if a fall in demand is experienced in the near future.

4. Product Quality

TCL has been making strong efforts to improve the quality of their products. This involved limiting the product line and concentrating on a limited range of wire and cable products. Product quality has been a sticking point between TCL and TANESCO.

The increase in production volume indicates that TCL's ability to deliver the right product in a timely fashion at a good price has improved in the last few years. The physical and electrical properties of each coil is tested in a laboratory dedicated for this purpose. Emphasis on product quality assures a product suitable for potential export markets.

5. Product Delivery (Outbound Logistics)

TCL ships the bulk of its wire and cable rolls on overland truckers. Customers handle most of the outbound logistics problems.

6. Competitive Strengths/Weaknesses

As for strengths, TCL has reasonable priced copper from Zambia, a relatively new plant, and experienced management. This should give it a strong competitive position.

At the same time, TCL's work force is relatively large and it has few capital resources to finance either plant reinvestment on large quantities of exports.

The firm has no plans to expand the capacity of its facility. The consultants were not able to review any feasibility studies for the projects described above.

E. Management

The General Manager, Mr. U. R. Sankaran, has worked with TCL for several years, as its General Manager. He has a B.S. in Engineering from the University of Dar Es Salaam.

Management compensation at TCL is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low; however benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for officers, medical care and insurance, life insurance, and travel and entertainment allowances.

The General Manager attends board meetings as an observer but does not have a vote. There are no persons with distribution experience or experience in running a business on TCL's board.

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's legal secretary.

F. Human Resources

1. Composition and Skills

TCL employs 92 persons. The management to employee rate is normal and at an acceptable level. However, there are too many clerical positions and not enough factory supervisors.

2. Compensation and Trends

The Company is able to attract and retain a reasonably qualified work force for its operations. Salary levels are set by SCOPO. Turnover is low.

The compensation package consists of a base wage, overtime, medical insurance, transportation allowance to and from work.

3. Productivity

Productivity in the company is good. The following table illustrates this trend. TCL is among the top 3 companies in NDC with respect to the profit/employee ratio.

	Productivity - 1988	
	<u>TCL</u>	<u>NDC</u>
Total Revenue (Ts. Mil)	446	148
Revenue per employee (Ts. '000's)	4,850	1,478
Profit per employee Ts. ('000's)	842	95

4. Training Programs and Needs

As TCL is the only wire and cable-making facility in Tanzania, it should conduct a fair amount of on-the-job training to improve the skill levels of the work force. Such training should include basic work practices as well as the more technical aspects of training.

Training is planned for maintenance personnel and is badly needed. Other areas for training would include: technical, managerial, sales and marketing, and statistical quality control.

G. Finances

1. Sales, Revenue, Profitability

TCL has shown an upward trend in sales in Shilling terms over the last five years as shown in Exhibit VI: Income Statement. However, when this is translated into dollar terms, TCL has shown a decline in sales.

TCL has been able to maintain a consistent level of profit for the past several years. Administered expenses have remained at acceptable levels and financial cost generated by short term borrowing have been controlled.

The cost of goods sold, however, has increased as a percentage of net sale over the past 5 years. In 1986 Cost of Sales/Net Sales was at 40%, and in 1989 it rose to 62%. This increase can be clearly attributed to the increased dependence of TCL on imported raw materials.

2. Assets and Liabilities

The TCL balance sheet is stronger than most NDC companies. Total assets have been increasing at a consistent rate, receivables and payables have increased but at a slower rate than sales. Due to the fact that TCL has not accumulated large short term liabilities it has been able to maintain a positive net current asset balance.

Cash has declined from 9 percent of total in 1985 assets to 2.4 percent of total assets in 1988. Dependence on short term debt has increased from 12% of total liabilities to 24% percent of total liabilities.

Short-Term Liquidity Analysis shows that TCL has been able to strengthen its liquidity position. The current ratio has increased from 0.79 in 1985 to 2.03 in 1989. This means that it has sufficient funds to cover short-term liabilities. The acid ratio -- cash and cash equivalents divided by current liabilities -- has, however, declined dramatically from 0.47 to 0.12 during this period. This indicates that TCL would be able to cover only 12% percent of its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

TCL uses foreign materials for the majority of its raw materials. Foreign exchange is used to purchase copper, wire, aluminum, PVC, foreign exchange to purchase these products come through the OGL and PTA mechanisms described in the main report. TCL also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

The Company had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. The company must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Valuation

Let us examine various indicators of TCL's worth as a company from a financial perspective. The political factor of maintaining employment despite losses have not been considered in these estimates.

Book value is Ts. 484 Mil. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In TCL's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

Valued as a going concern, the profits of TCL are divided by discount rate to obtain a value of Ts 7.75 mil. TCL is worth more as a going concern than were it to be liquidated. This indicates that TCL has general viability as an enterprise.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the TCL would be valued at Ts. 25 mil. This is the price that TCL would fetch on a stock market that valued earnings at this rate.

H. Summary

The prognosis for TCL is optimistic given its unique position in the market, its range of skills, and its financial position. Key weaknesses include the insufficient generation of capital, higher than average scrap rates, and the heavy staffing relative to its competitors. TCL's continued viability as a company depends upon 3 factors: an equity infusion productivity improvements, and increasing product range. Careful attention to quality control and close relations with its major customers should secure its position.

Appendix 12 Attachments: TANZANIA CABLES, LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE II

Table : Actual Production

Tanzania Cable Company

Product	Units	Description	(Production in Tonnes)					
			1984	1985	Est'd		1988	1989
					1986	1987		
1. Product A	0	0	107	46	23	0	0	0
2. Product B	0	0	166	271	136	0	0	0
3. Product C	0	0	70	115	58	0	0	0
4. Product D	0	0	36	35	18	0	0	0
5. ACC/ACSR	0	0	0	0	185	370	363	336
6. PVC Wires	0	0	0	0	98	195	234	273
7. Power Cables	0	0	0	0	49	97	67	36
8. Enamelled Wires	0	0	0	0	19	38	22	6
9. Telecom Cables	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0
Total			379	467	584	700	686	671

TABLE III

Table : Actual Purchases

Tanzania Cable Company

(millions of shillings)

			Est'd		Est'd		
	Local currency	1984	1985	1986	1987	1988	1989
1.	Raw materials	0	0	0	0	2	5
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	0	0	0	0	2	5
Foreign currency							
7.	Raw materials	15	7	54	102	248	395
8.	Spares & accessories	0	0	14	28	14	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	15	7	68	130	262	395
13.	Total	15	7	68	130	264	399
14.	In Dollars	\$1	\$0	\$1	\$2	\$2	\$2

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Tanzania Cables Limited

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	1.0	0.0	0.0	0.0	0.0	35.8
2. Plant & machinery	1.9	0.1	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	1.4	0.0	4.1	0.0	5.0
5. Other	0.1	0.1	0.0	0.1	0.0	1.0
Total Expenditures	3.0	1.6	0.0	4.2	0.0	41.8
Source of Funds						
1. Equity – NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity – Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	1.9	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	1.1	1.6	0.0	4.2	0.0	41.8
8. Other, Unaccounted For	0.0	(0.0)	0.0	(0.0)	0.0	0.0
Total Sources	3.0	1.6	0.0	4.2	0.0	41.8

Notes:

1. Cap. Exps. (\$'000's)	\$0	\$0	\$0	\$0	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	3.0	1.6	0.0	4.2	0.0	41.8
3. Nominal Index of Capital Expendit	187.5	100.0	0.0	262.5	0.0	2,612.5
4. Dollar Index of Capital Expenditur	170.9	100.0	0.0	51.7	0.0	224.1
5. Debt/Total Sources	80.00%	137.21%	24.14%	32.41%	40.08%	151.52%
6. Foreign/Total Sources	4.44%	111.63%	0.00%	0.00%	0.00%	0.00%
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	63%	6%	NA	0%	NA	0%
9. Ratio: Vehicles/Cap. Exps.	0%	88%	NA	98%	NA	12%

Table : Actual Manpower

TABLE V

Tanzania Cables Limited

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	3	3	3	3	3	3
2 Middle Managers	5	5	5	5	5	5
3 Supervisors	2	3	3	3	3	3
4 Clerical	16	16	17	18	18	17
5 Skilled Manual	50	50	55	60	51	42
6 Unskilled Manual	9	9	9	9	14	18
Total	85	86	92	98	93	88
Expatriate	9	3	0	4	0	4
Total Employees	94	89	92	102	93	92

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

Tanzania Cables Co. Ltd.

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	39	47	88	184	291	0	0
Less: Cost of Sales	20	23	35	90	167	0	0
Gross Profit	20	24	53	94	124	0	0
Less: Operating Expenses	12	12	16	26	40	0	0
Administration	8	10	14	19	28	0	0
Selling and Distributio	0	0	1	1	3	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	4	2	2	6	9	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	8	13	36	68	84	0	0
Add: Other Income	1	2	2	2	6	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	9	15	38	70	89	0	0
Less: Provision for Taxes	5	9	19	40	45	0	0
Profit After Tax	3	6	19	30	45	0	0
Statement of Retained Earnings							
Balance Brought Forward	10	11	15	24	51	82	82
Prior Year Adjustment	(0)	0	(2)	2	0	0	0
Balance Brought Forward R	10	11	13	26	51	82	82
Add: Net Profit for the Year	3	6	19	30	45	0	0
Profit Available for Appr	14	17	33	55	95	82	82
Less: Miscellaneous Appropriati	2	2	9	5	13	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	11	15	24	51	82	82	82
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	2	3	2	2	2	0	0
Cost of Sales	1	1	1	1	1	0	0
Operating Expenses	1	1	0	0	0	0	0
Profit After Tax	0	0	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Tanzania Cables Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	104	99	105	394	376	0	0
2. Current Assets	19	20	60	128	177	0	0
3. Stocks	12	9	34	99	110	0	0
4. Trade Debtors	2	0	4	19	31	0	0
5. Debtors and Prepayments	4	1	22	8	26	0	0
6. Cash and Bank Balances	0	9	1	2	11	0	0
7. Current Liabilities	24	19	48	96	87	0	0
8. Trade Creditors	4	7	2	44	30	0	0
9. Bank Overdrafts	6	0	18	1	12	0	0
10. Current Maturity of LT	5	3	11	13	0	0	0
11. Taxes Payable	5	9	17	38	44	0	0
12. Other Current Liabiliti	4	0	0	0	0	0	0
13.Net Current Assets/Liabil	(5)	1	12	32	90	0	0
14.Total Net Assets	99	100	117	426	466	0	0
15.Financed by:							
16. Share Capital	12	12	18	18	18	0	0
17. Capital Reserves	(0)	(0)	0	0	0	0	0
18. Profit and Loss Account	79	83	92	407	448	0	0
19. Long Term Loans	8	5	8	0	0	0	0
20.Debt	32	24	55	96	87	0	0
21.Equity	91	95	110	425	466	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

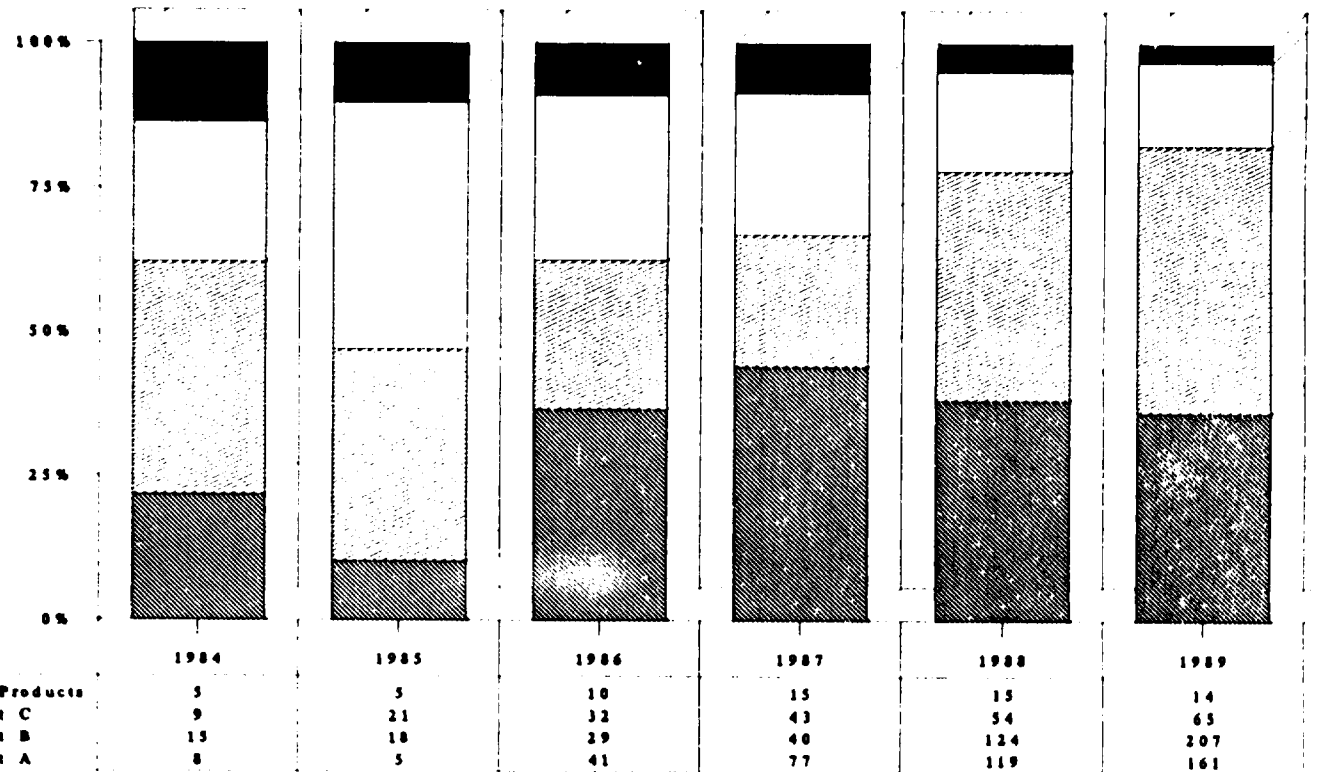
In Current Dollars

1. Net Fixed Assets	6	6	2	5	3	0	0
2. Current Assets	1	1	1	2	1	0	0
7. Current Liabilities	1	1	1	1	1	0	0
13.Net Current Assets/Liabil	(0)	0	0	0	1	0	0
14.Total Net Assets	5	6	2	5	4	0	0
20.Debt	0	2	0	1	1	0	0
21.Equity	0	6	2	1	3	2	0

Product Sales Breakdown

Tanzania Cables Company Ltd.

% BREAKDOWN OF PRODUCT SALES



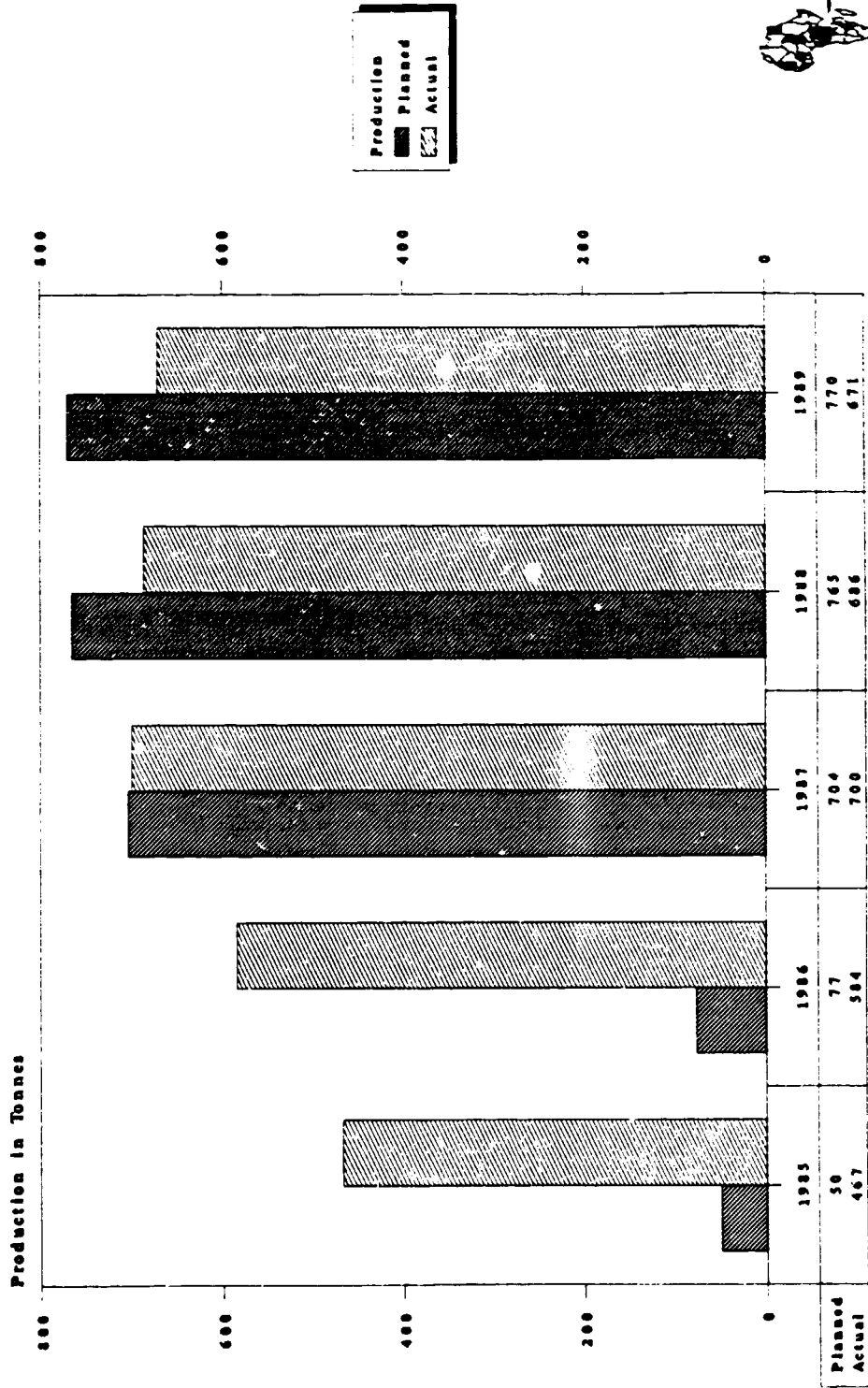
MILLIONS OF SHILLINGS

Other Products
 Product C
 Product B
 Product A



Planned vs. Actual Production

Tanzania Cable Company

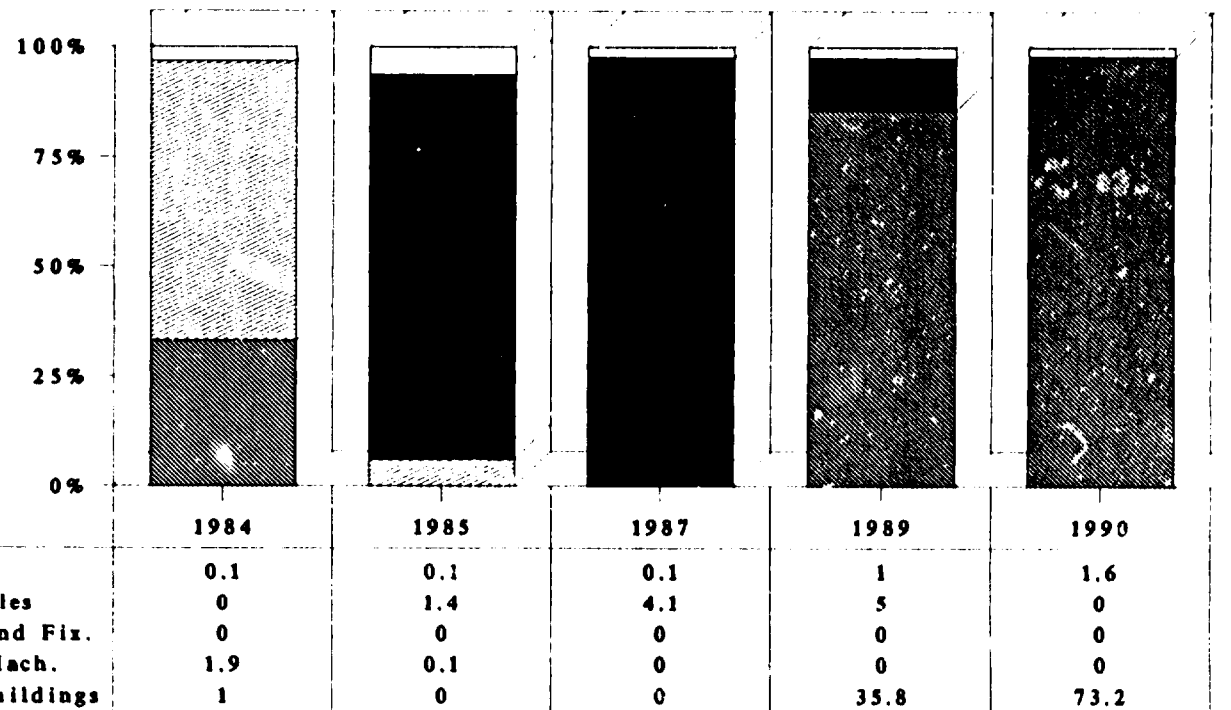


UNIDO/Tanzania/
NDC Assistance - 1991

Capital Expenditure Breakdown

Tanzania Cables, Ltd.

MILLIONS OF SHILLINGS



Data not available FY86 & 88.

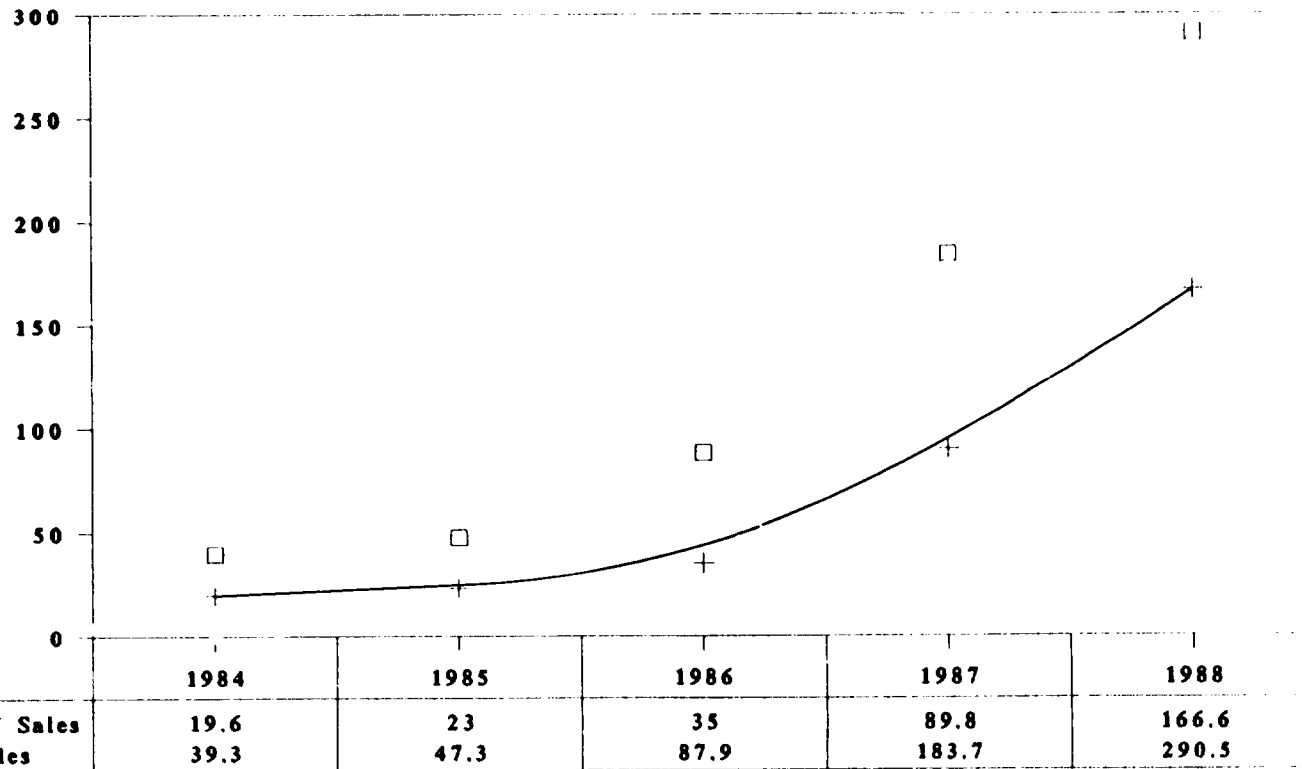


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Tanzania Cables, Ltd.

MILLIONS OF SHILLINGS



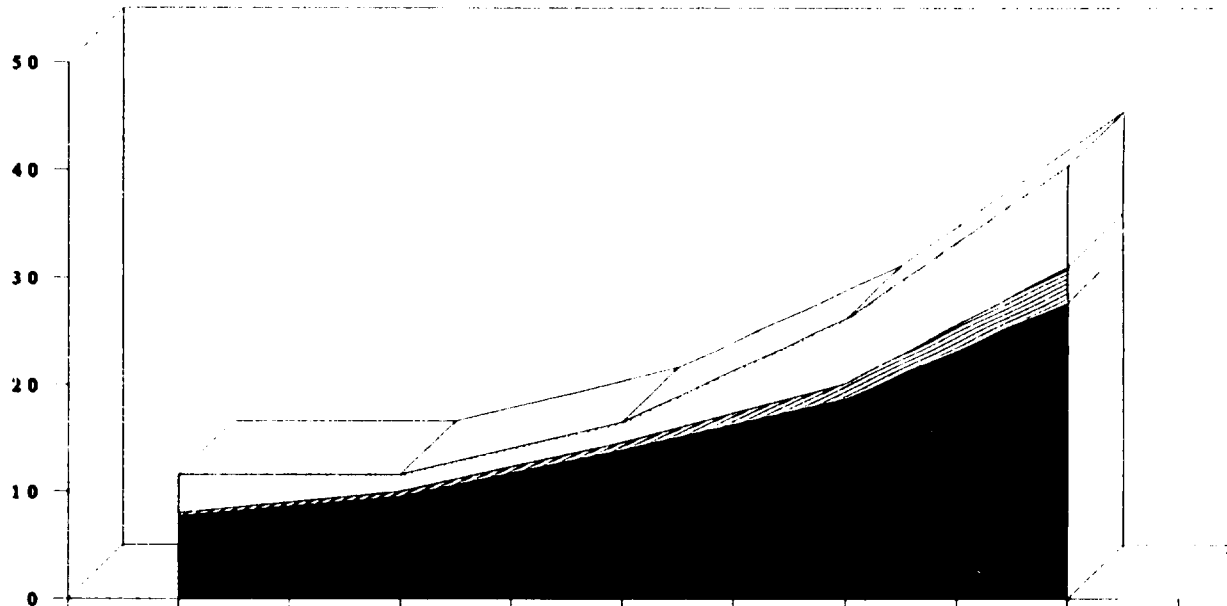
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Tanzania Cables, Ltd.

Millions of Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	3.6	1.6	1.9	6	9.4
Selling & Distrib	0.3	0.4	0.7	1.4	3.3
Administration	7.7	9.6	13.9	18.7	27.7



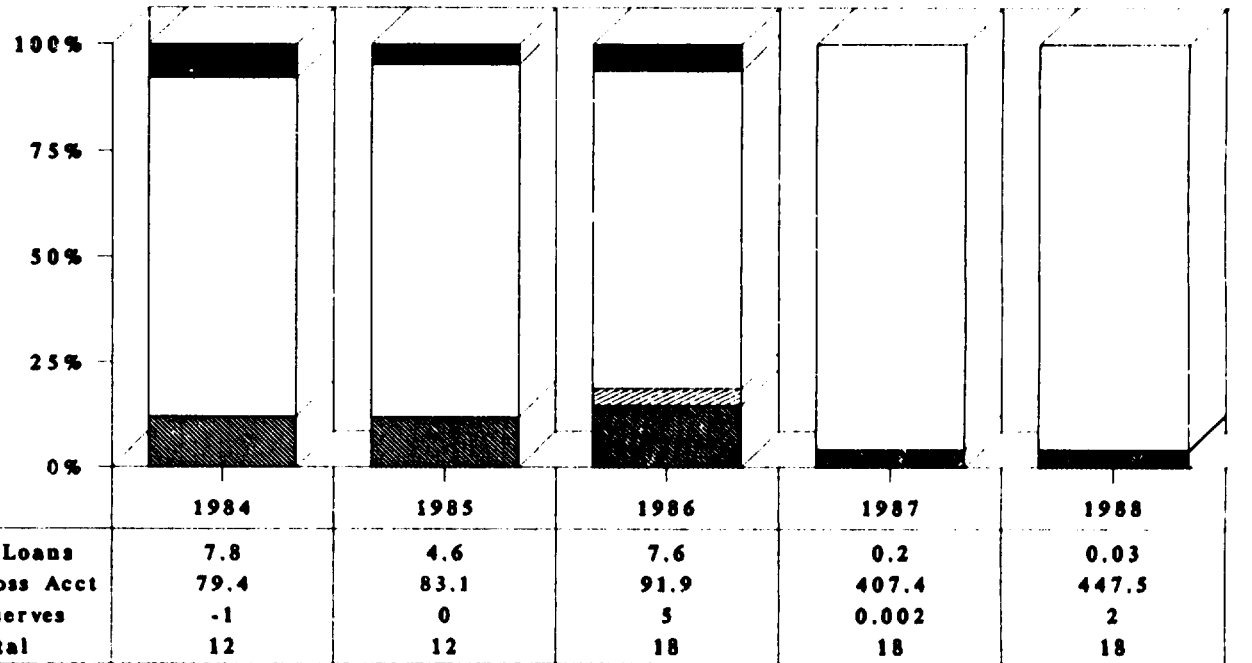
Operating Expenses

- Administration
- Selling & Distrib
- Fin Expenditure

Total Net Assets

Tanzania Cables, Ltd.

MILLIONS OF SHILLINGS



MILLIONS OF SHILLINGS



UNIDO/Tanzania/NDC Assistance - 1991

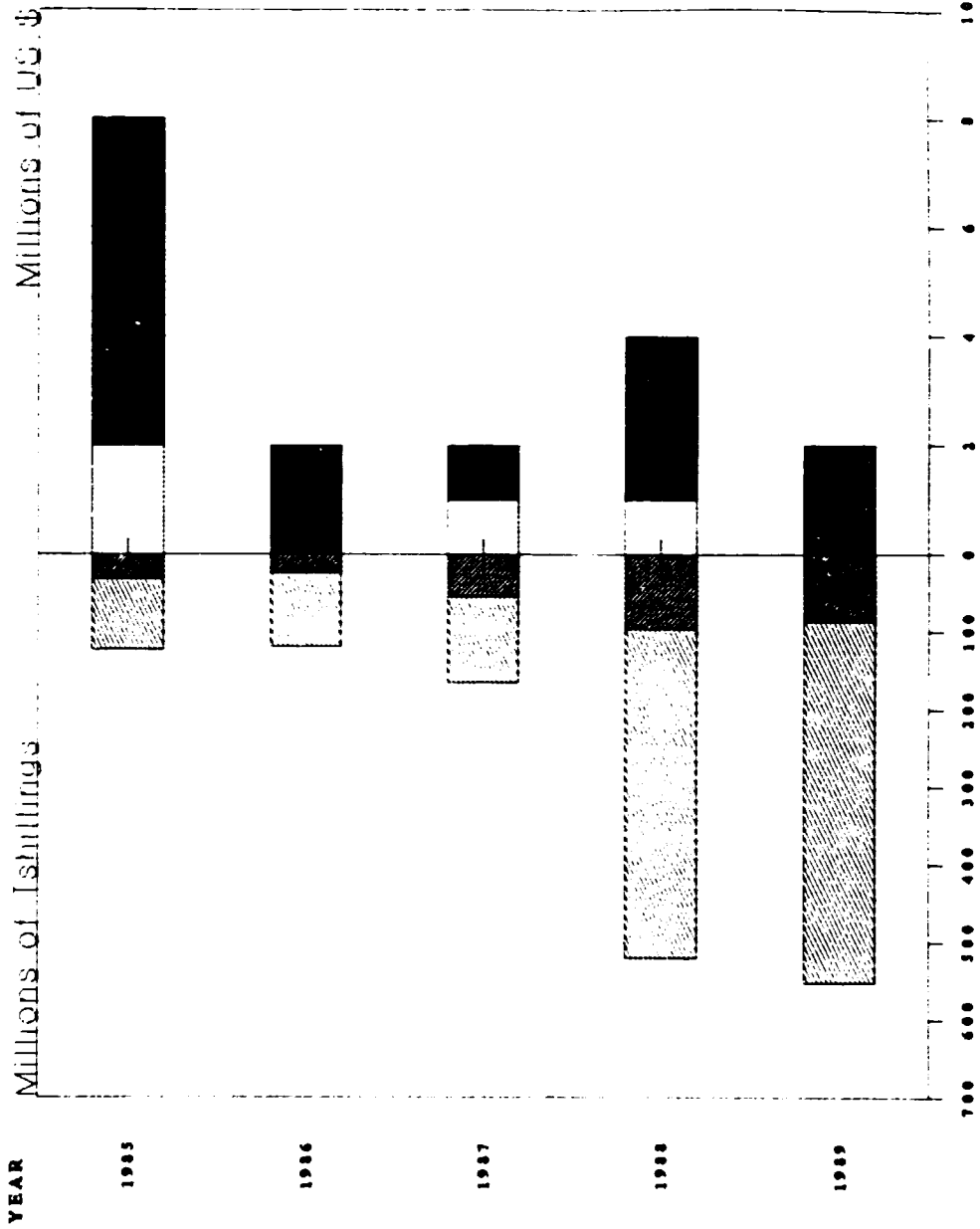
FINANCED BY

Share Capital
 Profit & Loss Acct

Capital Reserves
 Long Term Loans

Debt/Equity Ratio

Tanzania Cables Ltd.



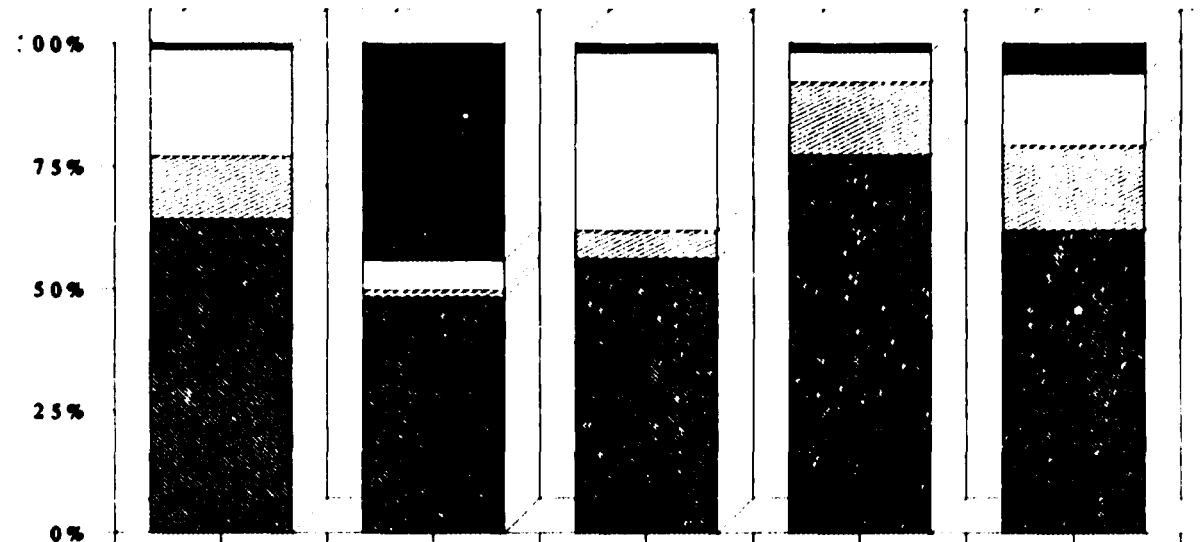
■ DEBT
 □ EQUITY
 ▨ SECURITY



UNIDO/Tanzania/
NDC Assistance - 1991

Current Assets Breakdown

Tanzania Cables, Ltd.



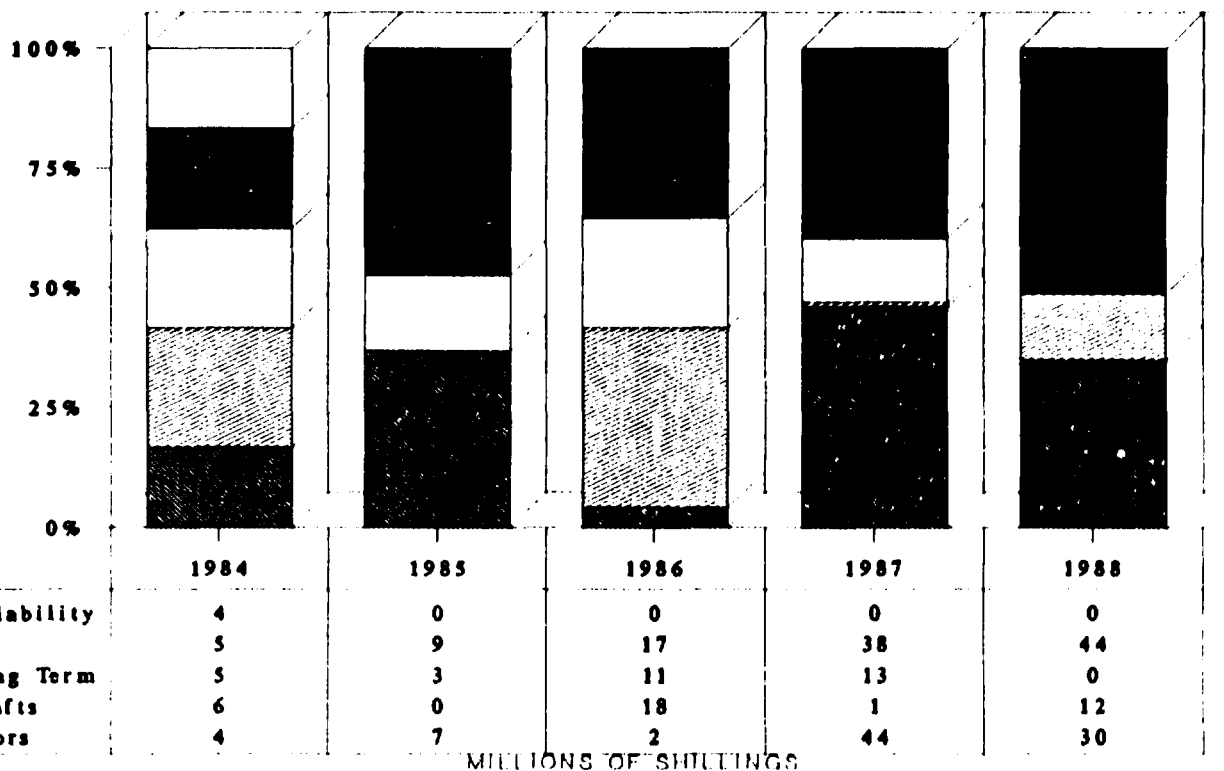
	1984	1985	1986	1987	1988
Cash & Bank Balances	0.2	8.7	1	2	10.6
Debtors & Prepayment	4.1	1.2	21.8	7.9	25.9
Trade Debtors	2.4	0.3	3.5	18.9	30.9
Stocks	12.1	9.5	33.7	99	109.7

MILLIONS OF SHILLINGS



Current Liabilities Breakdown

Tanzania Cables, Ltd.



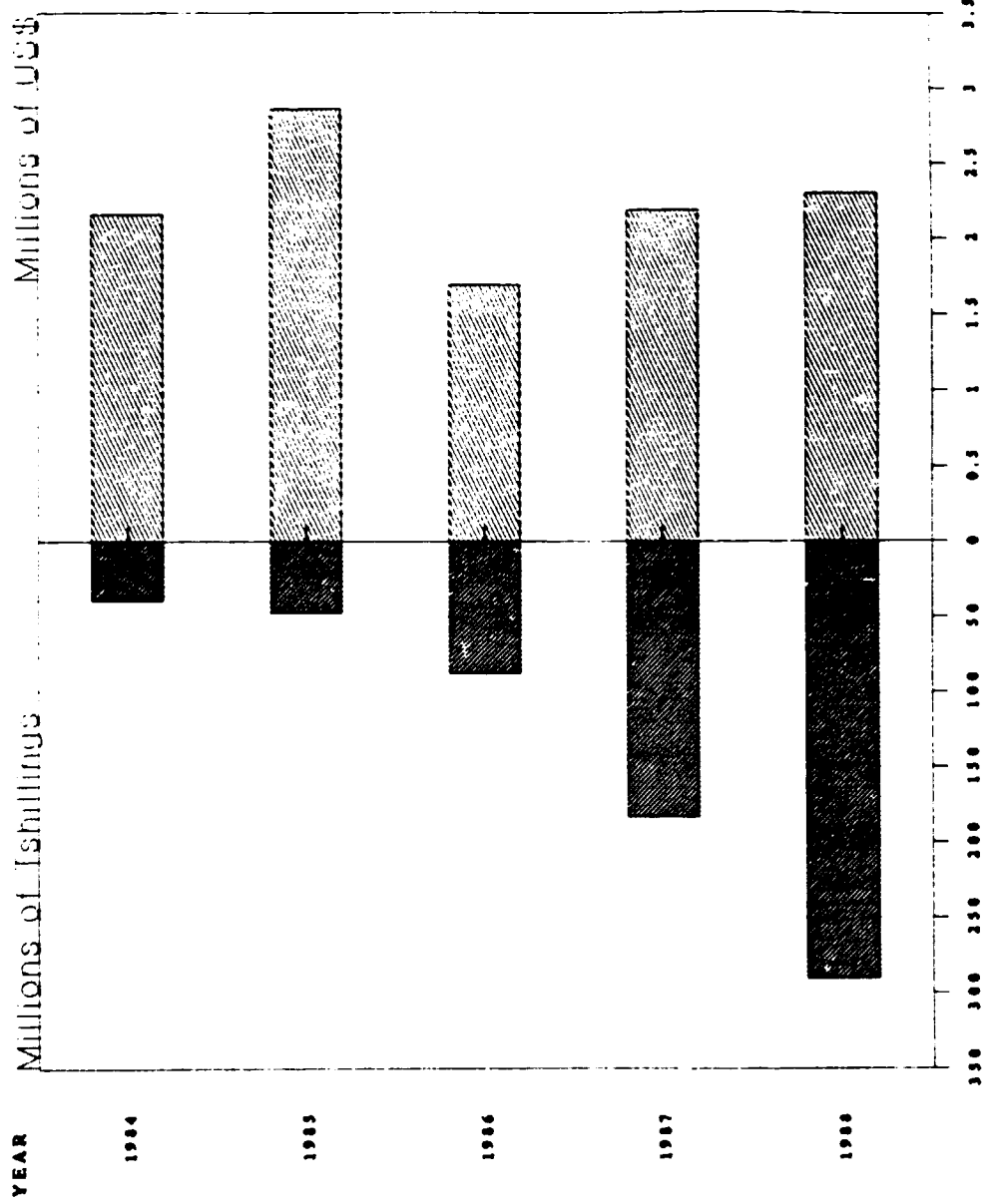
Other Cur Liability
Taxes Payable
Matur of Long Term
Bank Overdrafts
Trade Creditors

Trade Creditors Bank Overdrafts Matur of Long Term
Taxes Payable Other Cur Liability



Net Sales

Tanzania Cables, Ltd.



NET SALES
SNET SALES



UNIDO/Tanzania/
NDC Assistance - 1981

**Appendix 13: Tanzania Electrical Goods
Manufacturing Co., Ltd.**

APPENDIX 13: TANZANIA ELECTRIC GOODS

I. RECOMMENDATIONS AND ACTION PLAN

Tanzania Electrical Goods is a well-run company that produces transformers for utilities and industrial concerns. It is a key company to Tanzania's industrial and economic development and should be held by NDC.

At the same time, NDC could benefit from additional outside expertise and capital. NDC should sell shares to its partners and take a minority position. Alternately, it could arrange licenses to produce more complex transformers and products.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

1. Company

Tanzania Electric Goods (TEG) was incorporated in 1978. It is a local/foreign joint venture among NDC (60%), EB National Transformers of Norway (20%) and TANESCO (20%). It started commercial production in 1981.

The company manufactures various electrical goods such as distribution transformers of 11kV and 33kV, switch gears of 11kV and electric cookers. The installed capacities are 1,040 and 240 units of the distribution transformers and switch gears per annum respectively.

2. Corporate Philosophy

TEG is the only Tanzanian company producing electric transformers which are important to the energy power industry in Tanzania. However, it appears there is no corporate philosophy.

3. Corporate Strategy

The Company strategy for the future is to increase the production of electric transformers for the domestic market and for export to neighboring countries such as Kenya, Uganda, Zambia, Malawi, Mozambique, Zimbabwe, Rwanda and Burundi.

10 YEAR DEVELOPMENT PROGRAM TEG	Year 1				Year 2													
	I	II	III	IV	I	II	III	IV	3	4	5	6	7	8	9	10		
NDC Companies																		
A. General Strategy																		
1. Choose a generic strategy																		
a. Focus																		
B. Marketing																		
1. Determine product's value to customers, e.g.:																		
a. Utility																		
b. Price																		
c. Quality																		
d. Delivery																		
e. Financing																		
f. Appearance																		
2. Determine company's position vis-a-vis competition																		
4. Increase product visibility																		
a. Participate in regional fairs in Tanzania																		
b. Participate in regional fairs in SADCC/PTA countries																		
c. Advertise and promote products																		
5. Increase numbers of persons marketing products																		
a. Replace non-productive sales staff																		
6. Improve quality of marketing effort, e.g.:																		
a. Train salespersons and distributors																		
b. Redesign sales and promotional literature																		
7. Implement market intelligence program, e.g.:																		
a. Conduct monthly, quarterly, annual surveys																		
8. Improve after-sales service and support																		
a. Collect customer feedback																		
b. Give input to production to improve product and features																		
c. Build better product																		
d. Train customers in proper use and maintenance																		
e. Train servicemen to repair quickly and correctly																		
C. Production and Operations																		
1. Lower production costs																		
a. Speed throughput time																		
b. Improve product quality																		
c. Lower raw material costs (Production)																		
2. Improve the quality and training of production staff																		
a. Enroll engineers and technicians in MEIDA and technical seminars																		
b. Conduct field trips for production staff																		
c. Conduct in-house seminars																		
Inbound logistics																		
1. Recognize the importance of purchasing to profitability																		
a. Conduct an in-depth training program for procurement managers																		
b. Establish and enforce ethical procurement standards and practices																		
c. Work with suppliers and shippers to lower shipping costs																		
d. Work with suppliers and shippers to increase the frequency of delivery																		

B. Industry and Competitor Analysis

1. Market Overview

Although Tanesco has figures for national demand for transformers of all capacities, TEG's line of transformers only satisfies part of that demand. It appears that TEG has not carried out studies to determine the demand for its products. The company should carry out a market study in the future.

2. Customer Characteristics

In addition to its joint venture partners, TEG's primary customers are Noremco, Kilombero Sugar Company, Tanganyika Planting Company and the Canadian Wheat Project of Arusha.

3. Market Size and Trends

TEG expects to capture about 50% of the domestic market and export 50% of its production capacity in 1991. Exports, like the domestic supplies, are projected to fall far short of the market size and demand.

4. Competition

Currently TEG does not have competitors for switch gears and transformers. However, competition in this market is likely to grow in the future. Now, its competitors are able to obtain the same access to foreign exchange for purchase of switch gears, transformers and cookers as TEG is.

5. Substitutes

There are no substitutes to TEG products at present or in the foreseeable future.

6. Estimated Market Shares

Virtually 100% of the market in Tanzania is available to TEG as there are no other manufacturers of cookers, switch gears and transformers

7. Sales History

Actual Sales (Net) in millions Ts. for the past 5 years are as follows:

Year	1985	1986	1987	1988	1989	1990
Ts.	83.0	110.2	215.1	379.1	678.8	919.8

8. Distribution Channels

The traditional distribution channels are:

HOSCO
BIASHARA CONSUMERS LIMITED
BHESCO and
RETAILERS

9. Policy and Regulatory Environment

The policy and regulatory environment limited competition in this market until recently, when other private individuals and companies were authorized to import and distribute such products through the liberalization of trade. The opening of the import market has exposed TEG to increased competition.

Macroeconomic policies that affect TEG include exchange rate regulations, access to foreign exchange and an overvalued exchange rate for the import of copper and spare parts. Although there is more liberal access to foreign exchange than previously, the Bank of Commerce requires a deposit of 100% of foreign exchange purchased in Tanzania shillings (Cash Cover) when an Open General License letter of Credit is opened.

The tariff on copper products of all types is 30%. The government does not distinguish among raw, intermediate or finished products in the establishment of tariffs. Taxation is cumulative and raw materials, the sale of processed materials and the sale of end products are all taxed. The result of such tariff policies is increased overall cost to the consumer and dampened export potential to the firms.

C. Marketing

1. Overall Marketing Strategy

TEG's marketing strategy is one of production only to meet standing orders.

2. Sales Tactics

The company sells only on the following terms: payment before delivery.

3. Customer Service

At present there is no customer service on TEG products. However TEG management is planning to introduce a service unit for transformer maintenance and repair.

4. Pricing

As stated above, pricing of TEG products is not set by the government's Pricing Commission. Selling prices are fixed at a competitive level yielding a satisfactory profit contribution.

5. Promotion

The company does little, if any, promotion of its products. It does, however, use the local dailies (Uhuru and Daily News) to advertise itself and its products, especially during important national holidays and festivals.

D. Production

TEG is an electrical manufacturing venture. It manufactures power transformers, switch gears and electric cookers.

1. Geographical Location

TEG's factory is situated in Arusha about 600 km from DSM. Raw materials (copper products) from DSM port are transported to Arusha for manufacture. Again finished products are to be transported back to Dar es Salaam where there is a primary customer base location.

2. Facilities And Processes

The total facility consists of one industrial shed with the following manufacturing departments:

- Light Equipment
- Bending
- Welding
- Pressure room
- Painting
- Assembly
- Stores

3. Materials Handling

Both incoming raw materials and finished products are being handled by forklifts and cranes.

4. Production Cost

Following are the actual direct production costs for the year 1990 with relative percentages.

	1990 ('000)	%
Direct Labor	25,000	38.2
Electricity and Water	19,500	29.7
Repair and Maintenance	8,500	13.0
Other Direct Costs	<u>12,550</u>	<u>19.1</u>
<u>Total</u>	<u>65,550</u>	<u>100.0</u>

5. Product Quality

The quality of TEG products is determined by the quality control section of the Assembly Department.

6. Product Delivery

As mentioned above TANESCO and other industrial companies comprise the bulk of the market for the electric transformers produced by TEG. Customers come to the company premises in Arusha to pick up the products.

7. Competitive Strengths/Weaknesses

Strengths

- Sole producer of Electric Transformers and switch gears
- Availability of experienced craftsmen
- Political goodwill
- Technical Assistance by NORAD

Weaknesses

- Located in Arusha far from source of raw materials
- Transportation to customers

8. Strategy and Plans

TEG plans to continue manufacturing more electric transformers and switch gears at affordable prices and to compete in both local and foreign markets. The strategy to achieve this objective is to further strengthen the quality control section in order to ensure the high quality of the products.

9. Expansion Plans

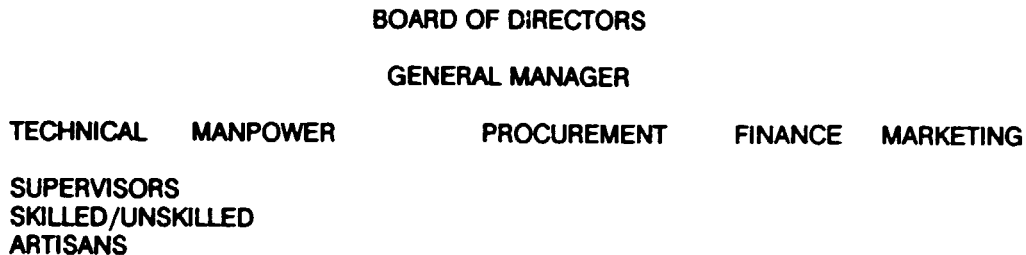
There are no future plans to expand TEG activities.

10. Capital Requirements

During the coming years the company plans to complete the new transformer repair and maintenance projects. It is expected that foreign donors, through the government, will provide the required funds for improvements. Other capital expenditures will be financed partly through equity injection and through self generated funds.

E. Organizational Structure

The organizational structure of TEG is as follows:



F. Management

1. Key Management Personnel

The general manager is Mr. R. Silversten who has been with TEG for several years.

2. Management Compensation

Basic management salaries are according to SCOPO directives. However, senior managers are provided with housing, transport, medical care and entertainment allowances to supplement their basic salaries.

3. Board Of Directors

The Board of Directors of TEG is selected by the Ministry of Industries through NDC. The Board operates autonomously of the NDC. The current board consists of eight (8) members elected to three year terms. They represent the following areas:

1. TANESCO
2. Ministry of Industries and Trade
3. University of Dar es Salaam
4. Tanzania Investment Bank
5. EB National Transformers
6. National Development Corporation
7. East African Development Bank

8. JUWATA

The General Manager attends Board Meetings as an observer but does not have a vote.

4. Supporting Professional Services

Accounting Audits are conducted by the Tanzania Audit Corporation. Legal services are provided by the Corporation Secretary of NDC. TEG consults EB National Transformers especially for technical assistance with machine supply and spares.

G. Human Resources

1. Composition And Skills

TEG employs 230 people. These are broken down as follows:

	<u>1990</u>
Senior Managers	8
Middle Managers	12
Supervisors	30
Skilled/manual	90
Unskilled/manual	<u>90</u>
Total	230

2. Compensation And Trends

All salary levels are set by SCOPO. The compensation package consists of base wage (salary), overtime, free medical care, housing allowances, transport allowances, medical allowances, heat allowances, and bonus (according to target).

3. Productivity

Productivity in the firm is high in view of its production capacity utilization, which for 1990 production was 67% of planned capacity. This is due in part to worker morale but mainly due to management supervision. Revenues per employee in 1989 were Ts 3,168,000 and profits per employee were Ts 563,000.

4. Training Program and Needs

TEG invests substantially in its manpower training. For local training, workers (selected) attend symposia, seminars and workshops in their respective fields, while others get scholarships such as NORAD to Norway. Others attend long courses to obtain diplomas, degrees, etc. in their respective fields.

H. FINANCES

1. Sales, Revenue, Profitability

TEG has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table VI: Profit and Loss. In 1989 TEG made an after tax profit of Ts 61.0 million. Where TEG has increased its cost at a faster rate than sales is for financial expenses. In 1988 these amounted to Ts 79.0 million.

TEG shows that administrative costs have remained steady over the past 5 years. As can be seen from Table VI, administrative costs have increased at a slower rate than sales. The cost of goods sold has remained steady as a percentage of sales since 1984. Even though in 1984 TEG imported Ts 322 million worth of raw materials, it has been able to generate enough foreign exchange to pay for these imports. In 1984 TEG exported Ts 384 million worth of products to neighboring countries.

Financing costs are high. Financing costs in 1988 exceeded annual revenues. This is due to an excessive reliance on short-term borrowing to cover the short-term. This places a large debt burden on TEG that has made operations difficult within the last five years. In 1989, however, finance charges decreased as a percentage of net profit.

2. Assets And Liabilities

Dependence on short term debt has decreased from 21% of total liabilities to 1.7% of total liabilities. However, long-term loans stood at Ts. 254 million, a 49% increase over the 1988 value.

Short term liquidity

Short-Term Liquidity Analysis shows that TEG has strengthened its liquidity position. The current ratio has increased from 0.53 in 1985 to 1.01 in 1988. (This means that it has sufficient funds to cover short-term liabilities.) The acid ratio -- cash and cash equivalents divided by current liabilities has increased slightly from 0.02 to 0.25 during this period. It is still too low; a more acceptable rate would be closer to 1.0. This indicates that TEG would be able to cover only 25 percent of its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

3. Cash Flow

Analysis of cash flow indicates that the sources of cash flow are increasingly coming from borrowed capital. Short-term borrowing has decreased as a percentage of total cash since 1984.

4. Foreign Exchange and Capital Requirements

Sources and Uses of Foreign Exchange

TEG imports most of its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms describe in the main report. TEG also has a foreign exchange account that enables it to purchase parts and supplies without going through this process. Unlike several of the other NDC companies, TEG has substantial export earnings which it can use to support the high cost of imported raw materials.

TEG had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

5. Estimates Of Valuation

How well TEG uses its assets is reflected in its balance sheets and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc. or in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash and low returns on working capital. Returns in TEG should exceed the costs of financing them; and at least match the opportunity cost of capital.

Balance Sheet

At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VII: Balance Sheet. In 1989, net fixed assets increased from Ts 203 million to Ts 412 million. This is mainly due to the company's factory expansion program. Capital expenditure in 1988 as shown in Table IV amounted to Ts. 94.6 million. In 1989 total expenditures amounted to Ts. 111.5 million. The majority of these expenditures have been financed by long-term loans. Even though the cash balance has increased, the value of trade debts has also increased dramatically. The value for trade credits has increased by 60% to Ts 406 million in 1988.

Ratio Analysis

i. Book Value

Book value is Ts. 280 million. This is what assets less liabilities are nominally worth and indicates the liquidation value of the company. In TEG's case, liquidation of the company would transfer a gain of this amount to the NDC Group balance sheet.

ii. Going Concern

Valued as a going concern, the profits of TEG are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 1.9 million. TEG is worth more as a going concern than it would be were it to be liquidated. This indicates that TEG has general viability as an enterprise.

iii. Price Earnings Ratio

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the TEG would be valued at Ts. 603 million shillings. This is the price that TEG would fetch on a stock market that valued earnings at this rate.

Appendix 13 Attachments: TANZANIA ELECTRICAL GOODS MFG. CO.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE II

Table : Actual Production

Tanzania Electric Goods Manufacturing Company

Product	Units	Description	(Production in Units)					
			1984	1985	Est'd		1988	1989
					1986	1987		
1. Transformers	Nos.	0	240	458	549	639	392	145
2. Switchgears	Nos.	0	0	0	53	105	249	392
3. Cookers	Nos.	0	14,000	12,227	61,709	111,191	57,596	4,000
4. Flight Services	Nos.	0	580	0	0	0	0	0
5. Light Fittings	Nos.	0	60,000	19,963	9,982	0	0	0
6. Others	Nos.	0	0	0	0	0	0	0
7.	0	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0
Total			74,820	32,648	72,292	111,935	58,236	4,537

TABLE III

Tanzania Electrical Goods Company

Table : Actual Purchases

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	1	1	0	0	13	26
2.	Spares & accessories	0	0	0	0	0	1
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	1	1	0	0	13	27
Foreign currency							
7.	Raw materials	29	36	18	0	161	322
8.	Spares & accessories	1	1	0	0	2	3
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	30	37	18	0	163	325
13.	Total	31	37	19	0	176	352
14.	In Dollars	\$2	\$2	\$0	\$0	\$1	\$2

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Tanzania Electrical Goods Manufacturing

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	1.7	0.0	0.0	0.0	4.5
2. Plant & machinery	0.0	0.2	0.0	0.0	0.0	74.3
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	0.1	0.0	2.8	0.0	14.5
5. Other	0.0	0.4	0.0	0.3	0.0	1.3
Total Expenditures	0.0	2.4	0.0	3.1	0.0	94.6
Source of Funds						
1. Equity - NDC	0.0	0.0	0.0	0.0	0.0	36.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	26.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	16.5
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	0.0	0.0	3.1	0.0	5.9
8. Other, Unaccounted For	0.0	2.4	0.0	(0.0)	0.0	10.2
Total Sources	0.0	2.4	0.0	3.1	0.0	94.6

Table : Actual Manpower

TABLE V

Tanzania Electrical Goods Manufacturing Co.

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	0	8	6	3	6	8
2 Middle Managers	0	8	7	5	9	12
3 Supervisors	0	13	8	3	8	13
4 Clerical	0	17	18	18	18	18
5 Skilled Manual	0	69	65	60	93	125
6 Unskilled Manual	0	42	26	9	22	35
Total	0	157	128	98	155	211
Expatriate	0	3	0	4	0	3
Total Employees	0	160	128	102	155	214

TABLE VI

Table : Actual Profit and Loss & Trend
& Loss/Trend

Tanzania Electric Goods

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	73	83	110	215	379	0	0
Less: Cost of Sales	42	48	64	126	243	0	0
Gross Profit	31	35	46	89	136	0	0
Less: Operating Expenses	36	38	53	66	136	0	0
Administration	22	27	41	37	50	0	0
Selling and Distributio	1	1	2	7	7	0	0
Foreign Exchange Losses	9	0	0	0	0	0	0
Financial Expenses	5	10	10	22	79	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	(5)	(2)	(7)	22	(0)	0	0
Add: Other Income	3	4	20	44	104	0	0
Less: Other Expense	0	0	0	45	0	0	0
Net Profit Before Tax	(2)	1	13	22	104	0	0
Less: Provision for Taxes	0	0	0	0	50	0	0
Profit After Tax	(2)	1	13	22	54	0	0
Statement of Retained Earnings							
Balance Brought Forward	(23)	(27)	(26)	(13)	9	(8)	(8)
Prior Year Adjustment	(2)	1	0	0	(71)	0	0
Balance Brought Forward R	(25)	(27)	(26)	(13)	(62)	(8)	(8)
Add: Net Profit for the Year	(2)	1	13	22	54	0	0
Profit Available for Appr	(27)	(26)	(13)	9	(8)	(8)	(8)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	(27)	(26)	(13)	9	(8)	(8)	(8)
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	4	5	2	3	3	0	0
Cost of Sales	2	3	1	2	2	0	0
Operating Expenses	2	2	1	1	1	0	0
Profit After Tax	(0)	0	0	0	0	0	0

Table : Balance Sheet Tanzania Electrical Goods Manufacturing Company Limited
Actual

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	90	85	149	218	203	0	0
2. Current Assets	45	64	130	251	548	0	0
3. Stocks	22	26	50	167	279	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	21	32	70	76	131	0	0
6. Cash and Bank Balances	2	6	10	7	138	0	0
7. Current Liabilities	84	93	156	328	540	0	0
8. Trade Creditors	50	68	102	254	406	0	0
9. Bank Overdrafts	18	13	26	32	9	0	0
10. Current Maturity of LT	7	7	18	26	45	0	0
11. Taxes Payable	0	0	0	0	46	0	0
12. Other Current Liabiliti	8	4	10	16	34	0	0
13.Net Current Assets/Liabil	(39)	(29)	(26)	(77)	8	0	0
14.Total Net Assets	51	56	122	141	211	0	0
15.Financed by:							
16. Share Capital	38	38	38	38	49	0	0
17. Capital Reserves	(6)	(6)	(6)	(64)	(0)	0	0
18. Profit and Loss Account	(24)	(23)	(10)	9	(9)	0	0
19. Long Term Loans	44	47	100	159	170	0	0
20.Debt	128	140	257	487	710	0	0
21.Equity	7	9	22	(18)	40	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	6	6	6	0	0	0	0

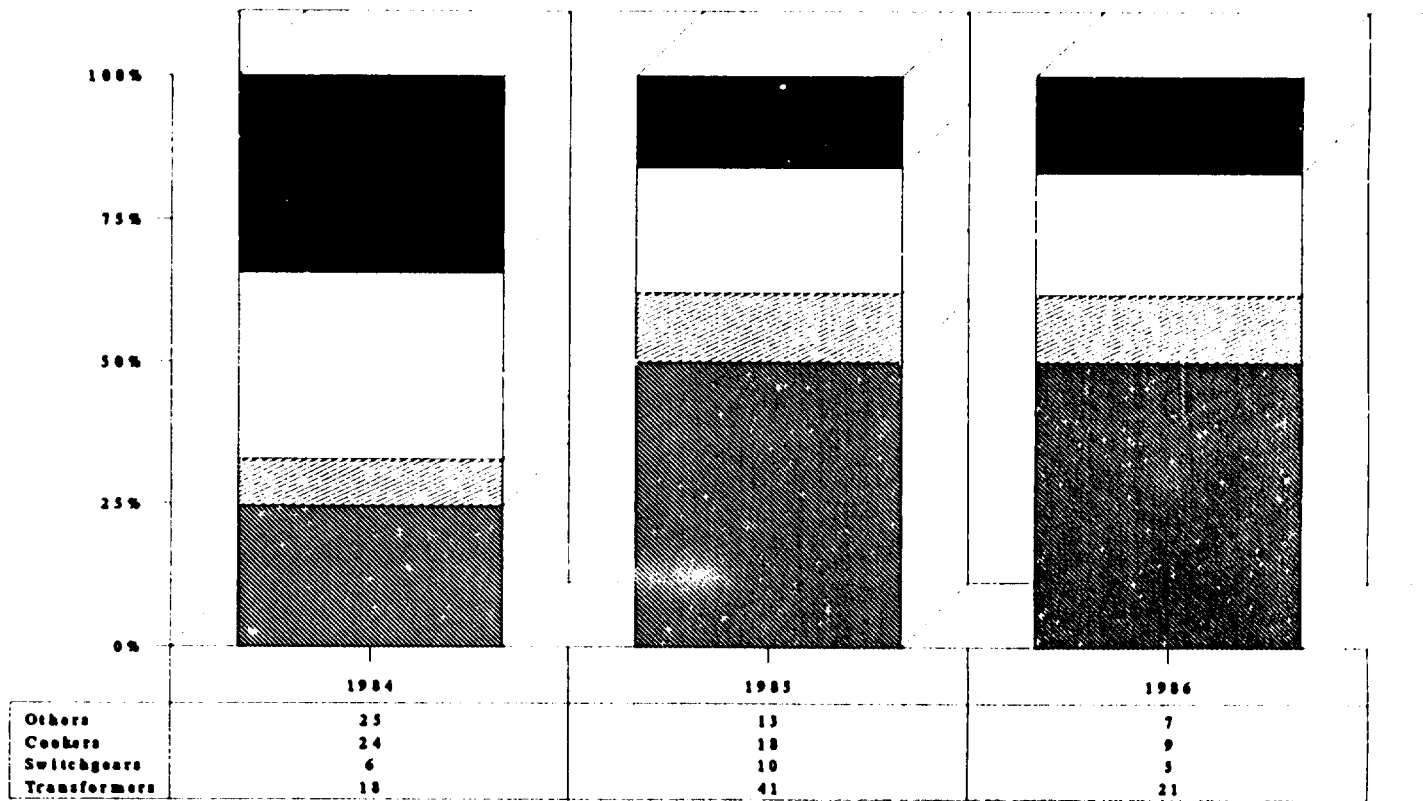
In Current Dollars

1. Net Fixed Assets	5	5	3	3	2	0	0
2. Current Assets	2	4	3	3	4	0	0
7. Current Liabilities	5	6	3	4	4	0	0
13.Net Current Assets/Liabil	(2)	(2)	(1)	(1)	0	0	0
14.Total Net Assets	3	3	2	2	2	0	0
20.Debt	0	8	3	3	-	4	0
21.Equity	0	0	0	0	(0)	0	0

Product Sales Breakdown

Tanzania Electrical Goods Mfg. Co. Ltd.

% BREAKDOWN OF PRODUCT SALES

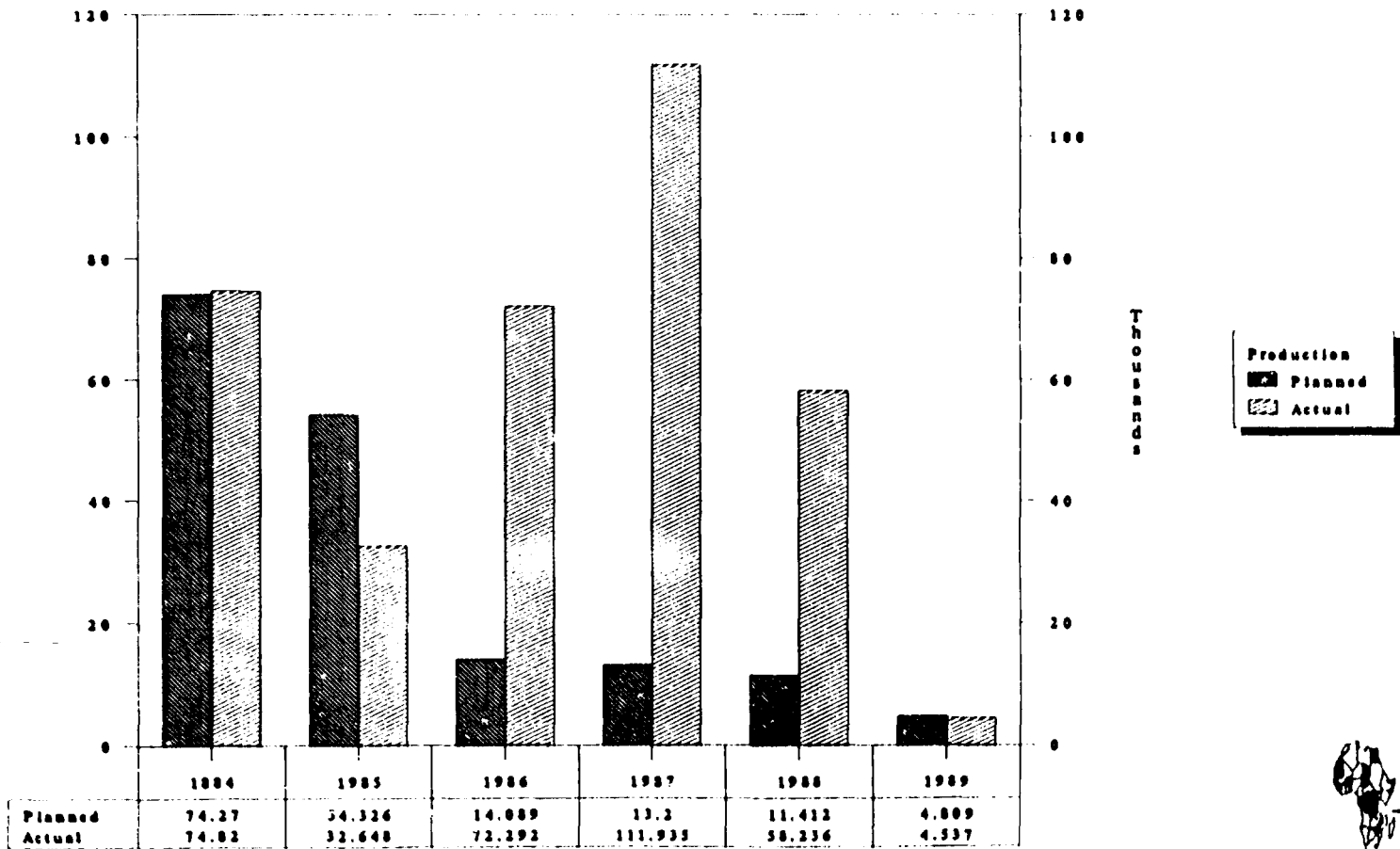


Transformers Switchgears Cookers Others

Planned vs. Actual Production

Tanzania Electric Goods Mfg. Company

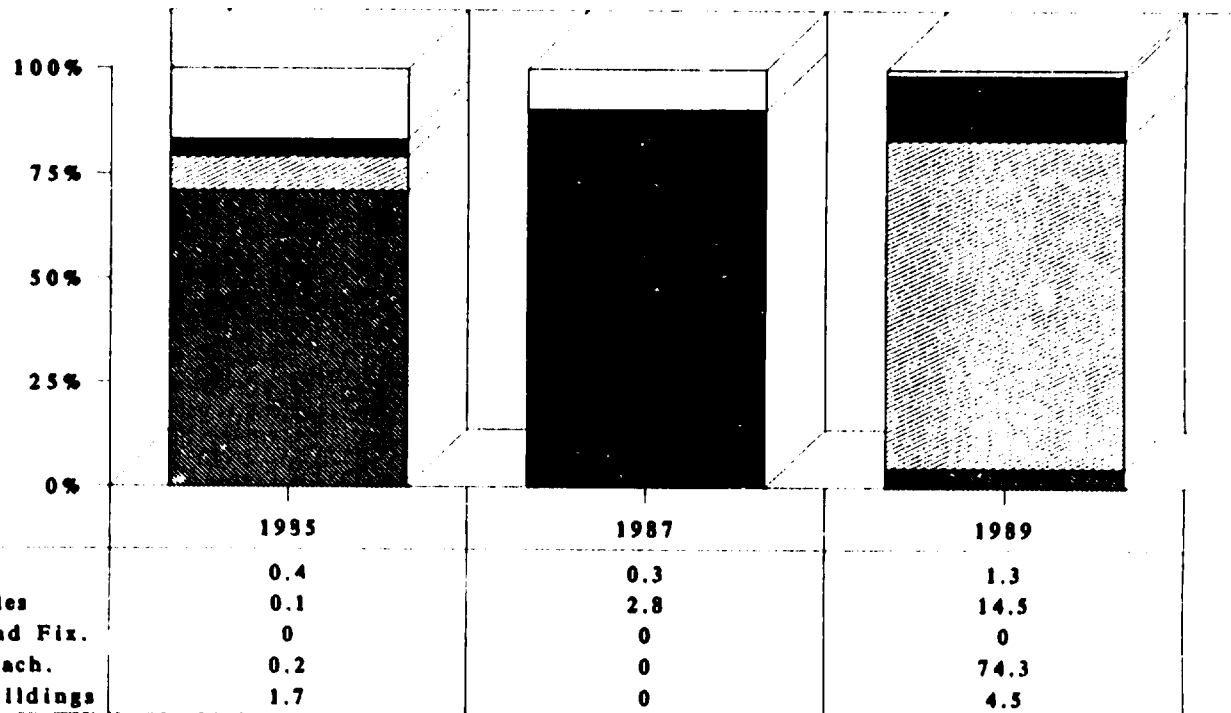
Production in Units (Thousands)



Capital Expenditure Breakdown

Tanzania Electrical Goods Mfg. Co.

MILLIONS OF SHILLINGS



Data not available FY86 & 88.

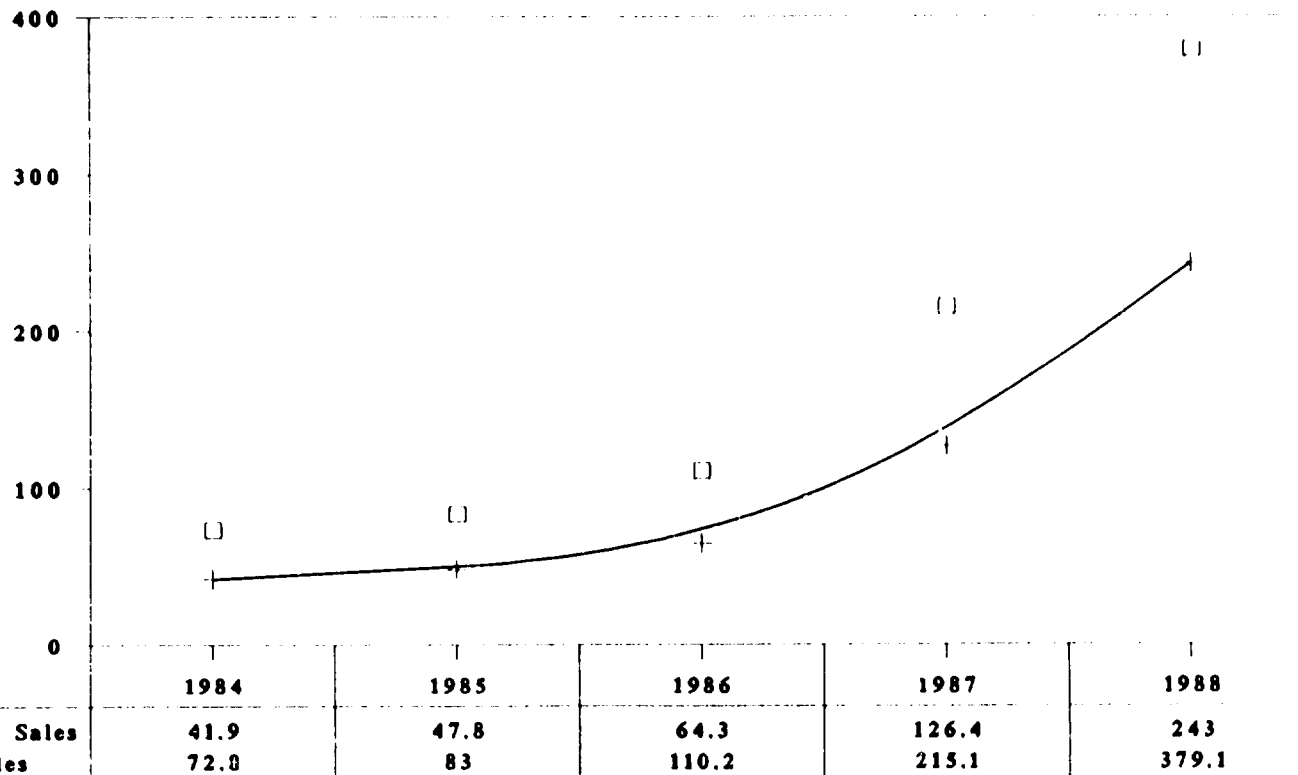


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Tanzania Electrical Goods Mfg. Co.

MILLIONS OF SHILLINGS



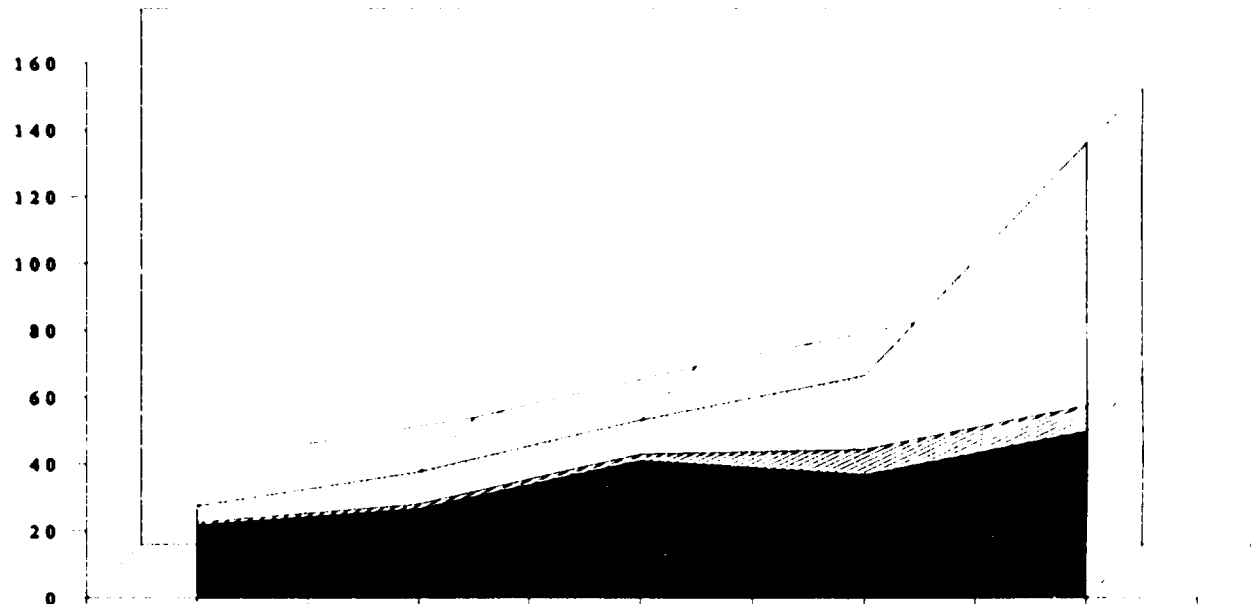
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Tanzania Electrical Goods Mfg. Co.

Millions of Tshillings



	1984	1985	1986	1987	1988
Fin Expenditure	4.8	9.8	10.2	22.1	78.8
Selling & Distrib	0.7	1.2	1.8	7.5	7.4
Administration	21.9	26.7	41.1	36.8	50



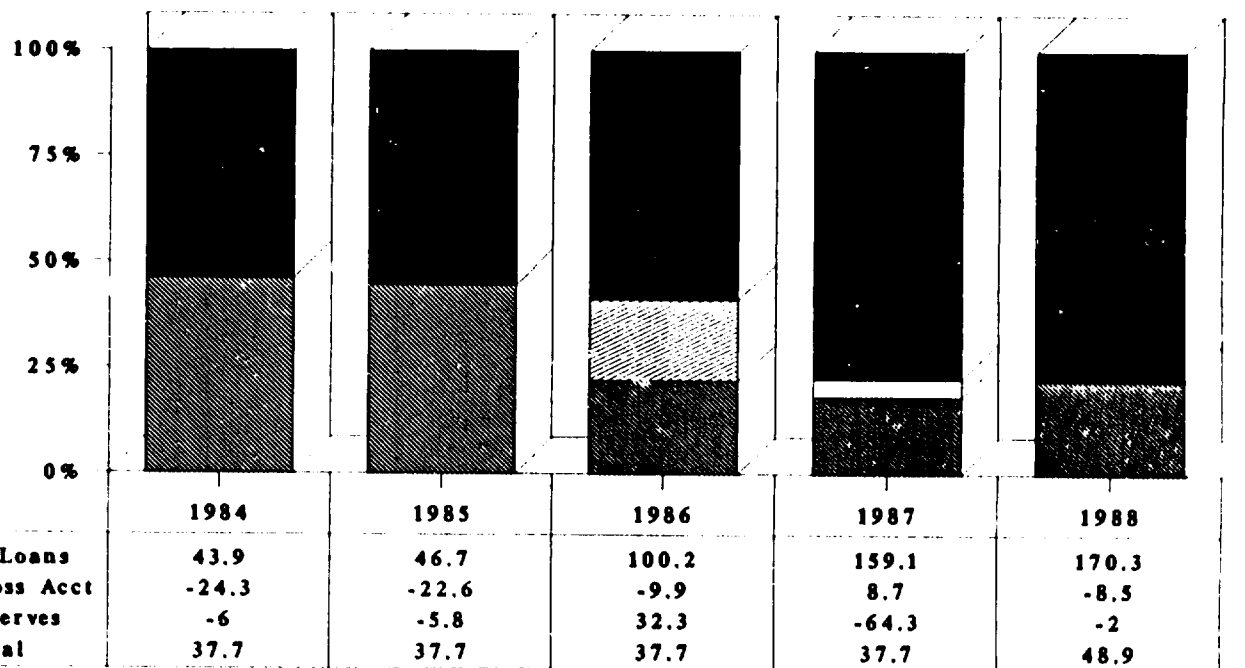
Operating Expenses

■ Administration ▨ Selling & Distrib ▤ Fin Expenditure

Total Net Assets

Tanzania Electrical Goods Mfg. Co.



MILLIONS OF SHILLINGS



MILLIONS OF SHILLINGS

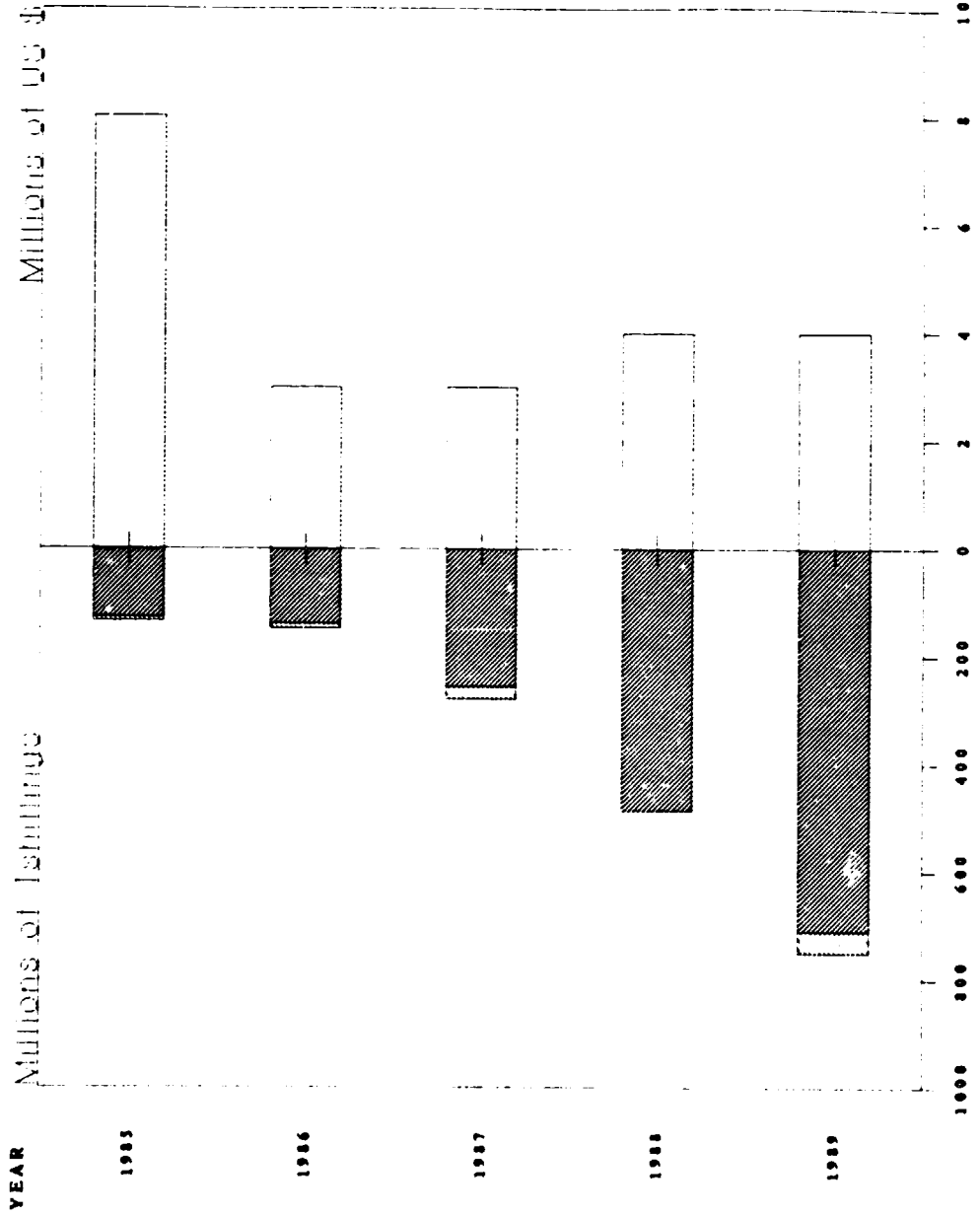


 Share Capital
 Profit & Loss Acct

FINANCED BY
 Capital Reserves
 Long Term Loans

Debt/Equity Ratio

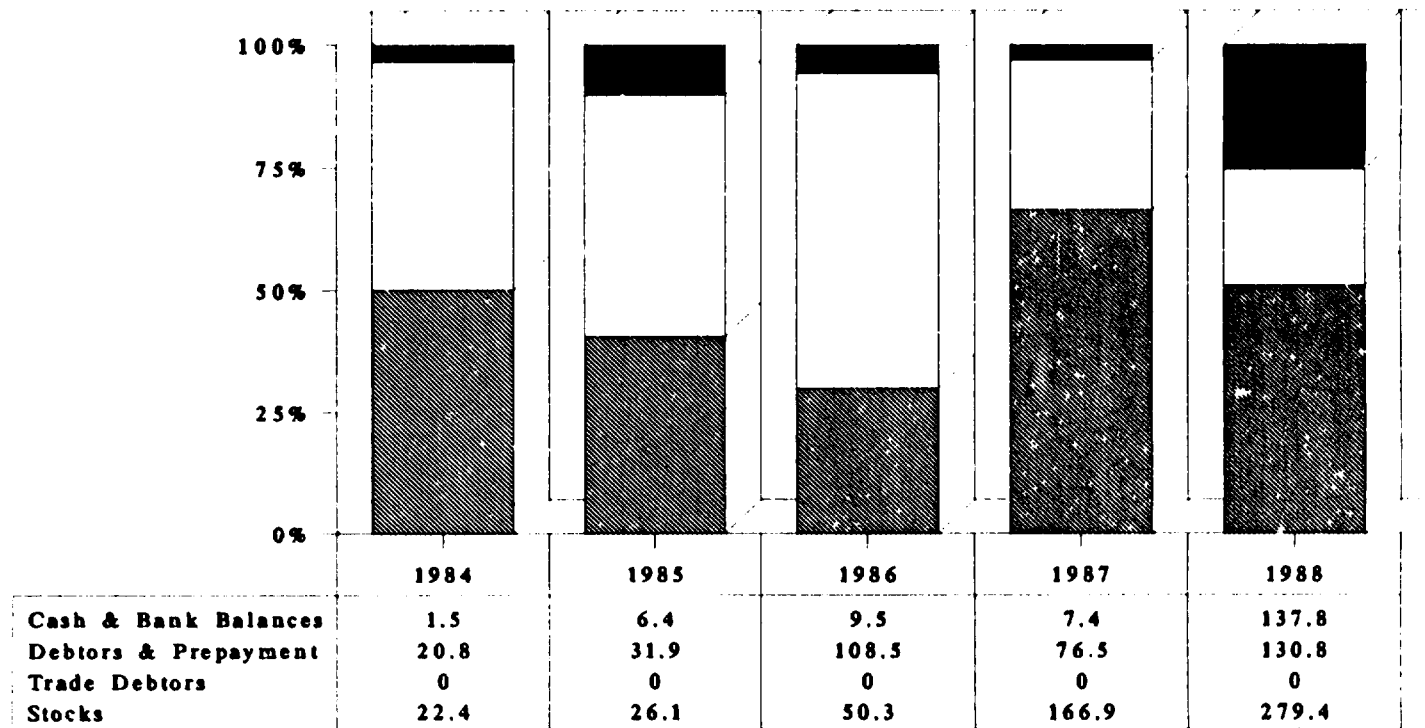
Tanzania Electrical Goods Mfg. Co. Ltd.



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Current Assets Breakdown

Tanzania Electrical Goods Mfg. Co.



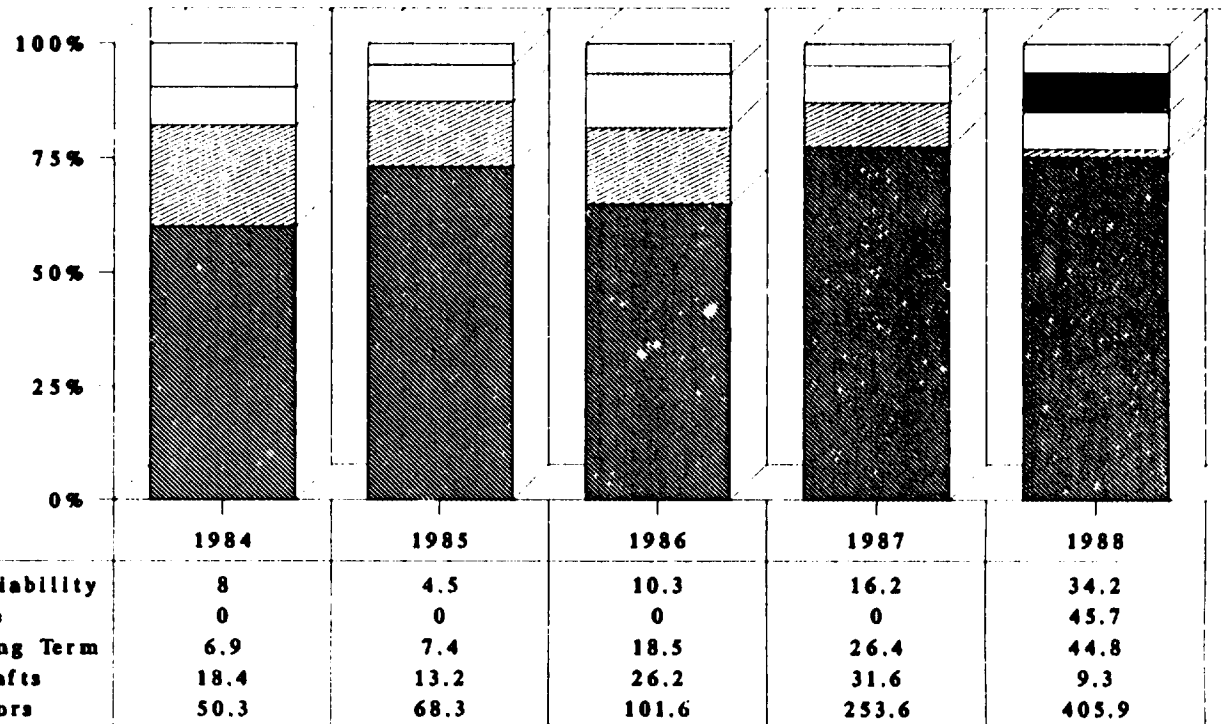
MILLIONS OF SHILLINGS



Stocks
 Trade Debtors
 Debtors & Prepayment
 Cash & Bank Balances

Current Liabilities Breakdown

Tanzania Electrical Goods Mfg. Co.



MILLIONS OF SHILLINGS

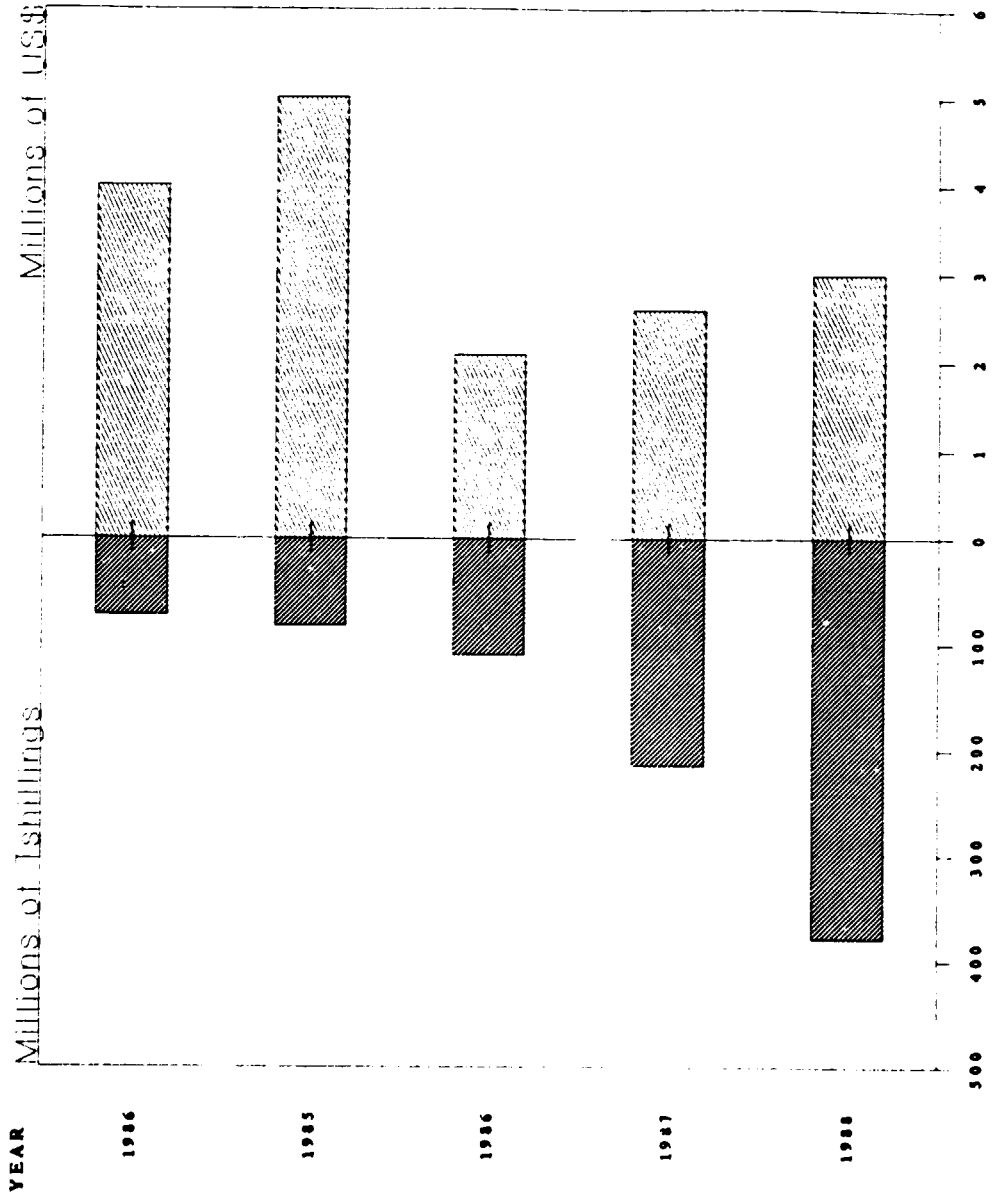


Trade Creditors
 Bank Overdrafts
 Matur of Long Term

Taxes Payable
 Other Cur Liability

Net Sales

Tanzania Electrical Goods Mfg. Co., Ltd.



NET SALES
NET SALES



UNIDO/Tanzania/
NDC Assistance - 1991

Appendix 14: Tanzania Oxygen, Ltd.

APPENDIX 14: TANZANIA OXYGEN LIMITED

I. RECOMMENDATIONS AND ACTION PLAN

Tanzania Oxygen, Limited produces industrial gases that are a key component in construction and industry. It has a monopoly position at present, is extremely profitable, and is well-run. NDC should keep the company and expand its production.

Logistically, Tanzania Oxygen should look to placing smaller plants in geographic regions as a means of forestalling competition. While production costs are higher for the smaller facilities, the savings in transportation costs and response time will grow more important to the customer as Tanzania develops.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

The Tanzania Oxygen Tanzania Oxygen Company (TOC) was incorporated in 1966 by the East Africa Company/British Oxygen Company. TOC is the only modern, medical and industrial gases plant in Tanzania. Located in Dar Es Salaam, it is close to its main customer base.

TOC markets types of medical and industrial gases to industrial companies and to hospitals in Tanzania. It maintains relatively little finished goods inventories in gases due to the high demand for its products. It also engages in trading of welding and medical consumables and equipment.

TOC's instituted capacity in 1986 was 4830 tons. During 1989 the company produced 676,000 m³ of gases and ASU products, 231,000 m³ of dissolved acetylene and 1,068,000 tons of carbon dioxide. In 1990, it produced 800,000 m³ of atmospheric gases and 300,000 m³ of acetylene. Total capacity for atmospheric gases is estimated to be 1,081,600 m³. (Calculated by multiplying 130 m³/hr (168-8)X52 which assumes 8 hrs of down time per week and 3 shifts.) Thus, the capacity utilization is approximately 74%. Volumes have been erratic in the last few years due to some problems in utility access and higher levels of equipment breakdown.

Annual sales in 1989 were Ts. 519 million. TOC made a profit of Ts. 228.1 million on those sales.

10 YEAR DEVELOPMENT PROGRAM TOL

Year 1

Year 2

I II III IV I II III IV 5 6 7 8 9 10

Outbound logistics

1. Reduce outbound transportation costs for customers:

- a. Ship by rail
- b. Negotiate volume discounts with overland shippers
- c. Establish selling depots in key regions and ship in bulk
- d. Package product to minimize transport costs

D. Organization

1 Structure the organization to achieve its targets.:

- a. License technology
- b. Negotiate management contracts
- c. Sell some shares of the company to management/investors

2. Lower management expense:

- a. Reduce corporate staff positions

4. Conduct 'make or buy' analysis on ancillary services, e.g.:

- a. Medical
- b. Janitorial
- c. Security
- d. Food services
- e. Housing maintenance, gardening
- f. Vehicle maintenance & repair

Privatization

1. Prepare company for privatization

- a. Improve operating performance
- b. Improve financial performance
- c. Obtain audits from reputable local or international firm
- d. Prepare communication program for employees

2. Establish goals for privatization

- a. Equity infusion
- b. Realization of capital appreciation on invested assets
- c. Broaden share-ownership in Tanzania

E. Management

1. Flatten the management hierarchy

- b. Where workloads are low, expand job descriptions and responsibilities
- b. Eliminate management responsibility/the position for any position with less than 5 persons reporting directly.
- c. Reduce the management hierarchy to three levels, four maximum, within the firm

F. Employees

1. Increase employee involvement and commitment

- a. Institute employee suggestion programs
- b. Establish profit-sharing, phantom stock, or employee stock-ownership programs

2. Revamp compensation package

- a. Conduct/obtain a salary and benefits survey
- b. Cost-out benefit components
- c. Set upper-limit on benefit compensation
- d. Establish "cafeteria plan" of benefits
- e. Obtain exemption from SCOPO guidelines
- f. Substitute profit-sharing, "phantom-stock," or ESOP for additional compensation

The Tanzania Oxygen Company's strategy has been to focus on a limited range of gases produced in one highly automated plant. It is looking at expanding production dramatically in 1992.

B. Industry and Competitor Analysis

1. Market Overview

The market for medical and industrial gases in Tanzania at present is strong and growing. Industrial gases are used for welding, cutting, and heating operations. They are a critical element to local industry. For example, last year when TOC suffered from equipment problems, industrial production in fabricating companies was halted.

2. Customer Characteristics

End users of industrial gases are primarily industrial concerns, automobile repair shops, and many small industrial producers. Also, hospitals and clinics are the primary consumers of medical gases. However, this report will focus exclusively on the industrial gases market.

There is some export potential to Zambia and neighboring countries.

3. Competition

TOC is currently the only producer in Tanzania; four other facilities run by the military and others have ceased production. TOC management attributed this to lack of maintenance and motivation.

There is no foreign competition. Transport costs for gases are high, containers are expensive, and it is cost-prohibitive to ship them long distances. Thus, TOC has strong geographic protection.

Competition in this market however, is likely to grow in the future. Currently, the competitors to TOC are offshore which means that they have high transport costs as well as slow delivery times. However, it is conceivable that one or more companies would enter the market. Certainly, TOC would be vulnerable to regionally sited, small-scale plants. TOC could prevent this through careful siting of additional capacity.

4. Substitutes

Substitutes for TOC's products are other gases -- in some cases, specialized welding gases. These have not been a serious threat to date.

C. Marketing

TOC's strategy is to produce a few basic, highly automated products that allow it to maximize volumes -- and that are in high demand in the region. It has not aggressively sought export opportunities.

Product Mix 1990

	Ts. mil.	Percent
Industrial Gases	686	62.7
Medical Gases & Equipment	50	4.6
Welding Gas Consumables	200	18.3
Transportation	<u>157</u>	<u>14.4</u>
Total	1,093	100.0

Exports: TS. 24 million to Zambia

Potential Exports: Argon Gases

Customers are industrial concerns and medical facilities. As can be seen from the list below most are strong in the construction or transportation fields.

Customers

Steel Cast¹ (ALAF) 30%

Others, including: 70%

Tanzania Railways
Tanzania Harbors
TAZARA (Railways)
National Engineering
Gas Manufacturer
Steel Rolling Mills
Light Source Manufacturers

TOC uses few sales tactics. If it cannot meet demand, it imposes careful rationing policies on its customers to insure market coverage. TOC provides transportation for large orders with its own fleet. As it is the only producer in the country, regional customers incur significant transportation costs to use TOC products.

¹ NDC Company

TOC does provide some customer service in the form of technical advice; but, this is limited. TOC does not maintain a customer service department.

TOC can set its own prices. Pretax margin is 29% of sales.

Inventory management is not a problem. TOC has a small warehouse for supplies. Gases are sold immediately to TOC carries less than a few day's inventory.

The increase in market share of TOC indicates that TOC's ability to deliver the right product in a timely fashion at a good price has improved in the last few years. Furthermore, the number of export orders is encouraging evidence of demand for TOC's products.

D. Production and Operations

1. Geographical Location

TOC has one factory located in Dar Es Salaam, close to its major customers. A second, small plant is located in Mwanza.

2. Facilities and Processes

TOC has a large continuous process plant in Dar that produces 130 m³ per hour of nitrogen. The Mwanza plant produces 30 m³ per hour.

The process is extremely capital intensive and highly automated. TOC has Ts. 429,000 (Tables IV & V: 53.2 million/124) of capital equipment invested per employee. Production staff numbers just one person per shift; the plant operates three shifts a day.

The high capital costs and the automation however, require constant attention and careful maintenance. Furthermore, power interruptions of greater than 30 minutes cause significant production losses. TOC had many problems with power interruptions in 1990. However, new lines are expected to save this problem. TOC has also asked for a backup generator to provide full reliability.

3. Materials Handling

Gas cylinders are moved using manual labor.

4. Processing Costs

TOC produces gases by drawing them from the atmosphere. In some cases, chemical reactions are used to produce gases. Most raw materials are free. Labor costs are insignificant. Production costs are primarily utilities and capital.

5. Product Delivery (Outbound Logistics)

TOC relies on customers to pick-up its products. It also has a truck fleet to deliver products and it makes a fair amount of revenue on the transportation.

6. Competitive Strengths/Weaknesses

As for strengths, TOC has geographic protection, a relatively new plant, experienced management, a monopoly position, and a product vital to industry. This should give it a strong competitive edge.

At the same time, transportation costs are significant and there is an opportunity for competitors to beat TOC on a transportation cost basis in the more remote parts of the country.

7. Expansion Plans

The firm plans to expand the capacity of its facility from 130 m³ per hour to 600 m³ per hour by 1992. This will be a \$6 million investment. TOC expects demand to outstrip this production by the seventh year.

E. Organizational Structure

Administratively the Tanzania Oxygen Company is divided into five departments: administration, finance, purchasing, sales, and production.

F. Management

The General Manager, Mr. T.E.D. Parking, has worked with TOC for 17 years, two years as its General Manager.

Management seems to be very knowledgeable, aggressive, and innovative. For example, they recently installed an integrated network of PCs to better manage administrative tasks.

Compensation at TOC is higher than their private sector counterparts. Base salaries are within SCOPO guidelines and are low. However, benefit packages are quite extensive. Benefits include: housing and maintenance, vehicles for officers, medical care and insurance, and life insurance among others.

As far as could be determined, management compensation is not linked to performance productivity, on profits. Nonetheless, the management team was well-motivated. A management contract with BOC lapsed in 1988. The terms of payment to BOC, which were 1-1/2% of turnover and 3% of profits, was recently renegotiated.

The Board of Directors of TOC is selected by NDC, the Ministry of Industry and Trades, the Treasury Department of the National Bank of Commerce, and Jawata. The

Board operates autonomously of the NDC. The current composition of the Board consists of seven members, and include one person from each of the following entities:

British Oxygen Company
Ministry of Trade and Industry
National Development Corporation
Chief Medical Officer/Government
Treasury Department
National Bank of Commerce
Jawata

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel. TOC has not made use of consultants from TISCO or the National Productivity Institute in recent years.

G. Human Resources

1. Composition and Skills

TOC employs 124 persons (1989). TOC went through a personnel reduction program in 1984, reducing the workforce from 150 to 118 over a nine month period. Employment has remained flat over the last five years.

The percentage of overhead, administrative, and other personnel to direct production workers is quite high at 40%. This is due to a highly efficient production department. Most labor is unskilled and is used to move and transport the heavy gas cylinders.

2. Compensation and Trends

The Tanzania Oxygen Company is able to attract and retain a reasonably qualified work force for its operations. Salary levels are set by SCOPO. The compensation package consists of a base wage, medical insurance, transportation allowances, and other benefits. This package has resulted in relatively low turnover in positions over the last few years. Labor costs are quite low overall compared to TOC's other costs; less than 2% of revenues go to labor.

3. Productivity

Productivity in the firm is very high. TOC had the highest level of profits per employee in the NBC Group in 1989 -- Ts. 1.8 million. It was fourth highest in revenue per employee -- Ts. 4.2 million.

Productivity - 1988

	TOC	Avg. NDC
Revenue (Ts. millions) per employee	4.2 mn.	2.1 mn.
Profits per employee (Ts millions)	1.8	.2

4. Training Programs and Needs

Training has been conducted for computers and software. Management seems well-trained so it appears that TOC and BOC made significant investments in these areas.

H. Finances

1. Sales, Revenue, Profitability

TOC has shown an upward trend in sales in Ts. terms over the last five years as shown in Table VI: Profit and Loss. However, when this is translated into both dollar and constant shilling terms, TOC has shown little revenue growth. TOC still, is quite profitable, has minimal debt, and low operating costs.

Financing costs are minimal. This is due to this strong cash position and its reliance on self-generating earnings.

2. Assets and Liabilities

a. Balance Sheet

TOC shows considerable strength. Total net assets shows that TOC has no long-term debt. Current liabilities breakdown shows a moderate amount of bank overdrafts.

b. Ratio Analysis

The significant changes at TOC are: Cash has declined 39% of total current assets in 1984 to 4.4% of total current assets in 1988. Dependence on short-term debt increased from 0% of total current liabilities in 1984 to 26% in 1988.

c. Short term liquidity

Short-term liquidity analysis shows that TOC has improved liquidity slightly. The current ratio has increased from 0.94 in 1984 to 1.16 in 1988. (This means funds to cover short-term liabilities increased very slightly.) The acid ratio-cash and cash equivalents

divided by current liabilities has declined dramatically from .37 to .05 during this period. This indicates that TOC would be able to cover only 5.1% of its short-term liabilities in the given year, effectively converting all short-term liabilities into long-term debt.

3. Cash Flow

Analysis of Table IV indicates that the sources of cash flow are almost exclusively self generated. Uses of funds are almost exclusively used for overhead. This situation remained the same between 1984 and 1988 and has shown no signs of improving. This indicates a serious financial weakness in the company.

4. Foreign Exchange and Capital Requirements

TOC imports 94% of its purchased raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms described in the main report. TOC also has a foreign exchange account that enables it to purchase parts and supplies without going through this process. Foreign Exchange has not been a problem for TOC. TOC has cash to cover such amounts.

5. Estimates of Valuation

Valuation shows various indicators of TOC's worth as a Tanzania Oxygen Company from a financial perspective.

i. Book Value

Book value is Ts. 497 million. This is fourth highest in the NDC Group although the company ranks only 7th in assets and 8th in revenue. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Tanzania Oxygen Company. In TOC's case, liquidation of the Tanzania Oxygen Company would transfer a gain of this amount to the NDC group balance sheet.

ii. Going Concern

Valued as a going concern, the profits of TOC are used to determine its value. Profits are divided by the discount rate to obtain a value of Ts. 6.7 million. TOC is worth more as a going concern than were it to be liquidated.

iii. Price Earnings Ratio

Using a price to earnings ratio of 10, the number of times earnings are multiplied to obtain a selling price, the TOC would be valued at Ts. 2,281 million shillings (\$12). This is the price that TOC would fetch on a stock market that valued earnings at this rate.

I. **Summary**

Tanzania Oxygen Company is in an enviable position. It has:

- ◆ A monopoly position in a key and growing industry.
- ◆ Relatively modern plant, well-maintained.
- ◆ Strong, progressive management.
- ◆ A small, highly productive workforce.
- ◆ High profit margins.
- ◆ Minimal debt.

Thus, it is well-positioned to take advantage of market opportunities in Tanzania. As it generates high profits, it could be a significant source of cash for other NDC Group companies -- either through a share offer or through dividends.

Appendix 14 Attachments: TANZANIA OXYGEN LIMITED

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE II

Table : Actual Production

Tanzania Oxygen Company

(Production in Units)

Product	Units	Description	(Production in Units)					
			1984	1985	Est'd 1986	1987	Est'd 1988	1989
1. A S U Gas	M ³	0	0	638,000	631,500	625,000	650,500	676,000
2. Acetylene	M ³	0	0	160,228	186,114	212,000	221,500	231,000
3. Carbon Dioxide	Tons	0	0	510	608	705	887	1,068
4. Four	0	0	0	0	0	0	0	0
5. Five	0	0	0	0	0	0	0	0
6. Six	0	0	0	0	0	0	0	0
7. Seven	0	0	0	0	0	0	0	0
8. Eight	0	0	0	0	0	0	0	0
9. Nine	0	0	0	0	0	0	0	0
10. Ten	0	0	0	0	0	0	0	0
11. Eleven	0	0	0	0	0	0	0	0
12. Twelve	0	0	0	0	0	0	0	0
13. Thirteen	0	0	0	0	0	0	0	0
14. Fourteen	0	0	0	0	0	0	0	0
15. Fifteen	0	0	0	0	0	0	0	0
Total			0	798,738	818,222	837,705	872,887	908,068
Capacity Utilization			NA	NA	NA	NA	NA	NA
Units per Employee			NA	NA	NA	NA	NA	NA

TABLE III

Table : Actual Purchases

Tanzania Oxygen Company

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	24	2	3	4	2	0
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	24	2	3	4	2	0
Foreign currency							
7.	Raw materials	9	28	28	29	14	0
8.	Spares & accessories	0	1	16	32	16	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	9	29	45	61	30	0
13.	Total	33	31	48	64	32	0
14.	In Dollars	\$2	\$2	\$1	\$1	\$0	\$0

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Tanzania Oxygen Limited

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989
Capital Expenditures						
1. Land & building	0.0	5.0	0.0	4.7	0.0	7.3
2. Plant & machinery	0.0	1.8	0.0	9.8	0.0	3.5
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	2.5	0.0	19.6	0.0	23.6
5. Other	0.0	0.9	0.0	1.2	0.0	18.8
Total Expenditures	0.0	10.2	0.0	35.3	0.0	53.2
Source of Funds						
1. Equity – NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity – Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans – Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans – Local (ST/Overdraft)	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans – Foreign	0.0	0.0	0.0	8.1	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	10.2	0.0	27.2	0.0	53.2
8. Other, Unaccounted For	0.0	0.0	0.0	0.0	0.0	0.0
Total Sources	0.0	10.2	0.0	35.3	0.0	53.2

Notes:

1. Cap. Exps. (\$'000's)	\$0	\$1	\$0	\$0	\$0	\$0
2. Cap. Exps./Emp. (Ts.'000's)	0.0	10.2	0.0	35.3	0.0	53.2
3. Nominal Index of Capital Expendit	0.0	100.0	0.0	346.1	0.0	521.6
4. Dollar Index of Capital Expenditur	0.0	100.0	0.0	68.2	0.0	44.7
5. Debt/Total Sources	ERR	0.00%	0.00%	-0.44%	0.00%	0.00%
6. Foreign/Total Sources	ERR	0.00%	0.00%	-0.89%	0.00%	0.00%
7. Inflation Index	74.6	100.0	132.4	172.1	225.8	296.3
8. Ratio: Machinery/Capital Exps.	NA	18%	NA	28%	NA	7%
9. Ratio: Vehicles/Cap. Exps.	NA	25%	NA	56%	NA	44%

TABLE V

Tanzania Oxygen Limited

Table : Actual Manpower

Product	Employees					
	1984	1985	E'std 1986	1987	E'std 1988	1989
1 Senior Managers	10	0	8	5	6	5
2 Middle Managers	13	0	10	6	7	4
3 Supervisors	12	0	13	13	8	4
4 Clerical	6	0	18	30	18	18
5 Skilled Manual	41	0	56	71	28	0
6 Unskilled Manual	60	0	30	0	62	93
Total	142	0	134	125	129	124
Expatriate	3	0	0	1	0	0
Total Employees	145	0	134	126	129	124

TABLE VI

Table : Actual Profit and Loss Tanzania Oxygen Company

(Thousands of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	63	94	135	243	356	0	0
Less: Cost of Sales	28	40	56	135	173	0	0
Gross Profit	35	54	79	108	183	0	0
Less: Operating Expenses	20	21	30	45	79	0	0
Administration	19	20	30	45	79	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	16	33	49	64	104	0	0
Add: Other Income	0	0	0	0	0	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	16	33	49	64	104	0	0
Less: Provision for Taxes	8	18	25	50	55	0	0
Profit After Tax	8	16	24	14	48	0	0
Statement of Retained Earnings							
Balance Brought Forward	23	26	36	53	57	95	95
Prior Year Adjustment	0	0	0	0	0	0	0
Balance Brought Forward R	23	26	36	53	57	95	95
Add: Net Profit for the Year	8	16	24	14	48	0	0
Profit Available for Appr	31	42	60	67	106	95	95
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	5	6	7	10	11	0	0
Retained Earnings Carried	26	36	53	57	95	95	95
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	3	6	3	3	3	0	0
Cost of Sales	2	2	1	2	1	0	0
Operating Expenses	1	1	1	1	1	0	0
Profit After Tax	0	1	0	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Tanzania Oxygen Limited

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	55	57	95	390	392	0	0
2. Current Assets	54	83	90	137	251	0	0
3. Stocks	15	18	43	81	132	0	0
4. Trade Debtors	15	23	46	52	105	0	0
5. Debtors and Prepayments	4	17	1	4	3	0	0
6. Cash and Bank Balances	21	25	0	0	11	0	0
7. Current Liabilities	57	76	94	127	216	0	0
8. Trade Creditors	24	36	60	60	79	0	0
9. Bank Overdrafts	0	0	0	1	56	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	8	16	24	47	56	0	0
12. Other Current Liabiliti	25	25	10	19	25	0	0
13. Net Current Assets/Liabil	(3)	6	(3)	10	35	0	0
14. Total Net Assets	53	64	92	400	426	0	0
15. Financed by:							
16. Share Capital	17	17	20	26	26	0	0
17. Capital Reserves	26	(0)	(0)	(0)	(0)	0	0
18. Profit and Loss Account	4	42	60	362	400	0	0
19. Long Term Loans	4	4	11	12	0	0	0
20. Debt	61	80	105	138	216	0	0
21. Equity	48	60	81	389	426	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

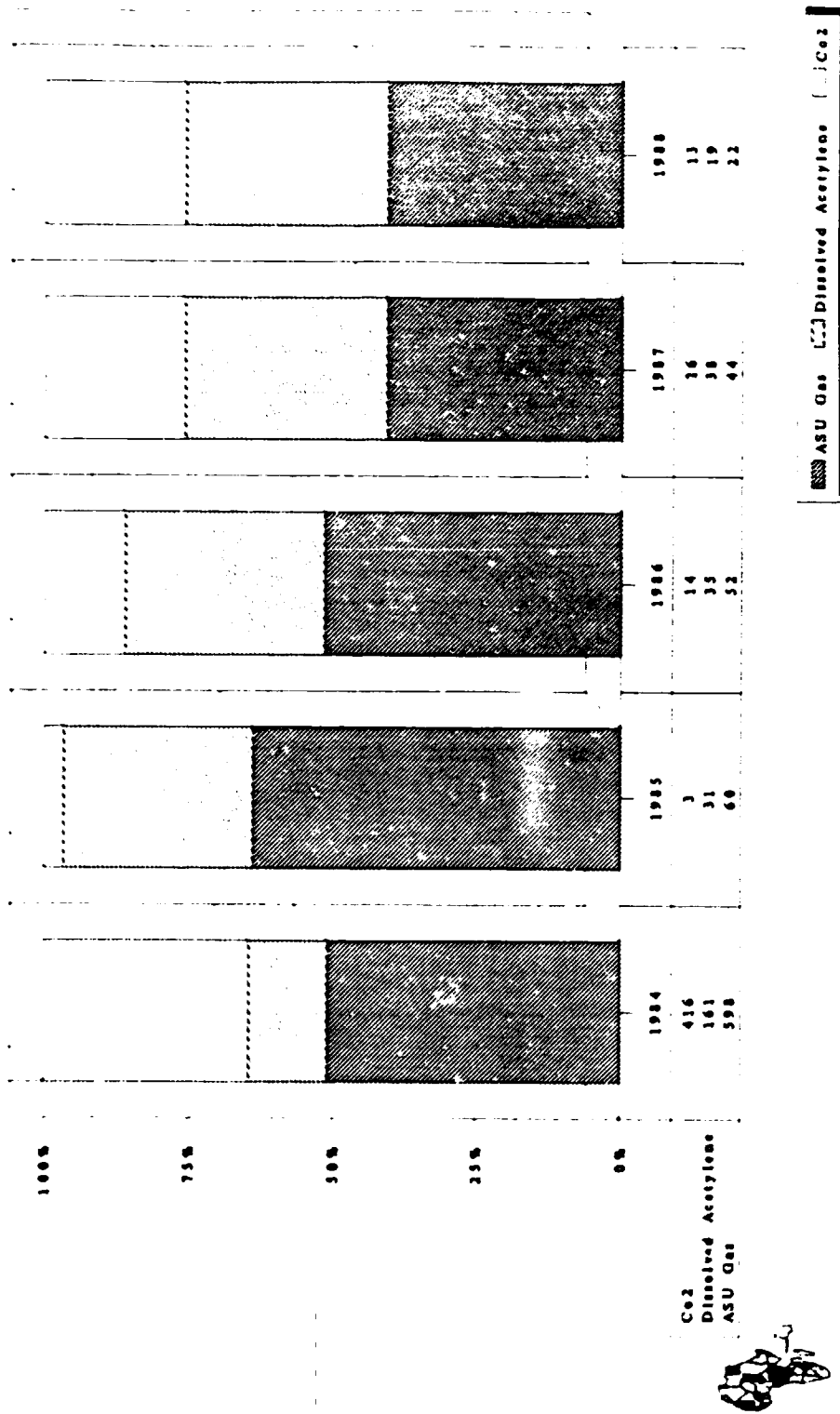
In Current Dollars

1. Net Fixed Assets	3	3	2	5	3	0	0
2. Current Assets	3	5	2	2	2	0	0
7. Current Liabilities	3	5	2	2	2	0	0
13. Net Current Assets/Liabil	(0)	0	(0)	0	0	0	0
14. Total Net Assets	3	4	2	5	3	0	0
20. Debt	0	4	2	1	1	1	0
21. Equity	0	3	1	1	3	2	0

Product Sales Breakdown

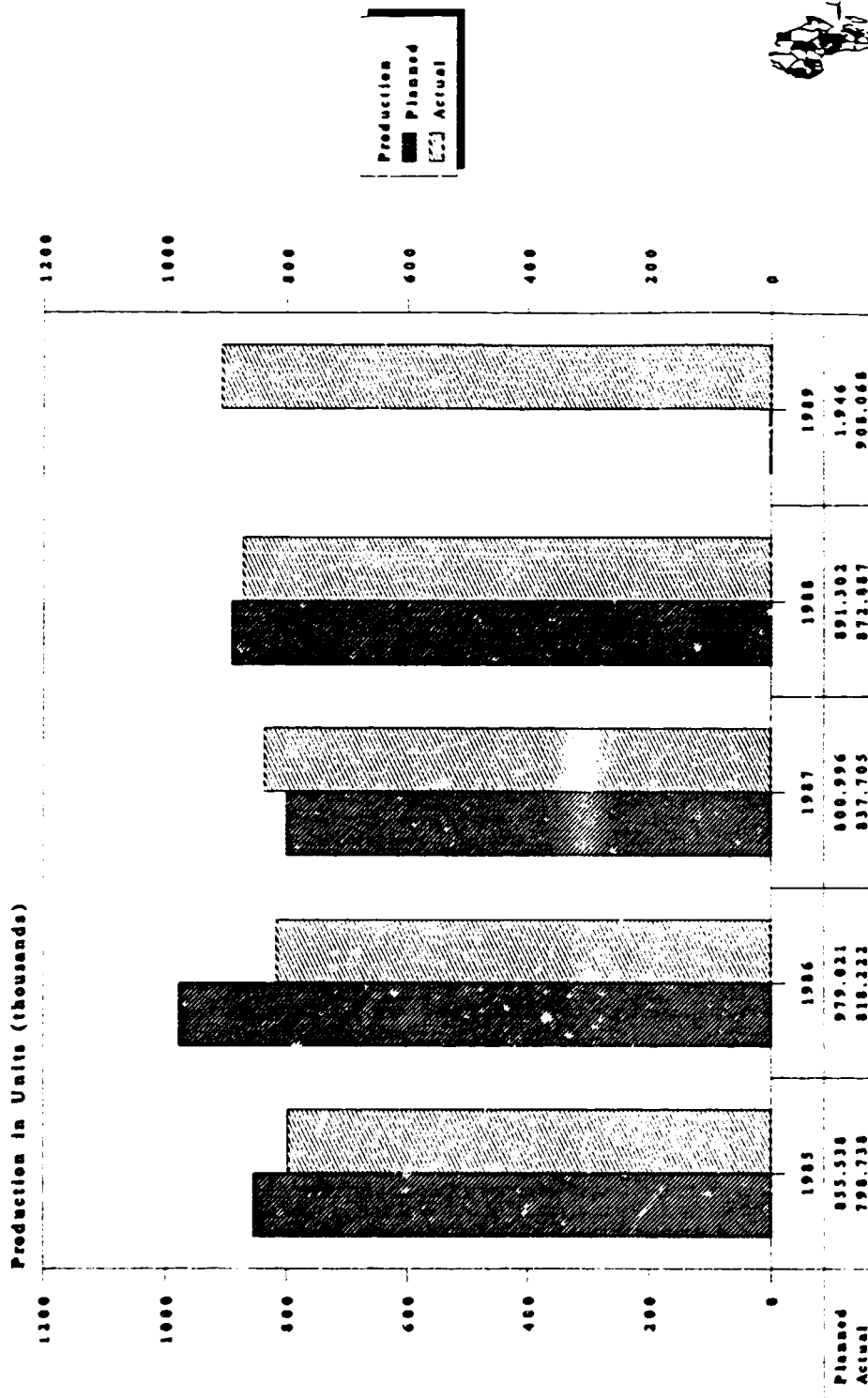
Technological Oxygen Ltd. Limited

% BREAKDOWN OF PRODUCT SALES



Planned vs. Actual Production

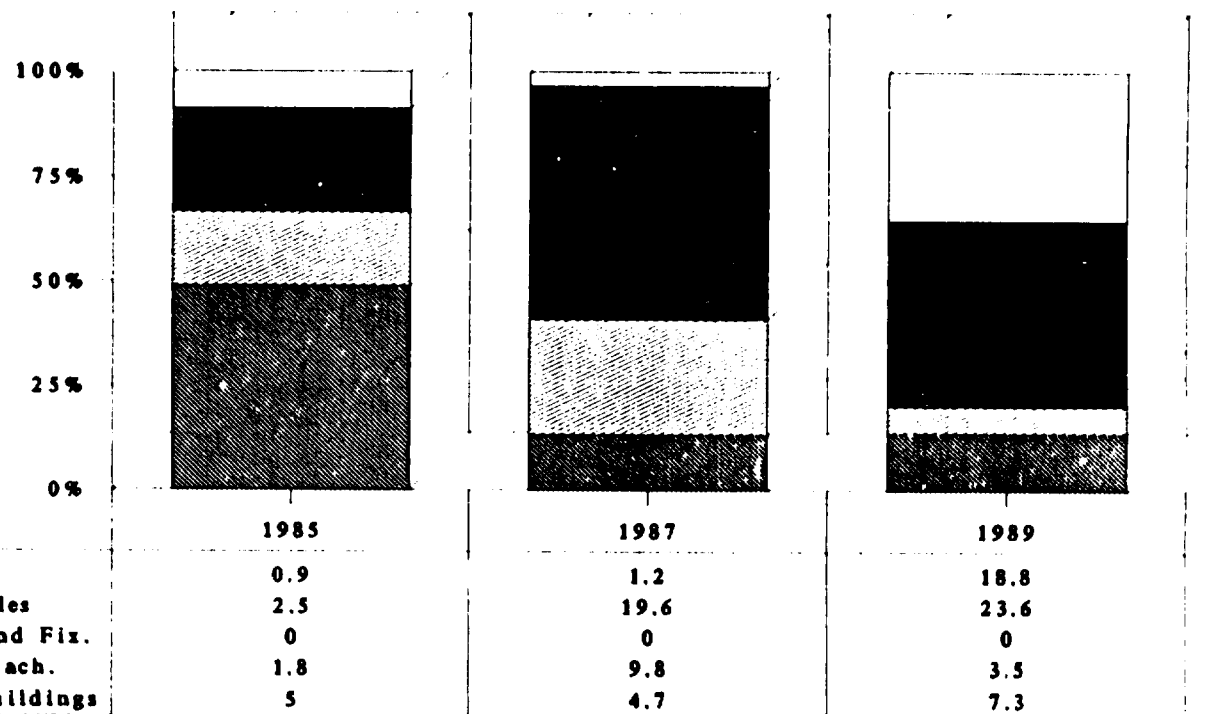
Tanzania Oxygen Company



Capital Expenditure Breakdown

Tanzania Oxygen Limited

MILLIONS OF SHILLINGS



Data not available FY86 & 88.

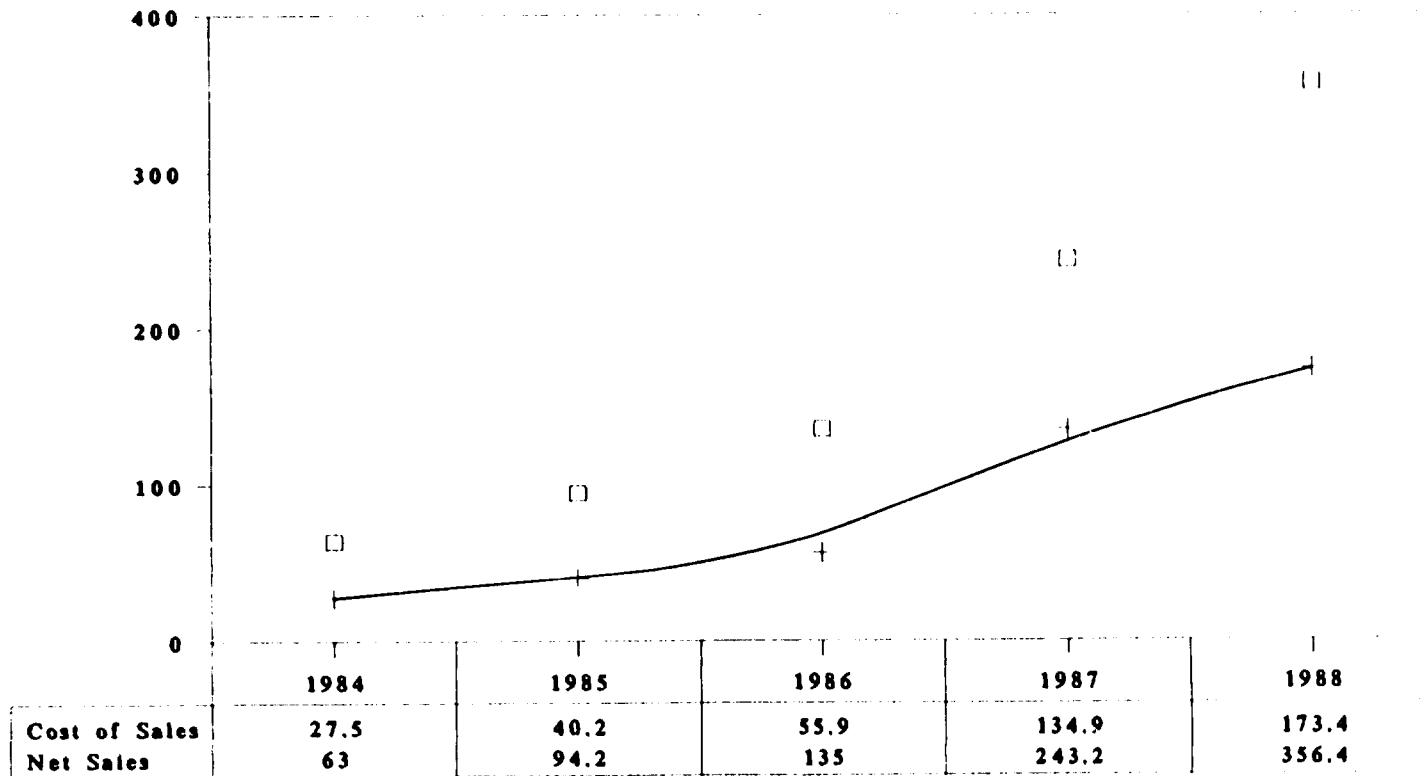


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Tanzania Oxygen Limited

MILLIONS OF SHILLINGS



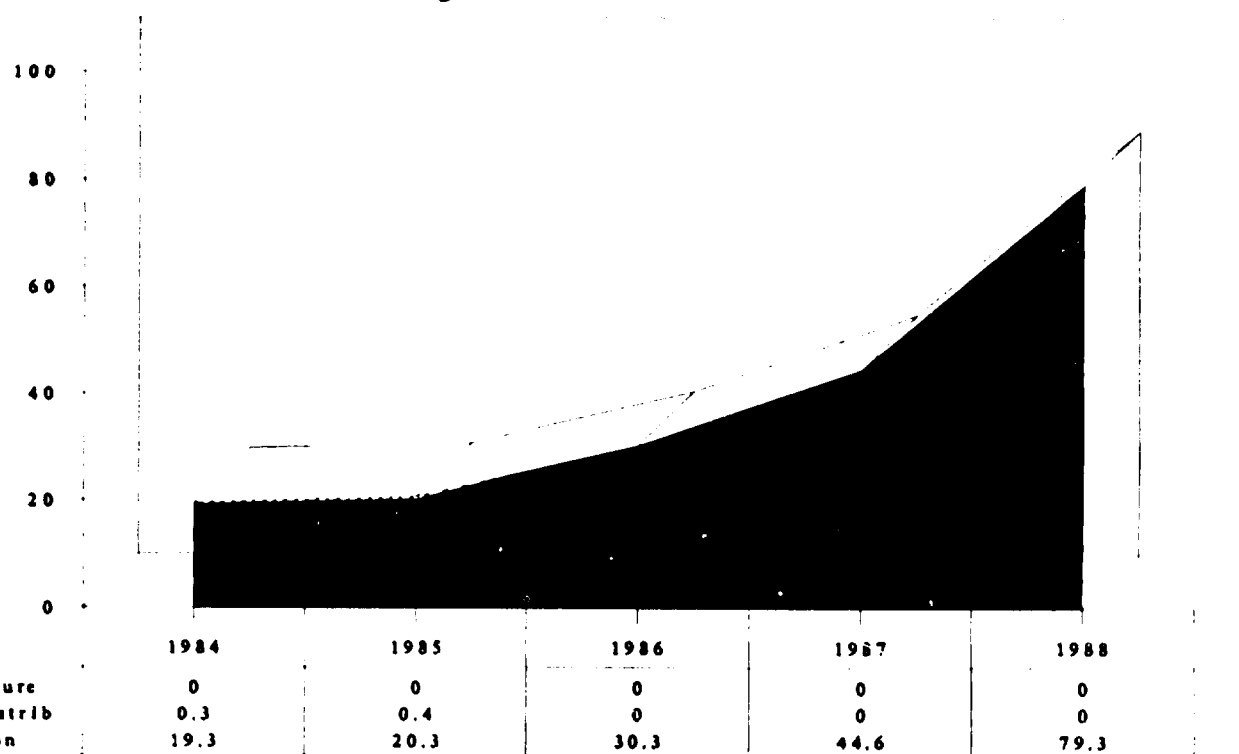
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Tanzania Oxygen Ltd.

Millions of Tshillings



UNIDO/Tanzania/NDC Assistance - 1991

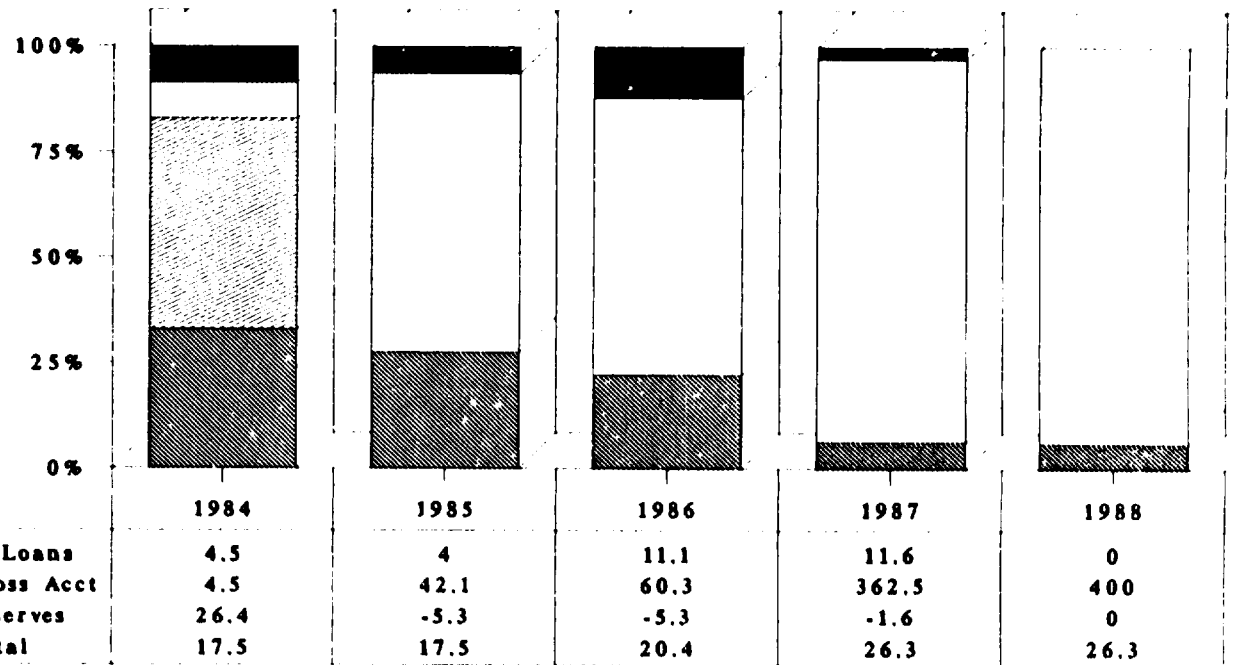
Operating Expenses

■ Administration ▨ Selling & Distrib □ Fin Expenditure

Total Net Assets

Tanzania Oxygen Limited

MILLIONS OF SHILLINGS

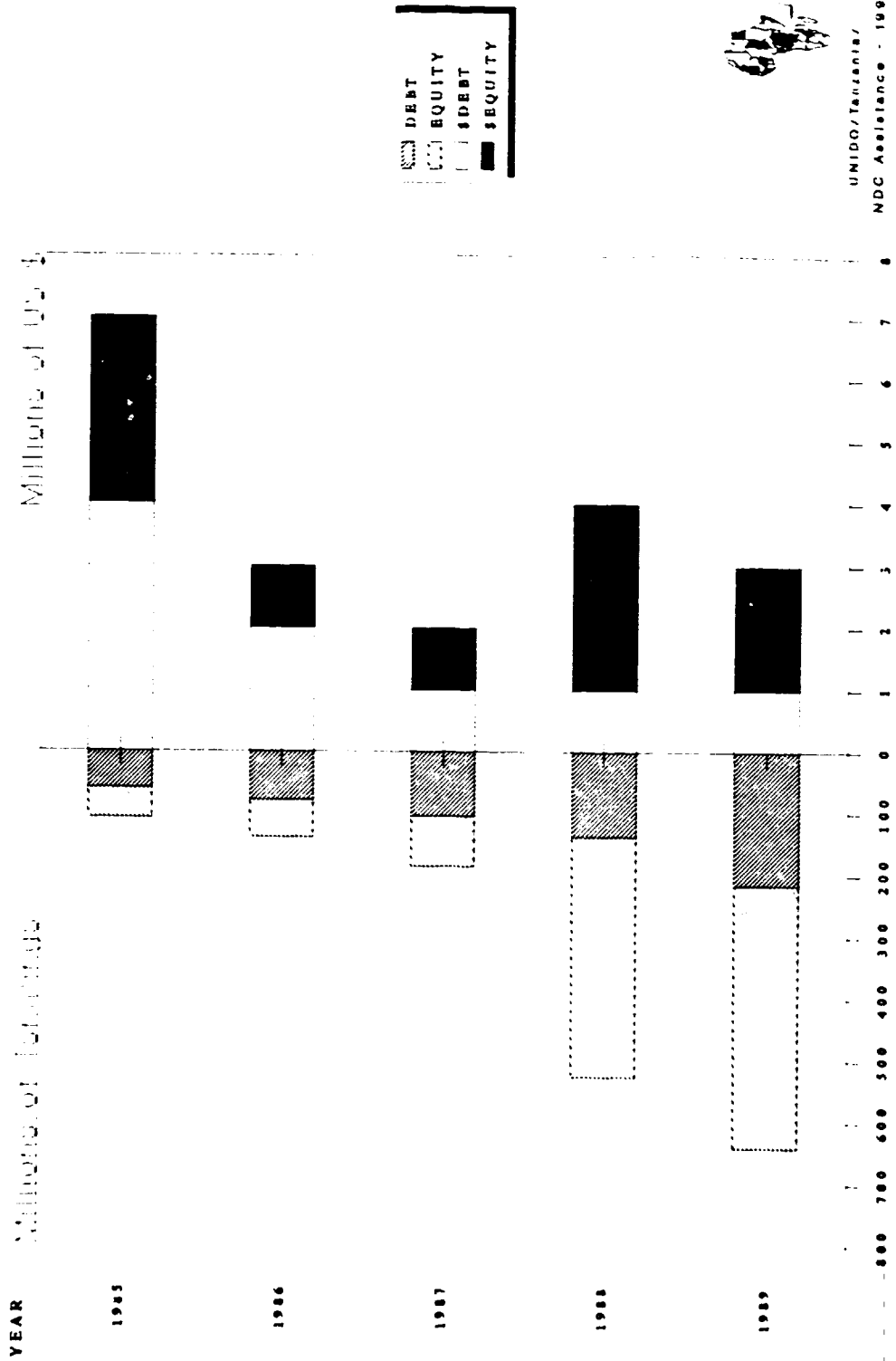


MILLIONS OF SHILLINGS



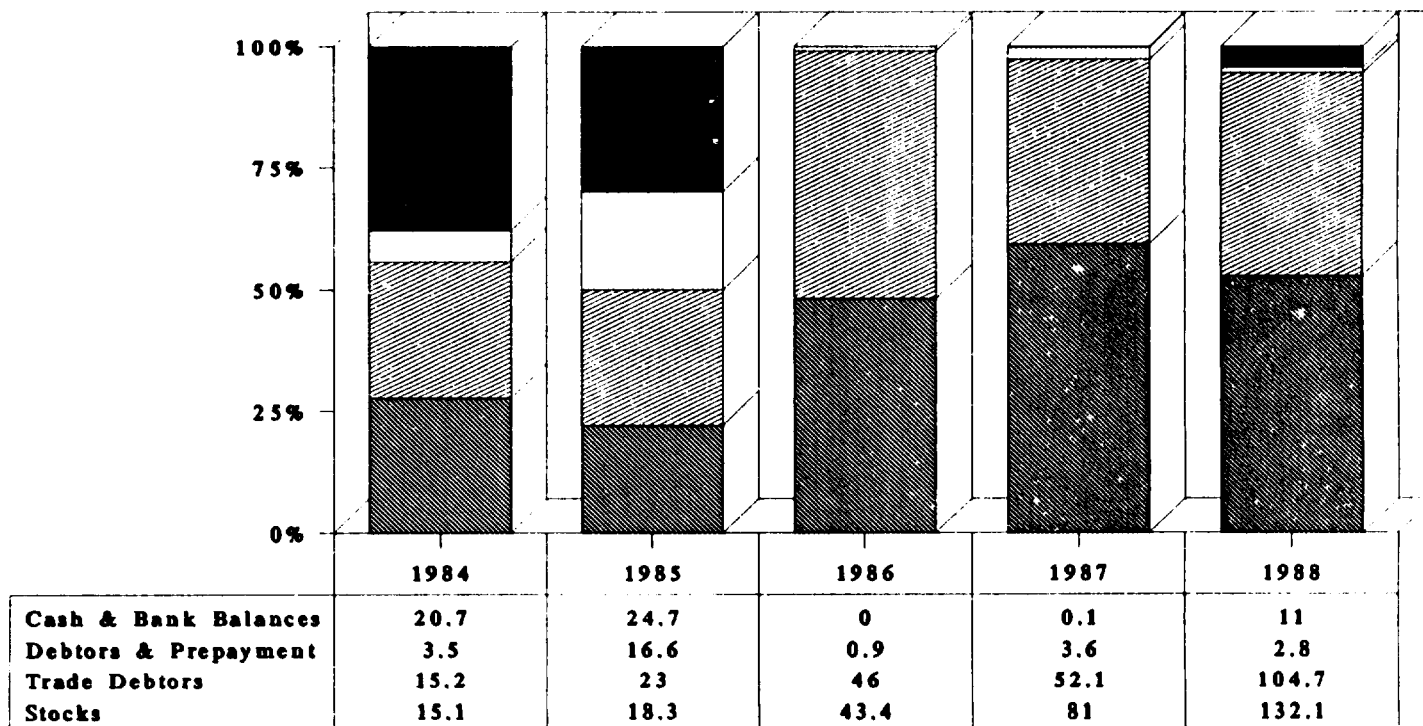
Debt/Equity Ratio

Tanzania Cigarette Ltd.




Current Assets Breakdown

Tanzania Oxygen Limited



MILLIONS OF SHILLINGS



 Stocks

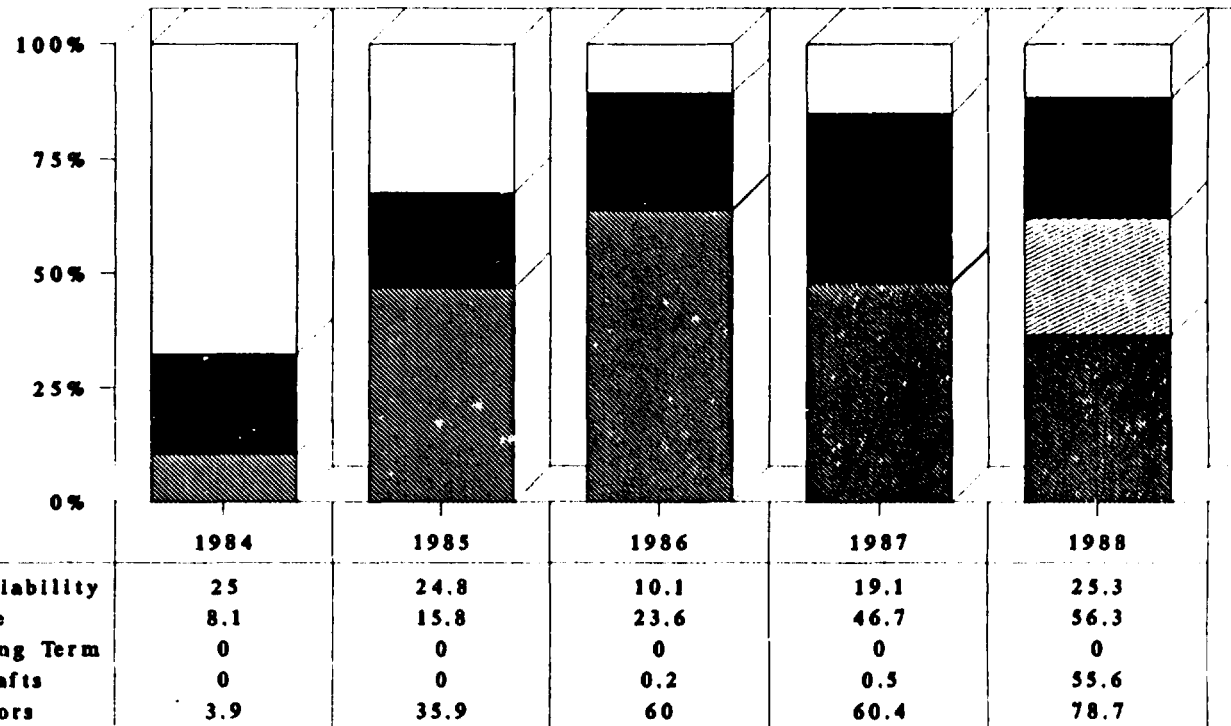
 Debtors & Prepayment

 Trade Debtors

 Cash & Bank Balances

Current Liabilities Breakdown

Tanzania Oxygen Limited



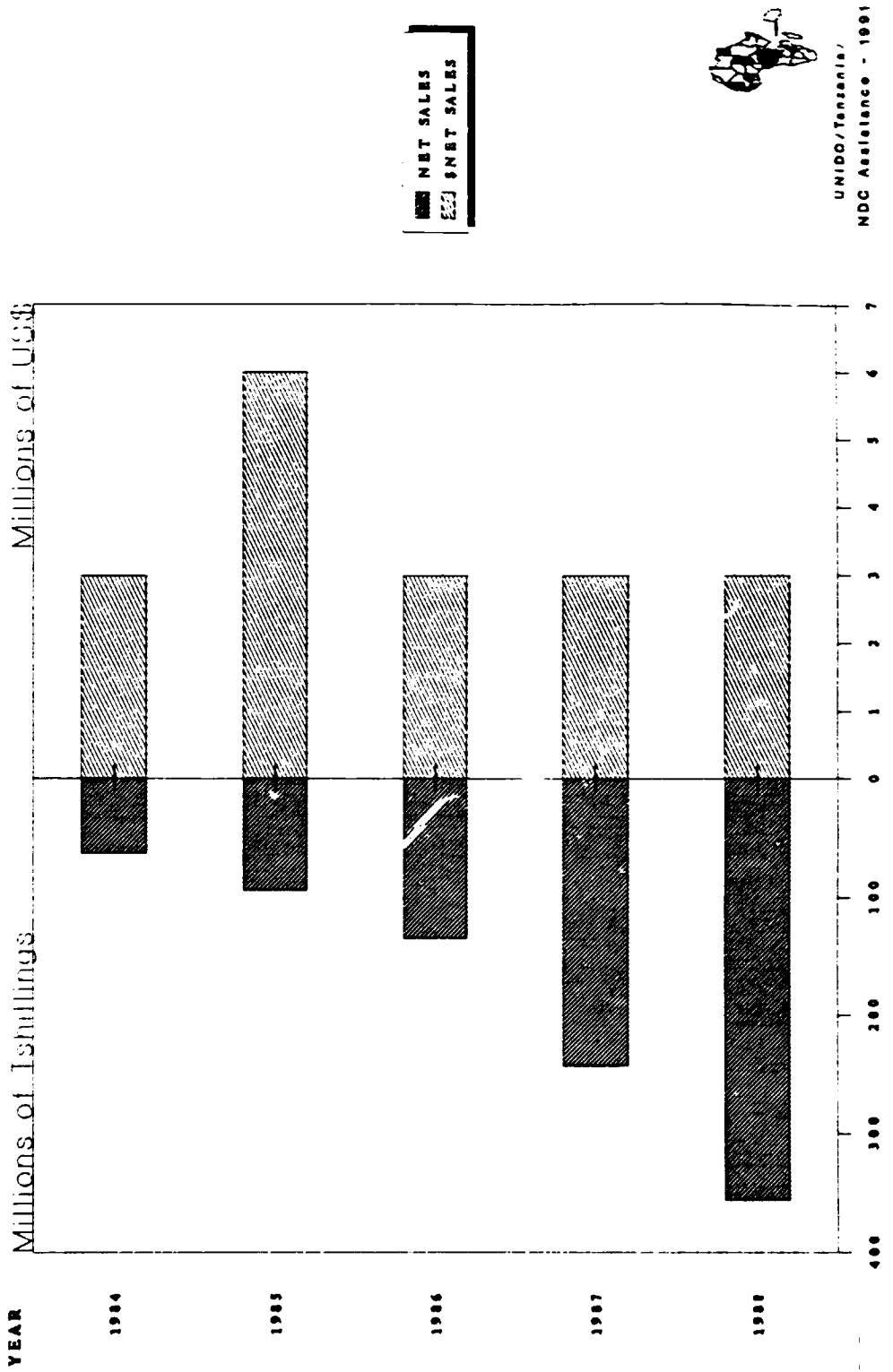
MILLIONS OF SHILLINGS



Trade Creditors
 Bank Overdrafts
 Matur of Long Term
 Taxes Payable
 Other Cur Liability

Net Sales

Tanzania Oxygen Ltd.



Appendix 15: Tanzania Watch Assembly Co., Ltd.

APPENDIX 15: TANZANIA WATCH ASSEMBLY CO., LTD.

I. RECOMMENDATIONS AND ACTION PLAN

Tanzania Watch Assembly Company does not fit either NDC's core skills or its customer bases. The company is small, unprofitable, and in debt. It does not benefit from NDC's reporting structure; although, it has benefitted from NDC's access to debt capital.

NDC should sell the Company to its managers and employees. This would involve the managers and employees assuming both the assets and debt. Alternately, it could sell the key asset of the company, its location, pay off the debts, and close the Company.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

The Tanzania Watch Assembly Tanzania Watch Assembly Company (TWACO) was incorporated in 1978 by NDC. TWACO is the only modern, watch assembly company in Tanzania. It is located in Dar Es Salaam.

TWACO sells watches and watch bands, and repairs watches. In 1988, TWACO produced at only 15.5% of capacity. Production volumes have been low due to a low quality product, lack of capital, and lack of management.

Annual sales in 1989 were Ts. 25 million. TWACO made a loss of Ts. 11 million on those sales. The company's strategy has been to focus on extracting the maximum amount of revenue and benefits for management and employees.

B. Marketing

TWACO does not have a marketing strategy. It is located on an intersection in downtown Dar Es Salaam and it waits for customers to visit. At the same time, sales volumes are well under break-even level. TWACO provides the following products and services:

1. Assembled watches.
2. Watch repairs.

3. Watch assembly.
4. Engraving Work

Customers are watch owners. TWACO demands a deposit to examine a watch. A fair number of free repairs, up to 25% of entries, are listed in company log books as "Rework". This either indicates low quality work or a weakness in financial and management controls.

Pricing of assembled watches is set by TWACO on a "cost-plus" basis.

Inventory management is not a major problem. Watches take little space; however, TWACO does have some repaired watches that have been in inventory for over two years.

The Tanzania Watch Assembly Company does not promote or advertise its products. It does not clean its showroom or signage or windows in order to attract customers. This is in strong contrast to pictures of the showroom when it was under private management. At that time, the facility was clean, orderly, and well-stocked.

C. Production and Operations

1. Geographical Location

TWACO's repair "factory" is located in the showroom. A small room in the back is used to make leather watch bands. The company is not able to provide repairs for electronic watches.

2. Facilities and Processes

TWACO has a shop of less than 150 square meters. It has a staff of 21 employees, including a technician staff and four production staff. The watches are assembled from kits.

3. Product Quality

Judging from the low volume of repairs and sales, and the high percentage of "Rework" items, quality is low. TWACO has made no apparent effort to improve the quality of their products.

4. Competitive Strengths/Weaknesses

As for strengths, TWACO has a prime location, some skilled technicians, and several unique pieces of equipment.

At the same time, TWACO's work force and overhead are high, and its productivity low in comparison to its competitors. Lack of maintenance has aged the showroom

dramatically, while capital resources were invested in a vehicle for the general manager's benefit.

TWACO has no production strategy or plans.

D. Organization

TWACO is fully owned by NDC. Administratively the Tanzania Watch Assembly Company is divided into four departments: administration, accounting/clerical, sales, production and promotion, and repair.

E. Management

The General Manager, Mr. Shetuli, has worked with TWACO for over six years, as its General Manager.

Base salaries are within SCOPO guidelines. However benefit packages are quite extensive. Benefits include: a vehicle for the General Manager, medical care and insurance, and life insurance. Subsidized lunches were, however, recently stopped.

As far as could be determined, management compensation is not linked to performance. The number of management positions as a percentage of the total company work force have decreased from 47% in 1985 to 23% in 1989. However, sales and production figures do not reflect this apparent emphasis on a more production-oriented manpower strategy.

The Board of Directors of TWACO is selected by NDC and the Ministry of Industry and Trades. The Board operates autonomously of the NDC. The current composition of the Board consists of 6 members. They represent the following areas:

Ministry of Trade and Industry	1
National Development Corporation	1
University of Dar Es Salaam	1
Treasury Department	1
National Bank of Commerce, Jawata	1

Accounting audits are conducted by the Tanzanian Audit Corporation, a government corporation. Legal services are provided by NDC's Legal Counsel. TWACO has not made use of consultants from TISCO or the National Productivity Institute in recent years.

F. Human Resources

1. Composition and Skills

TWACO employs 21 persons (see Table V: Manpower for details of the personnel). Employment has remained flat since 1984. Workers are significantly underemployed and there are several unnecessary clerical positions.

The company is able to retain a reasonably qualified work force for its operations. Salary levels are set by SCOPO. Turnover is low. Compensation consists of a base wage, medical insurance, and transportation allowances.

Productivity in the firm is about half of the NDC average.

Productivity - 1989
(Thousands TShillings)

	TWACO	NDC
Revenue per employee	1,176	2,071
Profits per employee	-510	200

TWACO has the dubious honor of losing more per employee than any other NDC company; even more than Southern Paper Mills.

2. Training Programs and Needs

Even though TWACO is the only watch assembly company in Tanzania, ongoing training of its employees is minimal. Technical assistance is provided by suppliers, namely Rado, Omega, Tissot and Nivandu. The amount of training received by the staff is directly related to the training program provided by the suppliers.

G. Finances

1. Sales, Revenue, Profitability

TWACO has shown an upward trend in revenue in T. Shilling terms over the last five years as shown in Table VI: Profit and Loss, although revenues stalled in 1989. However, when this is translated into both dollar and constant shilling terms, TWACO has shown a marked decline in sales.

TWACO lost money in 1989. TWACO shows that although administrative costs and overheads increased slower than annual increases in sales, 36% versus 40%; financial costs increased dramatically in 1989.

Financing costs are high. In 1989, financial charges were 8.9 Ts. million. This is due to low profitability and an excessive reliance on short-term borrowing. This placed a large debt burden on TWACO that has made operations quite difficult within the last two years.

2. Assets and Liabilities

TWACO shows considerable weakness and a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities. However, closer analysis reveals that available cash and the value of raw material stocks have declined while receivables, payables, and accumulated losses have increased. TWACO is on a downward trend as shown in the Graph: Debt-Equity. This is magnified when the figures are translated into constant shilling and dollar terms.

The significant changes at TWACO are: Cash has declined from 20% of total assets to 3% of total assets; and dependence on short term debt has increased from 10% of net assets to 182% of net assets.

TWACO has suffered a weakening in its liquidity. The current ratio has declined from 7 in 1985 to 1.1 in 1989. (This means that it has insufficient funds to cover short-term liabilities.) The acid ratio -- cash and cash equivalents divided by current liabilities has declined dramatically from 2.0 to 0 during this period. This indicates that TWACO would be unable to cover its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

TWACO imports most of its raw materials. Foreign exchange to purchase these products comes through the OGL mechanism described in the main report.

TWACO had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the Tanzania Watch Assembly Company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the Tanzania Watch Assembly Company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Estimates of Valuation

We now examine various indicators of TWACO's worth as a Tanzania watch assembly company from a financial perspective. The economic factors of linkages or the political factors of maintaining employment despite losses have not been considered in these estimates.

Book value is Ts. 6 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Tanzania Watch Assembly Tanzania Watch Assembly Company. This probably understates TWACO's value as it is possible that its location could be quite valuable to another business. The other assets, however, would probably not cover TWACO debts in a liquidation.

To value TWACO as a going concern one divides its profits by the discount rate. As TWACO has no profits, it has no value as a going concern on this basis.

Using a Price to Earnings Ratio of 10, the number of times earnings are multiplied to obtain a selling price, the TWACO would be valued at Ts. 0 shillings (\$0). This is the price that TWACO would fetch on a stock market that valued earnings.

H. Summary

The prognosis for TWACO is not optimistic given increasing competition, low rates of production, an overly large workforce, and a weak financial position. The declining capital position, the heavy level of indebtedness, the weak performance of the company over the last few years, and its high administrative burden relative to its competitors point to increasing losses. TWACO's continued viability depends upon five factors: active, aggressive management, lowered costs, increased production, a smaller work force, and improved marketing.

TWACO does have three strengths: a valuable location, some skilled technicians, and a government owner willing to lose money. Only the last has permitted TWACO to survive.

10 YEAR DEVELOPMENT PROGRAM .WA

Year 1

Year 2

I II III IV I II III IV 3 4 5 6 7 8 9 10

NDC Companies

A. General Strategy

1. Choose a generic strategy

a. Focus

B. Marketing

1. Determine product's value to customers, e.g.:

a. Utility

b. Price

c. Quality

d. Delivery

e. Financing

f. Appearance

2. Determine company's position vis-a-vis competition

3. Increase product visibility

a. Advertise and promote products

4. Increase numbers of persons marketing products

a. Find marketing-oriented individuals within the company

5. Improve quality of marketing effort, e.g.:

a. Train salespersons and distributors

b. Redesign sales and promotional literature

6. Implement market intelligence program, e.g.:

a. Conduct monthly, quarterly, annual surveys

7. Improve after-sales service and support

a. Collect customer feedback

b. Give input to production to improve product and features

c. Build better product

d. Train customers in proper use and maintenance

e. Train servicemen to repair quickly and correctly

f. Sell related goods and services

C. Production and Operations

1. Lower production costs

a. Speed through-out time

b. Eliminate extraneous material and machines

c. Improve product quality

d. Lower raw material costs (Production)

e. Improve equipment maintenance and repair

2. Improve the quality and training of production staff

a. Enroll engineers and technicians in MEIDA and technical seminars

b. Conduct in-house seminars

3. Improve the appearance and safety of facilities

a. Remove unnecessary materials from plant grounds and facilities

b. Paint factories and buildings when they show signs of wear or age

10 YEAR DEVELOPMENT PROGRAM TWA

Year 1 Year 2
 I II III IV I II III IV 3 4 5 6 7 8 9 10

Inbound logistics

- 1. Recognize the importance of purchasing to profitability
 - a. Establish and enforce ethical procurement standards and practices
- 2. Lower raw material costs (Purchasing)
 - a. Build an economic order quantity (EOQ) model.
- 3. Lower procurement costs
 - a. Pool vehicle and other bids with NDC group companies

D. Organization

- 1. Structure the organization to achieve its targets:
 - a. Sell all shares to managers/investors
- 2. Lower administrative/overhead procedural costs
 - a. Streamline administrative paperwork.
- 3. Conduct 'make or buy' analysis on ancillary services, e.g.:
 - a. Medical
 - b. Janitorial
 - c. Security
 - d. Food services
 - e. Housing maintenance, gardening
 - f. Vehicle maintenance & repair

Privatization

- 1. Prepare company for privatization
 - a. Improve operating performance
 - b. Prepare communication program for employees
- 2. Establish goals for privatization
 - a. Increase employee involvement and commitment
 - b. Broaden share-ownership in Tanzania
 - c. Rid company of assets/companies that no longer "fit"
- 3. Build a reputation for integrity, adhere to commitments
 - a. Pay suppliers on time
 - c. Repay bank debts ahead of schedule
 - d. Meet or exceed delivery schedules and promises
 - e. Guarantee product quality

E. Employees

- 1. Increase employee involvement and commitment
 - a. Institute employee suggestion programs
 - b. Establish profit-sharing, phantom stock, or employee stock-ownership programs
 - c. Establish regular employee recognition awards
- 2. Revamp compensation package
 - a. Conduct/obtain a salary and benefits survey
 - b. Cost-out benefit components
 - c. Set upper-limit on benefit compensation
 - d. Establish 'cafeteria plan' of benefits
 - e. Obtain exemption from SCOPO guidelines
 - f. Substitute profit-sharing, 'phantom-stock,' or ESOP for additional compensation
- 3. Revise the position classification system
 - a. Look for 'over-grading'
 - b. Establish more general, flexible position descriptions

Appendix 15 Attachments: TANZANIA WATCH ASSEMBLY CO., LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
NET SALES

TABLE I

Table : Actual Sales

Tanzania Watch Assembling Company

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Watches	0	2	6	9	15	21
2. Clocks	0	0	0	0	0	0
3. Straps/Buckles	0	0	0	0	1	1
4. Repairs/Services	0	0	0	1	2	3
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	0	2	6	10	17	25
Units/Employee'	NA	0	0	1	1	1

TABLE II

Table : Actual Production

Tanzania Watch Company

(Production in Units)

Product	Units	Description	1984	1985	1986	1987	1988	1989
1. Wrist Watches	Pcs	0	0	1,101	0	1,655	0	972
2. Leather Watch Straps	Pcs	0	0	0	0	0	0	30,000
3. Clocks	Pcs	0	0	0	0	0	0	0
4.	0	0	0	0	0	0	0	0
5.	0	0	0	0	0	0	0	0
6.	0	0	0	0	0	0	0	0
7.	0	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0
Total			0	1,101	0	1,655	0	30,972

TABLE III

Table : Actual Purchases

Tanzania Watch Assembly Company

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	0	0	0	0	2	4
2.	Spares & accessories	0	0	0	0	0	0
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	0	1	0	0	2	4
	Foreign currency						
7.	Raw materials	0	1	4	8	4	0
8.	Spares & accessories	0	0	0	0	0	0
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	0	1	5	8	4	0
13.	Total	0	1	5	9	7	5
14.	In Dollars	\$0	\$0	\$0	\$0	\$0	\$0

Notes:

1.

2.

TABLE IV

Table : Actual Investment

Tanzania Watch Assembling Company

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.0	0.0	0.0	0.0	0.0	0.0
2. Plant & machinery	0.0	0.0	0.0	0.0	0.0	0.1
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	0.0	0.0	0.0	0.0	0.0
5. Other	0.0	0.0	0.0	0.0	0.0	0.0
Total Expenditures	0.0	0.0	0.0	0.0	0.0	0.1
Source of Funds						
1. Equity - MDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	0.0	0.0	0.0	0.0	0.0
8. Other, Unaccounted For	0.0	0.0	0.0	0.0	0.0	0.1
Total Sources	0.0	0.0	0.0	0.0	0.0	0.1

TABLE V

Table : Actual Manpower

Tanzania Watch Assembling Company

Product	Employees					1989
	1984	1985	E'std 1986	1987	E'std 1988	
1 Senior Managers	0	6	4	2	3	3
2 Middle Managers	0	0	1	1	1	1
3 Supervisors	0	2	3	3	2	1
4 Clerical	0	2	2	1	3	4
5 Skilled Manual	0	7	7	6	7	7
6 Unskilled Manual	0	0	2	4	5	5
Total	0	17	17	17	19	21
Expatriate	0	0	0	0	0	0
Total Employees	0	17	17	17	19	21

TABLE VI

Table : Actual Profit and Loss Recorded/Trend Tanzania Watch Company

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	3	3	1	8	24	0	0
Less: Cost of Sales	2	1	0	4	15	0	0
Gross Profit	2	2	1	4	9	0	0
Less: Operating Expenses	2	5	5	4	7	0	0
Administration	1	3	3	3	7	0	0
Selling and Distributio	0	0	0	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	0	0	0	0	0	0
Depreciation	1	2	1	0	0	0	0
Operating Profit (Loss)	(0)	(3)	(4)	0	2	0	0
Add: Other Income	0	0	0	0	0	0	0
Less: Other Expense	(0)	0	1	0	0	0	0
Net Profit Before Tax	(0)	(4)	(5)	0	2	0	0
Less: Provision for Taxes	0	0	0	0	1	0	0
Profit After Tax	(0)	(4)	(5)	0	1	0	0
Statement of Retained Earnings							
Balance Brought Forward	1	1	(3)	(8)	(7)	(6)	(6)
Prior Year Adjustment	(0)	(0)	0	0	0	0	0
Balance Brought Forward R	1	1	(3)	(8)	(7)	(6)	(6)
Add: Net Profit for the Year	(0)	(4)	(5)	0	1	0	0
Profit Available for Appr	1	(3)	(8)	(7)	(6)	(6)	(6)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	1	(3)	(8)	(7)	(6)	(6)	(6)
Cost of Goods Sold							
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	0	0	0	0	0	0	0
Cost of Sales	0	0	0	0	0	0	0
Operating Expenses	0	0	0	0	0	0	0
Profit After Tax	(0)	(0)	(0)	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Tanzania Watch Assembling Company Ltd.

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	0	4	4	3	13	0	0
2. Current Assets	0	7	10	21	46	0	0
3. Stocks	0	3	10	19	38	0	0
4. Trade Debtors	0	0	0	2	0	0	0
5. Debtors and Prepayments	0	2	0	0	7	0	0
6. Cash and Bank Balances	0	2	0	0	0	0	0
7. Current Liabilities	0	1	8	18	42	0	0
8. Trade Creditors	0	0	3	5	4	0	0
9. Bank Overdrafts	0	1	3	10	31	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	0	0	0	0	1	0	0
12. Other Current Liabiliti	0	0	3	3	6	0	0
13. Net Current Assets/Liabil	0	6	2	3	4	0	0
14. Total Net Assets	0	10	6	6	17	0	0
15. Financed by:							
16. Share Capital	0	13	9	7	9	0	0
17. Capital Reserves	0	(0)	(0)	(14)	(0)	0	0
18. Profit and Loss Account	0	(2)	(3)	11	8	0	0
19. Long Term Loans	0	0	0	0	0	0	0
20. Debt	0	1	8	18	42	0	0
21. Equity	0	10	6	6	17	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

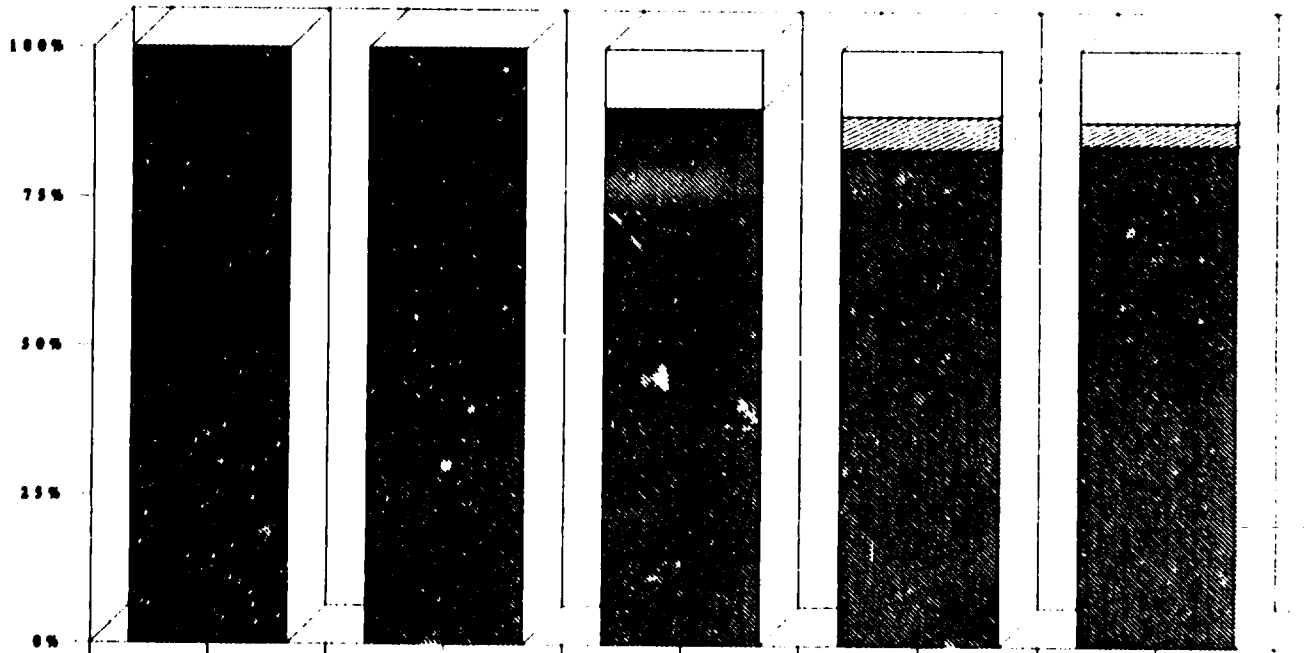
In Current Dollars

1. Net Fixed Assets	0	0	0	0	0	0	0
2. Current Assets	0	0	0	0	0	0	0
7. Current Liabilities	0	0	0	0	0	0	0
13. Net Current Assets/Liabil	0	0	0	0	0	0	0
14. Total Net Assets	0	1	0	0	0	0	0
20. Debt	0	0	0	0	0	0	0
21. Equity	0	0	0	0	0	0	0

Product Sales Breakdown

Tanzania Watch Assembling Company

% BREAKDOWN OF PRODUCT SALES



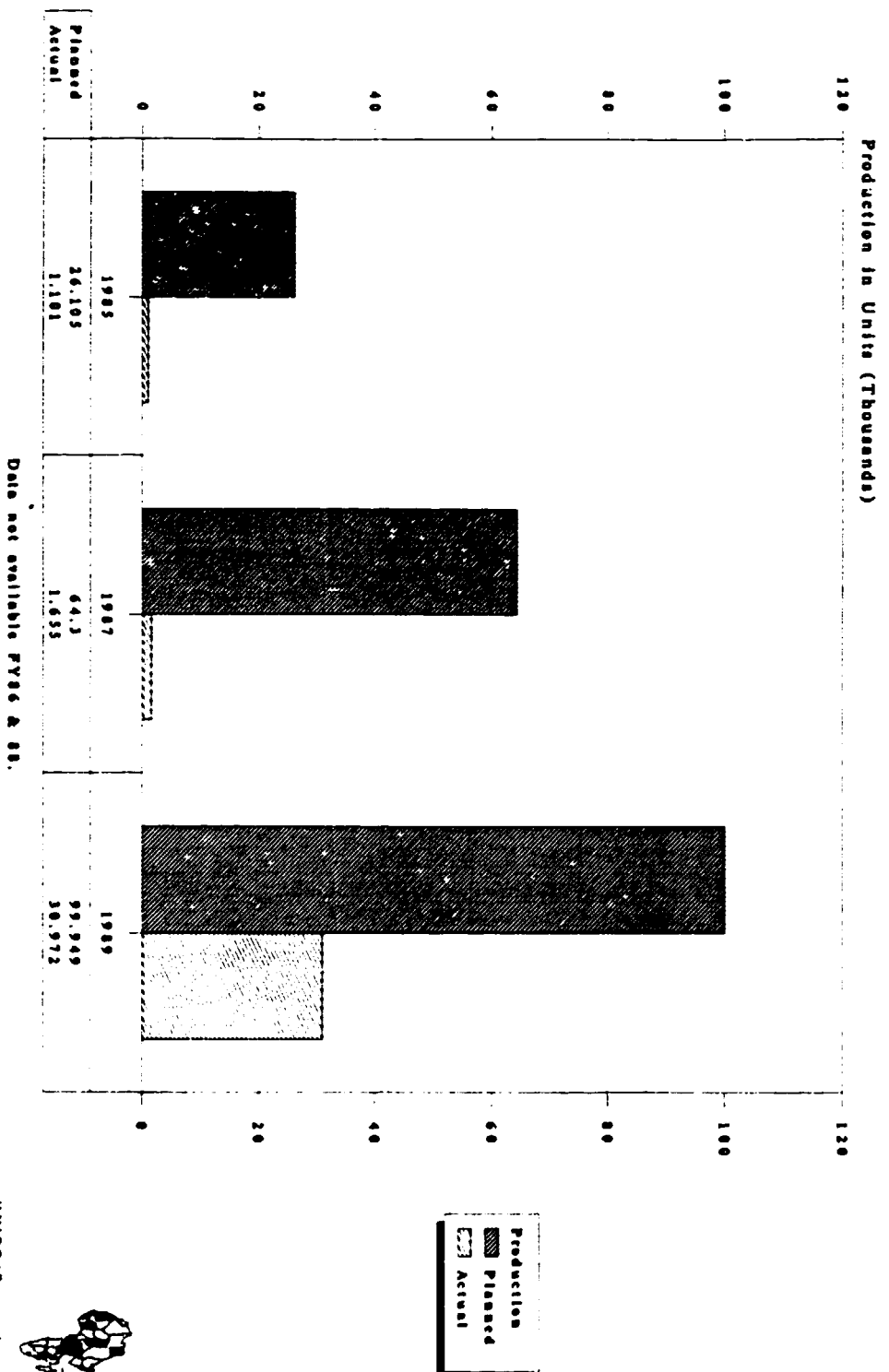
	1985	1986	1987	1988	1989
Repairs/Services	0	0	1	2	3
Straps/Buckles	0	0	0	1	1
Watches	2	6	9	13	21

MILLIONS OF SHILLINGS



Planned vs. Actual Production

Tamzania Watch Company



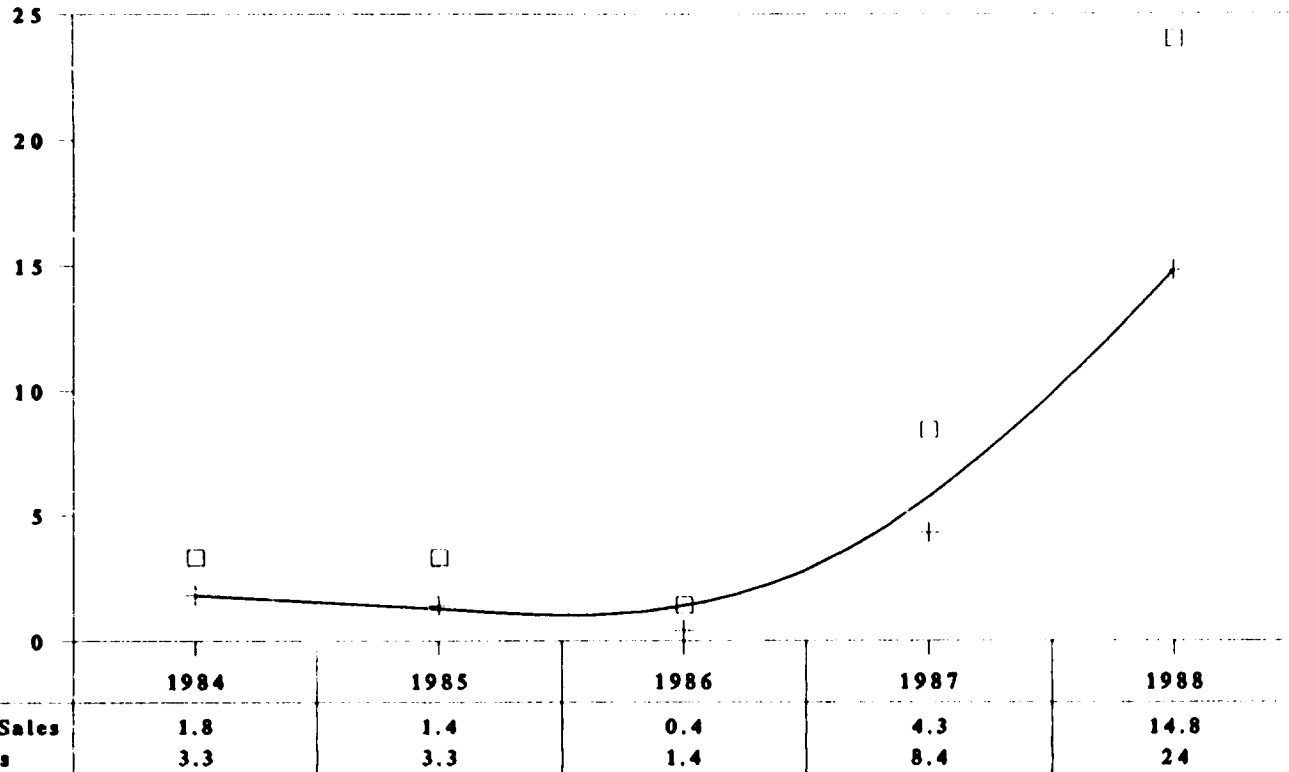
UMIDO/Tanzania/
NDC Assistance - 1991



Cost Of Sales/Net Sales

Tanzania Watch Assembly

MILLIONS OF SHILLINGS



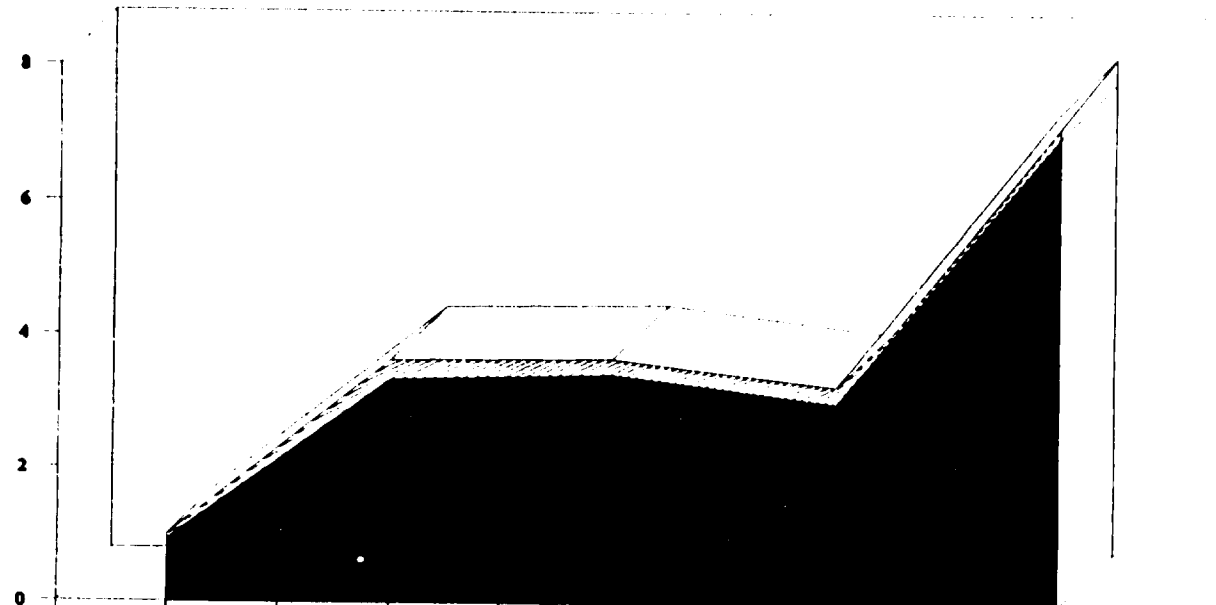
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Tanzania Watch Assembly

Millions of Tshillings



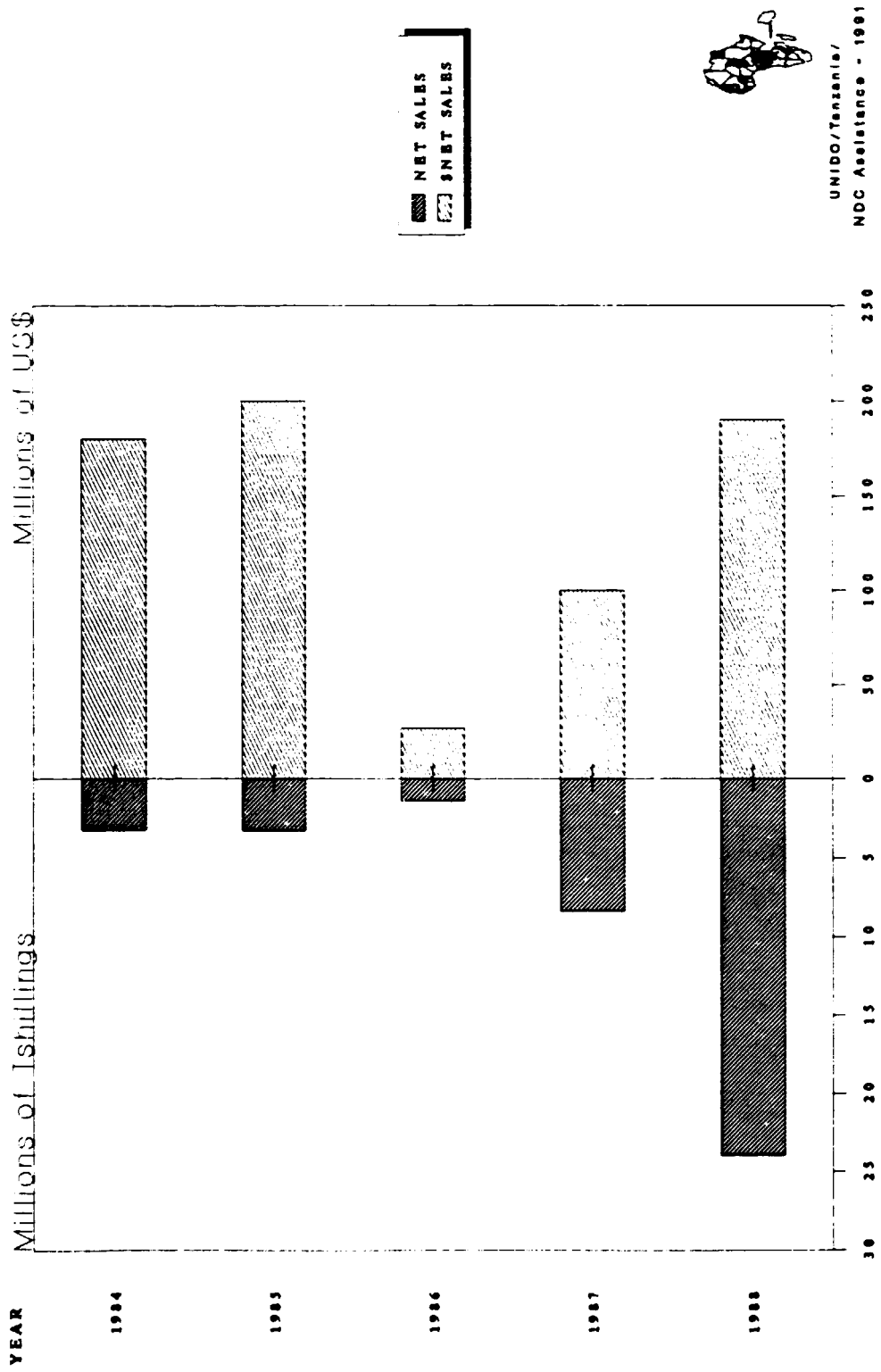
	1984	1985	1986	1987	1988
Fin Expenditure	0	0	0	0	0
Selling & Distrib	0.062	0.288	0.24	0.252	0.371
Administration	0.941	3.333	3.412	2.99	7.003



Operating Expenses
 Administration Selling & Distrib Fin Expenditure

Net Sales

Tanzania Watch Assembly Co., Ltd.



Appendix 16: Ubungo Farm Implements

APPENDIX 16: UBUNGO FARM IMPLEMENTS

I. RECOMMENDATIONS

Ubungo Farm Implements has been a successful, productive company. It fits one of NDC's three recommended target market areas -- agriculture -- and is a key company in improving agricultural productivity in the country.

Currently, it faces strong import competition and a leveling of demand for its products. To survive, it must cut costs, improve quality, and broaden the range of its products. Cutting costs will be the key. Marketing needs to be improved substantially.

An association or merger with Zana Za Kilimo and Mangu'la Mechanical and Machine Tools is recommended to lower costs, broaden product range, and increase marketing strength.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

1. Company

Ubungo Farm Implements (UFI) was incorporated in 1968 and went into commercial production in 1970. Its share holding is 100% NDC. The plant was supplied by the Chinese and produces mainly round eye hoes, ploughs, plough parts, hatchets and shovels. The capacity of the plant is 1.98 million hoes and 20,000 ploughs. Machinery for production of shovels and hatchets were installed in 1968 with the capacity to produce 240,000 shovels and 600,000 hatchets per year. In terms of tonnage, the attainable capacity is 4,050 tons of product per year.

2. Corporate Strategy

The Company strategy is to move from production of hand farm implements to automated or motorized farm implements using the existing technology.

B. Industry and Competitor Analysis

1. Market Overview

A number of market studies to determine the demand for farm implements in the country have been undertaken by TISCO, UFI, and a team of Swedish experts. It is unfortunate to say that the said demand figures do not agree. UFI believes that the demands for hoes is about 2,500,000 pieces while TISCO says the demand for hoes is 4,700,000 annually. The Swedish team of experts has put the demand between 2.6 and 3.1 million. The Government has decided to take UFI figures as the national demand figures for farm implements.

2. Customer Characteristics

Main customers of farm implements are farmers, constituting 95% of the country's population.

3. Market Size and Trends

The market size for the major farm implements is estimated as follows:

Hoes	2,500,000 pieces
Ploughs	50,000 pieces
Shovels	300,000 pieces
Axes	224,000 pieces
Hatchets	1,200,000 pieces

Annual market growth is estimated to be at 10%.

4. Competition

Ubungo Farm Implements is competing with Zana Za Kilimo Mbeya, also an NDC group company. Due to trade liberalization, private individuals have imported farm implements (e.g. Cock brand and Crocodile brand hoes) which are very popular with farmers. Other small Companies like Themis Farm Implements in Arusha, also produce hand farm implements.

5. Substitutes

In the medium term, motorized farm implements should be looked at as viable substitutes for hand farm implements.

6. Estimated Market Shares

UFI had maintained a monopoly on hand farm implements for almost 20 years. But recently the market shares have been divided up between Mbeya Farm Implements and other small farm implement companies. There are no figures to elaborate the shares.

7. Sales History

Year	1985	1986	1987	1988	1989	1990
Tshs	220,788,282	294,946,614	450,040,341	519,212,389	-	720,000,000

8. Distribution Channels

Ubungo Farm Implements has its traditional distribution Channels:

- Through Regional Trading Companies' (RTC's).
- Co-operative Unions.
- Tanganyika Farmers Association (branches).
- Appointed Agents.
- Depots e.g. Makambako.

9. Policy and Regulatory Environment

Until recently the policy and regulatory environment limited competition in this market. Now private individuals have been authorized to import such products through the liberalization policy. The opening of the import market has exposed UFI to increased competition. This should result in lower market prices which would be good for the country in that the competition should result in lower pricing and imported services.

Macroeconomic policies that affect UFI include exchange rate regulations, access to foreign exchange rate and an overvalued exchange. UFI depends on imported raw materials, especially steel.

The tariff on steel products of all types is 30%. The Government does not distinguish between raw, intermediate or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of processed materials are taxed, and sale of end products are also taxed. The result is to increase the overall cost to the consumer and dampen export potential of the firms.

C. Marketing

1. Overall Marketing Strategy

The demand for farm implements has grown faster than population. Ubungo Farm Implement's basic marketing strategy is to sell the products direct to the customers (farmers) by using the co-operative unions and the RTC's.

2. Sales Tactics

Regional Trading Companies will continue to be the UFI selling centers in the Region. However, UFI shall also sell through TFA and their branches, co-operative Unions and the appointed agents. UFI shall award clean RTC's with credit facility of 30

days. The Company has opened sale centers in various strategic region to enhance cash sales and improve liquidity.

3. Customer Service

UFI sales personnel travel from one region to another to offer after-sales service to the customer.

4. Pricing

Pricing is done by the price commissioner. The price commissioner allows for a normal 15% profit margin on products.

5. Advertising

The company uses local newspapers to advertise their products. Also, it distributes pamphlets.

6. Distribution

Rail and road transport is the major means of UFI distribution of farm implements in the country. Emphasis on distribution by rail should be fostered for cost minimization. Efforts to acquire lorries to promote Van-Selling should continue. The market for UFI products is far from its factory in Dar es Salaam.

D. Production and Operation

Ubungo Farm Implements produces agricultural implements such as hand hoes, ploughs and plough parts, hatchets and shovels.

1. Geographical Location

UFI is situated in Dar Es Salaam along Morogoro Road about 10 km from the City Center.

2. Facilities and Progress

The Plant is made up of a number of divisional plants, including:

- Old Line.
- New Line.
- Shovels and Hatchets.
- Machine Shop.
- Foundry.

Production process flows are separated into the following processes:

- Material Preparation.
- Forging Line.
- Grinding Line.
- Heat Treatment.
- Painting.
- Assembly.
- Foundry.

Plant Capacity attainable is 4,050 tons broken into various machinery capacities, as follows:

PRODUCTION DEPARTMENT MAJOR PLANT ITEMS	AGE OF EQUIPMENT	CAPACITY ON 8 HOURS SHIFT, 300 WORKING DAYS (MT)	
		INSTALLED	ATTAINABLE
		4,500	4,050
1. Material Preparation I	20 yrs	1,240	1,116
2. Material Preparation II	10 yrs	2,480	2,232
3. Forging and Pressing I	20 yrs	1,020	918
4. Forging and Pressing II	10 yrs	1,350	1,215
5. Forging and Pressing III	10 yrs	1,350	1,215
6. Heat Treatment I	20 yrs	DIES	DIES
7. Heat Treatment II	10 yrs	2,900	2,610
8. Grinding and Polishing	20 yrs	2,900	2,610
9. Oil Painting I	20 yrs	1,013	912
10. Oil Painting II	10 yrs	2,900	2,610
11. Shovel/Hatchet Plant	5 yrs	780	702
3. <u>Maintenance</u>			

A sudden high level of capital expenditure on plant and machinery in 1989 (see Table IV) indicates that maintenance is quite poor. It would be beneficial to UFI to spend more time and money on maintenance of their plant and machinery which would allow for

increased capacity utilization, more production, lower costs, higher sales, more revenues and possibly increased profit.

4. Production Cost

Following are the production costs broken down for the year 1990 with percentages.

	1990 ('000')	%
Direct labor	42,704	31.5
Electricity	23,533	17.4
Water	6,325	4.7
Repair and maintenance	10,733	7.9
Fuel Oil	20,745	15.3
Parking Materials	1,679	1.3
Other Direct Costs	<u>29,770</u>	<u>21.9</u>
	135,507	100.0
	=====	=====

5. Product Quality

The Department of Design and Quality Control handles all aspects of quality control from the design stage to the packing stages.

6. Product Delivery

As mentioned above the market for farm implements exists in rural areas where small farmers use hand implements. Delivery of the products to the customer is mainly through the RTC's and the appointed Agents in the regions. It is very important that the product reach the customer before the farming season.

7. Competitive Strengths and /Weaknesses

Strengths

- Located in Dar es Salaam.
- Politically motivated.
- Chinese technical assistance.

Weakness

- Market segments scattered all over the Country.
- Technology drawbacks (hand tools only).

8. Strategy and Plans

In order to achieve production targets and plans the company's production strategy is that:

Production and maintenance activities shall be maintained in order to minimize idle time and other production costs.

Spares parts shall be made within the UFI workshop.

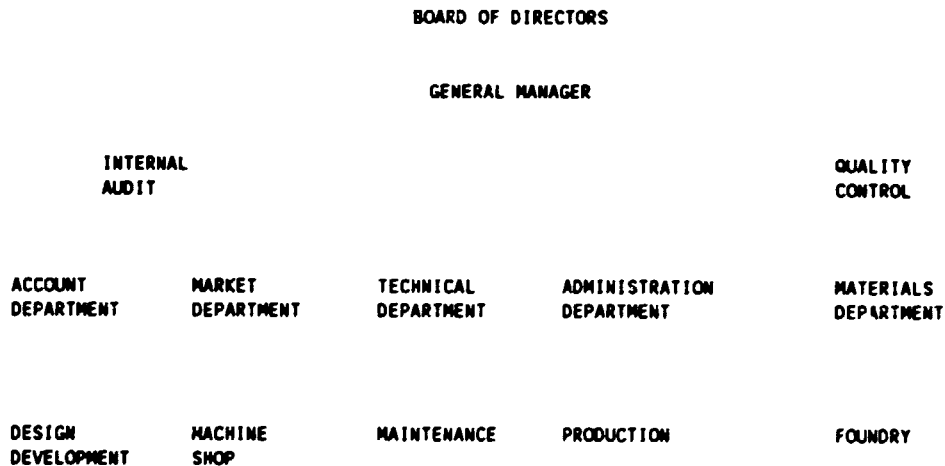
New incentives for production crew and other workers shall be explored.

9. Expansion Plans

Ubungo Farm Implements, due to financial limitations, has no expansion plans except for the purchase of Tempering Equipment, worth Tshs 56 million. Capital is required for this purchase is provided for by a Chinese grant.

E. Management

1. Organizational Structure



2. Key Management Personnel

The general manager for UFI is Mr. C. Mwakalinga.

3. Management Compensation

Like other state corporations UFI enjoys the same benefits as stipulated by SCOPO.

4. Board of Directors

Following is the Institutional composition of the Board of Directors:

- Chairman - Business man (Former Gen. Mgr. of NMC)
- National Development Corporation
- CARMATEC
- Sokoine University of Agriculture
- Ministry of Industries and Trade
- JUWATA

5. Supporting Professional Services

Accounting Audits are conducted by the Tanzania Audit Corporation. Legal services are provided by the Corporation Secretary of NDC. Other Consulting services are from TIRDO and TISCO.

F. Human Resources

1. Composition and Skills

UFI employs 946 persons. They are broken down as follows (1990):

	<u>Numbers</u>	<u>%</u>
Senior Manager	6	0.6
Middle Manager	25	2.6
Supervisors	30	3.2
Clerical	65	6.9
Skilled/Manual	704	74.4
Unskilled/Manual	<u>116</u>	<u>12.3</u>
Total	946	100.0

2. Compensation and Trends

The compensation package is similar to other state companies and consists of:

- A base wage
- overtime
- medical insurance
- housing allowance
- transportation allowance
- meal allowances

Benefits and allowances are used extensively to avoid the 50% tax rate on wages.

3. Productivity

Productivity in the firm is very low. Output for the firm is as follows (1990):

	UFI	NDC
Tshs sales per employee ('000s)	605	1,478
Profit in Tshs per employee ('000s)	(183)	95

4. Training Programs and Needs

The Company, through external financing, was able to have five of its employees trained outside the Country for periods ranging from one month to six years. Local training included on the job training for operatives as well as part time training at various institutions such as the Chang'ombe Vocational Training Center, Dar es Salaam Technical College, and National Institute of Transport. Ubungo Farm Implements spent Tshs 2,300,000/= during 1990 out of Tshs. 3,500,000/= budgeted for training during the year.

G. FINANCES

1. Sales, Revenue, Profitability

UFI has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table VI: Profit and Loss. However, when this is translated into both dollar and constant shilling terms, UFI has shown a marked decline in sales.

UFI loses money and the loss was growing through 1989. In 1989 UFI lost Ts. 68.1 million. Table VI shows that administrative costs and overheads have increased markedly faster than increases in sales. The Cost of Goods Sold also increased dramatically, mainly due to the increase in imported raw materials. This reflects a rise in the foreign exchange component. As this was higher than the per ton selling price of the steel products, it shows that UFI is not able to pass along its raw material price increases to the consumer. The main reason for this is price import competition.

Financing costs are high. Financing costs in 1986-1988 exceeded annual revenues. This is due to low profitability and an excessive reliance on short-term borrowing to cover the short-term liabilities. This places a large debt burden on UFI that has made operations quite difficult within the last five years. In 1988 UFI had an overdraft of Ts. 279 million.

2. Assets and Liabilities

How well UFI uses its assets is reflected in its balance sheet and the analysis of those assets and liabilities. Good management of these assets should be reflected in either financial strength measures such as the current ratios, debt/equity ratios, etc., or

in productivity measures such as return on assets/return on working capital, etc. Weakness is reflected in inadequate cash, and low returns on working capital.

a. **Balance Sheet**

UFI shows considerable weakness and a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VI: Balance Sheet. However, closer analysis reveals that available cash has increased only marginally as compared to receivables. In 1988, UFI had Ts. 1,095 million outstanding for current liabilities. This situation has greatly affected UFI's ability to meet working capital requirements.

b. **Ratio Analysis**

Cash has remained close to 3% of total assets for the past several years. Dependence on short term debt has increased from 0% of total liabilities to 25% percent of total liabilities (1984-1988). Material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

c. **Short term liquidity**

Short-Term Liquidity Analysis shows that UFI has suffered a weakening in its liquidity. The current ratio has declined from 1.37 in 1985 to 1.08 in 1988. (This means that it has insufficient or barely sufficient funds to cover short-term liabilities depending on its debt collection performance). The acid-test ratio -- cash and cash equivalents divided by current liabilities -- has remained at a dramatically low level of 0 for several years. This indicates that UFI would not be able to cover its short-term liabilities in the given year, effectively converting all short-term liabilities into long term debt.

3. **Foreign Exchange and Capital Requirements**

a. **Sources and Uses of Foreign Exchange**

UFI imports most of its raw materials, totaling Ts. 606 million in 1989. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms described in the main report. UFI also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

UFI had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of

purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

4. Estimates of Valuation

i. Book Value

Book value is Ts. 165 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In UFI's case, liquidation of the company would transfer a gain/loss of this amount to the NDC Group balance sheet.

ii. Going Concern

UFI has shown a decreasing trend in its profit after tax figures (Table VI) showing that it has been a "falling" company since 1984. Its marketability on the whole is low.

Appendix 16 Attachments: UBUNGO FARM IMPLEMENTS

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
DEBT/EQUITY
NET SALES

TABLE I

Table : Actual Sales

Ubungo Farm Implements Company

(millions of shillings)

			Est'd	Est'd		
	1984	1985	1986	1987	1988	1989
1. Round Eye Hoes	90	35	160	284	279	274
2. Ploughs	25	5	9	13	45	78
3. Upset/Flat Shares	12	5	6	7	19	32
4. Shovels	0	0	6	11	47	83
5. Matchets	0	0	1	1	90	179
6. Other Products	2	1	46	92	46	0
7. Import Sales	168	112	56	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	296	158	283	408	527	646
Units/Employee	NA	NA	NA	NA	NA	NA

TABLE II

Table : Actual Production

Ubungo Farm Implements Company

Product	(Production in Thousands of Unit					
	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1. Hoes	1,680	1,360	1,539	1,717	1,459	1,200
2. Ploughs	20	7	8	9	15	20
3. Flat/Upset Shares	200	206	118	30	15	0
4. Ploughs Spares	0	54	27	0	0	0
5. Shovels	0	0	32	64	72	80
6. Matchets	0	0	9	18	34	50
7. Other Products	107	0	60	120	160	200
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	2,007	1,627	1,793	1,958	1,754	1,550

Table : Actual Purchases

TABLE III

Obungo Farm Implements

		(millions of shillings)					
Local currency		1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	0	0	17	35	19	3
2.	Spares & accessories	42	0	6	11	12	12
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	42	0	23	46	31	15
Foreign currency							
7.	Raw materials	47	0	120	240	423	606
8.	Spares & accessories	63	0	8	15	24	32
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	110	0	127	255	446	638
13.	Total	152	0	150	301	477	653
14.	In Dollars	\$8	\$0	\$3	\$4	\$4	\$3

Notes:

1.

2.

TABLE IV

Table : Actual Investment

Ubungo Farm Implements Ltd.

(Millions of TShillings)

Capital Expenditures	1984	1985	1986	1987	1988	1989
1. Land & building	0.7	0.8	0.0	3.7	0.0	0.0
2. Plant & machinery	2.6	2.2	0.0	3.7	0.0	64.5
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	8.1
4. Motor vehicles	1.1	0.3	0.0	1.1	0.0	13.6
5. Other	1.1	0.4	0.0	0.0	0.0	0.0
Total Expenditures	5.5	3.7	0.0	8.5	0.0	86.2
Source of funds						
1. Equity - MDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	0.0	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.7	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	64.0
7. Self-Generated	5.5	3.7	0.0	9.8	0.0	22.1
8. Other, Unaccounted For	0.0	0.0	0.0	(2.0)	0.0	0.1
Total Sources	5.5	3.7	0.0	8.5	0.0	86.2

Table : Actual Manpower

TABLE V
Zana za Kilimo Company (Ubungo)

Product	Employees					
	1984	1985	1986	1987	1988	1989
1 Senior Managers	5	5	6	6	6	6
2 Middle Managers	10	12	13	13	17	20
3 Supervisors	34	25	24	23	24	25
4 Clerical	87	73	30	46	51	56
5 Skilled Manual	342	399	464	528	264	
6 Unskilled Manual	144	104	111	117	146	175
Total	622	618	676	733	508	282

TABLE VI

Table : Actual Profit and Loss Ubungo Farm Implements Company

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989	1990
Profit & Loss							
Net Sales	270	221	295	450	519	0	0
Less: Cost of Sales	127	117	199	305	315	0	0
Gross Profit	144	103	96	145	204	0	0
Less: Operating Expenses	96	63	95	142	227	0	0
Administration	60	45	47	70	109	0	0
Selling and Distributio	10	6	24	29	36	0	0
Foreign Exchange Losses	0	0	12	14	0	0	0
Financial Expenses	26	13	12	29	82	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	48	40	1	3	(23)	0	0
Add: Other Income	9	11	18	17	17	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	56	51	20	20	(6)	0	0
Less: Provision for Taxes	28	26	10	10	0	0	0
Profit After Tax	28	26	10	10	(6)	0	0
Statement of Retained Earnings							
Balance Brought Forward	1	57	68	66	72	66	66
Prior Year Adjustment	33	0	0	0	0	0	0
Balance Brought Forward R	34	57	68	66	72	66	66
Add: Net Profit for the Year	28	26	10	10	(6)	0	0
Profit Available for Appr	62	82	78	76	66	66	66
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	5	14	12	4	0	0	0
Retained Earnings Carried	57	68	66	72	66	66	66
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA
In Current Dollars (thousands)							
Net Sales	15	13	6	5	4	0	0
Cost of Sales	7	7	4	4	2	0	0
Operating Expenses	5	4	2	2	2	0	0
Profit After Tax	2	2	0	0	(0)	0	0

TABLE VII

Table : Balance Sheet
Actual

Kiwanda Cha Zana Za Kilimo Ubungo

(Millions of TShillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	46	51	58	59	330	0	0
2. Current Assets	266	288	303	655	1,168	0	0
3. Stocks	133	180	140	270	771	0	0
4. Trade Debtors	0	0	0	0	0	0	0
5. Debtors and Prepayments	132	107	161	376	405	0	0
6. Cash and Bank Balances	1	1	3	9	12	0	0
7. Current Liabilities	194	210	235	581	1,095	0	0
8. Trade Creditors	194	167	230	399	754	0	0
9. Bank Overdrafts	0	41	4	105	279	0	0
10. Current Maturity of LT	0	1	0	1	1	0	0
11. Taxes Payable	0	0	0	46	32	0	0
12. Other Current Liabiliti	0	0	0	30	29	0	0
13. Net Current Assets/Liabil	72	78	68	73	93	0	0
14. Total Net Assets	118	129	126	132	423	0	0
15. Financed by:							
16. Share Capital	13	44	44	44	44	0	0
17. Capital Reserves	56	(0)	(0)	0	0	0	0
18. Profit and Loss Account	47	84	82	88	379	0	0
19. Long Term Loans	2	1	1	0	0	0	0
20. Debt	196	210	236	582	1,095	0	0
21. Equity	116	128	126	132	423	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

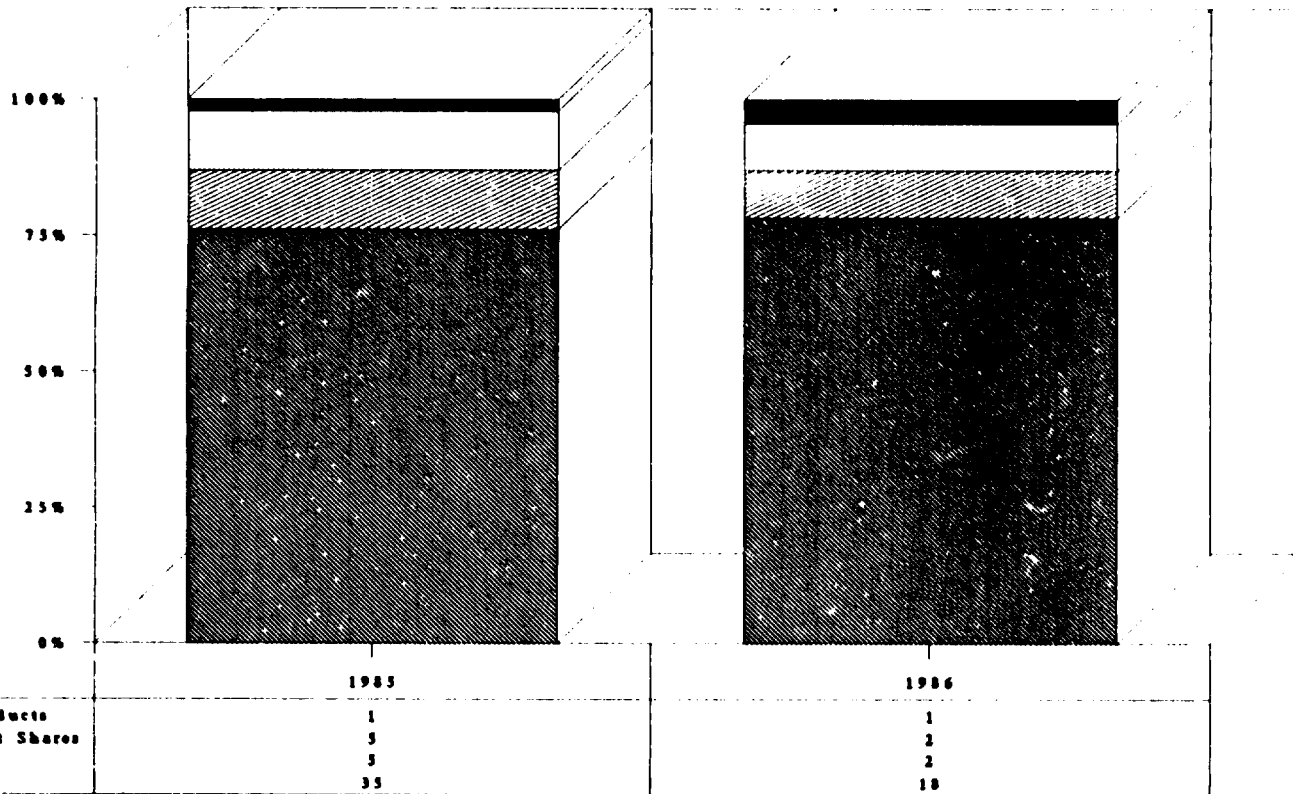
In Current Dollars

1. Net Fixed Assets	3	3	1	1	3	0	0
2. Current Assets	15	17	6	8	9	0	0
7. Current Liabilities	11	13	5	7	9	0	0
13. Net Current Assets/Liabil	4	5	1	1	1	0	0
14. Total Net Assets	7	8	2	2	3	0	0
20. Debt	0	12	4	3	5	6	0
21. Equity	0	7	2	2	1	2	0

Product Sales Breakdown

Ubungo Farm Implements

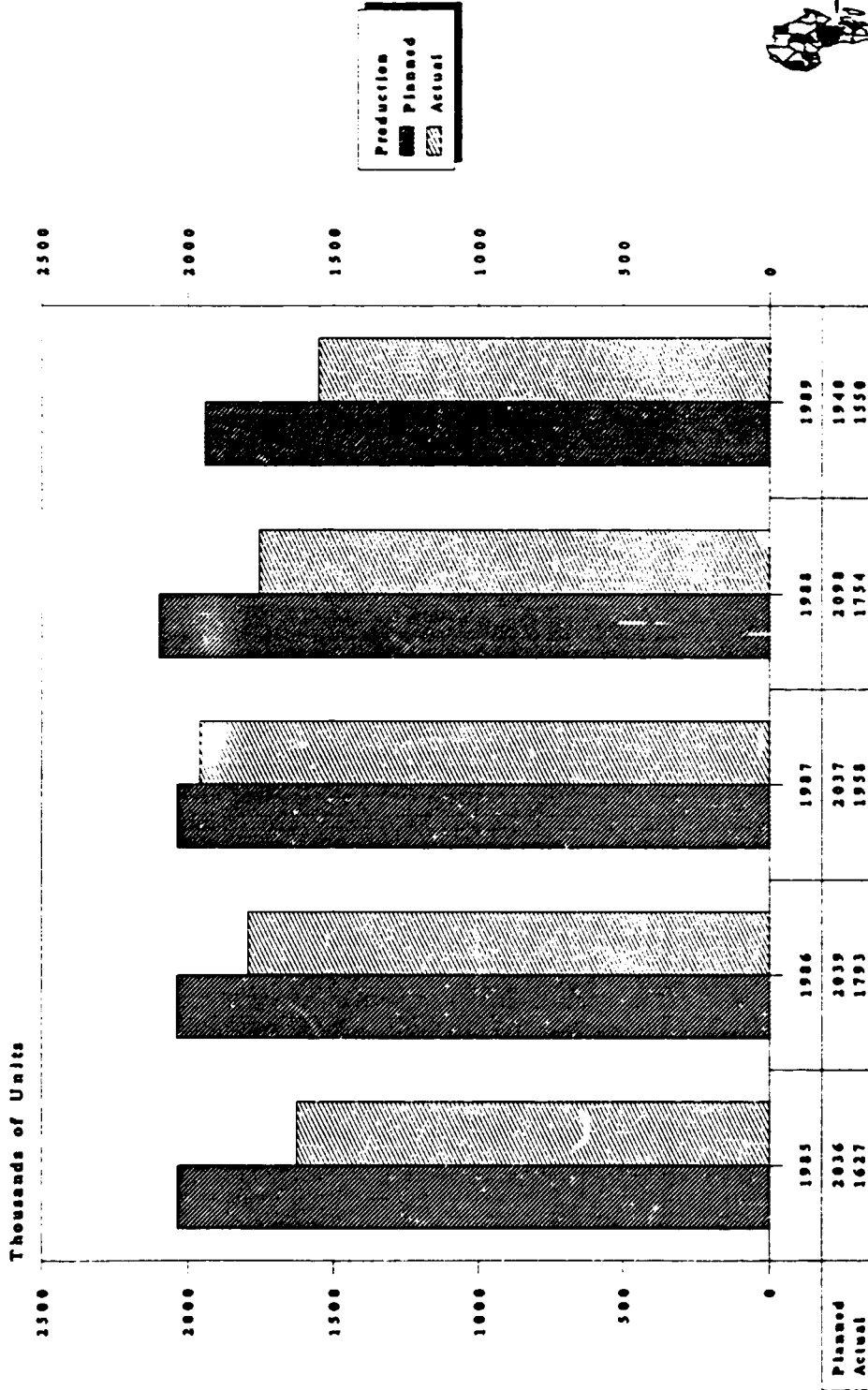
% BREAKDOWN OF PRODUCT SALES



R/B Hoes
 Ploughs
 Flat/Upset Shares
 Other Products

Planned vs. Actual Production

Ubwungu Farm Implement Company

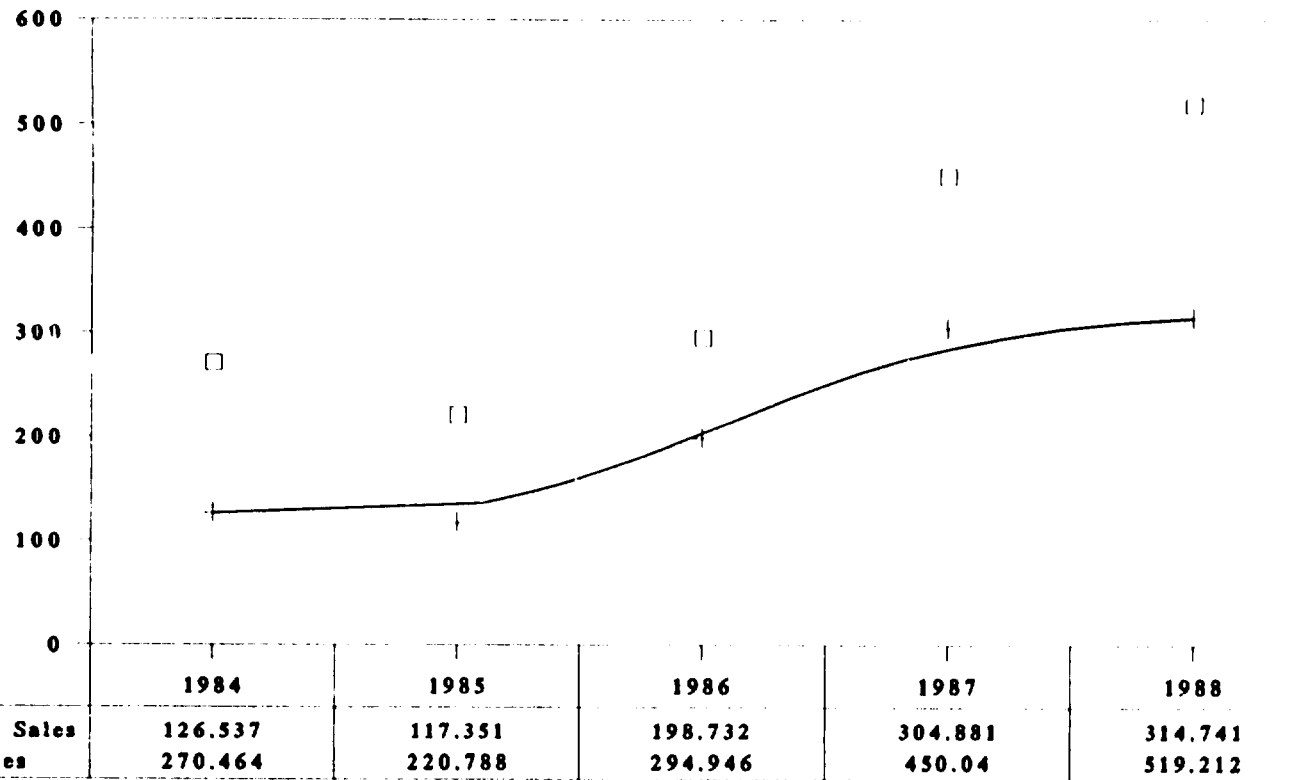


UNIDO/Tanzania/
NDC Assistance - 1991

Cost Of Sales/Net Sales

Ubungo Farm Implements

MILLIONS OF SHILLINGS



	1984	1985	1986	1987	1988
Cost of Sales	126.537	117.351	198.732	304.881	314.741
Net Sales	270.464	220.788	294.946	450.04	519.212



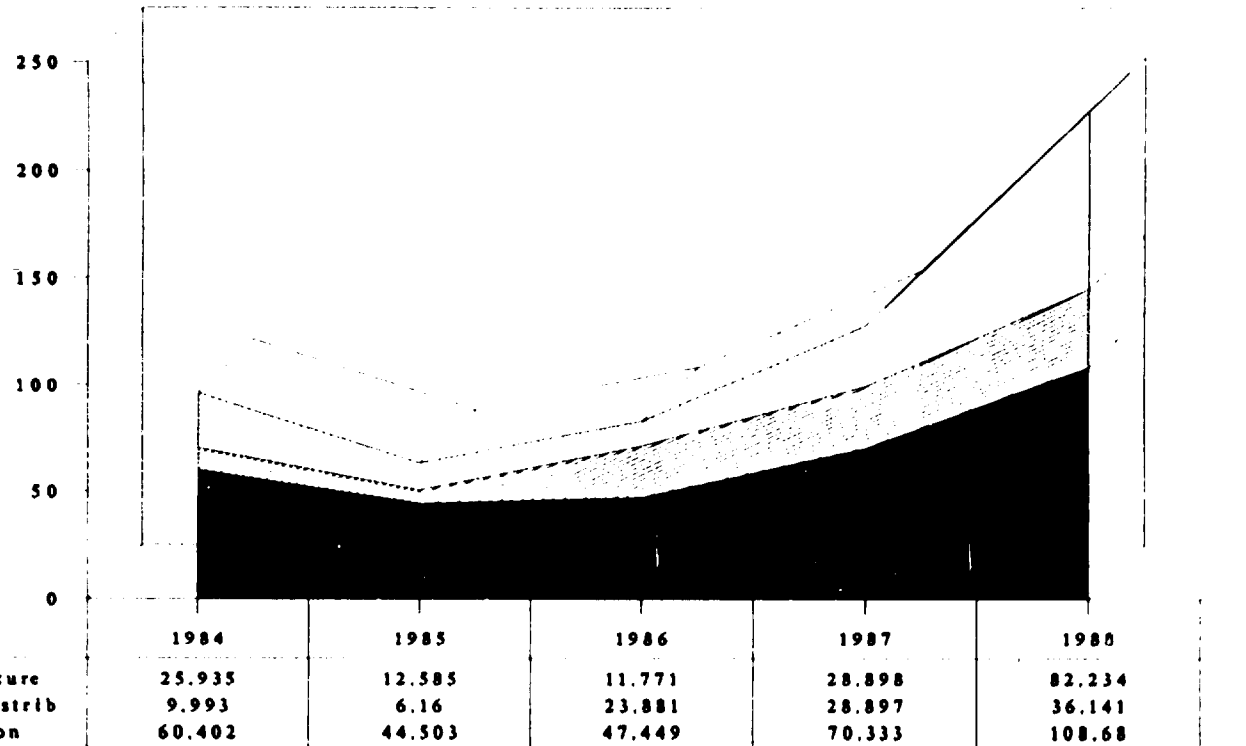
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Ubwungo Kaurna Kimpimments

Millions of Tshillings



Fin Expenditure
Selling & Distrib
Administration

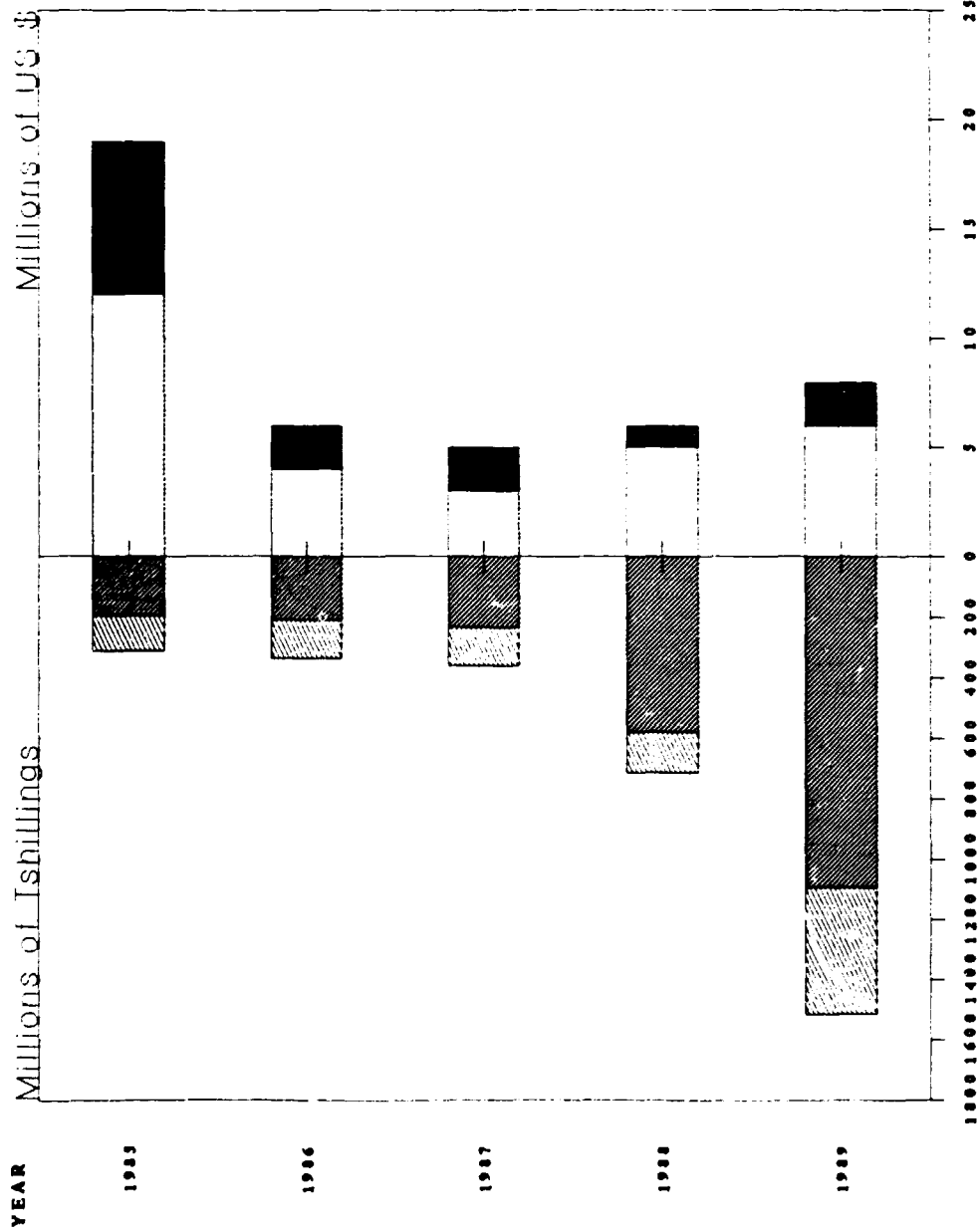


Operating Expenses

Administration Selling & Distrib Fin Expenditure

Debt/Equity Ratio

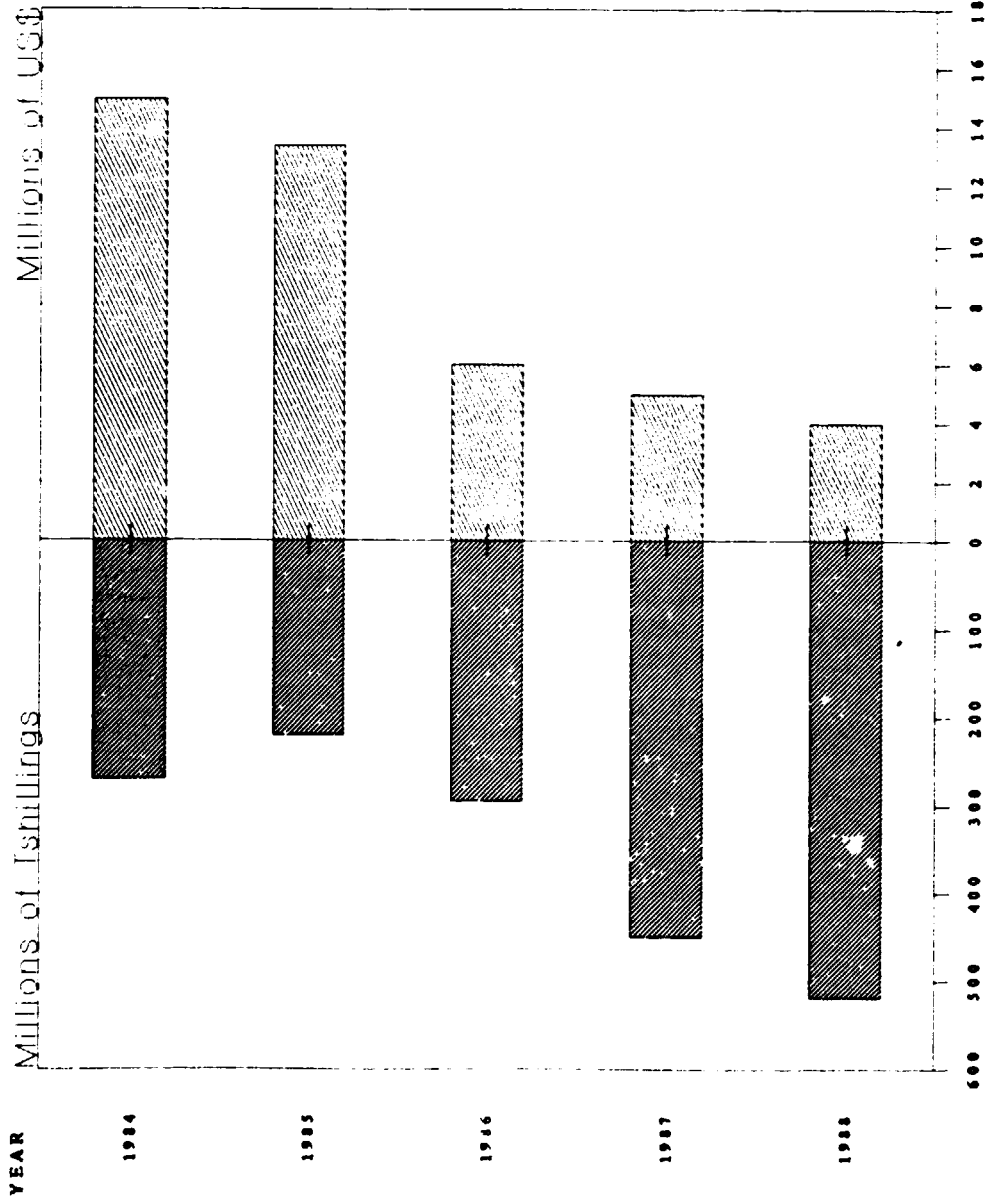
Ubungo Farm Implementments



UNIDO/Tanzania/
NDC Assistance - 1981

Net Sales

Ubungu Farm Investments



UNIDO/Tanzania/
NDC Assistance - 1991

Appendix 17: Zana Za Kilimo, Ltd.

APPENDIX 17: ZANA ZA KILIMO, LTD.

I. RECOMMENDATIONS

Zana Za Kilimo has been a successful, productive company. It fits one of NDC's three target market areas -- agriculture -- and is a key company in improving agricultural productivity in the country.

Currently, it faces strong import competition and a leveling of demand for its basic products -- hoes and shovels. Zana Za Kilimo did make a smart move in diversifying its product line into wheelbarrows which now account for a substantial portion of sales. Still, to survive, it will need to further reduce costs, improve quality, and broaden the range of its products.

An association or merger with Ubongo Farm Implements and Mangu'la Mechanical and Machine Tools is recommended to lower costs, broaden product range, and increase marketing strength.

On the next few pages, a ten-year development program is presented for the company. The matrix includes the specific actions required by this company, and is a subset of the larger matrix presented for NDC in the General Volume. The shaded blocks indicate areas where a concerted effort is required by management -- usually in the first two years. The arrows indicate areas where an ongoing effort will be required.

II. FINDINGS AND ANALYSIS

A. Overview

1. Company

Zana Za Kilimo (ZZK) was incorporated in 1974 and is 100% owned by NDC. Its main line of business is the manufacture of different types of farm implements such as hand hoes, pick axes, pangas, grass slashers, shovels wheel barrows, sack trolleys, wood planes and tractor drawn ploughs.

2. Corporate Strategy

The Company's objectives for production is to produce high quality products at affordable prices and to compete in both local and foreign markets. To achieve these objectives ZZK will: A) strengthen the quality control section in order to ensure that the quality of products is high before reaching customers; B) develop new production techniques in order to reduce production costs in terms of time and in-puts; and C) co-operate with Ubongo Farm Implements of with a view to optimizing distribution.

B. Industry and Competitor Analysis

1. Market Overview

A number of market studies for demand of farm implements in the country have been undertaken by TISCO, UFI and a team of Swedish experts. It is unfortunate to say that the said demand figures do not agree. ZZK will need to make it's own market survey in future.

2. Customer Characteristics

The main buyers of farm implements are farmers who constitute 95% of the country's population. ZZK products emphasize the requirements of the four main Agricultural Regions, namely Mbeya, Rukwa, Ruvuma and Iringa.

3. Market Size and Trends

The Company was unable to estimate either the market size or its share of the market. They are now comparing with those of Ubungo Farm Implements.

4. Competition

Zana Za Kilimo competes with Ubungo Farm Implements which is also an NDC group Company. There are other small Companies, such as Themis Farm Implements in Arusha, which produce hand farm implements. Furthermore, due to trade liberalization, private individuals are now importing farm implements such as Cock and Crocodile brand hoes which are very popular with farmers.

5. Substitutes

Ox-ploughs and tractors substitute for hand-held implements. Both have a small but growing market share. ZZK, in collaboration with Mbeya Oxenization Projects, plans to initiate production in these areas.

6. Policy and Regulatory Environment

The policy and regulatory environment limited competition in this market. Until recently, ZZK and UFI had priority access to foreign exchange, and imports of hoes and hand-held farm implements were blocked. Now, private individuals are authorized to import such products under the Trade Liberalization Policy. The opening of the import market has exposed ZZK to increased competition. This is good for the country in that the competition should result in lower pricing; however, it has placed downward pressure on ZZK's revenues and margins.

Macroeconomic policies that affect Zana Za Kilimo include exchange rate regulations, access to foreign exchange rate and an overvalued exchange rate. ZZK depends on imported raw materials especially steel.

The tariff on Steel products of all types is 30%. The Government does not distinguish between raw, intermediate or finished products in this area. Taxation is cumulative, raw materials are taxed, sale of processed materials are taxed, and sale of end products are also taxed. The result is to increase the overall cost to the consumer and dampen the export potential of the firms.

C. MARKETING

1. Sales History

Actual Sales (Net) in Tshs for the past 5 years.

Year	1985	1986	1987	1988	1989	1990
Tshs.	11,427,990	18,848,198	-	-	-	225,182,000

2. Distribution Channels

ZZK distributes products through the following channels

- Direct Sales
- Sales Agents
- Sales Depots
- Sales on Consignment.

3. Overall Strategy

A data base with important information on customers and markets has been established with the aid of a Swedish technical assistance team that left in 1990. It facilitates both product development and market operations. Sales approaches to customers are through company presentation materials and by practical sales services.

4. Sales Tactics

The Company is progressively orienting itself towards manufacturing products which are less seasonal in nature and which have higher contribution margins and comparatively less competition. At the same time, ZZK is seeking to share the past marketing experience of its sister company, UFI.

5. Customer Service

ZZK sales personnel travel from one region to another to offer after sales service to the customer.

6. Pricing

The company can now set its own prices as it is not controlled by the price commissioner. The company policy is to fix prices at competitive level yielding a satisfactory profit contribution.

7. Promotion and Advertising

The company uses local newspapers to advertise their products. It uses Crocodile as the product logo and MAMBA as the brand name.

8. Distribution

Rail and road transport are the major means of distributing the farm implements produced. The present economic situation -- i.e. poor infrastructure and a shortage of haulage equipment -- leads to distribution problems for the company, and customer complaints.

D. Production and Operation

Zana Za Kilimo Mbeya produces agricultural implements such as hoes, pick axes, grass slashers, wheelbarrows, sack trollies, pangas, shovels, wood planes, sickles and other jobbing spare parts.

1. Geographical Location

ZZK is located in Mbeya some 800 km from Dar Es Salaam. Major customers are in the Big Four Regions namely Iringa, Mbeya, Rukwa and Ruvuma.

2. Facilities and Processes

The company is comprised of six permanent workshop sheds housing the following production sections:

- Finishing
- Tool room
- Maintenance
- Furnace and Presses
- Foundry
- Finished Products warehouse
- Design

3. Materials Handling

The material flow from storage to working areas is inefficient and causes difficulties in planning material flow and work in progress. This is due partly to workshop sheds being located far apart.

4. Production Cost

Production costs for the year 1990 were:

	<u>1990('000's)</u>	<u>%</u>
Direct labor	8,500	15.8
Electricity and water	22,000	41.0
Repair and maintenance	7,700	14.3
Other direct costs	<u>15,500</u>	<u>28.9</u>
	53,700	100.0

5. Product Quality

The Technical Department includes a Quality Control section which handles all aspects of quality of products from the design stage to the packing end. The quality of ZZK's products, however, is lower than that of competing imports.

6. Product Delivery

The market for the farm implements exists in rural areas where small farmers do farming using hand implements. Delivery of the products to the customer is made through the Regional Trading Companies (RTC's) and the appointed agents in the regions.

7. Competitive Strengths/Weaknesses

Strengths

- Technical assistance
- Marketing skills
- Close to border for exports

Weakness

- Product quality
- Production layout and efficiencies
- High costs of products

8. Strategy and Plans

The Company's objectives are to produce high quality products at affordable prices and to compete in both local and foreign markets. The strategy to achieve this objective is to further strengthen the quality control section in order to ensure that the quality of the products is high before reaching the customers. The strategy also encompasses continued development of new production techniques in order to reduce production costs in terms of time and in-puts.

9. Expansion Plans

There are no future plans to expand ZZK activities.

10. Capital Requirements

The Company will use 900,000 Swedish kronas for foreign capital expenditure for its modernization program. The equipment to be procured will be a furnace for hardening forged products and additional personal computers.

E. Organizational Structure

Zana Za Kilimo is 100% owned by the National Development Corporation. It is structured as follows:

BOARD
OF
DIRECTORS

GENERAL
MANAGER

Finance
Manager

Material
Manager

Technical
Manager

Marketing
Manager

Production
Engineer

Maintenance
Engineer

Quality
Control
Engineer

Design
Engineer

F. Management

1. Management Compensation

ZZK, like other state corporations, enjoy the same benefits as stipulated by SCOPO. Salaries are low but benefits are extensive and include vehicles for officers, housing and transportation allowances, pension plan, life and medical insurance.

2. Board of Directors

The Institutional composition of the Board of Directors is:

Chairman	-	Retired GM (Former GM of Tanzania Cable Company (TCC)
	-	National Development Corporation
	-	Ministry of Industries
	-	Ministry of Agriculture
	-	TDFL
	-	Tanzania Investment Bank
	-	CARMATEC
	-	National Bank of Commerce
	-	JUWATA

3. Supporting Professional Services

Accounting Audits are conducted by the Tanzania Audit Corporation. Legal services are provided by the Corporation Secretary of NDC. Other consulting services used recently were from TISCO and the Mbeya Oxenization Programme.

G. Human Resources

1. Composition and Skills

ZZK employs 243 persons, including one Swedish expert in tool and die design and making. These are broken down as follows:

	<u>1990</u>	<u>%</u>
Senior Manager	5	2.1
Middle Manager	13	5.3
Supervisors	13	5.3
Clerical	21	8.6
Skilled/manual	150	61.8
Unskilled/manual	<u>41</u>	
	<u>243</u>	<u>100.0</u>

See Table V for a historical perspective. Employment has increased by 8% in the last five years.

2. Compensation and Trends

The compensation package consists of:

- base wage
- overtime
- medical insurance
- housing allowance
- transportation allowance
- meal allowances

Benefits and allowances are used extensively to avoid the 50% tax rate on wages.

3. Productivity

Productivity in the firm is low. Output for the firm is as follows:

	<u>ZZK</u>	<u>UFI</u> Avg.	<u>NDC</u>
Tshs sales per employee (Ts. '000)	704	605	1,478
Profit in Tshs per employee (Ts. '000)	(74)	(183)	95

4. Training Programme and Needs

Training of the Company workforce is undertaken on the basis of the Company's training needs one and financial capability on the other. On-the-job training is given the most emphasis.

H. Finances

1. Sales, Revenue, Profitability

ZZK has shown an upward trend in sales in T. Shilling terms over the last five years as shown in Table I: Actual Sales. However, when this is translated into dollar terms ZZK has shown a marked decline in sales.

ZZK has been losing money for the past several years. In 1989 ZZK registered a loss of Ts. 44.6 million. Cost of goods sold remains at about 90% of Net Sales. This reflects a rise in the foreign exchange component. In 1986 this ratio rose to 190% of Net Sales. ZZK was unable to pass along this increase in cost of sales due to stiff competition from local as well as foreign companies.

2. Assets and Liabilities

ZZK shows a worsening trend in its balance sheet. At first glance, the balance sheet has shown an increase in total assets and liabilities as shown in Table VI: Balance Sheet. However, closer analysis reveals that available cash and receivables have declined while payables and accumulated losses have increased. ZZK is on a downward trend. This is magnified when the figures are translated into constant shilling and dollar terms. The graph on Debt-Equity shows this trend.

The significant changes in the ZZK balance sheet are: Cash has declined from 0.6% percent of total assets to 0.4% percent of total assets in 1989; dependence on short term debt has decreased from 42% of total liabilities to 33 percent of total liabilities; supplier credits have been increasing at a faster rate due to the increased inability of farmers to pay on time; and material stocks have declined in unit volume and in real terms as a percentage of the firm's capital.

Short-term liquidity analysis reveals that there has been a slight increase in ZZK liquidity position. The current ratio increased from 1.0 in 1985 to 1.1 in 1989. This ratio is still far below the recommended value of 2. (This means that it has insufficient funds to cover short-term liabilities.) The acid ratio -- cash and cash equivalents divided by current liabilities -- has remained at zero since 1985. This indicates that ZZK would not be able to cover any of its short-term liabilities, effectively converting all short-term liabilities into long term debt.

ZZK imports the majority of its raw materials. Foreign exchange to purchase these products comes through the OGL and PTA mechanisms describe in the main report. ZZK also has a foreign exchange account that enables it to purchase parts and supplies without going through this process.

ZZK had preferential access to foreign exchange in the past; but this is changing as Tanzania has moved towards a more liberal policy. It must now use Open General License (OGL) to obtain foreign exchange which requires it to place a deposit in shillings of 100 percent of the value of the foreign exchange at the time it obtains the license. (Previously, payment could be staggered and was therefore less costly to the company.) Furthermore, the OGL is available for a short period of time only or it is lost. Thus, the company loses use of cash or must finance the amounts through overdrafts at up to 31 percent annual interest rates. At the same time, it appears that the company does not bear any exchange rate risk and effectively locks in the current rate at the time of purchase although delivery may be four to six months later. This can be an advantage when the currency is devaluing.

3. Estimates of Valuation

Book value is Ts. 424 million. This is what the assets less the liabilities are nominally worth and indicates the liquidation value of the Company. In ZZK's case, liquidation of the company would transfer a gain this amount to the NDC Group balance sheet.

ZZK has not made a profit for several years. In 1989 it registered a loss of Ts. 44.5 million. This indicated that is a going concern ZZK is worth less than were it to liquidate. This indicates ZZK lacks general viability.

Appendix .7 Attachments: ZANA ZA KILIMO, LTD.

TABLES:

SALES/MARKETING
PRODUCTION
PURCHASES
CAPITAL
HUMAN RESOURCES
PROFIT AND LOSS
BALANCE SHEET

GRAPHS:

PRODUCT BREAKDOWN
PLANNED vs. ACTUAL PRODUCTION
CAPITAL EXPENDITURE
COST OF SALES/NET SALES
OPERATING EXPENSE BREAKDOWN
TOTAL NET ASSETS
DEBT/EQUITY
CURRENT ASSETS
CURRENT LIABILITIES
NET SALES

TABLE I

Table : Actual Sales

Zana Za Kilimo Company

(millions of shillings)

	1984	1985	Est'd		Est'd	
			1986	1987	1988	1989
1. Rungwe Hoes	90	0	2	5	12	19
2. Ufipa Hoes	0	1	2	3	7	10
3. Round Eye Hoes	0	1	3	5	36	68
4. Ox Ploughs	25	0	0	1	6	11
5. Planters	12	0	0	0	0	0
6. Wheel Barrows	0	2	15	28	36	45
7. Others	2	6	11	16	21	26
8. Import Sales	168	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
Total	296	10	33	57	118	178
Units/Employee*	NA	NA	NA	NA	NA	NA

TABLE II

Table : Actual Production

Zana ZA Kilimo (Mbeya) Company

(Production in Thousands of Units)

Product	Units	Description			Est'd		Est'd		1989
			1984	1985	1986	1987	1988		
1. Rungwe Hoes	'000'	0	0	7	14	22	38	54	
2. Ufipa Hoes	'000'	0	0	15	45	74	42	10	
3. Round Eye Hoes	'000'	0	0	0	12	23	139	255	
4. Ox Ploughs	'000'	0	0	0	0	0	0	0	
5. Planters	'000'	0	0	0	0	0	0	0	
6. WheelBarrows	'000'	0	0	1	4	6	6	5	
7. Pick Axes	'000'	0	0	0	9	18	9	0	
8. Gross Slashers	'000'	0	0	0	2	5	20	36	
9. Sack Trolleys	'000'	0	0	0	0	1	1	0	
10. Pabgas	'000'	0	0	0	1	2	7	13	
11. Shovels	'000'	0	0	0	0	0	0	0	
12. Hand Axes	'000'	0	0	0	0	0	0	0	
13. Wood Planners	'000'	0	0	0	0	0	0	0	
14. Garden Rakes	'000'	0	0	0	0	0	0	0	
15.		0	0	0	0	0	0	0	
Total			0	23	87	151	262	374	

TABLE III

Table : Actual Purchases

Zana Za Kilimo Ltd.

(millions of shillings)

	Local currency	1984	1985	Est'd 1986	1987	Est'd 1988	1989
1.	Raw materials	0	0	2	5	4	3
2.	Spares & accessories	0	0	3	7	15	23
3.	Fuel oil	0	0	0	0	0	0
4.		0	0	0	0	0	0
5.		0	0	0	0	0	0
6.	Subtotal	0	1	6	11	18	25
	Foreign currency						
7.	Raw materials	0	0	15	30	46	62
8.	Spares & accessories	0	0	3	5	18	30
9.		0	0	0	0	0	0
10.		0	0	0	0	0	0
11.		0	0	0	0	0	0
12.	Subtotal	0	0	18	35	64	92
13.	Total	0	1	23	46	82	117
14.	In Dollars	\$0	\$0	\$0	\$1	\$1	\$1

Notes:

- 1.
- 2.

TABLE IV

Table : Actual Investment

Zana Kilimo (Mbeya) Limited

(Millions of TShillings)

	1984	1985	1986	1987	1988	1989
Capital Expenditures						
1. Land & building	0.0	0.0	0.0	0.0	0.0	1.2
2. Plant & machinery	0.0	8.3	0.0	0.0	0.0	0.0
3. Furniture & fixtures	0.0	0.0	0.0	0.0	0.0	0.0
4. Motor vehicles	0.0	1.5	0.0	0.0	0.0	45.0
5. Other	0.0	1.4	0.0	0.0	0.0	2.0
Total Expenditures	0.0	11.2	0.0	0.0	0.0	48.2
Source of Funds						
1. Equity - NDC	0.0	0.0	0.0	0.0	0.0	0.0
2. Equity - Other	0.0	0.0	0.0	0.0	0.0	0.0
3. Loans - Local (Long Term)	0.0	9.7	0.0	0.0	0.0	0.0
4. Loans - Local (ST/Overdra	0.0	0.0	0.0	0.0	0.0	0.0
5. Loans - Foreign	0.0	0.0	0.0	0.0	0.0	0.0
6. Grants	0.0	0.0	0.0	0.0	0.0	0.0
7. Self-Generated	0.0	1.5	0.0	0.0	0.0	0.0
8. Other, Unaccounted For	0.0	0.0	0.0	0.0	0.0	48.2
Total Sources	0.0	11.2	0.0	0.0	0.0	48.2

TABLE V

Table : Actual Manpower

Zana za Kilimo Limited (Mbeya)

Product	Employees					
	1984	1985	E'std 1986	E'std 1987	E'std 1988	1989
1 Senior Managers	0	4	0	0	0	9
2 Middle Managers	0	5	0	0	0	13
3 Supervisors	0	13	0	0	0	13
4 Clerical	0	10	0	0	0	21
5 Skilled Manual	0	153	0	0	0	150
6 Unskilled Manual	0	40	0	0	0	48
Total	0	225	0	0	0	254
Expatriate	0	0	0	0	0	0
Total Employees	0	225	0	0	0	254

TABLE VI

Table B: Actual Profit and Loss & Trend
& Loss/Trend

Zana Za Kiimo Company Limited

(Millions of TShillings)

Profit & Loss	1984	1985	1986	1987	1988	1989	1990
Net Sales	0	11	19	0	0	0	0
Less: Cost of Sales	0	10	36	0	0	0	0
Gross Profit	0	1	(17)	0	0	0	0
Less: Operating Expenses	0	9	14	0	0	0	0
Administration	0	0	4	0	0	0	0
Selling and Distributio	0	0	2	0	0	0	0
Foreign Exchange Losses	0	0	0	0	0	0	0
Financial Expenses	0	9	8	0	0	0	0
Depreciation	0	0	0	0	0	0	0
Operating Profit (Loss)	0	(7)	(31)	0	0	0	0
Add: Other Income	0	0	4	0	0	0	0
Less: Other Expense	0	0	0	0	0	0	0
Net Profit Before Tax	0	(7)	(27)	0	0	0	0
Less: Provision for Taxes	0	0	0	0	0	0	0
Profit After Tax	0	(7)	(27)	0	0	0	0
Statement of Retained Earnings							
Balance Brought Forward	0	0	(7)	(35)	(35)	(35)	(35)
Prior Year Adjustment	0	0	0	0	0	0	0
Balance Brought Forward R	0	0	(7)	(35)	(35)	(35)	(35)
Add: Net Profit for the Year	0	(7)	(27)	0	0	0	0
Profit Available for Appr	0	(7)	(35)	(35)	(35)	(35)	(35)
Less: Miscellaneous Appropriati	0	0	0	0	0	0	0
Less: Dividends Declared	0	0	0	0	0	0	0
Retained Earnings Carried	0	(7)	(35)	(35)	(35)	(35)	(35)
Cost of Goods Sold	0	0	0	0	0	0	0
Labor	0	0	0	0	0	0	0
Materials	0	0	0	0	0	0	0
Other Direct Expenses	0	0	0	0	0	0	0
Factory Overhead	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
Interest as a % of Profit	NA	0.0%	0.0%	NA	NA	NA	NA
In Current Dollars (thousands)							
Net Sales	0	1	0	0	0	0	0
Cost of Sales	0	1	1	0	0	0	0
Operating Expenses	0	1	0	0	0	0	0
Profit After Tax	0	(0)	(1)	0	0	0	0

TABLE VII

Table : Balance Sheet
Actual

Zana Za Kilimo Limited

(Millions of Shillings)

Balance Sheet	1984	1985	1986	1987	1988	1989	1990
1. Net Fixed Assets	0	162	129	249	0	0	0
2. Current Assets	0	45	14	94	0	0	0
3. Stocks	0	41	39	93	0	0	0
4. Trade Debtors	0	3	0	0	0	0	0
5. Debtors and Prepayments	0	0	15	0	0	0	0
6. Cash and Bank Balances	0	1	(40)	1	0	0	0
7. Current Liabilities	0	45	11	82	0	0	0
8. Trade Creditors	0	26	5	27	0	0	0
9. Bank Overdrafts	0	19	0	27	0	0	0
10. Current Maturity of LT	0	0	0	0	0	0	0
11. Taxes Payable	0	0	0	0	0	0	0
12. Other Current Liabilities	0	0	6	29	0	0	0
13. Net Current Assets/Liabilities	0	(0)	3	12	0	0	0
14. Total Net Assets	0	161	131	261	0	0	0
15. Financed by:							
16. Share Capital	0	33	15	176	0	0	0
17. Capital Reserves	0	(0)	(0)	51	0	0	0
18. Profit and Loss Account	0	85	70	0	0	0	0
19. Long Term Loans	0	43	47	34	0	0	0
20. Debt	0	88	58	116	0	0	0
21. Equity	0	118	85	227	0	0	0

Notes:

Revaluation of assets	0	0	0	0	0	0	0
New Investments	0	0	0	0	0	0	0

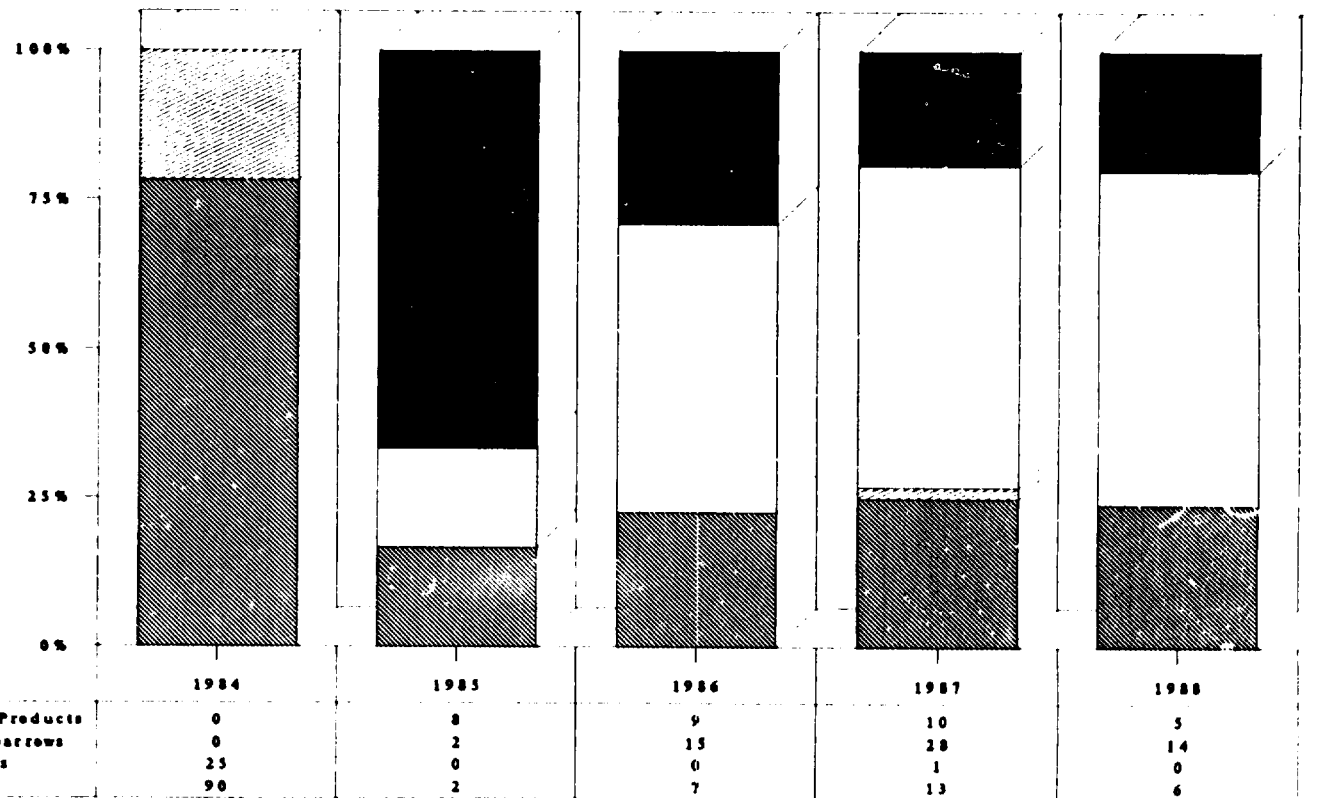
In Current Dollars

1. Net Fixed Assets	0	10	2	3	0	0	0
2. Current Assets	0	3	0	1	0	0	0
7. Current Liabilities	0	3	0	1	0	0	0
13. Net Current Assets/Liabilities	0	(0)	0	0	0	0	0
14. Total Net Assets	0	10	3	3	0	0	0
20. Debt	0	0	2	1	1	0	0
21. Equity	0	0	2	1	2	0	0

Product Sales Breakdown

Zama Za Kilimo Limited

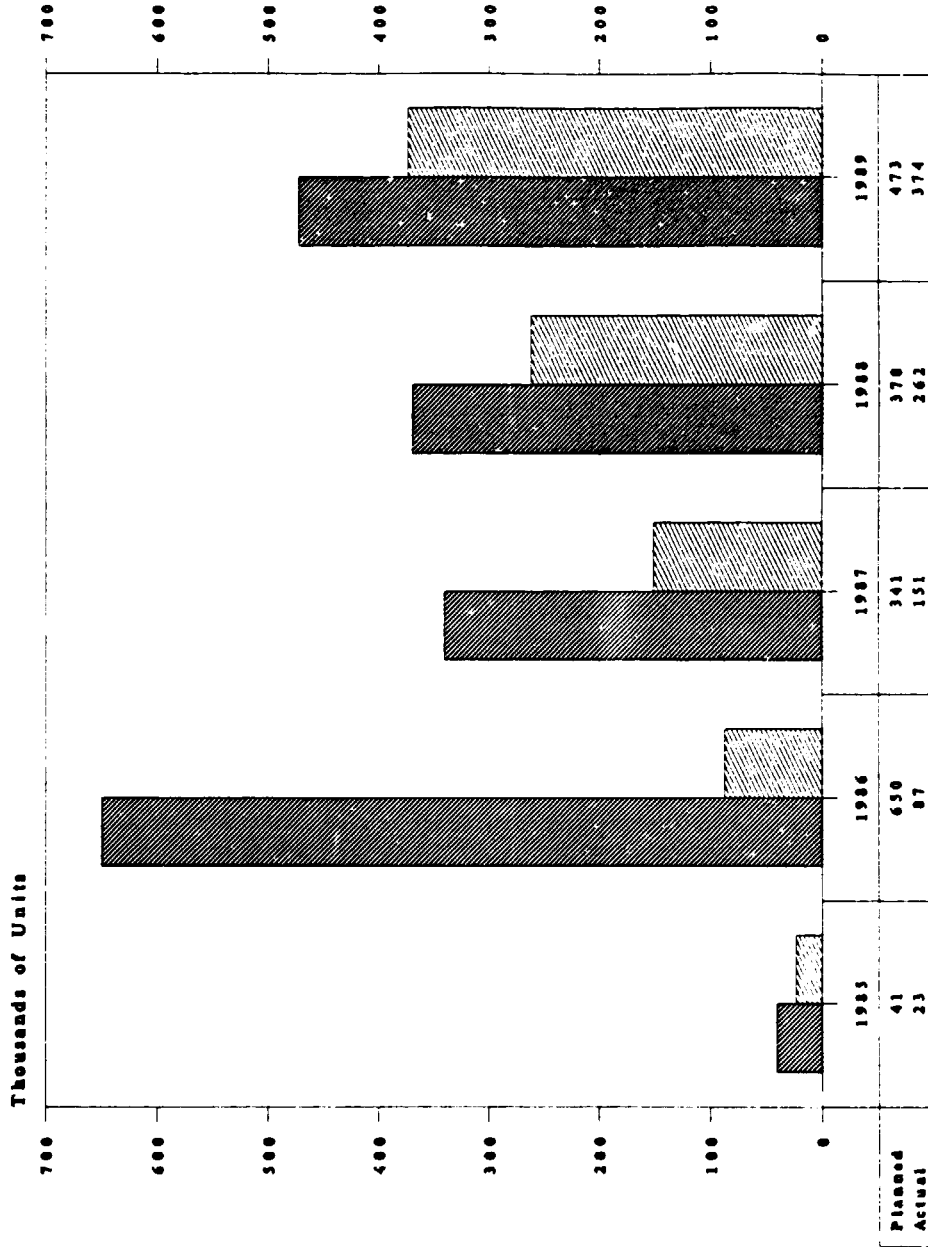
% BREAKDOWN OF PRODUCT SALES



Hoes
 Ploughs
 Wheelbarrows
 Other Products

Planned vs. Actual Production

Zana Za Kilimo (Mbeya) Company



Production
 ■ Planned
 ▨ Actual

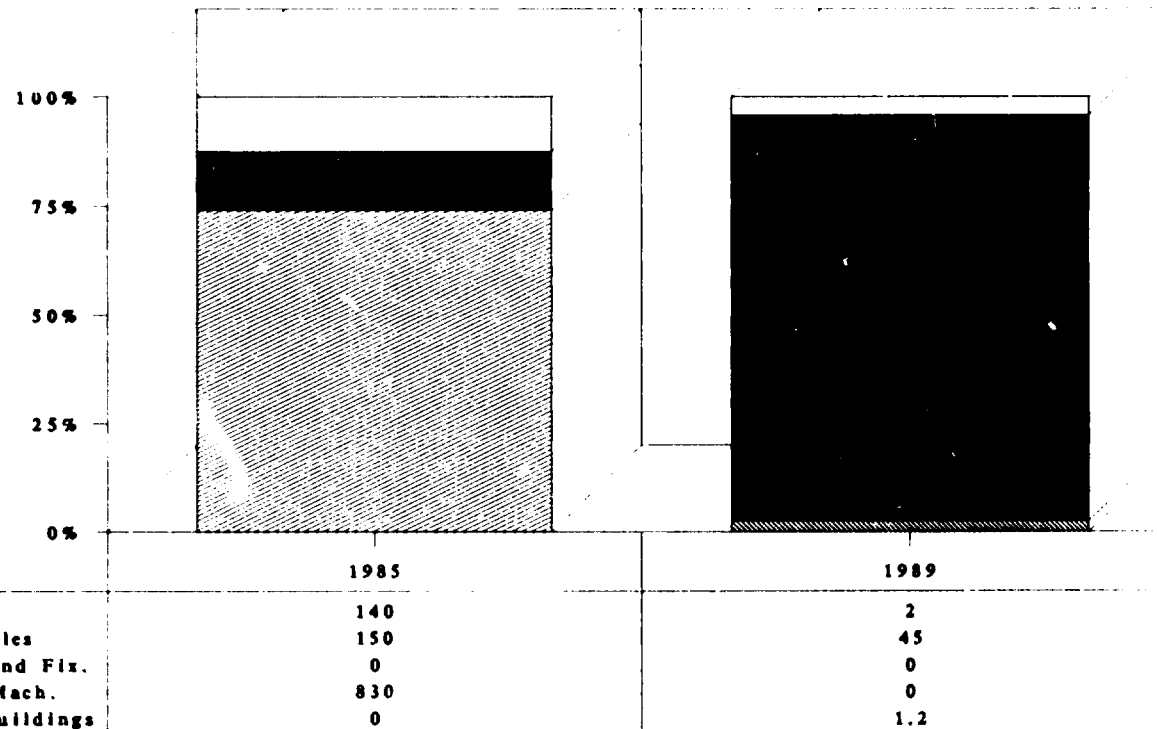


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 NDC Assistance - 1991

Capital Expenditure Breakdown

Tama Za Kilimo, Ltd.

MILLIONS OF SHILLINGS



Data not available FY85-89.

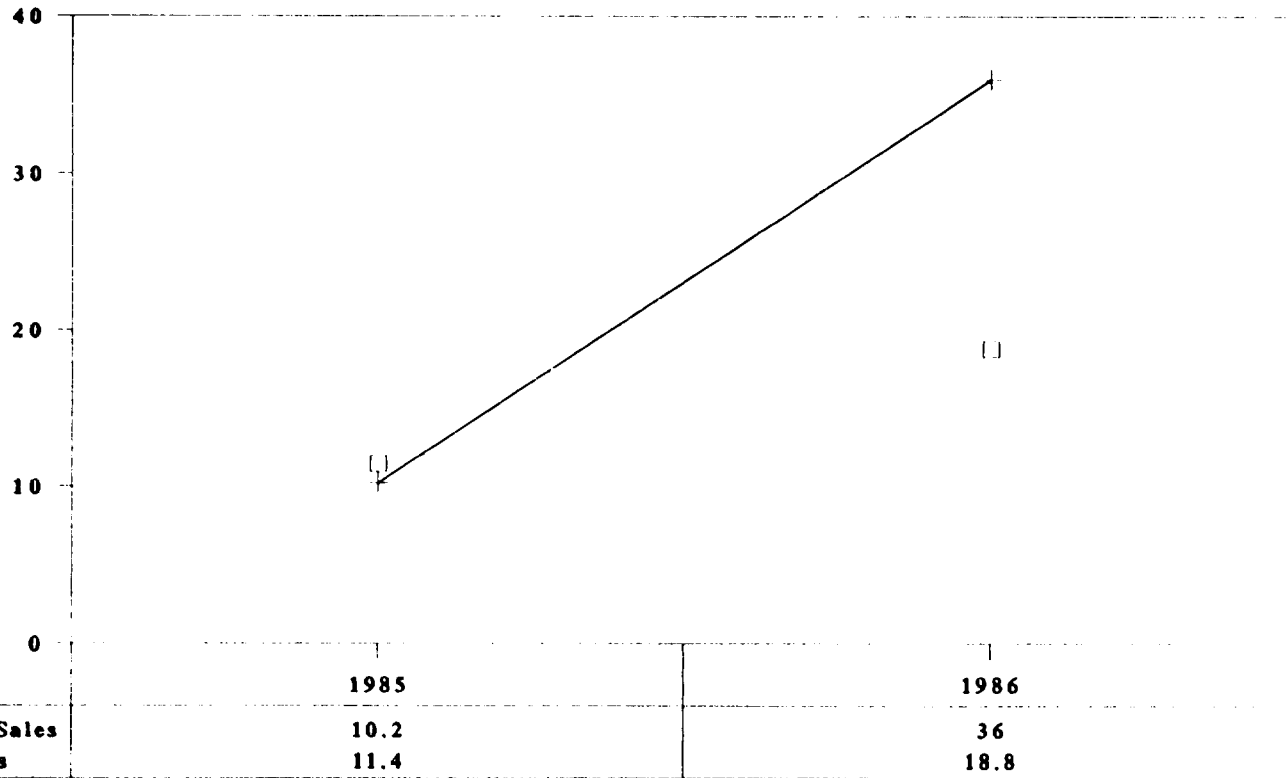


Land and Buildings
 Plant and Mach.
 Furniture and Fix.
 Motor Vehicles
 Other

Cost Of Sales/Net Sales

Zama Za Kilimo, Ltd.

MILLIONS OF SHILLINGS



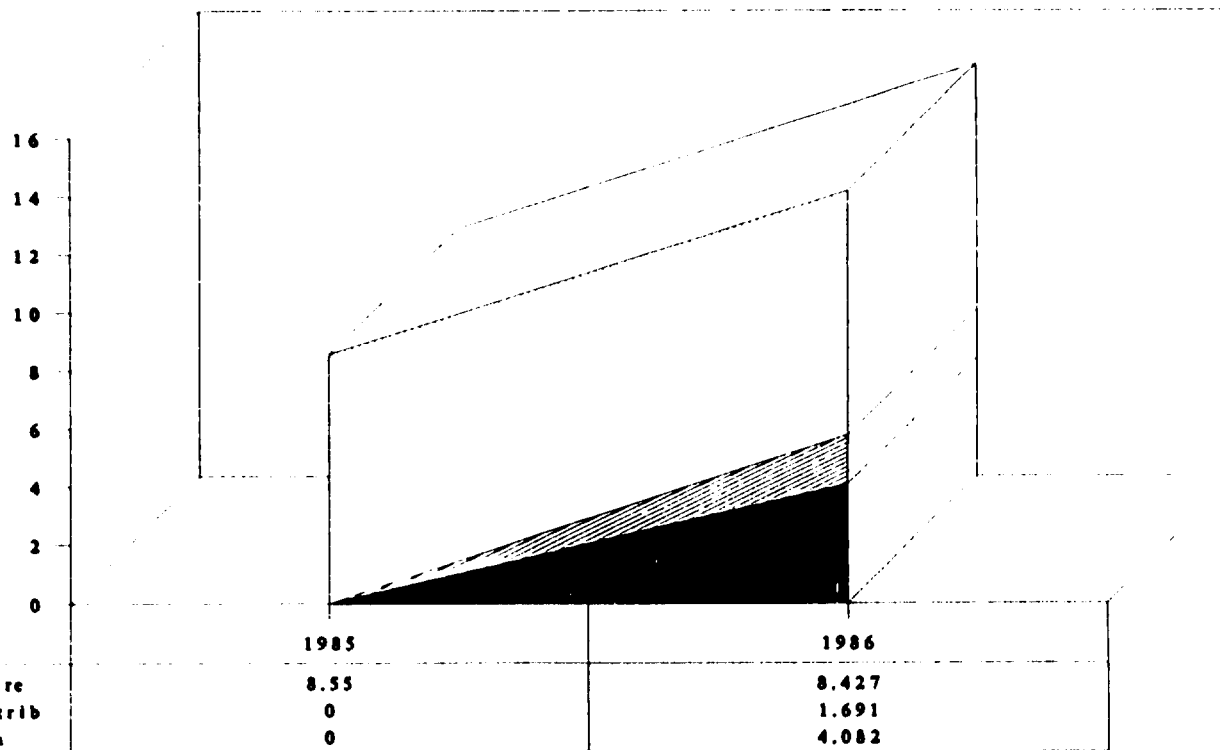
UNIDO/Tanzania/NDC Assistance - 1991

□ Net Sales + Cost of Sales

Operating Expense Breakdown

Zana Za Kilimo, Ltd.

Millions of Tshillings



Fin Expenditure
Selling & Distrib
Administration



Operating Expenses

■ Administration

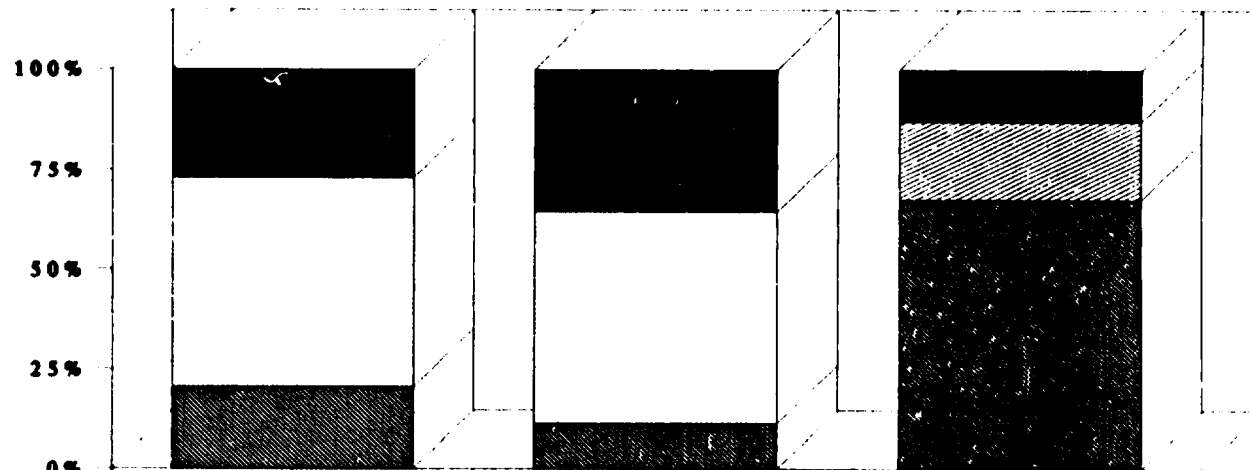
▨ Selling & Distrib

□ Fin Expenditure

Total Net Assets

Zama Za Kilimo, Ltd.

MILLIONS OF SHILLINGS





	1985	1986	1987
Long Term Loans	43.5	46.7	33.6
Profit & Loss Acct	84.6	69.8	0
Capital Reserves	-2	-7.1	50.9
Share Capital	33.1	15	176.2

MILLIONS OF SHILLINGS

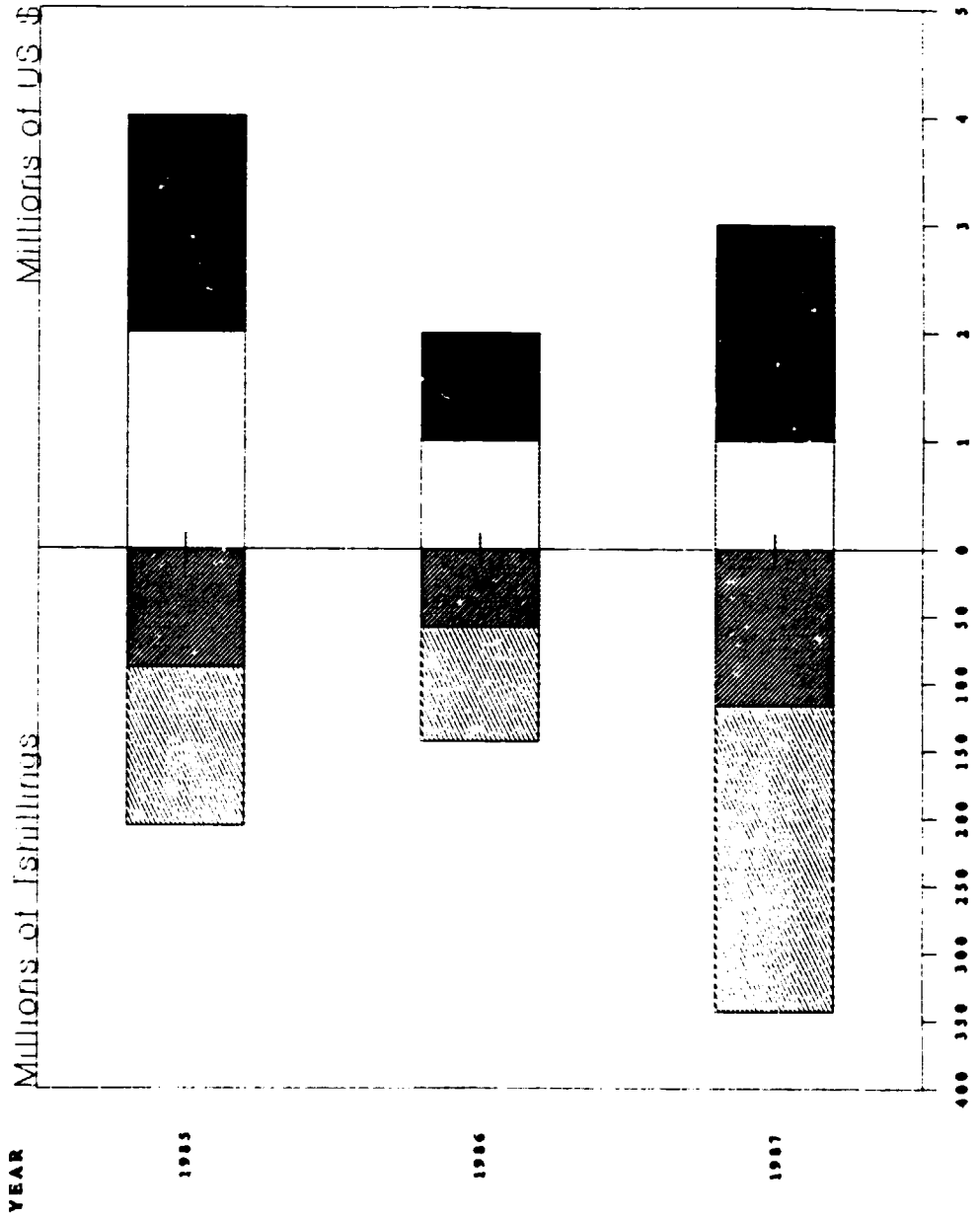


 Share Capital
 Profit & Loss Acct

FINANCED BY
 Capital Reserves
 Long Term Loans

Debt/Equity Ratio

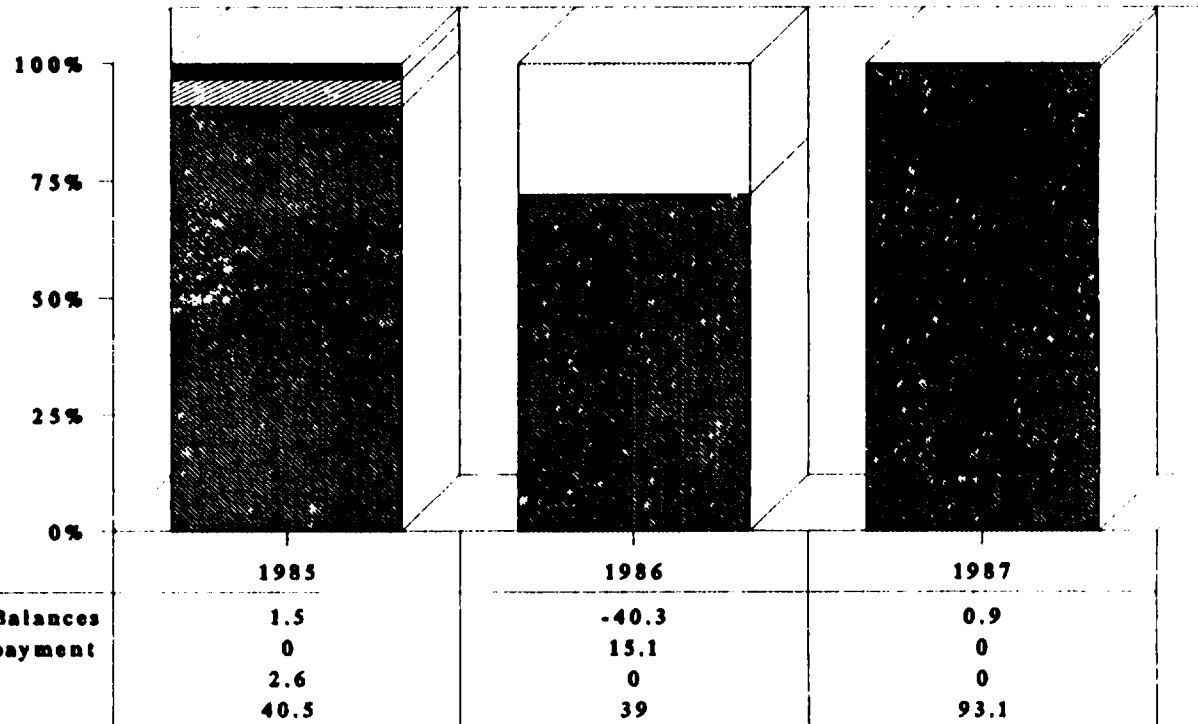
Zana Za Kilimo Ltd.



UNIDO/Tanzania/
NDC Assistance - 1991

Current Assets Breakdown

Zana Za Kilimo, Ltd.



MILLIONS OF SHILLINGS

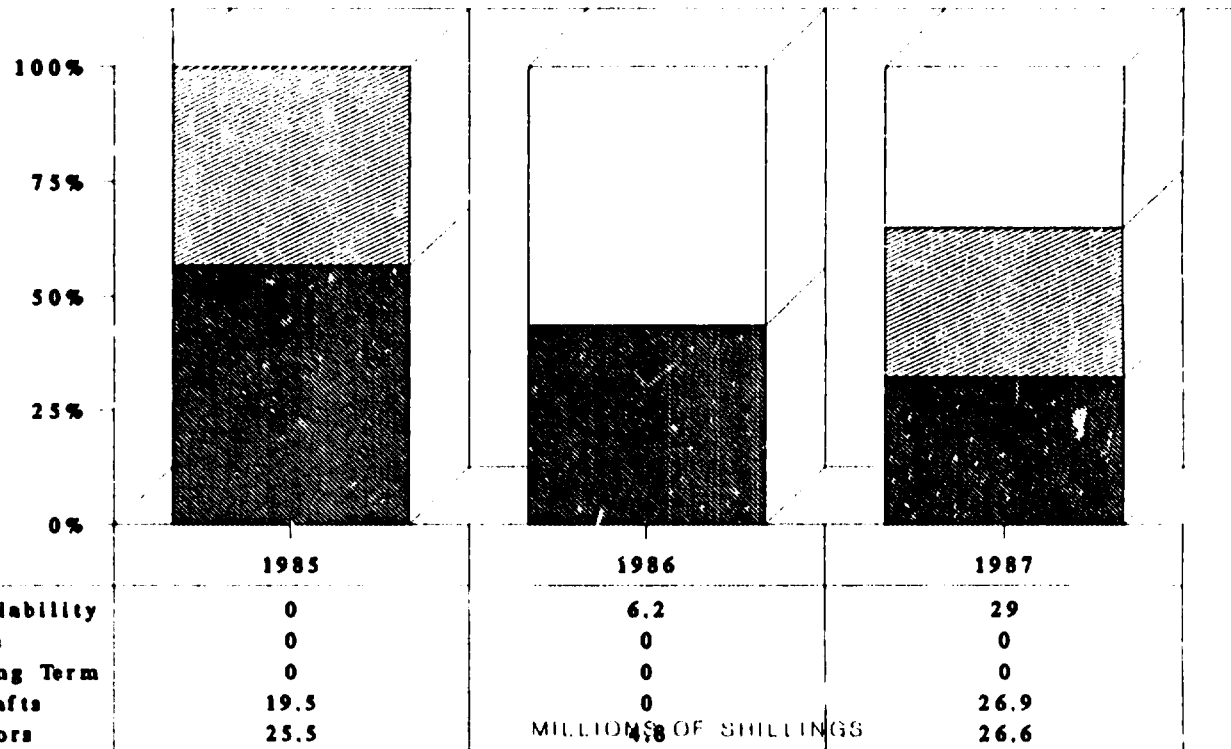


Stocks
 Trade Debtors

Debtors & Prepayment
 Cash & Bank Balances






Current Liabilities Breakdown

Zama Za Kilimo Limited



Other Cur Liability	0
Taxes Payable	0
Matur of Long Term	0
Bank Overdrafts	19.5
Trade Creditors	25.5

MILLIONS OF SHILLINGS

 Trade Creditors	 Bank Overdrafts	 Matur of Long Term
 Taxes Payable	 Other Cur Liability	



Net Sales

Zama Za Kilimo, Ltd.

