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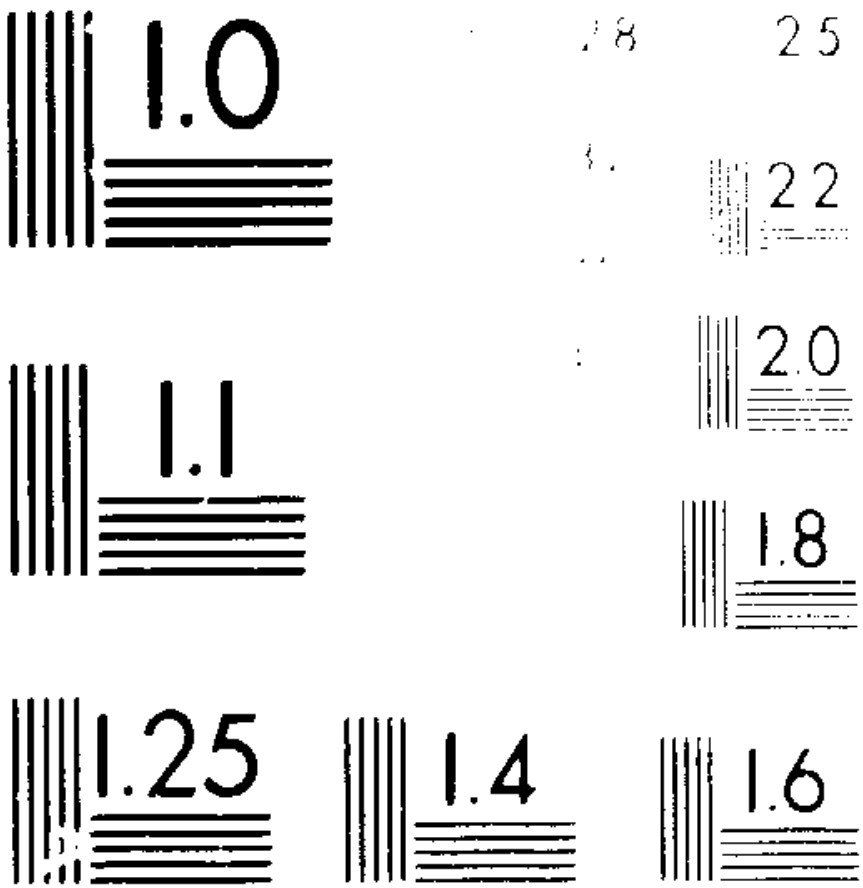
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REHABILITATION OF THE LEATHER, FOOTWEAR AND LEATHER-PRODUCTS INDUSTRY

BR/URT/84/001

UNITED REPUBLIC OF TANZANIA

Terminal report

Prepared for the Government of the United Republic of Tanzania
by the United Nations Industrial Development Organization

Based on the work of B. Svensson, chief technical adviser, and the expert team of P.B. Buit, O.F. Klötzer, G.H. Oxtoby and F. Schmél

United Nations Industrial Development Organization
Vienna

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Explanatory notes

The monetary unit in the United Republic of Tanzania is the shilling (TSh). Unless otherwise indicated, the exchange rate used in the present report is that of 15 June 1984, when the value of the shilling in relation to the United States dollar was $US 1 = TSh 17.50.

A full stop (.) is used to indicate decimals, and a comma (,) to distinguish thousands and million

A dash (-) in tables indicates that the amount is nil or negligible and parentheses ( ) around figures indicate a negative amount.

Besides the common abbreviations, symbols and terms, the following have been used in this report:

Economic and technical abbreviations

c.i.f.	cost, insurance and freight
f.o.b.	free on board
COMFAR	Computer Model for Feasibility Analysis and Reporting
CPM	critical path method
PUR	polyurethan
PVC	poly-vinyl-chlorid
R and D	research and development

Acronyms of United Nations organizations, companies and institutions

BORA	Trade mark used by the Tanzania Shoe Company Ltd. and name of the trading company
EEC	European Economic Community
FAO	Food and Agriculture Organization of the United Nations
IDA	International Development Association
MCM	Morogoro Canvas Mill (Tanzania)
MLB	Morogoro Leatherboards (Tanzania)
MOT	Morogoro Tanneries (Tanzania)
MSC	Morogoro Shoe Company (Tanzania)
MWT	Mwanza Tanneries (Tanzania)
NDC	National Development Corporation (Tanzania)
SIDO	Small Industries Development Organization (Tanzania)
THS	Tanzania Hides and Skins
TILT	Tanzania Institute of Leather Technology
TLAI	Tanzania Leather Associated Industries
TSC	Tanzania Shoe Company Ltd.
TTL	Tanzania Tanners Ltd.
UNIDO	United Nations Industrial Development Organization

Mention of firm names and commercial products does not imply endorsement by the United Nations Industrial Development Organization (UNIDO).

ABSTRACT

The Government of the United Republic of Tanzania requested assistance from the United Nations Industrial Development Organization (UNIDO) in selecting a suitable foreign partner for further co-operation and in preparing a plan of action to increase the capacity utilization of the Morogoro Shoe Company (MSC). After having discussed the details of the proposed project with the Ministry of Industry, the Tanzania Leather Associated Industries (TLAI) and the sponsoring International Development Association (IDA), it was decided that a comprehensive study should be made which would deal with all the aspects of the rehabilitation of the leather, footwear and leather-products industry in the United Republic of Tanzania, with special reference to the financial viability of the recommendations.

The agreement between the United Republic of Tanzania and UNIDO was signed on 10 April 1984 and implementation of the project "Rehabilitation of the leather, footwear and leather-products industry" (BR/URT/84/001) started immediately. According to the terms of reference, the objectives of the present project were to design an integrated master plan for the rehabilitation of the entire leather, footwear and leather-products sector of the United Republic of Tanzania to be presented to the Government and IDA. The international team was composed of five experts in different fields of specialization.

The report summarizes the experts' findings with regard to the current status of the Tanzanian leather and leather-products industries, paying special attention to the constraints and possible ways of improving the performance of existing manufacturing units. The rehabilitation objectives are determined and a master plan for rehabilitation is presented, whereas the actions to be taken are arranged in a netplan and the economic aspects (both costs of rehabilitation and the expected benefits in financial terms) are discussed in detail. A complete financial and economic analysis of the rehabilitation of the MSC is included.

Based on the techno-economic analysis of the performance and possible improvements in the Tanzanian leather and leather-products industries it is recommended to rehabilitate the whole sector by involving international expertise and a well-reputed manufacturing company from an industrialized country. All future actions have to concentrate on the upgrading of the existing production units, the introduction of new management methods and the training of local labour. It is further recommended that the foreign partner should have controlling power over the MSC; at the same time the Government of the United Republic of Tanzania should offer export incentives.

Contents

INTRODUCTION

The large livestock population of the United Republic of Tanzania constitutes a suitable base for the development of the leather and leather-products industry of the country. The Government has realized the potential importance of this raw material resource and has made considerable efforts to develop the leather and leather-products industry subsector. during the last 15 years, three mechanized tanneries, a large footwear factory, a medium-sized leather-goods plant and a training and research institute have been installed. One leather-board plant is under construction. The International Development Association (IDA) has provided long-term loans for investment, the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Industrial Development Organization (UNIDO) have executed projects to assist in the technical development of the leather sector. However, the performance of this sector is far below the expected level. This report summerizes the constraints limiting the utilization of the existing capacities, analyses the financial and economic viability of the leather sector in the United Republic of Tanzania under the present conditions and recommends a master plan for its rehabilitation.

The United Republic of Tanzania has one of the largest cattle populations in Africa, but the actual collection of available raw hides is only about 56 per cent. The off-take rate, the quality of handling and the export prices of raw hides and skins are below the African average and much below the world average while the livestock growth rate is higher than that of most other countries. There is an installed capacity of 3.1 million m^2/year for soft leather processing for semi-processed and finished leathers but its utilization is less than 50 per cent and showed a declining trend over the past five years. The main difficulties are the shortage of foreign exchange required for imports, chemicals and spare parts, lack of appropriate know-how in technology, marketing and management.

There are two large and several small footwear manufacturing units; the former - especially the Morogoro Shoe Company (MSC) - are well equipped. The shoe industry subsector has not been able to produce either the quantities or the quality forecasted in the feasibility studies made for the investment preparation. Some reasons for this are of external origin (incorrect estimates of export market potentials, oversized plant capacities, difficulties in obtaining basic materials through imports). At the same time there are limiting factors within the shoe industry leading to the present situation which could have been improved if the necessary know-how and experience had been available.

The United Republic of Tanzania faces increasing difficulties which are related to the industrial infrastructure (e.g. energy supply, transport etc.). Nevertheless, the Morogoro Industrial Estate, where leather and leather-board processing, canvas, footwear and leather-goods manufacturing units are concentrated seems to be well organized.

The demand for leather products in the United Republic of Tanzania exceeds the supply, and the retail prices are very high because of short supplies. The shoe export market is highly competitive today asking for good quality, reliable deliveries and a moderate pricing system. The economic system in the United Republic of Tanzania does not provide incentives to local manufacturers to produce for export even though the country is desperately short of foreign exchange.

UNIDO has assisted in overcoming the existing difficulties since 1979. The large-scale project DP/URT/78/010 was to assist the local leather and footwear industry, controlled by the Tanzania Leather Associated Industries (TLAI), a parastatal organization under the Ministry of Industry. The project activities carried out by seven international experts were aiming at improving the technological processes and the quality of products, marketing, maintenance and production control. The project US/URT/79/240 provided the Tanzania Institute of Leather Technology (TILT) with all the necessary equipment and training plans, while the projects RP/URT/82/005 and SI/URT/82/802 did comprehensive preparatory work for the starting-up of the operation of the Institute. An extensive training and fellowship programme was carried out partly under the above-mentioned projects and partly under the project US/INT/81/087. Two other UNIDO projects were also connected with the leather and leather products subsector: the project SI/URT/77/806 assessed the possibilities for leatherboard manufacturing and the project IW/URT/82/001 assisted in the establishment of a rural leather goods unit.

UNIDO fielded an evaluation mission through the project UC/URT/84/062 in October 1984 in order to assess the results of previous assistances, with special reference to outputs from US/URT/79/240. Although the mission concentrated on future assistance to TILT, it looked also into the rehabilitation programme and recommended to implement it, using TILT as a potential institution rendering local extention services.

One of the most critical problem areas is the MSC located in the Morogoro Industrial Estate, besides the Morogoro Tanneries (MOT), the Morogoro Canvas Mill (MCM), the leather goods factory and the leatherboard manufacturing unit. After the installation of the MSC plant in 1981, it was anticipated that the company would utilize its full capacity, i.e. 3.8 million pairs/year, and export 80 per cent of its production to industrialized countries. Since the operating results were far from satisfactory, a survey of the footwear production and management methods was carried out by the UNIDO project SI/URT/82/902. The final report submitted to the Government of the United Republic of Tanzania in January 1983 recommended to seek a collaboration with a suitable foreign company being in a position to provide the MSC with the documentation needed on product range, technological and management know-how, labour training and marketing assistance.

The Government of the United Republic of Tanzania requested assistance from UNIDO in selecting a suitable foreign partner for further co-operation and in preparing a plan of action to increase the capacity utilization of the MSC. After having discussed the details of the proposed project with the Ministry of Industry, TLAI and the sponsoring IDA, it was decided that a comprehensive study should be made which would deal with all the aspects of the rehabilitation of the leather, footwear and leather-products industry in the United Republic of Tanzania, with special reference to the financial viability of the recommendations.

The agreement between the United Republic of Tanzania and UNIDO was signed on 10 April 1984 and implementation of the project "Rehabilitation of the leather, footwear and leather-products industry" (BR/URT/84/001) started immediately. According to the terms of reference, the objectives of the present project were to design an integrated master plan for the rehabilitation of the entire leather, footwear and leather-products sector of the United Republic of Tanzania to be presented to the Government and IDA. The international team was composed of five experts in various fields who were backstopped by two officers working at UNIDO headquarters (a list of the project personnel is given in annex I). Each expert prepared his technical

report and submitted the same to UNIDO. After clearance the reports were submitted to the Government and served as a basis for the present report. Annex II contains summaries of the individual expert reports.

The total project budget amounted to $US 154,132. Most of this amount was used in 1984 and only a minor share will be utilized in early 1985 to cover the costs for the chief technical adviser (CTA), who stayed in the field in order to assist the Government, through TLAI, in preparing the plan of action for rehabilitation.

The most important rehabilitation objectives are:

(a) To improve the quality of locally processed leather;

(b) To produce footwear for the local population;

(c) To enter the international leather products market;

(d) To improve the management methods;

(e) To obtain appropriate technical know-how through co-operation and training;

(f) To make appropriate arrangements with the government authorities to provide the necessary economic conditions.

The high-level objectives are to utilize the existing capacities, to develop human resources and to increase the value added of manufactured products as well as the foreign exchange earnings of the country.

The financial analysis (annex III) shows that the rehabilitation of the MSC could be extremely profitable yielding a financial rate of return after tax of around 50 per cent. The economic analysis, however, indicates a small negative economic rate of return. The financial analyst prepared theoretical calculations which indicated the foregoing point. If the rate of exchange of TSh 30.6 = $US 1 is applied, the economic rate of return becomes 15.8 per cent which would already be reasonable. The proposed rehabilitation offers 216 per cent of added value for the domestic materials used - this implies a very high rate of effective protection up to 620 per cent reflecting the effects of the Tanzanian tariff and tax system. The domestic resources used, at market prices, amount to TSh 487 million, giving a project rate of exchange of TSh 26.2 to $US 1.

A more comprehensive financial and economic analysis of the MSC rehabilitation programme was carried out using the COMFAR system developed by UNIDO (see annex IV). While the financial analysis resulted in an internal rate of return of 62.7 per cent, the economic internal rate of return was only 0.5 per cent. The sensitivity analysis showed that an increase of labour costs by 40 per cent (i.e. decreasing the productivity accordingly) would decrease the economic internal rate of return only by 0.8 per cent. All in all, the rehabilitation project of MSC is fairly dependent on the exchange rate of the Tanzanian shilling.

A plan of actions to be taken is included in the report. According to the netplan made by the CPM technique, there would be a preproduction period of 42 weeks for the MSC. The starting-up time would be five years with a gradual increase of the production and exports in the third year of a continuous operation.

The cost of rehabilitation would have the following components:

(a) Additional investments in the tanneries and MSC of $US 4.5 million plus TSh 18 million (equipment and spares);

(b) Rehabilitation expenses in the tanning and leather-products industry of $US 7.2 million plus TSh 39 million (to replenish stocks, for hides and skins improvement, management contract etc.);

(c) Foreign exchange requirement over the first five years of operation of tanneries and MSC of $US 29.5 million.

The complete financial analysis of the MSC rehabilitation and a detailed schedule of implementation are given in annexes III and V.

RECOMMENDATIONS

The master plan for the rehabilitation consists of various actions and decisions to be taken.

With regard to raw hides and skins improvement, it is recommended:

1. To introduce a more realistic and flexible pricing system, to strengthen the collection network and to reconsider the magnitude of the margin made by the Tanzania Hides and Skins (THS) on raw hides and skins.

With respect to leather processing it is suggested:

2. To design a comprehensive production programme which would yield yearly about one million m^2 of semi-processed and two million m^2 of finished soft leather. In this case approximately $US 9 million might be earned through leather exports.

3. To increase the finishing capacities of the tanneries, for which an investment of $US 3.4 million is required, plus TSh 18 million for local construction works.

4. To organize a fellowship programme which would provide training and study tours abroad and on-the-job training for approximately 600 local workers during the next ten years.

As far as the shoe industry of the United Republic of Tanzania is concerned, it is recommended:

5. To introduce some specialization of the manufacturing plants as well as to organize cost/profit centres in the MSC.

6. To implement the production programme suggested for the MSC consisting of 3.5 million pairs of footwear plus some shoe components for sale, the share of export being 23 per cent.

7. To sign a management and/or production co-operation contract with a foreign partner who has experience in running large-scale shoe manufacturing plants.

8. To implement an urgent overhauling and conservation project in the MSC as soon as possible.

9. To sell the surplus equipment and to secure funds for some additional equipment which is needed to improve the existing plant.

10. To pay special attention to marketing possibilities abroad (especially in neighbouring countries) and to local requirements such as last constructions, size and fit ranges.

The following organizational and economic conditions need to be provided for the rehabilitation:

11. In order to simplify administrative procedures, the merging of the THS and the TLAI should be considered, and at the same time a centralized administration for import and export handling (similar to foreign trad companies in other countries) should be set up in the TLAI.

12 Physical inventories should be made in the subsidiary companies of TLAI and the balance sheets should be corrected accordingly.

13. The missing working capital should be supplied by the Government.

14. A specialized footwear and leather-goods trading company should be created.

15. One of the most important prerequisites for the successful operation of the subsector would be a proper export policy. An export incentive system should be introduced and 50 per cent of the export earnings credited to the manufacturer who may use it to import required materials and spare parts.

16. The TILT should play a key role in this rehabilitation programme by providing the research and development (R and D) services, training and quality control for the whole sector.

I. THE LEATHER AND LEATHER-PRODUCTS INDUSTRY SUBSECTOR IN THE UNITED REPUBLIC OF TANZANIA

A. The availability of raw materials

According to the most recent FAO statistics (1982), the livestock population of the United Republic of Tanzania is estimated to be 13.2 million cattle, 5.9 million goats and 3.9 million sheep. The bovine population represents 9.4 per cent of the total African cattle herd and it is one of the largest population in Africa. The yearly growth rate of the bovine population in the United Republic of Tanzania is approximately 2 per cent - the same world parameter is only 0.9 per cent.

The raw hides and skins trade, controlled by the THS, is reflected in table 1.

Table 1. Raw hides and skins trade

Type of hide or skin	Production, 1982		Actual collection, average 1978-1982 (percentage)	Export, 1982	
	Thousand pieces	Thousand kg		Thousand kg	Thousand $US
Bovine	1 400	13 500	56.0	7 300	6 400
Sheep and lamb	900	600	30.7	300	900
Goat and kid	1 500	800	35.7	100	300

The yearly growth rate of the raw hides production (2.2 per cent) is very similar to the livestock population growth rate. The off-take rate in the United Republic of Tanzania is below the African rate and is about half of the world average. The quality of raw hides and skins is rather low mainly because of the climate, poor husbandry and inappropriate skinning and flaying methods. Although the FAO project TCP/URT/005, ongoing since 1981, increased the quality of raw hides and skins supplied by introducing salting in slaughter houses, further efforts would be required, especially in rural areas.

The reasons for the low recovery of hides and skins for industrial processing are the poorly organized collection network, low prices, unrecorded trade with the neighbouring countries and the lack of an appropriate infrastructure. The agency commission for collecting raw hides and skins is 15-25 per cent on prices paid to farmers which corresponds to 10-12 per cent of the prices paid by the tanneries for the materials. The THS markup is 26-61 per cent depending on the grade.

The total revenue of the country from the direct export of raw hides and skins was $US 7.6 million in 1982. The export in both volume and value terms (if the inflation is taken into account) has been stagnating during the last two decades. The average export price for Tanzanian cattle hides is $US 0.88/kg which is about the same as the average price in all developing countries but some 27 per cent less than the average world export price ($US 1.21/kg).

B. The leather industry sector

The first tannery in the country, the Tanzania Tanners Limited (TTL) started its production at Moshi in 1969. In the course of time, two more tanneries were established: the Mwanza Tanneries (MWT) in 1977 and the Morogoro Tanneries (MOT) in 1978. Today all these leather-manufacturing units are controlled by the TLAI. There are two small private tanning units operating in Himo and Rombo producing mainly vegetable-tanned leather for small shoe and leather-goods manufacturers. Finally, the Tanzania Taxidermist runs a small tanning operation for game skins. In order to utilize the wastes from both tanneries and leather-products manufacturing units it has been decided to establish the Morogoro Leather Board Factory (MLB) which is now under construction and will operate as a TLAI subsidiary company.

The production of semi-processed (wet-blue and crust) and finished leather increased fairly rapidly over the past twenty years in the United Republic of Tanzania. The output of bovine leather was tripled and the production of sheep and goat skins was four times as much in 1982 than in the early sixties. Nevertheless, the performance of the local leather industry subsector is rather poor as can be seen from the latest trend of production figures and capacity utilization given in table 2.

Table 2. Capacity utilization in Tanzanian tanneries

Tannery	Installed capacity: Soft leather, finished and semi-processed (thousand m^2/year)	Installed capacity: Heavy leather, vegetable-tanned (thousand kg/year)	Actual production of soft leather (thousand m^2): 1979	Actual production of soft leather (thousand m^2): 1982	Average capacity utilization, 1979-1982 (percentage)
Moshi	1 000	-	833	477	68.9
Mwanza	700	340	307	136	30.9
Morogoro	770	-	286	385	45.9
Total TLAI	2 470	340	1 426	998	48.5

The overall capacity utilization of the TLAI tanneries was 54.8 per cent in 1979 and only 39.1 per cent in 1982 with a steadily declining trend. The reasons for such a low utilizaiton level are numerous such as shortage in raw hides and skins supply, lack of spare parts and chemicals due to scarce foreign exchange earnings, insufficient power supply and not enough suitably trained staff.

Substantial improvements have been made on the technical and technological side of the leather sector and, in addition, appropriate process technologies have been introduced during the last five years - mainly as a result of the assistance rendered by UNIDO.

The overall installed capacity of the Tanzanian leather manufacturing industry is approximately 3.1 million m^2/year; the processing, however, is restricted to 40 per cent at the finished and 60 per cent at the semi-processed (wet-blue and crust) stage. The available capacity corresponds to

the availability of raw hides and skins but the constraints as outlined above limit the actual output. The deteriorating condition of machinery and equipment will seriously limit the production of the three TLAI tanneries if no further capital investments are made in the near future.

The United Republic of Tanzania exported 930,000 m^2 bovine and 355,000 m^2 goat and sheep leather for a total of $US 3.2 million in 1982. The average wet-blue price achieved was $US 4.30/$m^2$ for bovine and $US 7.96/$m^2$ for skins. It should be noted that the average export price for bovine leather in all developing countries was $US 9.80/$m^2$ and in African countries $US 8.18/$m^2$ (the share of Tanzanian leather in the total African leather export is around 5 per cent). These low prices are due to the rather poor quality delivered (partly because of the low grade of local raw hides and skins) and owing to the fact that practically all of the export consists of semi-processed leather. At present the produced quality of finished leather does not meet the international market requirements.

C. The leather products industry

The TLAI controls two large shoe factories and a medium-sized leather goods manufacturing unit. The Tanzania Shoe Company Ltd. (TSC - using the trade mark "BORA") was initially established by the BATA organization and was placed under government control in 1967. Until its nationalization, the company produced only a small amount of military boots and was mainly used as a warehouse and distribution centre. They entered into a management agreement with a Pakistani firm which has been providing general and technical management personnel until 1983. The installed capacity is approximately 4 million pairs of leather and canvas footwear per year. The actual output was 3.1 million pairs in 1978 and 1.5 million pairs in 1982 showing again a steadily declining trend. Besides shoes, the TSC produces bicycle tires and tubes.

Taking into consideration the export potential of footwear, the MSC was established through an IDA long-term credit loan amounting to $US 23 million. According to a feasibility study made and the investment implementation schedule, the production had to start in 1980 and should have gradually grown up to 3.8 million pairs of leather and canvas footwear by 1984 - exporting 80 per cent of the output to industrialized countries. The project was executed by the National Development Corporation (NDC) of Tanzania, then the fixed assets were given to the TLAI for further operation. An Italian company, the supplier of all production and auxiliary equipment, was contracted to provide the production management and staff training (locally and abroad); the contract expired in 1982. The MSC was provided with TSh 90 million as a working capital upon the installation of the plant. The actual production was 130,000 pairs in 1982 and 159,000 pairs in 1983 while the plan for 1984 forecasts 160,000 pairs of footwear (i.e. 4 per cent of the installed capacity).

The acutal stock of materials and spare parts is much less than the values registered in the books. Most of the equipment has never been used; nevertheless, all machines need an urgent overhauling and conservation. The accumulated loss of the MSC accounted for TSh 42 million at the end of 1983 (which represents 46 per cent of the working capital).

There are some small footwear manufacturers in the private sector and some operating under the Small Industry Development Organization (SIDO).

The total shoe production in the United Republic of Tanzania was about 3 million pairs in 1982 which has not increased since that time. All factories have been using leather supplied by local tanneries but all other items, including canvas, had to be imported.

Leather goods with ornaments and motives of folk-art origin have for a long time been traditionally produced in small rural workshops. A mechanized leather goods manufacturing plant, also under the control of TLAI, was put into operation by an Italian firm in 1982 but its production was started in the MSC because of difficulties in energy supply. Smaller units were further set up in the TTL and MOT and a new leather goods unit is under establishment by SIDO. Some other private entrepreneurs produce various leather goods as well. The quality of the products is far from being acceptable, mainly owing to a poor design and workmanship.

In general, the Tanzanian leather-products industry subsector is fairly well equipped as to machinery, especially in the MSC. The main problems in the capacity utilization are:

(a) Irregular supply of leather from the local tanneries,

(b) Shortage of foreign exchange required for the purchase of auxiliary materials and spare parts;

(c) Lack of know-how and expertise in management and technology.

Owing ot the substandard quality of footwear and leather goods manufactured in the United Republic of Tanzania there was so far no export of footwear and leather goods.

D. Industrial infrastructure

The United Republic of Tanzania, like the majority of developing countries, faces increasing difficulties as to the availability of hard currencies and energy. Usually the Government (through its banking organizations) controls the foreign exchange inflow and outflow and in many cases it takes a long time to obtain the import licenses for imported inputs and spare parts. This, consequently, interrupts the production process and increases the number of idle machinery requiring repair or maintenance. The unreliable electric energy supply has been and still is the other reason for production stops which last for hours or sometimes (as it has happened frequently in Mwanza) for weeks.

The water supply for the tanneries seems to be sufficient. The disposal of effluents has so far not been a serious problem in the country.

Transport has to be considered as another weak infrastructural area in the United Republic of Tanzania. There is not always sufficient fuel available for motor vehicles and the supply of tires and other components depends on imports. The roads are in a rather bad condition which makes the inland transport slow and causes a quick depreciation of vehicles. Owing to the geographic location of the United Republic of Tanzania, the majority of imported goods arrive at and the exported goods depart from the Dar-es-Salaam harbour. The transport by sea takes at least several weeks. The air freight may add 10-20 per cent on the prices which would increase the export prices up to an unacceptable level.

The Morogoro Industrial Estate is located just outside the Morogoro town providing jobs for the local population. There are the MOT, the MSC and the leather-goods factory. The Morogoro Canvas Mill (MCM), as a subsidiary company of TLAI, was installed in 1983. The project was sponsored by a long-term loan granted by the European Economic Community (EEC) and the starting-up and the implementation are supervised by a team of 15 German and Dutch experts who have the controlling power in the factory. The MCM has already achieved 90 per cent of its one-shift capacity; the second shift is to be introduced still in 1984. The targeted output is 9.5 million m^2 of canvas made of local cotton. With regard to the material inputs the import dependence rates at 15 per cent.

The MLB is under construction and due to start its operation in 1985. It will make use of leather waste materials from the TLAI tanneries and shoe factories. The leather board to be produced there will be utilizied, if of acceptable quality, for the manufacture of certain footwear and leather-goods components.

The TILT was established in 1982 to provide the rapidly growing Tanzanian leather and leather products industry with qualified personnel as well as with know-how in R and D, quality control and maintenance. The Tanzanian Government provided the site and buildings in Mwanza, next to the MWT. Very modern equipment for laboratories, the tanning and leather manufacturing pilot plants and various training aids have been supplied by a UNIDO project financed from a special purpose contribution of Italy (US/URT/79/240). UNIDO has provided assistance in supplying the organizational structure, training programmes and syllabi for the Institute. Another UNIDO project is being actively considered, and, pending financial approval from a donor country, is scheduled to start operating mid-1985. It is expected to render expert and training services for the starting-up period and assist in TILT's training and R and D activities.

E. Marketing of leather and leather products

It is estimated that approximately three million pairs of leather and canvas footwear are marketed in the United Republic of Tanzania per year. Thus the average yearly per capita shoe consumption is about 0.2 pairs. The same parameter in industrialized countries is 4.0-4.5 pairs/capita/year and the average for developing countries is 1.0 pair/capita/year. In comparison, other least-developed countries with a similar climate have a higher footwear consumption and the calculated minimum requirement of footwear in those countries is still at least five times more than the actual consumption in the United Republic of Tanzania.

In spite of the low living standard of the local population and its consequently limited purchase power, there is a big demand for leather products in the country. A pair of locally-manufactured dress shoes costs TSh 500-650 in retail, the price of clogs with wooden soles is TSh 470-550 and that of jogging shoes TSh 470-570. Similar footwear is available on the world market for $US 6-15, f.o.b. The prices are even higher for imported footwear available rather rarely through unrecorded trade.

Retailers, among which BORA is the most important one having outlets throughout the country, have no difficulties in selling shoes. The colours and styles offered by the retailers are far behind the actual fashion trend; the delay is 3-4 years or more.

The production plans of MSC are based on materials available from stock rather than on orders. The products arrive at the ready-goods stock where the retailers may select styles and collect supplies provided that they also take parts of the rejects. Although the footwear graded as "first class" in MSC is of a very poor quality with regard to aesthetics and physical properties, and the buyers' limitations are fairly big (see above), the company management has no difficulties in maintaining the high price level. This fact underlines how big the domestic demand of footwear is.

Owing to the big local demand and the quality problems, practically no footwear or leather goods have been exported by the TLAI and its subsidiary companies until now. There is a possibility to sell shoes to neighbouring countries (e.g. Mozambique, Uganda and Zambia). However, the prices achievable on the export market would not cover the high manufacturing costs and since no export incentive scheme exists in the United Republic of Tanzania, the shoe factories will prefer the local market.

Some machinery installed in the MSC could be used for the manufacture of components which may be sold to other shoe factories or exported. Such items are unit soles, wooden soles or lasts, heels, top-pieces, laces and sole sewing thread. The thread manufacturing unit is fully equipped, uses locally available yarns and its capacity is much higher than the demand of the MSC at its full operation. Regarding the other items, there are significant difficulties, such as non-availability of basic materials (only through imports), lack of moulds and appropriate know-how.

The local leather-products industry subsector is the main market for the TLAI tanneries. Owing to an insufficient supply of imported chemicals and limited finishing capacities, the leather manufacturers are unable to meet orders as to colours, finishes etc. The leather prices (e.g. TSh 240-290/m^2 for corrected-grain and TSh 280-340/m^2 for full-grain upper leather, TSh 130-170/m^2 for lining leather) are closer to the world market prices ($US 12-20, 16-24 and 6-8/$m^2$ respectively) than those of footwear, but they are still high, especially if taking into account the low quality. Through its raw hides and skins and the leather sector, the United Republic of Tanzania earned $US 10.8 million in 1982 through exports. The leather sold on the international market was chiefly semi-processed. Neither the TLAI nor its companies have a marketing organization dealing specifically with the export business. Market information is rare, the marketing channels still need to be established.

F. Economic and social aspects

The leather and leather products industry sector in the United Republic of Tanzania provides jobs for approximately 5,500 local people. If the installed equipment could be utilized at 80 per cent of its capacity, about 2,500 jobs more would be available. By starting up the TILT, 80-120 qualified key operators and middle-management staff would be trained annually, providing the opportunity for the acquisition of a wide range of skills and experience.

The Government of the United Republic of Tanzania charges a 25 per cent sales tax on leather marketed locally which contributes to the national budget the amount of TSh 30 million per year. In addition, the tanneries, shoe and leather goods factories pay 20 per cent import duty plus 25-50 per cent sales tax on imported items which amounts to approximately TSh 15 million per year.

The local leather-products industry, predominantly the TLAl factories, supply almost all the footwear for the local market while the TLAI tanneries provide all the basic materials for the local leather-products manufacturers. If the declining production trend does not come to a halt in this sector, a certain amount of footwear will have to be imported and decrease the income from leather exports. In this case, the balance of foreign exchange of the United Republic of Tanzania would show an even bigger deficit and the unemployment rate would increase.

II. REHABILITATION OBJECTIVES

A. The main problem areas

The appraisal of the performance of the most important Tanzanian leather and leather-products manufacturing units proved that this industrial sector shows several weaknesses, some of which are related to the general economic situation of the country. Others are more specific and require remedial steps in the very near future. The identified problem areas may be grouped as follows:

(a) Lack of appropriate technical and managerial know-how for running tanneries and shoe factories - mainly owing to inadequate or insufficient training of local personnel;

(b) Financial difficulties of TLAI factories in terms of liquidity (because of the fairly big losses) and foreign exchange (required for imports of spare parts and important auxiliary materials ensuring a continuous production);

(c) The difference in the profitability of production for exports as against production for the local market - i.e. no real export incentives;

(d) Neither the manufacturing units nor the TLAI have relevant information on the international market of leather and leather products; there is no properly organized marketing activity;

(e) In spite of fairly extensive investments made during the last decade the plant capacities are unbalanced;

(f) The MSC should play a key role in the Tanzanian leather trade but owing to the afore-mentioned problems it is not in a position to absorb the possible output of local tanneries and supply footwear for the local market and, eventually, for exports.

The UNIDO projects have proven that the manpower development (i.e. provision of know-how, labour and management training, fellowship programmes) through international expertise gives the best benefit for the local industry. Thus, it is extremely desirable to obtain international co-operation in the rehabilitation of the Tanzanian leather and leather-products industry sector, with special reference to the MSC.

B. Objectives

One of the obvious mistakes made in the past in connection with the industrial development of the United Republic of Tanzania, particularly in case of the MSC, was that the targets with respect to export volume and duration of starting-up period were too optimistic. The whole leather and leather-products subsector in this country is rather special since it is much more concentrated than in other developing and in many industrialized countries. The plant capacities are fairly big requiring special management systems and qualified personnel. When determining the rehabilitation objectives, special attention should be given to the setting of realistic targets.

The team of experts recommends the following objectives for the rehabilitation programme:

(a) Increase the output of finished leather of the TLAI tanneries, improve the quality to an internationally acceptable level;

(b) Produce footwear in accordance with the local demand, using locally available leather and canvas with a minimum of imported components;

(c) Gradually enter the international leather and leather products market and establish contacts and marketing channels;

(d) Introduce management systems suitable for large (concentrated) manufacturing units;

(e) Develop the professional knowledge and experience of local staff to the level required for running a concentrated industry;

(f) Make appropriate arrangements with the relevant government authorities and financial institutions to obtain the necessary (legal and financial) conditions for the continuous and profitable operation of the Tanzanian leather and leather-products industry.

The high-level objectives of the rehabilitation programme are to fully utilize the installed capacities by using the existing resources such as raw hides and skins and cotton, to increase the value added on the same commodities, to provide the local population with jobs and at the same time with suitable footwear.

III. THE MASTER PLAN FOR REHABILITATION

A. Raw hides and skins supply

The basic requirement for developing the Tanzanian leather and leather-products industry is the availability of local hides and skins. This natural resource constitutes the most important prerequisite for the proposed rehabilitation programme; therefore, all efforts have to be concentrated on fully exploiting the country's potential in that respect. Although both, FAO and UNIDO, have made considerable contributions towards this objective, the following recommendations should be implemented as soon as possible.

1. Prices

The prices for raw hides and skins have to be fixed according to their real market value to increase the recovery of these important materials for industrial processing in the United Republic of Tanzania. This more flexible pricing mechanism has to be combined with a closer control of the market which is unrecorded today (i.e. black market, smuggling);

2. Collection system

The collection system (network) and its infrastructure (including flaying, storing, transport, grading) needs improvement. The necessary actions have been recommended by FAO and UNIDO experts earlier; now the realization of the same should commence immediately;

3. Margins

The margins set by the THS on raw hides and skins is unacceptably high due to the high overhead costs. It is strongly recommended to simplify the operation of this organization and to reduce the unjustified margins to a maximum extent possible.

Through previous United Nations projects recommendations as well as practical steps have been elaborated which are still valid and may be implemented. Most of them do not require extra funds while others may be executed using local financial resources; for some an increased output would cover the expenses incurred.

B. Leather processing

Previous UNIDO activities were mainly oriented towards the leather subsector of TLAI. The result is reflected in the better performance of the three large tanneries as compared to the footwear factories. The following further efforts are required to overcome certain problems and to provide a wider scope of operation for the installed tanneries.

1. Modification of production programme

The installed (however unbalanced) high tanning and finishing capacities are not in proportion either with the raw hides and skins available or the finished leather required by the local leather-products manufacturers. Nevertheless, the production programme (i.e. the product-mix) of TLAI tanneries has to be modified as is shown in table 3.

Table 3. Modified production programme for TLAI tanneries

Type of leather	Semi-finished leathers (wet blue/crust) thousand m^2/year		Finished leather thousand m^2/year
Bovine			
Smooth/corrected grain	-		500
Smooth/aniline or softee	-		440
Embossed/aniline or semi-aniline	-		350
Suede and splits	-		380
Semi-processed	670		-
Subtotal bovine leather	670		1 670
Goat and sheep			
Shoe upper	-		350
Lining and woven leather	-		150
Semi-processed	300		-
Subtotal skins	300		500
TOTAL soft leather	970	+	2 170 = 3 140
Heavy leather (sole/insole)			350 000 kg

2. Increase export of semi-processed leather

About 300,000 m^2 of finished leather and all wet-blue and crust leathers (970,000 m^2) will be available for export yearly, which would provide an income in hard currency of approximately $US 9 million - more than double of the subsector's earnings today. Since the local shoe industry will not be able to run at its full capacity and its requirement for finished leather will be less during the starting-up period, it is recommended to maximize the export of semi-processed leather during that time. It must be emphasized that the output of the tanneries exceeding the local requirements is needed to earn foreign exchange.

3. Additional investments

Since TLAI tanneries do not have sufficient finishing capacities and some of the equipment and plants need urgent maintenance or replacement, additional investments are needed. The list of machinery to be acquired is contained in annex II; the total investment needed is:

Equipment	$US 3 000 000
Initial stock of spare parts	$US 400 000
Plant extension and repair	TSh 18 000 000

4. Availability of chemicals

Since chemicals for tanning and finishing of leather are not available locally, they have to be imported. A list of the most important items and the required quantities per year (in accordance with the targeted production programme and output) is also indicated in annex II. The total yearly investment needed is the following:

Auxiliary materials	$US 3 000 000
Spare parts	$US 300 000
Total	$US 3 300 000

5. Additional training

The fellowship programme carried out under previous UNIDO projects has made available a considerable number of qualified personnel working now in the TLAI and its tanneries. However, further training is still necessary to enable the local technical and managerial staff to up-date their knowledge as well as to maintain international contacts in the leather trade through training and study tours abroad. In addition, about 600 operators, quality controllers, production supervisors, maintenance staff and middle-managers need to be trained or retrained during the next ten years in TILT or other institutes.

C. Footwear manufacturing

As mentioned earlier, with respect to hardware the footwear subsector is in a much better position than the tanning industry, but the respective software (know-how and trained personnel) does not suffice. As a consequence, relatively big resources are not utilized today in the two major shoe factories, especially in the MSC. It is, therefore, recommended to pay special attention to the leather-products manufacturing when the rehabilitation programme is implemented.

1. Specialization of the two shoe factories

The two large shoe plants, i.e. TSC and MSC, have very similar product ranges and use almost the same technology today. Since the operator and managerial skills differ in these plants, it is recommended to introduce some specialization for each of them. An option would be to produce footwear with PUR soles and boots with rubber soles in BORA and concentrate on PVC technology in the MSC.

2. Establish cost/profit centres within MSC

Since the MSC is a fairly complex plant requiring special management methods and unique technologies for its differing units, it is strongly recommended to establish individual sections reporting to the top management only. These sections should operate as cost/profit centres having their own budget and doing their own purchasing, design, production management, labour recruitment, marketing etc. Such profit centres may be:

(a) Wooden components (lasts, heels, soles) manufacturing;

(b) Lace and sole sewing threads manufacturing;

(c) Shoe components (insoles, stiffeners, unit soles, plastic and leather heels etc.) prefabrication;

(d) Clogs manufacturing;

(e) Canvas shoe manufacturing (including canvas upper production for export);

(f) Leather shoes manufacturing;

(g) Moccasin manufacturing;

(h) Shoe manufacturing with direct injection moulding;

(i) Maintenance, engineering and tool-making.

3. Establish a realistic production programme for MSC

Taking into account the equipment available, the market requirements and the quality level which may be achieved in five years' time, the production programme shown in table 4 seems to be realistic for the MSC at the end of the fifth year after the rehabilitation.

Table 4. Production programme for MSC at the end of the fifth year after rehabilitation

Type of product	Total output (thousand pairs/year)	Export	
		Thousand pairs/year	Percentage
Canvas shoes	1 000	400	40
Jogging shoes	220	-	-
Clogs	200	-	-
Safari boots	400	100	25
Sandals	730	200	27
Moccasins	550	100	18
Dress shoes	400	-	-
Total shoes	3 500	800	23
Insoles	300[a/]	-	-
Prefabricated soles	250[a/]	-	-
Unit soles	700[a/]	-	-
Shoe laces	8 000[a/]	1 000	12
Wooden soles	200[a/]	-	-
Heels	500[a/]	-	-

a/ In addition to the components required for the MSC assembling processes.

The proposed product range is smaller than envisaged in the original plan, especially in terms of export. Designs, documentation, patterns and (if possible) cutting dies and moulds should be obtained from the foreign partner for the starting-up period.

4. Conclude a management contract with a foreign partner

The balance sheets and the overall performance of the MSC over the past years prove that the local management is unable to overcome the existing difficulties without external assistance. Thus the rehabilitation programme must be based on international know-how. The best way to gain and use the knowledge required is to find a suitable partner for co-operation. First, a management contract should be concluded which would provide the MSC and its staff with thorough on-the-job training, active participation in running the company and access to certain market information on products to be manufactured. After having developed the necessary operational and management skills and gained some experience in manufacturing processes and quality control, this contract may be changed to a collaboration agreement under which the MSC would supply certain components (e.g. uppers, soles) in exchange for spare parts and materials (e.g. PVC compound). The success of such a collaboration depends on the mutual interests of the partners. The foreign partner must have full controlling power in the MSC during the management contract, like in the MCM.

The total cost of the technical assistance programme is estimated at $US 1.8 million (for the breakdown see annex III) while the cost of management training is approximately $US 510,000 during the pre-operational and starting-up period. Further details about the conditions and the framework of the proposed agreements are given in annex II.

5. Overhaul and conservation of existing machinery

Most of the valuable and expensive equipment in the MSC and the MWT has not been used since it was installed. These machines need urgent overhauling and conservation. It is recommended to subcontract an experienced engineering company to repair and maintain all equipment, to install a proper maintenance workshop and to train some mechanics in the MSC. The estimated cost of maintenance and building repair is $US 450,000.

6. Balance the production capacity

The MSC is over-equipped in many respects, i.e. a number of machines (the majority has never been used) could be transferred to other shoe-manufacturing units in the United Republic of Tanzania. It is, therefore, strongly recommended to stop importing any equipment for the TLAI and SIDO footwear and leather-goods units until a foreign partner is contracted for the MSC and makes a comprehensive list of surplus machinery, which eventually will have to be sold. At the same time, some other equipment will be needed to balance the production capacity in the MSC. The total investment needs are about $US 1,100,000, while the estimated value of the surplus equipment is $US 300,000.

7. Obtain assistance in marketing

Since the MSC has not established any marketing channels, special attention has to be paid to this activity. The foreign partner's duty will also comprise assistance in marketing including an internal marketing organization, marketing policy, public relations, gradual establishment of

contacts with wholesalers and retailers. As far as export is concerned, thorough market studies ought to be conducted in order to explore possibilities for exchanging footwear against goods from neighbouring countries badly needed in the United Republic of Tanzania (e.g. tires available in Mozambique). The estimated cost of a well-elaborated and reliable market study is approximately $US 150,000.

8. Carry out a foot-measurement programme

A large number of antropometric studies as well as trading and orthopaedic experiences prove that ethnical differences are reflected in the form, proportions and size ranges of the human body, particularly in feet. A recently completed UNIDO survey in Ethiopia clearly showed the necessity of establishing local standards for shoe lasts which would be fairly different from those used in Europe or the United States. Thus, it is recommended to carry out a foot-measurement programme in the United Republic of Tanzania to determine the size and fit requirements of the local population and to design lasts accordingly. The cost of such a programme is estimated at $US 80,000.

D. Financial and organizational conditions

A number of existing problems cannot be solved at the company level; they need actions and decisions to be taken by the Government, its financial institutions or the respective parastatal organizations.

1. Simplify administrative procedures

One of the main reasons for the high costs of services and high prices of commodities in the United Republic of Tanzania are the huge overheads added to the production costs. Measures are to be taken to reduce the number of staff and to simplify administrative procedures of companies and parastatal organizations. It is recommended to consider the merging of the TLAI and THS which would improve the raw hides and skins supply, eliminate a considerable mark-up on prices and most probably would provide the Government with a better control over this trade.

2. Carry out physical inventories

A survey of balance sheets and visits to factories showed a discrepancy between the physical stocks and the stocks listed in the books in some of the TLAI subsidiary companies. In order to get a clear picture and to base the future co-operation with a foreign partner on reliable information, physical inventories have to be made in all warehouses of every TLAI company (at an agreed-upon date, if possible) and the books have to be corrected accordingly. The same applies to all the assets: they have to be audited and the balance sheets corrected accordingly.

3. Obtain new equity capital

As the losses of the MSC (together with the value of spare parts and materials which disappeared from the stocks) exceed the share capital in 1984, the old shares should be declared nil and void. The Government of the United Republic of Tanzania should provide TSh 100 million as a new equity capital.

4. Establish a new trading company

It is recommended to install an individual and specialized footwear and leather-goods trading company in the United Republic of Tanzania which would

take over the wholesaling and retail of the commodities from BORA. By developing a retail chain throughout the country, the distribution of footwear would improve and the competition among manufacturers would be fairer.

5. Increase co-operation between TLAI and SIDO

Since the TLAI and SIDO have overlapping responsibilities in controlling the local leather and leather-products industries, their co-operation should be much closer than it is today. The Ministry of Industry and Trade may request the elaboration of a comprehensive plan for concerted actions to be taken by both parties. The first step might be a survey of installed capacities and equipment available in the footwear and leather-goods subsector and the introduction of a co-ordinated investment policy including the exchange of surplus equipment.

6. Increase attractiveness of exports

In spite of using locally available leather, the footwear and leather-products manufacturing depends on the supply of imported auxiliary materials and spare parts. In case of the MSC, the value of such imported inputs would be approximately $US 6.2 million per year corresponding to TSh 174 million (including import duty and taxes) or 23 per cent of total material costs (without duty and taxes) - a detailed breakdown is shown in annex III. In order to ensure a positive balance of foreign exchange in this subsector, export earnings are badly needed; but the present economic system does not encourage manufacturers to sell their products abroad. To make exports more attractive, it is recommended to:

(a) Centralize the foreign trade administration (e.g. licences, correspondence, duty and transport formalities) in the TLAI for all its subsidiary companies;

(b) Co-ordinate imports in bulk supplies which are less costly and require less administrative work and efforts in marketing (market research, participation in fairs etc.);

(c) Introduce an export incentive system compensating companies for losses in export and leaving them 50 per cent of their export earnings for quick supply of spare parts and materials (as it is the case in the MCM).

7. Key role of TILT

TILT has to play a key role in the rehabilitation programme as far as training, quality control, product development, services in R and D and maintenance, as well as supply of techno-economic information are concerned. The organizational structure, training and R and D programmes as elaborated by the UNIDO project RP/URT/82/005 have to be implemented as soon as possible. The Institute should concentrate on middle-management and key-operator training using very practical methods.

8. Ensure availability of sufficient funds

The rehabilitation programme requires a considerable amount of foreign currencies for its implementation. As can be seen in annex III, the total amount required for the MSC alone is estimated at $US 16.1 million during the first six years. If a decision is made in favour of the implementation of the proposed programme, sufficient funds should be made available for the TLAI and its subsidiary companies, possibly through additional IDA assistance.

IV. FINANCIAL, ECONOMIC AND SENSITIVITY ANALYSES

Based on the findings and recommendations made by the technical experts, the proposed rehabilitation programme has been reviewed in financial and economic terms. The analysis was completed in three stages, i.e. the financial analysis in accordance with the UNIDO Manual for the Preparation of Industrial Feasibility Studies, the economic analysis converting all the financial values at border prices including using the World Bank standard conversion factor established for the United Republic of Tanzania; the sensitivity analysis using the UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR). This report presents the basic financial and economic analysis completed manually (annex III) and COMFAR printouts of one of the sensitivity analyses (annex IV), i.e. considering a 40 per cent higher labour cost, decreasing all the sales prices by 15 per cent and a possible devaluation of Tanzanian shilling by 75 per cent, which the World Bank strongly recommends.

A. Financial analysis

The basic financial analysis of the rehabilitation programme for the MSC was carried out after a thorough examination of the marketability of the products and the total production costs (factory costs, overheads, depreciation and financial costs). All the necessary indicators such as initial and current investment costs, cash flow table, balance sheets, net income statements, sources of finance and net working capital were analysed on the basis of inputs of the technical experts.

Particular considerations and assumptions are as follows:

(a) A reformed MSC would take over the fixed assets of the present company at their book value as at 31 December 1983 (TSh 97 million);

(b) The domestic prices for footwear are set according to the recent retail and ex-factory prices minus 15-20 per cent;

(c) Export prices are c.i.f. Western Europe minus 15 per cent discount to cover the cost of market introduction;

(d) If the recommendations for improving the machinery and increasing the finishing capacities in Tanzanian tanneries are carried out, there will be ample supplies of leather for the shoe production;

(e) The labour requirements have been estimated to be around 25 per cent above the normally required level of an industrialized country;

(f) Appropriate know-how and management will be provided by a foreign partner having extensive experience in running large and concentrated shoe productions, similar to the MSC in size and plant organization;

(g) A subsidy of minimum 26 per cent of manufacturing costs, including profits, will be granted for export products to compensate for the high material costs due to tariffs and taxes, or measures giving similar financial benefits to the manufacturers will be introduced to promote export activities;

(h) The MSC and all other Tanzanian leather-products exporters will get the guarantee that a significant share (about 50 per cent) of the gross foreign exchange earned may be used by them for direct imports.

B. Conclusions of the financial analysis

From the financial viewpoint the project is likely to be extremely profitable, yielding an internal rate of return after tax of around 50 per cent. There are a number of risks involved. Total sales revenue may not reach the projected figure - indeed, some price reductions are likely to be necessary to dispose of the full output. Costs of production, in particular the excessive use of labour, may be higher than anticipated. However, given the high base rate of return there is room for appreciable adverse changes in both revenue and costs and yet still to achieve a healthy internal rate of return. Two other factors are essential to the success of the project. First, the foreign exchange requirements must be covered, otherwise production will be interrupted and costs will escalate. Second, and of absolutely prime importance, the performance of the project will depend crucially on the quality of the foreign partner and on the services which he will provide.

With regard to the financing of the project this will depend to some extent on the size of the financial residue from the present company following a proper audit of the situation. It is also necessary to take into account the outstanding World Bank loan. In this connection it is hoped that the World Bank would make appropriate arrangements with the Government of the United Republic of Tanzania.

The following financial arrangements are proposed for the "new" MSC. The Tanzanian Government should provide TSh 100 million of new equity capital. This will cover some of the financial requirements for the first year of operation. Any deficit can be met by short-term borrowing and in later years finance can be provided from the increasingly large net profits. With regard to the foreign exchange requirements, the Tanzanian Government should enter into discussions with the World Bank with a view to providing a loan to cover the foreign exchange needs of the project. These amount to TSh 282 million over a period of six years. The World Bank might wish to consider some arrangement whereby finance will be released depending on the performance of the project.

From the purely financial point of view, if the rehabilitation plan does not go ahead, the United Republic of Tanzania would probably be left with just the fixed assets with a book value at 31 December 1984 of TSh 89 million and worth in the open market about TSh 43 million. The rehabilitation plan provides a way of using these assets. The cost is high, particularly in terms of foreign exchange and the need for further borrowing from the World Bank, but the return in financial terms is likely to be considerable. The project can, therefore, be recommended from the financial viewpoint.

C. Economic analysis

The economic analysis was completed in order to examine the project from the viewpoint of the development of the United Republic of Tanzania as a whole. Thus all the outputs (benefits) and inputs (costs) were valued at border prices. The following specific adjustments have been made:

(a) Output (sales revenue) valued at c.i.f. prices;

(b) Imported raw materials at c.i.f. prices;

(c) Domestic raw materials which could be exported - at f.o.b. prices;

(d) Factory labour - the unskilled element at 50 per cent of its cost. The wages of unskilled labour in the United Republic of Tanzania do not reflect the true opportunity cost of that labour;

(e) Non-tradable items, such as utilities, transport, overheads etc., have been valued using a standard conversion factor of 0.75 which has been estimated for the United Republic of Tanzania by the World Bank;

(f) Capital costs - the economic value of the fixed assets is estimated at TSh 43 million as opposed to the book value of TSh 97 million. Provision is made for TSh 3 million to be spent in the first year to provide accommodation for technical assistance personnel;

(g) Working capital has been adjusted to border prices and will be recovered in the final year of the project.

D. Conclusion of the economic analysis

The economic rate of return produces much less favourable results. Based on prices reflecting the real rate of exchange, it is approximately zero. If the rate of exchange of TSh 30.6 = $US 1 (i.e. 75 per cent devaluation as compared to the recent value) is used, the economic rate of return becomes 15.8 per cent which in case of the United Republic of Tanzania is a generally acceptable rate for a project. Regarding the effective rate of protection, indicating the international competitiveness of a project, the proposed programme offers 216 per cent of added value for domestic materials (mainly leather) used. This entails the very high rate of effective protection of 620 per cent, showing the effects of the Tanzanian tariff and tax system and reflecting the poor international competitiveness.

The foreign exchange savings in this project are $US 24.5 million, which represents the costs for importing the shoes less the cost of imported materials ($US 6.2 million) giving a saving of $US 18.3 million. The domestic resources used, at market prices, amount to TSh 487 million giving a project rate of exchange of TSh 26.6 against $US 1.

In short, the economic analysis does not favour the project, but it is for the Government of the United Republic of Tanzania to decide whether the savings in foreign exchange plus other non-quantifiable benefits outweigh the costs of the project in terms of domestic and foreign resources used.

E. Sensitivity analysis

The sensitivity analysis was carried out using UNIDO COMFAR for the economic analysis. The questions raised in the above financial and economic analyses, i.e. reduction of sales price, higher labour costs stemming from lower productivity, devaluation of the Tanzanian shilling as well as some modifications in the required working capital were taken into account. The results are as follows:

(a) An increase of labour costs (i.e. assuming a lower productivity in the MSC) by 40 per cent only decreases the economic internal rate of return by 0.8 per cent, which proves that this project is not so sensitive as was expected with respect to labour involvement and productivity;

(b) If a lower productivity as above is assumed, a decrease of selling prices for footwear by 15 per cent (as a local market response to bulk supplies) and a devaluation of the Tanzanian shilling by 75 per cent, plus reduced working capital (approximately TSh 170 million in total) at the full capacity stage, mainly stemming from reduction in cash in hand (from TSh 133.9 million to almost TSh 4 million), the economic rate of return becomes more than 17.74 per cent (see annex IV).

Thus, the analysis based on the assumptions as in (b) above, i.e. forecast of higher production costs, lower sales revenue derived from lower sales price, suggested devaluation of the Tanzanian shilling and ideal financial management (minimized cash in hand) may show the economic analysis as one of the realistic and successful cases of MSC operation.

V. PLAN OF ACTIONS TO BE TAKEN

The rehabilitation programme will be implemented in three phases. The first phase is a preparation process lasting about one year, during which all the necessary decisions will be taken and the most important arrangements and contracts concluded. The second phase consists of the rehabilitation of the leather-processing industry as well as the starting-up period of the MSC. During the last phase the trained local staff will take over the control of the whole leather and leather-products industry subsector in the United Republic of Tanzania.

As far as the tanning industry is concerned, the most important actions to be taken are described in chapter III, setions A and B. With regard to the leather-products industry - with special reference to the MSC - a netplan showr figure I outlines how the preparatory activities have to be co-ordinated; the netplan was computed by the critical path method using a Kaypro II micro-computer at UNIDO headquarters.

The most important actions are the following (code F stands for foreign partner, G for Government, T for TLAI and M for MSC, indicating the specific responsibility for the particular activity):

T1 (1-2) Negotiations with foreign partners. It is recommended to invite the companies listed below to discuss possibilities and terms of future co-operation regarding the necessary know-how and training. The companies are listed in order of priority:

Borovo shoe factory (Borovo, Yugoslavia)
Tisza shoe factory (Martfü, Hungary)
SVIT shoe factory (Gottwaldov, Czechoslovakia)
Service Industries Ltd. (Lahore, Pakistan).

T2 (1-3) Physical inventory to be made in every TLAI subsidiary company to provide reliable information on stocks.

G1 (1-4) Evaluation of reports and recommendations made by project experts as well as analysis of the proposed evaluation programme.

M1 (1-10) Overhauling and conservation of the equipment in the MSC.

T3 (3-4) The balance sheets of the TLAI companies have to be corrected according to the results of the physical inventories.

G2 (4-5) High-level government offices (including the Ministry of Industry and Trade and the Treasury) together with IDA representatives have to make a decision on the rehabilitation programme and its execution.

G3 (4-10) Formation and starting-up of an independent leather-products trading company responsible for domestic sales.

G4 (5-6) Appropriate arrangements have to be made to ensure a more flexible import system (licensing and financing) for the MSC.

T4 (5-7) On the basis of decisions made by the government bodies, a detailed and final plan has to be made for the whole rehabilitation programme, indicating costs, responsibilities, milestones, deadlines and the monitoring mechanism.

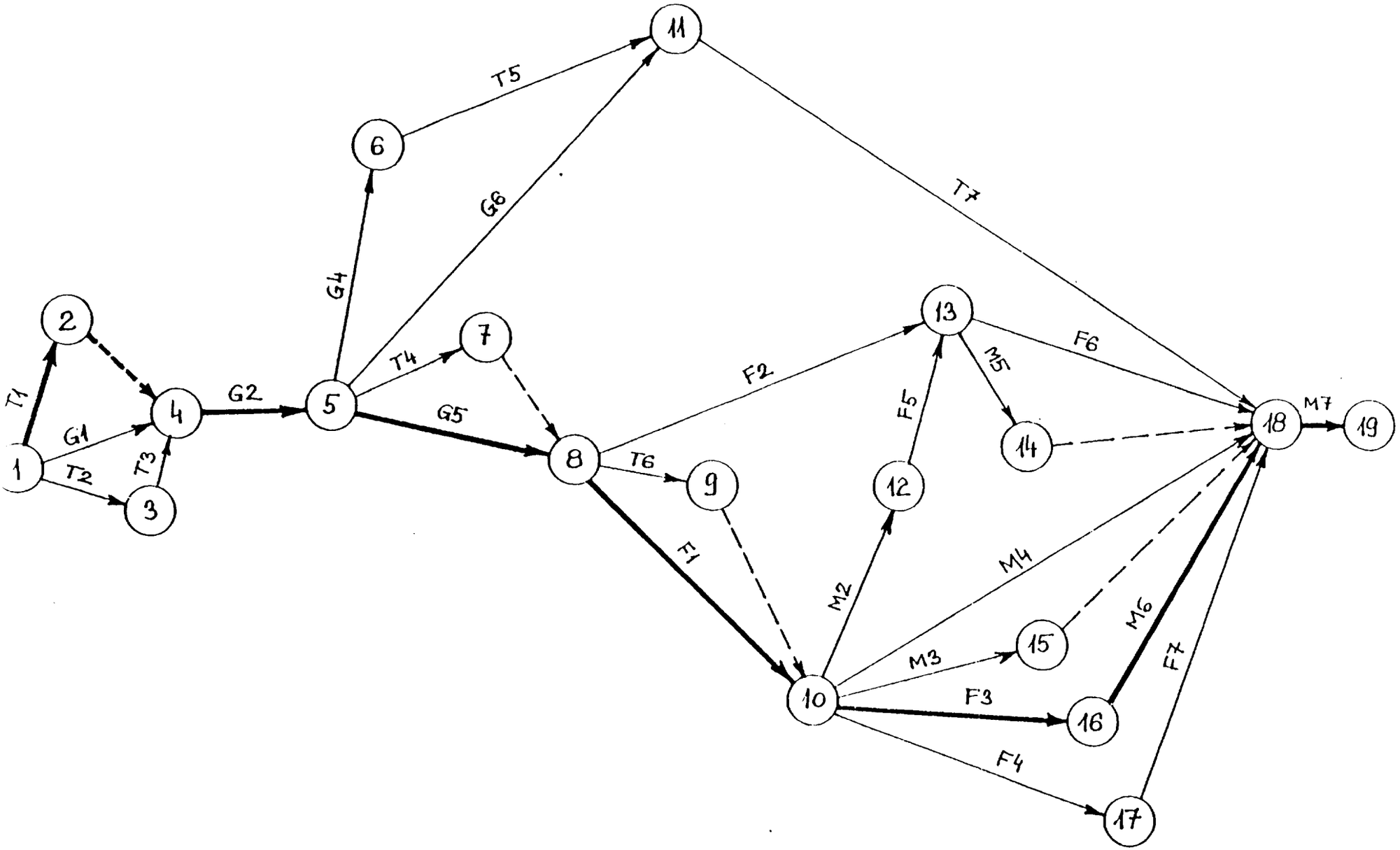


Figure 1. Netplan for the co-ordination of preparatory activities for the rehabilitation programme at TLAI and MSC

G5 (5-8) The Government of the United Republic of Tanzania should take measures to obtain the necessary funds (both $US and TSh) for the rehabilitation.

G6 (5-11) The respective government authorities should introduce an export incentive scheme in the United Republic of Tanzania to obtain hard currencies through exports of commodities.

T5 (6-11) Installation of a centralized unit in the TLAI for foreign trade administration assisting all subsidiary companies with export/import licensing, correspondence, shipping documents etc.

T6 (8-9) TLAI companies which have lost (partly or entirely) their working capital should be provided with the required financial means to solve the basic liquidity problem.

F1 (8-10) After having evaluated the results of the negotiations, the most suitable foreign company has to be contracted to provide technical, marketing, training and managerial assistance to the MSC.

F2 (8-13) Implementation of a foot-measurement programme to determine the size ranges and last constructions required by the local population; it is recommended to involve UNIDO assistance.

M2 (10-12) Negotiations with domestic wholesalers and retailers in order to determine the type of footwear needed on the local market.

M3 (10-15) Placing orders and installing equipment to balance the MSC plant as advised by the contracted foreign partner.

F3 (10-16) Instructor training for cutting and sewing operations. It is recommended to subcontract the Research Institute of Leather and Footwear Industry, Budapest, Hungary, for the whole labour and middle-management training if the contracted foreign partner is unable to supply an analytic on-the-job training system.

F4 (10-17) The foreign partner has to assist in reorganizing and restaffing the management of the MSC.

M4 (10-18) Surplus equipment of the MSC has to be sold or transferred to other footwear-manufacturing units in the United Republic of Tanzania or exchanged against other machines.

T7 (11-18) A thorough market research is to be conducted abroad to find an export market for Tanzanian footwear. Preference should be given to the neighbouring and other African countries.

F5 (12-13) On the basis of the domestic market survey and in agreement with the foreign partner basic styles are to be selected (from the range produced by the foreign partner).

M5 (13-14) Placement of orders for materials, auxiliaries and spare parts required for the production.

F6 (13-18) Supply of documentation, tools, moulds etc. by the foreign partner for the styles selected.

M6 (16-18) Training of a first group of key operators by local instructors under the supervision of the foreign partner.

F7 (17-18) Selection of suitably educated staff for middle-management training, start training on site.

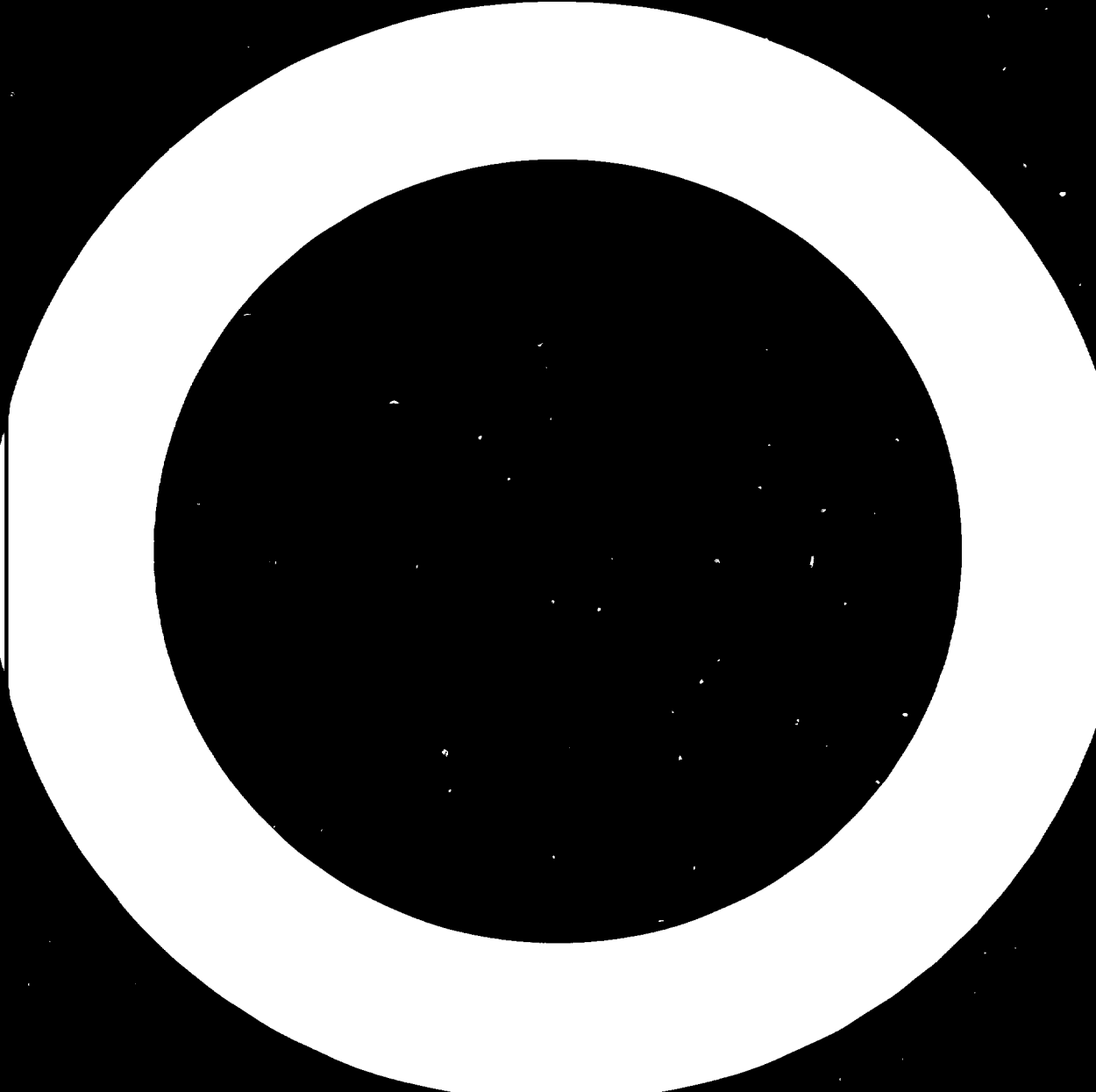
M7 (18-19) Start-up of production.

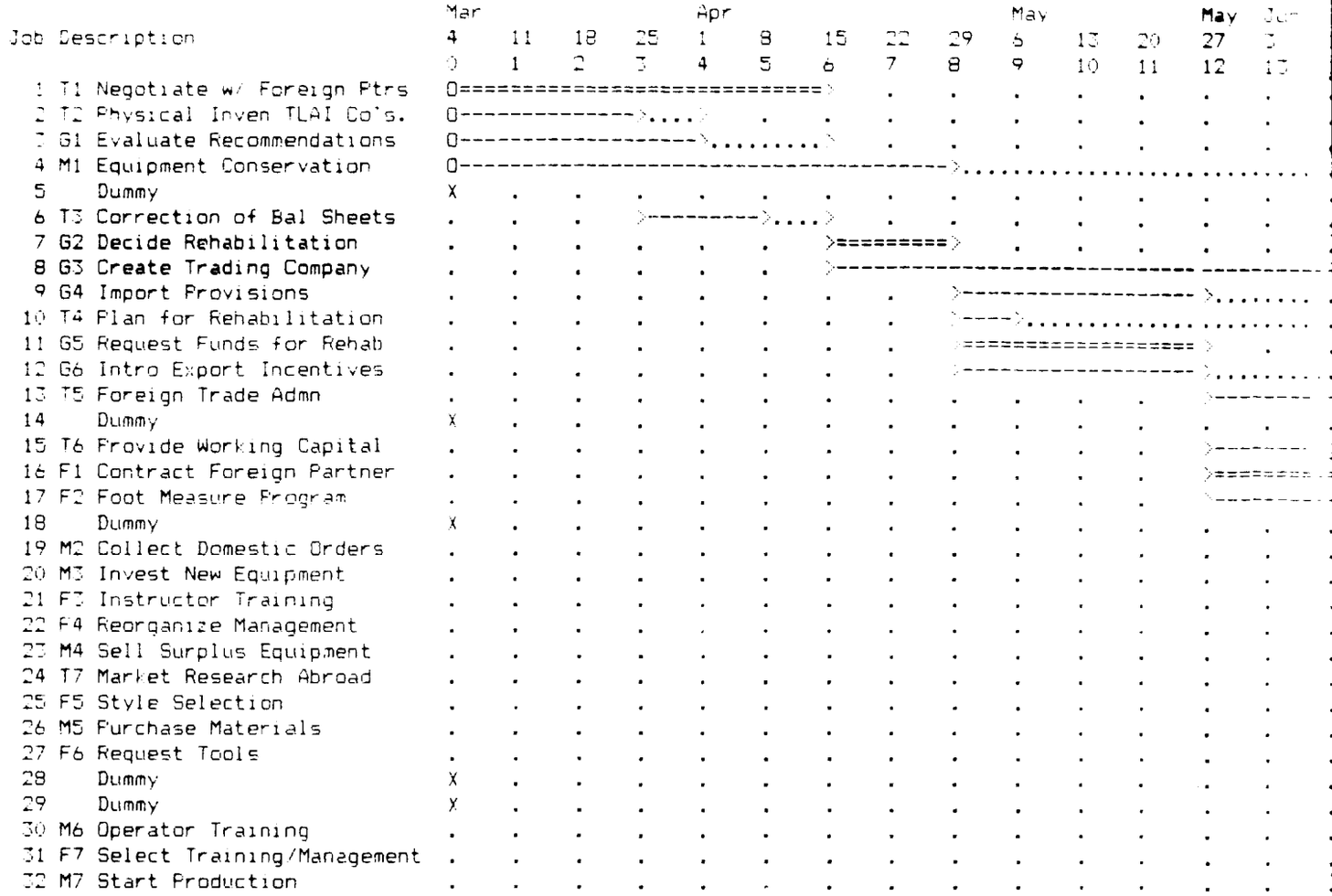
The duration of the above programme (i.e. the length of the critical path as indicated in figures I and II is 42 weeks. Additional data of the netplan are enclosed in annex V.

The cost of the rehabilitation programme is composed of the following:

Hides and skins improvement		TSh	20.0 million
Additional investment in tanneries		$US	3.4 million
	+	TSh	18.0 million
Filling up of tannery stocks		$US	3.3 million
Rehabilitation costs		TSh	4.0 million
	+	$US	3.3 million
Filling up of stocks of MSC		$US	0.6 million
Additional machinery for MSC		$US	1.0 million
Local expenses (mainly in kind)		TSh	15.0 million

Thus, the estimated cost of the whole programme is TSh 57 million plus $US 11.6 million, i.e. a total of TSh 256 million or $US 14.6 million. Furthermore $US 29.5 million (TSh 516 million) will be required in foreign exchange for imported inputs over the first five years of operation.





Symbol - Explanation

>---->	Duration of a normal job
>....>	Slack time for a normal job
>====>	Duration of a critical path job
>::::	Duration of a completed job
*	Job with zero duration
0---->	Job with no prerequisites
>----X	Job with no successors

SECTION 1

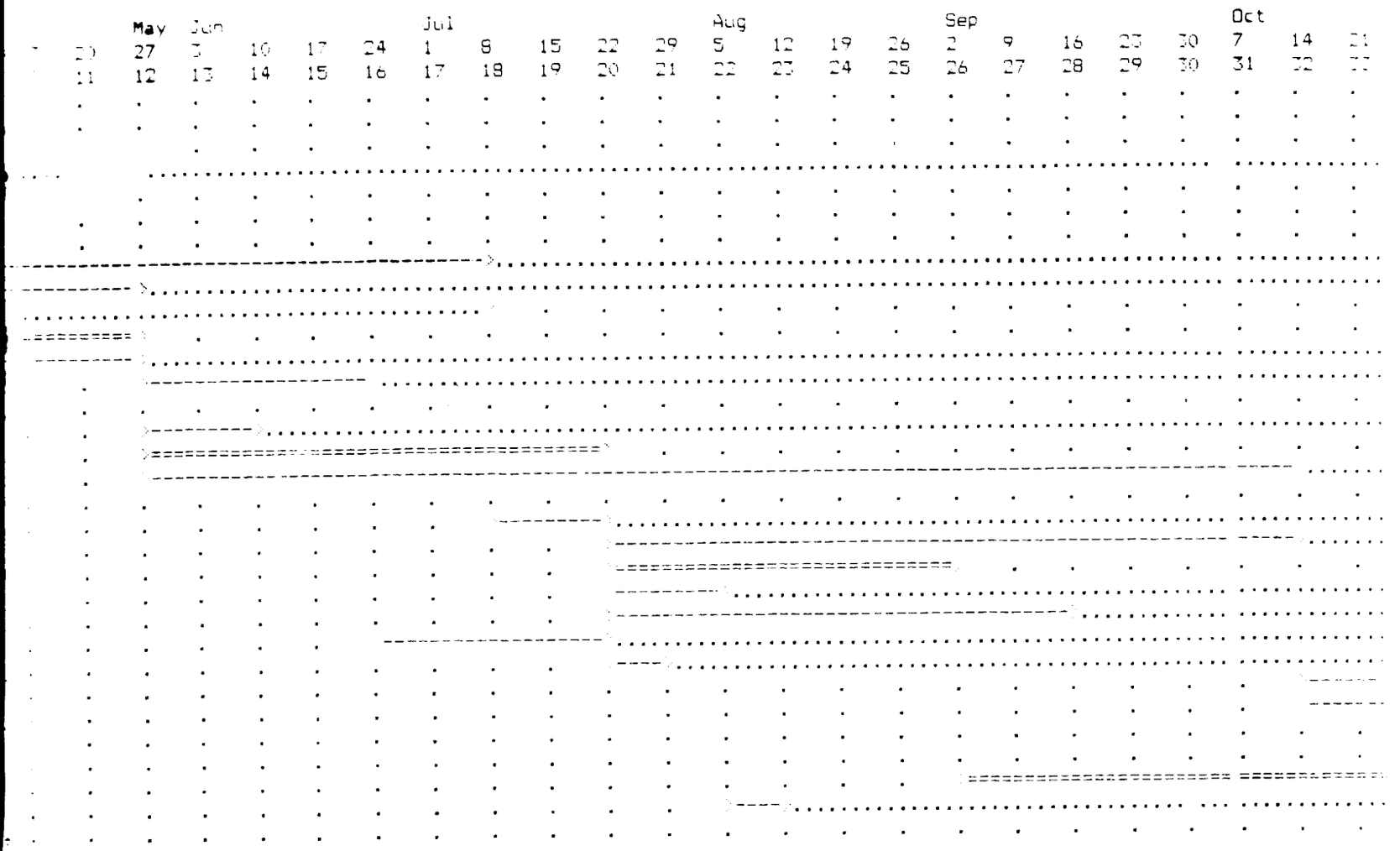
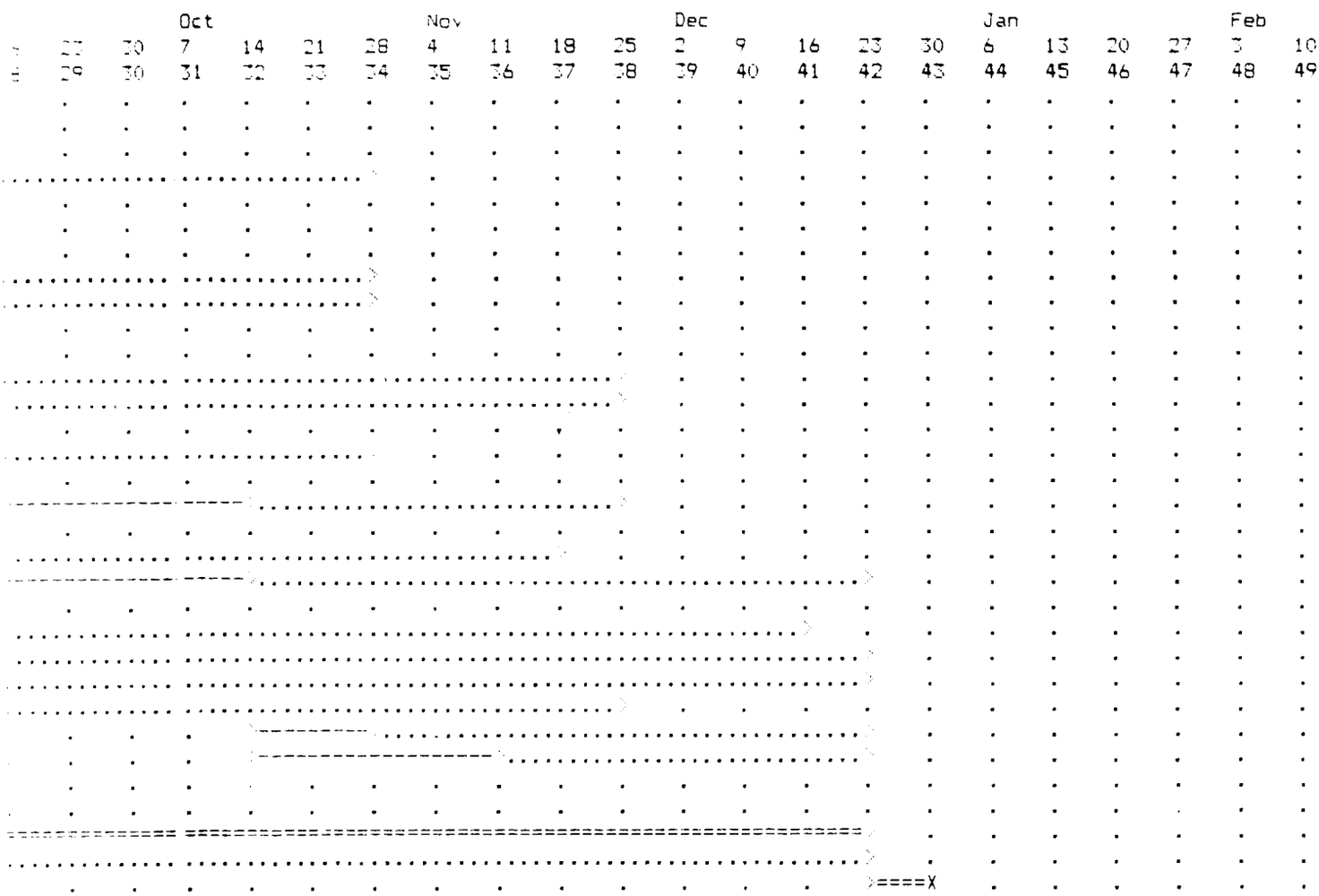


Figure II. Schedule for the preparatory activities for the rehabilitation programme at TIAI and MSC

SECTION 2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SECTION 3

Annex I

LIST OF PROJECT PERSONNEL

Chief technical adviser:	B. Svensson (Sweden). Previous UNIDO project manager of projects DP/URT/78/010, US/URT/79/240, a senior expert with long experience in the United Republic of Tanzania, having been the General Manager of the first tannery in Moshi from 1967-1976.
Management consultant:	O. Klötzer (Federal Republic of Germany). Previous chief technical adviser of projects SI/URT/82/802, former President of the German Shoe Manufacturers Association as well as of a big quality-footwear factory.
Footwear technology expert:	F. Schmél (Hungary). Previously leader of the sub-contracted team of experts under project SI/URT/82/802, former UNIDO staff member, Head of Department in the Hungarian Research Institute of Leather and Footwear Industries.
Financial analyst:	C.H. Oxtoby (United Kingdom of Great Britain and Northern Ireland). Senior lecturer at Bradford University, previous UNIDO consultant in economics, serving under various projects.
Leather technology expert:	P.B. Buit (India). Previously leather technologist in projects DP/URT/78/010 and US/URT/79/240. having over ten years of successful UNIDO services in Ethiopia and the United Republic of Tanzania.

Annex II

SUMMARIES OF TECHNICAL REPORTS a/

A. Chief technical adviser (B. Svensson)

A mission was undertaken by Messrs. A.S. Kasongwa, General Manager of TLAI, National Project Director, O.F. Klötzer, Management Consultant and B. Svensson, CTA, to Austria, Czechoslovakia, Federal Republic of Germany, Hungary, Pakistan, United Kingdom and Yugoslavia from 7 May-1 July 1984.

1. Tisza Cipögyar, Martfü - Hungary

The Tisza Shoe Factory was established almost 50 years ago by the BATA organization for mass production of leather, canvas and rubber footwear. The company employs 5,200 workers and staff, produces 10.5 million pairs of shoes at medium and lower price ranges for children, ladies and men. Half of the production is exported to the Union of Soviet Socialist Republics and Western Europe. The company co-operates with ADIDAS (France) and Salamander (Federal Republic of Germany). Since a considerable part of the production is canvas footwear, the Tisza management was interested in getting samples from the MCM and saw possibilities to buy uppers from the United Republic of Tanzania. The management and supervisory staff is well trained and the production control system is commendable.

2. Sabaria Cipögyar, Szombathely - Hungary

The shoe factory is located near the Austrian border. The output is six million pairs of shoes yearly manufactured by 3,750 workers, out of which 75 per cent are women. The company exports 3 million pairs of footwear per year mainly to the Union of Soviet Socialist Republics and Western Europe. 40 per cent of the production is a direct injected-moulded construction using PVC soles. The managers of the factory admitted to have a shortage of well qualified staff for a management contract but they would co-operate with other Hungarian companies in that respect, if required.

3. Duna Cipögyar, Budapest - Hungary

The factory's output is 4.5 million pairs/year, half of which is exported - mainly to the Union of Soviet Socialist Republics. Eighty-five per cent of the shoes produced have leather uppers. 250,000 pairs of canvas and leather uppers are imported from India and Pakistan every year. The factory management's attitude towards possible co-operation was similar to the one of the Sabaria company.

4. Research Institute of Leather and Footwear Industry, Budapest - Hungary

The Institute plays an important role in R and D and labour training for the Hungarian leather and leather-products subsector. They have pilot plants for production trials and training, and special departments for micro-computer application in the shoe manufacturing process. Instructors of this institute

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a/ The complete individual reports are available at UNIDO headquarters upon request.

have implemented a number of training projects both in Hungary and abroad. This Institute was sub-contracted by UNIDO to carry out a foot-measurement programme in Ethiopia.

5. Borovo Shoe Factory, Borovo - Yugoslavia

The factory was established by the BATA organization in 1930 but it is now nationalized. The output is 20 million pairs/year of all types of footwear plus 21 million kg of rubber tyres and 13 million kg of other rubber products. They have 60 retail outlets throughout the country. 6.5 million pairs are exported every year, out of which 5 million pairs are marketed in Western Europe - mainly through PUMA (Federal Republic of Germany). The number of employees is 22,000 and they have sufficient staff for rendering management services. The company management indicated its interest in diversifying its eastern export.

6. Jugo-Export, Belgrade - Yugoslavia

This is an export/import house dealing chiefly with leather and leather products. The company showed real interest in entering a co-operation contract.

7. Polytechna, Prague - Czechoslovakia

Polytechna is a technical co-operation agency active also in the leather business. They could collaborate with SVIT Shoe which is located in Gottwaldov where the original BATA headquarters were until the First World War.

8. Transakta, Prague - Czechoslovakia

This is a foreign trade agency being also interested in management contracts.

9. Freudenberg and Co., Weinheim - Federal Republic of Germany

The company operates world-wide in the fields of rubber, plastics, non-woven materials and leather for shoe production and has five shoe factories in the Federal Republic of Germany. Although the management was not interested in any co-operation, they offered training opportunities in leather and footwear manufacturing. It is assumed that scholarships can be obtained through the Embassy of the Federal Republic of Germany in Dar-es-Salaam.

10. Schön and CIE, Maschinenfabrik, Pirmasens - Federal Republic of Germany

The company would be interested in buying surplus machinery from the MSC and to provide services in starting up the idle machinery. The president offered to send a mechanic to Morogoro free of charge to assess the condition of equipment in the MSC.

11. C&J Clark Ltd., Street - United Kingdom

This is the biggest shoe manufacturer in the United Kingdom of Great Britain and Northern Ireland, employing 6,000 people in its 11 factories throughout the country and 3,000 people in its seven subsidiary companies. Clark is self-sufficient in most of the components for footwear production and sells some of them to other companies. The company cannot enter into a management contract as its personnel is engaged in projects in India and Pakistan.

12. Service Industries Ltd., Lahore - Pakistan

This company has already rendered management services to the TSC and is familiar with the local conditions. The shoe manufacturing plant at Gujrat is on a lower technical level compared to the factories visited before. The output is 8 million pairs/year, 40 per cent with canvas upper. A specialized section produces sport shoes for PUMA (Federal Republic of Germany) under the supervision of expatriates. The company runs 180 retail shops in Pakistan. Service Industries Ltd. has presented a proposal to the TLAI concerning a future co-operation.

After thoroughly analysing the findings of the mission, it is recommended to approach Borovo, Tisza, Service Industries and Polytechna and start negotiations as soon as possible.

B. Management expert (O.F. Klötzer)

Recommendations

1. The old shares of the MSC should be declared nil and void, new shares worth TSh 90 million should be issued by TLAI.

2. After having made a physical inventory and precise auditing of all assets of the MSC, the balance sheets should be corrected.

3 Start negotiations with possible foreign partners and employ a team of 15-2 specialists to upgrade the management and labour training.

4. Introduce a system compensating export companies for any losses and leaving them 50 per cent of their export earnings for free disposal.

5. Subcontract an engineering company to repair, maintain and conserve the equipment in the MSC.

6. Install a national footwear and leather-goods retail chain in the United Republic of Tanzania.

7. Subcontract the Research Institute of Leather and Footwear Industries (Budapest, Hungary) for instructor and operator training, as well as for a foot-measurement programme.

8. The protective boots plant delivered by Italmacchine S.p.A. should not be included in the MSC.

9. Install a management development programme and organize cost/profit centres in the MSC.

10. Sell surplus equipment of the MSC and try to exchange PUR soling machines against PVC machines.

Responsibilities of the foreign partner

Within the framework of a given know-how agreement, the foreign partner should be able to run the daily business without any interference from the Board of MSC, but keep the Board informed about any developments so that the Board has control over the management selected by the foreign partner.

The foreign partner should provide:

- Manufacturing programmes
- Production management schemes
- Product and process development schemes
- Material management schemes
- Machinery and equipment scheme
- Organization of management and staff
- Management training scheme
- Distribution scheme
- Marketing scheme
- Local labour and supervisory training
- Documentation on products to be manufactured
- Tools, dies, moulds for the starting-up phase.

C. Footwear manufacturing expert (F. Schmél)

Recommendations

1. Close down the operation of the MSC and sell the equipment unless the following recommendations are implemented.

2. The following production programme should be carried out in the MSC (at full capacity):

	Pairs/year
Canvas shoes	1,000,000
Jogging shoes	220,000
Clogs	200,000
Safari boots	400,000
Sandals	730,000
Moccasins	550,000
Dress shoes	400,000
Total	3,500,000

Besides footwear, components such as insoles, unit soles, heels, wooden soles, laces and uppers can be manufactured for sale or in co-operation with a (foreign) partner.

3. Export may be possible only after three years of continuous operation but it cannot be expected to be more than 20-25 per cent of the total output. It should be considered as an option to exchange certain materials (e.g. canvas) or components (e.g. laces, uppers) against other imported items (e.g. PVC compounds for soles).

4. The demand for locally available materials is the following (consumption/year at full capacity):

Suede/split leather	120,720 m^2
Corrected grain upper leather*	75,050 m^2
Full grain upper leather*	249,200 m^2
Lining leather	186,410 m^2
Sole leather	340,000 m^2
Canvas upper	228,480 m^2

Textile lining	28,000 m^2
Wooden soles**	200,000 pairs
Unit soles**	1,130,000 pairs
Laces**	2,020,000 pairs

Note: *Items interchangeable according to actual demand/fashion.

**Items manufactured in MSC. The total cost of these materials is about TSh 300 million while the cost of imported materials is TSh 175 million.

5. The following training programme has to be implemented in stages:

- Test skills of employees
- Train instructors in cutting and sewing operations
- Train 20 cutters and 30 sewing machinists using the analytical training process
- Management training
- Selection of workers for higher quality production and retraining.

6. A suitable foreign partner is to be contracted to advise on all aspects of production and marketing.

7. It is necessary to introduce an export incentive system which would render the production of higher quality shoes more profitable and their marketing abroad more attractive.

8. The starting-up period should take at least five years with an increasing capacity utilization:

	Pairs	Capacity utilization (percentage)
year 1	550,000	15.7
year 2	1,200,000	34.3
year 3	2,120,000	60.6
year 4	2,920,000	83.4
year 5	3,500,000	100.0

9. In order to balance the MSC plant, some equipment worth about $US 1 million has to be bought.

D. Financial analyst (G.H. Oxtoby)

Recommendations

1. It is recommended that a full physical inventory and financial audit be undertaken in the MSC.

2. The financial analysis b/ gives the following most important parameters for the six-year starting-up period (the first year being a pre-production/preparatory phase):

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b/ The complete financial analysis with explanatory notes is contained in annex III.

	Million TSh
Total revenue	1,150
Total production cost	596
Working capital requirement	378

3. The rehabilitation of the MSC would bring about a financial return after tax of about 50 per cent. It is estimated that in the sixth year of operation the project would very nearly cover its foreign exchange costs.

4. It will be necessary for the Government of the United Republic of Tanzania to provide TSh 100 million of new equity capital and it is recommended that negotiations will be conducted with IDA to obtain the foreign exchange needed for the rehabilitation programme during the first five years.

5. It is recommended that the Tanzanian Government considers subsidizing exports and leaving the MSC 50 per cent of any gross foreign exchange earnings.

6. The economic analysis shows that the programme only achieves a satisfactory economic rate of return if the Tanzanian shilling is devaluated by 75 per cent.

7. The effective rate of protection is very high - over 600 per cent. The project rate of exchange is reasonable - TSh 26.6 = $US 1.

8. The Government of the United Republic of Tanzania will have to decide whether the expected benefits such as savings on foreign exchange or other non-quantifiable benefits such as utilization of local resources, creating jobs, supply of badly needed footwear, tax revenues etc., outweigh the costs of the rehabilitation programme.

E. Leather technologist (P.B. Buit)

Recommendations

1. Quality and collection of raw hides and skins should be improved in the THS to establish a firm linkage with the outstationed collection centres. Reduce overhead costs for the collection of hides and skins.

2. Develop technological and production methods for finished leather to meet the quality requirements for both the domestic and export market.

3. Continued efforts towards training of technical and other manpower for the leather sector including turning the TILT into a comprehensive leather centre for training as well as research and development activities.

4. Development of the leather industry by creating additional capacity for the finishing of hides and skins. In this respect it is recommended to expand the existing plants rather than build new production units.

5. Design marketing strategies for a long-term production plan with the objective to increase the industrial output of processed leather and leather products and to obtain added value. Marketing of leather and leather products should be encouraged with the countries willing to provide competent technical and back-up assistance rather than with intermediaries.

6. It is recommended to produce the following product mix in the TLAI tanneries (in thousand m^2 at full capacity):

	TTL	MOT	MWT
Bovine leather			
Smooth corrected grain	130	260	110
Smooth, aniline	150	180	110
Embossed, aniline	180	110	60
Suede and splits	120	125	135
Semi-processed	200	180	290
Goat and sheep			
Shoe upper	-	350	-
Lining and woven	-	150	-
Semi-processed	300	-	-
Heavy leather (thousand kg)	-	-	350

7. The equipment requirements for the Tanzanian tanning industry are the following:

Name of machine and specification	Number of machinery required TTL	MOT	MWT	Estimated cost (thousand $US)
1. Liming drums 4 x 4 m -2 + 4 RPM	-	5	1	215
2. Chrome tanning drums 4 x 3.5 m -6 + 12 RPM	2	5	-	280
3. Fleshing machine 1500 mm	1	1	-	60
4. Fleshing machine 1800 mm	2	1	2	160
5. Sammying machine 1600-1800 mm	2	1	2	180
6. Shaving machine 1500 mm	1	-	-	60
7. Shaving machine 100 mm (skins)	-	2	-	110
8. Setting out machine 1500 mm	2	2	-	170
9. Hang dryer 100-120 sides/hour	1	1	-	80
10. Vacuum drier double bed unit	1	2	1	460
11. Vacuum drier single bed unit	1	1	-	160
12. Curtain coating machine with short drier	-	1	1	120
13. Staking machine for skins, horizontal or rotary type	-	3	-	80
14. Buffing machine 250-400 mm	-	4	-	60
15. Buffing machine 600 mm	-	2	-	65
16. Fullminosa buffing machine	1	-	-	50
17. Wet wheeling machine (suede)	-	4	-	45
18. Spraying machine, one spray and one drying unit	-	1	-	80
19. Hydraulic rotary ironing/ plating machine (a) 1300	-	2	-	120
(b) 1800	1	1	-	120
20. Hydraulic polishing machine	-	1	-	35
21. Padding conveyor	-	1	1	35
22. Splitting machine	-	-	1	85
23. Wooven machinery set	-	1	-	285
24. Building expansion	adding additional bay			302

8. The yearly requirement of chemicals in the TLAI tanneries will be (at full capacity):

	Kilograms	
Chrome	500,000	
Sodium sulphide	250,000	
Formic acid	50,000	
Sodium hydrosulphide	50,000	
Sodium Formate Calcium Formate	50,000	
Disinfectant/Fungicide	25,000	
Neutralizing syntan (e.g. Tanigan PC, Netrigan P4)	25,000	
Sodium-bi-carbonate	25,000	
Oxalic acid	15,000	
Magnesium sulphate	15,000	
Syntans	50,000	
Fatliquors	70,000	
Dyestuffs	15,000	
Auxiliaries (e.g. Tinofix, Sellasol D etc.)	10,000	
Wetting agents (anionic, non-anionic)	20,000	
Enzymes for soaking	20,000	
Enzymes for bating	15,000	
Sodium-bi-sulphide	15,000	
Thinners	15,000	
Pigments	40,000	
Laquers	25,000	
Binders	40,000	
Impregnating resins	25,000	
Penetrator/drivers	15,000	
Lacquer dyes	5,000	
Fillers	10,000	
Waxes/lustres	6,000	
Dullers	5,000	
Ammoniac liquor	25,000	
Buffing paper or emery paper	300	rolls of different grit no.
Formalin	10,000	
Perlon cords	30,000	metres

Annex III

FINANCIAL AND ECONOMIC ANALYSIS OF THE EXPECTED OPERATION OF THE MOROGORO SHOE COMPANY

A. Background

The MSC, including its subsequent performance and problems encountered, is described in a number of UNIDO project reports (especially in SI/URT/82/802 and BR/URT/84/001). All the facts and conclusions will not be repeated here since some of those are summarized in annex II, while others are of a more technical nature. In order to provide an easy cross-reference of basic data used in this report, a short explanation of data and their sources is given below.

B. Market and plant capacity

Local market

The market for footwear is very good in the United Republic of Tanzania. The average yearly shoe consumption is about 0.2 pairs per capita, compared to 1.0 pair/capita/year being the average for developing countries and 4.0-4.5 pairs/capita/year in industrialized countries. No footwear is imported to the United Republic of Tanzania, and owing to the difficult economic situation such imports are not expected to be introduced in the near future. The retail prices, and consequently the ex-factory prices, are extremely high, and still there is no problem to sell even more shoes at the same prices. The prices taken into account in the present financial analysis, however, are about 15-20 per cent less than recent average prices, although local marketing specialists claim that the introduction of three million pairs on the local market would not affect the selling prices.

Export markets

In recent years the exports of leather footwear from developing countries have increased dramatically from just over $US 100 million in 1970 to about $US 650 million in 1982, but these increases have been concentrated in a relatively small number of countries, such as Argentina, Brazil, China, Democratic People's Republic of Korea and India. For the coming years the trend is likely to be a further shift of production from western industrialized countries to developing countries. Imports into developed market economies were estimated to be 567 million pairs in 1982. A comparison of this figure with the projected exports of the project of 800,000 pairs indicates that any exports from the United Republic of Tanzania would be an infinitesimal fraction of the total imports to the industrialized countries.

If shoes are to be exported from the United Republic of Tanzania, then three conditions must be satisifed: the products must be price-competitive; the quality must be satisfactory and, finally and most importantly, delivery must be prompt and reliable.

The prices of Tanzanian products are high for a number of reasons. The costs of both domestic and imported materials are raised considerably by high tariffs and taxes. Labour is 2.5 times more expensive and 60 per cent less

productive than labour in competing Asian countries. The quality of products is poor by international standards and there are deficiencies in marketing, delivery etc. All these factors present problems if the United Republic of Tanzania is to export shoes.

Production programme and sales revenues

The MSC plant exists, and its equipment is listed. The plant capacity of 3.5 million pairs/year was computed on the basis of available equipment and workplaces and according to the recommended product mix. A lower production output would cause a substantial loss of equipment capacity, while an increase in production would not be possible due to shortage of locally available basic materials (mainly finished leather).

Tables A.1 and A.2 give details of the proposed production programme and provide for a gradual build-up in terms of product range and quantities produced. The product range has been selected taking into account the use of local materials, the market, and the manufacturing skills required.

Table A.3 translates the production programme into sales revenue. The domestic prices are based on information collected by members of the project team, and where a price range is given, the mid-point has been chosen. The export prices are c.i.f. Western Europe minus a 15 per cent discount to cover market penetration costs. Export sales are discussed more fully in section I below.

The estimated per capita shoe consumption of about 0.2 pairs a year is considered low for a developing country, even with a per capita GNP such as in the United Republic of Tanzania. The additional output of 2.7 million pairs would raise the consumption to only approximately 0.3 pairs/capita/year. It is, therefore, considered that there would be adequate demand to absorb the production from the project. The revenue forecasts are based on current prices which are very high but it will be seen from the financial analysis that there would be ample room for price reductions should they be necessary.

C. Materials and inputs

Details of raw material costs are given in tables A.4, A.5 and A.6. They are based on using PVC instead of PUR. The latter material is now very expensive and the technology involved is more complicated than that of PVC. The prices of both domestic and imported materials have been adjusted taking into account a devaluation of TSh on 15 June 1984. The costs are based on information gathered by project SI/URT/82/802 and have been adjusted considering prevailing conditions and practices as ascertained by the expert and accommodating subsequent price increases.

If the recommendations made by the leather technologist (see annex II) are carried out, there will be more than ample supplies of leather for the shoe factory, and the MCM will easily meet the projected requirements for canvas. The MSC shall use only locally available basic materials (leather and canvas, chiefly from the MOT and MCM). All other items (auxiliary materials, compounds or granulates for soles, spare parts etc.) have to be imported from industrialized countries.

The unit prices used in the financial analysis are those effective in the United Republic of Tanzania, but they have been adjusted according to the expected rise due to the devaluation. The prices for leather include 25 per per cent of sales taxes. The leather and canvas manufacturing requires approximately 20 per cent of imported inputs and since the devaluation of TSh will increase the prices of imported items, this will be reflected in the selling prices as well. For imported inputs required by the MSC the price increase will be even higher because of the average 50 per cent import duty and sales tax imposed by the Government on all imports. All these factors have been taken into account in the analysis.

D. Location and site

As far as the location of the MSC and its site are concerned, it would not be advisable to introduce any changes in that respect, since the Morogoro Industrial Estate provides sufficient infrastructure and cheap transport for the basic materials needed.

Details of depreciation are given in table A.7.

E. Project engineering

The MSC plant is relatively new so that no major engineering is required. However, the building construction has several weak points; a repair of the roof will be necessary in the immediate future. Some more equipment is to be installed in order to balance the plant capacity; at the same time some of the existing equipment can be sold. All these costs, as well as a possible income for sold equipment, are included in the financial analysis as rehabilitation expenses/investment costs.

F. Overheads

A large number of staff is employed today by the MSC. Studies carried out earlier (SI/URT/82/802) indicated that overhead costs (i.e. their share of operation costs) can and should be reduced. However, the starting-up period will require relatively higher overheads due to the fact that training programmes will have to be introduced at management and direct-labour levels.

G. Manpower

The manpower requirement for the MSC was determined on the basis of workplaces established in the plant and the possibility of using two or three shifts in certain production departments. The targeted productivity is about 25-30 per cent less than in industrialized countries and is about 2,000 pairs/employee/year. This figure may be regarded as a high productivity rate for a plant in a developing country but the up-to-date equipment and the relatively low workcontents of manufactured products should also be taken into account.

Labour requirements have been estimated at around 25 per cent above what would normally be required in an industrialized country. Factory labour would

be 1,410 and administrative labour 300. Of the total labour force, 700 could be regarded as unskilled, 650 semi-skilled and 360 skilled.

Table A.8 details the estimated production costs.

H. Implementation schedule

The starting-up period consists of a one-year pre-production stage (to secure the necessary prerequisites to train the staff) and five years for the gradual increase of the production. The first two to three years are required for additional training and retraining, the acquisition of know-how and managerial skills and for developing the quality of workmanship. During the third year possibilities for export might be explored.

I. Financial evaluation

Past financial performance of the MSC

Table A.9 presents the balance sheets of MSC for the past three years. The item "deferred revenue expenditure" represents the amount spent on project engineering fees, marketing and management fees and pre-operational expenses. This is being written off over a period of ten years. The accounts show accumulated losses of TSh 43 million. A further loss amounting to around TSh 20 to 24 million is expected in 1984. Furthermore, there is considerable doubt about the accuracy of many of the figures. The auditor has reported on stock differences amounting to TSh 18 to 19 million in both 1981 and 1982. It seems likely that the stocks are now worth around TSh 30 million. About TSh 2 million of the trade debtors are probably uncollectable and there is some doubt about staff debtors. Given this situation, it seems likely that by the end of 1984, if not before, the equity capital of the company will have been consumed.

In table A.10 an attempt is being made to construct a cash flow statement for the company, which shows the increasing losses over the past years. There are signs of some slight improvement in 1983, but observation of recent activity within the factory suggests that deterioration will take place in 1984 at a faster rate than in previous years. In view of the uncertain situation it will be necessary, and it is therefore recommended, that a full physical inventory and appreciation of assets be carried out.

Technically the company can be considered insolvent, and in view of this, as well as taking into account all doubts about the true situation, it is suggested that the proposals contained in the rehabilitation plan should be considered, i.e. that a reformed MSC would acquire whatever assets eventually remain from the original company.

Outline of the rehabilitation plan

The key feature of the plan provides for an agreement with a foreign partner who would run the factory for five years, providing expertise and training in all aspects of manufacturing and marketing of shoes and some related products. The plan calls for a gradual build-up of production over five years in terms of type of product and quantities to reach an output of

3.5 million pairs, of which 800,000 would be destined for export. Before production can commence a pre-operational period will be necessary during which rehabilitation of buildings and plant plus some training will take place.

The financial aspects of the plan which are elaborated below reflect the broad principles involved and are subject to modification after consultation with the foreign partner.

Investment costs

Table A.11 gives details of investment costs for fixed assets. It is assumed that the assets of the present MSC are taken over in the pre-operational period at their book value as at 31 December 1984. This figure will need to be modified depending on a proper audit of the assets concerned. The present plant is unbalanced and in year 1 it will be necessary to purchase new equipment of a value of TSh 18 million. There is also surplus machinery to be sold. The market for shoe machinery in the United Republic of Tanzania is poor and it is not likely that there will be demand from abroad. The surplus machinery is priced at 30 per cent of its original value. Details of the proposed changes of machinery are given in the report SI/URT/82/802.

Motor vehicles will need to be replaced in the years 1, 2, 4 and 5. These are mainly buses used to transport workers to and from the factory. Since the adjacent tannery and the canvas mill also appear to have buses, some savings could be realized by a bus-sharing arrangement.

Table A.12 gives details of the expenses involved in rehabilitating the MSC. Before production can commence in year 1 it will be necessary to repair much of the factory equipment and various parts of the building. The item "technical assistance" (full details in table A.13) essentially covers payments to the foreign partner and is illustrative of the general requirement for managerial, technical and training assistance. The foot-measurement programme is essential for the proper development of MSC's shoe production and indeed for the United Republic of Tanzania as a whole. Market research in year 2 is particularly concerned with the development of exports both to neighbouring and other countries.

Table A.14 provides an estimate of the working capital requirements. A major difficulty in manufacturing operations in the United Republic of Tanzania is the interruption of production caused by shortage of materials and spare parts. The working capital requirements provide for 90 days coverage of domestic materials, 180 for imported materials and 360 for spare parts.

Cash in hand is derived from the cash balance schedule given in table A.15. The total working capital rises to TSh 378 million at full planned capacity.

Financial data

Table A.16 presents the net income statement which shows a gross profit on sales at full output of 48.1 per cent and net profits rising to TSh 277 million in the fifth year of operation. No provision is made for distribution of profits as the financing arrangements for the rehabilitation plan have yet to be decided.

Table A.17 gives the cash flow statement for financial planning. It is assumed at this stage that TSh 103 million are provided in the pre-operational period to cover the acquisition of the fixed assets and the rehabilitation expenditures during that period. After negative cash flows in years 1 and 2, the cumulative cash balance rises to TSh 454 million in year 5.

The projected balance sheet is given in table A.13. Total assets and liabilities rise from TSh 103 million in the pre-operational period to TSh 938 million in year 5. No provision is made in the balance sheets for any return on equity capital or for repayment of the IBRD loan which stood at TSh 141 million on 31 December 1983, nor for any particular capital structure, but the cushion of accumulated retained profits provides scope for a variety of arrangements. In addition, account must be taken of any other net assets transferred from the present company, apart from the fixed assets of TSh 89 million which have aleady been included.

Table A.19 provides a cash flow analysis to estimate the financial rate of return on the project. Details of cash inflows and outflows are given over a period of ten years including the pre-operational period. As would be expected from the previous financial statements, the rate of return is very high. The base financial rate of return is 50.2 per cent after tax. The magnitude of this rate is due to the high selling prices which are possible, to some extent to the relatively small amount of investment required, and to the non-inclusion of pre-operational expenses relating to the original project.

The project is sensitive to changes in total revenue - 20 per cent fall in total revenue reduces the rate of return to 25 per cent. It is not sensitive to an increase in conversion costs (total production cost less cost of raw materials) - a 20 per cent increase in those costs has very little effect on the rate leaving it at around 50 per cent. A 20 per cent fall in total revenue accompanied by a 20 per cent increase in conversion costs reduces the rate to 23.1 per cent.

Foreign exchange requirements

Table A.20 gives details of the foreign exchange requirements of the project. The total over six years, including the pre-operational period, is TSh 282 million. In the sixth year of operation the foreign exchange earnings should nearly cover the foreign exchange costs. The success of this project depends on the continuity of supplies of imported materials and spare parts; it is therefore of vital importance that the necessary foreign exchange is made available. Estimates of foreign exchange earnings have been made on a conservative basis. It may, for example, be possible to export canvas and leather uppers, but this will depend on arrangements made with the foreign partner.

With regard to product quality, labour productivity and general business performance, the rehabilitation project, and in particular the technical assistance provided by the foreign partner, are expected to bring about an improvement, which, in turn, will increase the competitiveness of the products on the export market.

This will still leave the problem of costs, especially the cost of domestic and import materials. At full planned capacity output the total production cost, including 20 per cent profit, is TSh 708 million. After

deduction of tariffs and taxes, and again allowing a 20 per cent profit, the total cost would be TSh 523 million. A subsidy of 26 per cent of the manufacturing cost, including profit, would therefore compensate for the high cost of materials due to tariffs and taxes. This, however, would not take into account the effect of the latter on prices in general, i.e. the increase of the cost of all other inputs, including labour. It is recommended that the Government consider the provision of a subsidy for exports along the lines indicated above.

A further, and administratively more convenient, incentive would be to guarantee the shoe factory 50 per cent of all gross foreign exchange earnings. The MCM has concluded a similiar agreement, and it is recommended that the same be extended to the shoe factory.

It is suggested that the period of five years be regarded as a time during which the United Republic of Tanzania is acquiring the necessary manufacturing and marketing skills required for export, and gains experience from which it will benefit in subsequent years.

J. Economic evaluation

Introduction

While in the above financial analysis the project is evaluted purely from the company's point of view, the economic evaluation has to examine the project from the viewpoint of the overall development of the United Republic of Tanzania. To achieve this, all outputs (benefits) and inputs (costs) were valued at border prices, for it is those prices, stripped of the effects of tariffs and taxes, which reflect the real trading opportunities of the country.

The following adjustments have been made to the revenues and costs given in the financial analysis:

(a) Output (sales revenue) valued at c.i.f. prices, i.e. the cost of these products if they were imported (details are given in table A.21);

(b) Imported raw materials - at c.i.f. prices;

(c) Domestic raw materials which could be exported - at f.o.b. prices;

(d) Factor, labour - the unskilled element at 50 per cent of its cost. The wages of unskilled labour in the United Republic of Tanzania do not reflect the true opportunity cost of that labour;

(e) Non-tradable items such as utilities, transport, overheads etc. have been valued using a standard conversion factor of 0.75 which has been estimated for the United Republic of Tanzania by the World Bank;

(f) Capital costs - although the book value of the fixed assets as at 31 December 1983 was TSh 97 million, their economic value is much less and is estimated at TSh 43 million. Provision is made for TSh 3 million to be spent in year 1 to provide accommodation for technical assistance personnel;

(g) Working capital - adjusted to border prices and will be recovered in the final year of the project.

Table A.22 gives details of the adjusted production costs.

Economic rate of return

Table A.23 shows the effects of carrying out the above adjustments; the cash inflow represents the benefits of the project and the cash outflow the costs. Over the ten-year life of the project (pre-operational period plus nine years operational) there is a small negative cash flow, indicating that there is a small negative economic rate of return.

It may be considered that the Tanzanian shilling is still over-valued despite the recent devaluation. If a rate of exchange of TSh 26.25 = $US 1 is used, i.e. a 50 per cent devaluation, the rate of return becomes 11.3 per cent, and if an even larger devaluation of 75 per cent is considered, i.e. TSh 30.6 = $US 1, then the rate of return raises to 15.8 per cent. In the United Republic of Tanzania a rate of return of 15 per cent seems to be generally acceptable for a project. No sensitivity testing of the revenue and cost streams has been carried out, but it is clear from table A.23 that the margins between the two streams are very small and any quite small divergencies from the figures would have considerable effects on the economic rate of return.

Effective rate of protection

Another method to assess a project is to estimate its effective rate of protection, which gives some indication of the international competitiveness of a project. It is calculated as the ratio fo the excess value-added obtainable due to the imposition of tariffs to the value-added in free-trade conditions. It is estimated that 216 per cent are added to the value of domestic materials (mainly leather) used. In free-trade conditions the value-added is 30 per cent. This implies a very high rate of effective protection of 620 per cent, showing the effects of the tariff and tax system in the United Republic of Tanzania and indicating the poor international competitiveness of the project.

Project rate of exchange

The project rate of exchange is an estimation of the number of units of local resources which are required to save a unit of foreign exchange. The foreign-exchange savings in this project are $US 24.5 million (the amount which the shoes would cost to import) less the cost of imported materials, $US 6.2 million, giving a net saving of $US 18.3 million. The domestic resources used, at market prices, amount to TSh 487 million, giving a project rate of exchange of TSh 26.6 to $US 1.

Other economic benefits

Apart from any conclusions which may be drawn from the above analysis, the project will bring about economic benefits for the United Republic of Tanzania which are not easily quantifiable but are nevertheless very real. The MSC is part of an industrial complex at Morogoro, including a tannery, a canvas factory and a leather-goods plant. The fact that those plants are

located close to the shoe factory is likely to bring about some of the advantages of vertical integration. Furthermore, the industrial complex as a whole was meant to provide employment to a particular area of the United Republic of Tanzania. Benefits will accrue from the employment at the shoe factory of about 1,700 staff and will provide an opportunity for the acquisition of a wide range of skills and experience which will assist the country in its development.

Table A.1. Planned production programme for shoes
(in thousand pairs per year)

Product type	Output at 100% capacity	Year 1		Year 2		Year 3		Year 4		Year 5	
		Capacity %	Output	Capacity	Output	Capacity %	Output	Capacity %	Output	Capacity %	Output
Canvas shoes	1,000	35.0	350	70.0	700	90.0	900	100.0	1,000	100.0	1,000
Jogging shoes	220	45.4	100	90.9	200	100.0	220	100.0	220	100.0	220
Clogs	200	50.0	100	100.0	200	100.0	200	100.0	200	100.0	200
Safari boots	400	-	-	25.0	100	75.0	300	100.0	400	100.0	400
Sandals	730	-	-	13.7	100	54.8	400	82.2	600	100.0	730
Moccasins	550	-	-	-	-	18.2	100	63.6	350	100.0	550
Dress shoes	400	-	-	-	-	-	-	37.5	150	100.0	400
Shoes total *	3,500	15.7	550	34.3	1,200	60.6	2,120	83.4	2,920	100.0	3,500

*)The total capacity utilization is computed on a quantity basis (i.e. 3,500,000 pairs/year = 100%)

Table A.2. Planned production programme for shoes and shoe components
(in thousand pairs or units)

		Year of Operation				
		1	2	3	4	5
Percentage of planned Utilization		15.7	34.3	60.6	83.4	100
Canvas shoes	Domestic	350	700	800	750	600
	Export	-	-	100	250	400
Jogging shoes	Domestic	100	200	220	220	220
Clogs	Domestic	100	200	200	200	200
Safari boots	Domestic	-	100	300	350	300
	Export	-	-	-	50	100
Sandals	Domestic	-	100	400	500	530
	Export	-	-	-	100	200
Moccasins	Domestic	-	-	100	350	450
	Export	-	-	-	-	100
Dress shoes	Domestic	-	-	-	150	400
TOTAL SHOES		550	1,300	2,120	2,920	3,500
Insoles	Domestic	-	-	100	200	300
Prefabricated soles	Domestic	-	50	150	200	250
Unit soles	Domestic	-	-	300	600	700
Shoe laces	Domestic*	2,000	5,000	8,000	8,000	8,000
Wooden soles	Domestic	50	100	200	200	200
Heels	Domestic	150	300	400	500	500

** The capacity utilization is computed on a quantity basis for footwear.

* Some export sales to neighbouring countries possible.

Table A.3. Total revenue

(in million TSh)

Product	Market	Price	Year of Operation 1	2	3	4	5
Canvas shoes	Home	270	94	189	216	202	162
	Export	62	-	-	6	15	25
Jogging shoes	Home	440	44	88	97	97	97
Clogs	Home	390	39	78	78	78	78
Safari boots	Home	280	-	28	84	98	84
	Export	158	-	-	-	8	16
Sandals	Home	300	-	30	120	150	159
	Export	123	-	-	-	12	25
Moccasins	Home	480	-	-	48	168	216
	Export	315	-	-	-	-	31
Dress shoes	Home	490	-	-	-	73	196
TOTAL SHOES			177	413	649	901	1,089
Insoles)		10	-	-	1	2	3
Prefab. soles)		25	-	1	4	5	6
Unit soles)		17	-	-	5	10	12
Shoe laces*)	Home	3	6	15	24	24	24
Wooden soles)		55	3	5	11	11	11
Heels)		10	2	3	4	5	5
TOTAL REVENUE			188	437	698	958	1,150
Percent			16.3	38.0	60.7	83.3	100.0

* Some exports to neighbouring countries possible.

Table A.4. Raw material requirements per pair of shoes

No.	Material	Unit	Requirements of Unit/pair for						
			canvas shoes	jogging shoes	clogs	safari boots	sandals	moccasins	dress shoes
1	Suede/split leather	dm^2	-	7.9	-	26.0	-	-	-
2	Corrected grain upper leather	dm^2	-	-	8.5	-	8.5	-	-
3	Full grain upper leather	dm^2	-	-	-	-	-	32.0	21.7
4	Lining leather	dm^2	-	4.3	5.0	9.5	9.1	6.0	11.0
5	Canvas upper	dm^2	21.5	8.4	-	-	-	-	-
6	Textile lining	dm^2	-	-	-	-	-	-	7.0
7	Threads	m	17	21	12	15	10	16	14
8	Reinforcing tape	m	0.2	0.4	0.3	0.3	0.1	0.4	0.25
9	Binding tape	m	1.0	-	-	-	-	-	-
10	Rivettes/eyelets	pcs	12	20	-	4	8	-	8
11	Decoration	pcs	-	-	2	-	-	2	2
12	Bucles	pcs	-	-		-	2	-	-
13	Stiffeners	pair	-	**	-	**	-	1	1
14	Toe puff	dm^2	**	-	1.4	**	-	-	1.4
15	Leather board (insoles)	dm^2	-	-	-	3.5	3.5	2.0	5.0
16	Cardboard (shanks)	dm^2	-	-	-	1.2	-	2.0	2.0
17	Nails (special)	pcs	-	-	32	-	-	-	-
18	Wooden sols	pair	-	-	1	-	-	-	-
19	Sole leather	kg	-	-	-	0.2	-	0.3	0.25
20	Unit soles (PUR)	pair	-	-	-	-	1	-	1
21	Rubber soles/runners	kg	-	-	0.3	0.4	-	0.3	-
22	Compound (PUR)	kg	0.25	0.33	-	-	-	-	-
23	Adhesives	g	11	18	12	15	12	10	18
24	Laces	pair	1	1	-	1	-	-	1

** Made of other materials

Table A.5. Raw material costs for shoes at 100% capacity utilization

(in thousand TSh)

No.	Material	Unit cost, TSh	canvas shoes	jogging shoes	clogs	safari boots	sandals	moccasins	dress shoes
LOCALLY AVAILABLE MATERIALS									
1.	Suede/split leather	2.40	-	4,171	-	24,960	-	-	-
2.	Corrected grain upper leather	3.00	-		5,100	-	18,615	-	-
3.	Full grain upper leather	3.50	-	-	-	-	-	61,600	30,380
4.	Lining leather	1.70	-	,608	1,700	6,460	11,293	5,610	7,480
5.	Canvas Upper	1.00	21,500	,848	-	-	-	-	-
6.	Textile lining	0.75	-	-	-	-	-	-	2,100
15.	Leather Board(insole)	0.26	-	-	-	364	664	286	520
18.	Wooden Sole	59.00	-	-	11,800	-	-	-	-
19.	Sole leather	95.00	-	-	-	11,400	-	15,675	9,500
24.	Laces	3.80	3,800	836	-	1,520	-	-	1,520
	Auxiliaries	4.30	4,300	946	860	1,720	3,139	2,365	1,720
	SUB TOTAL		29,600	9,409	19,460	46,424	33,711	85,536	53,220
	TOTAL OF LOCAL MATERIALS					277,360			

Table A.5. (continued)

No.	Material	Unit cost, TSh	canvas shoes	jogging shoes	clogs	safari boots	sandals	moccasins	dress shoes
MATERIALS AVAILABLE ONLY THROUGH IMPORT									
7.	Threads	0.10	1,700	462	240	600	730	880	560
8.	Reinforcing tape	0.73	146	56	44	88	53	161	73
9.	Binding tape	0.78	780	-	-	-	-	-	-
10.	Rivettes/eyelets	0.17	2,040	748	-	272	-	-	544
11.	Decorations	4.20	-	-	1,680	-	-	4,620	3,360
12.	Buckles	0.35	-	-	-	-	256	-	-
13.	Stiffeners	8.30	-	**	-	**	-	4,565	3,320
14.	Toe puffs	0.67	**	-	188	**	-	-	375
16.	Cardboard	0.42	-	-	-	353	-	462	336
17.	Nails (special)	0.55	-	-	3,520	-	-	-	-
20.	Unit soles (PVC)	17.50	-	-	-	-	12,775	-	7,000
21.	Rubber soles/ runners	88.00	-	-	5,280	14,080	-	-	-
22.	Compound (PVC)	52.00	13,000	3,775	-	-	-	-	-
23.	Adhesives	0.35	3,850	847	840	2,100	3,066	1,925	2,520
	Auxiliaries	15.50	15,500	3,510	3,100	6,200	11,315	8,525	6,200
Imported materials Subtotal			37,016	9,398	14,892	23,693	28,195	21,138	24,288
Imported materials Total **					158,620				

Table A.6. Raw material costs for shoes and shoe components, over five years of operation (in million TSh)

Product	Year of Operation 1 D	1 I	2 D	2 I	3 D	3 I	4 D	4 I	5 D	5 I
Canvas shoes	10.3	13.0	20.7	25.9	26.6	33.3	29.6	37.0	29.6	37.0
Jogging shoes	4.2	4.2	8.5	8.5	9.4	9.4	9.4	9.4	9.4	9.4
Clogs	9.7	7.5	19.5	14.9	19.5	14.9	19.5	14.9	19.5	14.9
Safari boots	-	-	11.6	5.9	34.7	17.7	46.4	23.7	46.4	23.7
Sandals	-	-	4.6	3.9	18.5	15.4	27.7	23.2	33.7	28.2
Moccasins	-	-	-	-	15.6	3.8	54.4	13.4	85.5	21.1
Dress shoes	-	-	-	-	-	-	20.0	9.1	53.2	24.3
Insoles	-	-	-	-	0.5	0.2	1.0	0.4	1.5	0.6
Prefab. soles	-	-	-	1.1	-	3.4	-	4.5	-	5.6
Unit soles	-	-	-	-	0.3	2.9	0.5	6.0	0.6	7.0
Shoe laces	4.1	0.3	10.2	0.7	16.4	1.1	16.4	1.1	16.4	1.1
Wooden soles	0.3	-.	0.6	-	1.2	-	1.2	-	1.2	-
Heels	0.1	0.3	0.1	0.7	0.1	1.3	0.1	1.3	0.1	1.3
TOTALS	28.7	25.3	75.8	61.6	142.8	103.4	226.2	144.0	297.1	174.2
	54.0		137.4		246.2		370.2		471.3	

D = Domestic
I = Imported

Note: Shoes - with PVC soles

Table A.7. Depreciation schedule

(in million TSh)

	Land and Building	Plant and Machinery	Furniture + Equipmt.	Motor Vehicles	Total
Book value 31.12.83	38.2	54.8	2.7	1.3	
1984 depreciation	1.5	5.5	0.3	0.3	
Book value 31.12.84	36.7	49.3	2.4	1.0	89.4
YEAR 1					
Additions	-	18.5	-	3.0	
Disposals	-	5.0	-	-	
Depreciation	1.5	9.4	0.3	1.0	11.9
Book value end year	35.2	53.4	2.1	3.0	93.7
YEAR 2					
Additions	-	-	-	2.5	
Depreciation	1.4	8.0	0.3	1.4	11.1
Book value end year	33.8	45.4	1.8	4.1	85.1
YEAR 3					
Depreciation	1.3	6.8	0.2	1.0	9.3
Book value end year	32.5	38.6	1.6	3.1	75.8
YEAR 4					
Additions	-	-	-	3.5	
Depreciation	1.3	5.8	0.2	1.6	8.9
Book value end year	31.1	32.8	1.4	5.0	70.4
YEAR 5					
Additions	-	-	-	3.0	
Depreciation	1.2	4.9	0.2	2.0	6.3
Book value end year	30.0	27.9	1.2	6.0	65.1

Depreciation is calculated on the straight line method. Buildings 4 %, plant and machinery from year 1 - 15 %, furniture and equipment - 12.5 %, motor vehicles - 25 %.

Table A.8. Total production costs

(in million TSh)

	Year of Operation				
	1	2	3	4	5
Percentage of planned Utilization - quantity terms	15.7	34.3	60.6	83.4	100.0
- revenue terms	16.3	38.0	60.7	83.3	100.0
Direct Materials					
Domestic	28.7	75.8	142.8	226.2	297.1
Imported	25.3	61.6	103.4	144.0	174.2
Factory labour	4.6	9.1	11.9	16.4	19.7
Utilities **	0.6	1.3	2.0	2.8	3.4
Tooling **	1.2	2.9	4.7	6.5	7.8
Maintenance	2.6	6.2	8.1	11.2	13.4
Transport **	2.0	4.6	7.6	10.4	12.5
Factory overheads	11.0	18.3	22.0	25.7	25.7
TOTAL FACTORY COSTS	76.0	179.8	302.5	3.2	553.8
Administrative overheads	12.0	13.0	15.0	15.0	15.0
Sales costs	3.4	3.4	4.5	4.5	4.5
Distribution costs	2.6	6.2	10.2	14.0	16.8
TOTAL OPERATING COSTS	94.0	202.4	332.2	476.7	590.1
Non-operating expenses:					
Depreciation	11.9	11.1	9.3	8.9	6.3
TOTAL PRODUCTION COSTS	105.9	213.5	341.5	485.6	596.4

*) The cost of materials is computed according to the quantities of each item to be produced in the respective year of the start-up period (see annex 3.1 and 5.4)

**) Proportional to revenues.

Table A.9. Balance sheets of the Morogoro Shoe Company
as at 31 December each year
(in million TSh)

	1981	1982	1983
ASSETS EMPLOYED			
Fixed assets	115.2	107.6	97.1
CURRENT ASSETS			
Stocks	51.4	70.6	65.6
Trade debtors	0.2	1.3	2.7
Due from group companies	1.3	0.1	0.4
Deposits and prepayments	0.2	0.2	1.4
Staff debtors	1.1	1.0	1.6
Cash in hand	0.1	3.1	2.8
	54.3	76.3	74.5
LESS CURRENT LIABILITIES			
Bank overdraft	0.6	14.5	11.4
Creditors	0.9	2.1	4.4
Due to group companies	3.5	7.2	6.5
	5.0	23.8	22.2
NET CURRENT ASSETS	49.3	52.5	52.3
DEFERRED REVENUE EXPENDITURE	47.1	41.9	36.6
TOTAL ASSETS	211.6	202.0	186.0
FINANCED BY:			
Share capital	90.4	90.4	90.4
World Bank loan	141.8	141.8	138.3
Profit and Loss Account	(20.6)	(30.1)	(42.7)
	211.6	202.1	186.0

Table A.10. Cash flow analysis of the Morogoro Shoe Company
(in million TSh)

	1981	1982	1983
CASH INFLOW			
Sales revenue	6.0	36.0	40.9
Other income	-	-	1.3
	6.0	36.0	42.2
CASH OUTFLOW			
Capital Expenditure:			
Land and buildings	43.4	-	-
Plant and machinery	77.0	1.1	-
Furniture and equipment	3.0	0.5	0.5
Motor vehicles	2.0	1.7	-
Management fees etc.	52.4	-	-
Operating costs	62.4	43.7	32.7
World Bank Loan Repayment	-	-	3.5
	240.2	47.0	36.7
NET CASH FLOW	(236.2)	(11.0)	6.5
CUMULATIVE CASH FLOW	(236.2)	(247.2)	(240.7)

Table A.11. Investment costs

(in million TSh)

	Pre-operational	Year of Operation				
		1	2	3	4	5
Fixed assets taken over	89	-	-	-	-	-
New Machinery	-	18	—	—	—	—
Less sale of surplus machinery	-	(5)	—	—	—	—
Motor vehicles	-	3	3	—	3	3
TOTAL	89	16	3	—	3	3

Table A.12. Rehabilitation expenses
(in thousand $US)

		Pre-operational	Year of Operation 1	2	3	4	5
Repair and maintenance of equipment		200	-	-	-	-	-
Repairs to building		250	-	-	-	-	-
Technical Assistance (see Table A.13.)		126	491	543	323	204	116
Foot Measurement Programme		80	-	-	-	-	-
Market Research		-	-	150	-	-	-
Management Training		-	170	170	170	170	-
Contingency Allowance		170	-	-	-	-	-
TOTALS	$US	826	661	863	493	374	116
	TSh*	14.4	11.6	15.1	8.6	6.5	2.0

Note: All foreign cost except repairs to buildings 70 % local cost.

Table A.13. Cost of technical assistance

(in man-months and thousand $US)

	Cost per m/m*	Pre-operation		Year of Operation									
				1		2		3		4		5	
		m/m	US$	m/m	US$	m/m	US$	m/m	US$	m/m	US$	m/m	US$
Managing Director	5.5	6	33.0	12	66.0	12	66.0	12	66.0	12	66.0	12	66.0
Production Superintendent	4.2	6	33.0	12	50.0	12	50.0	12	50.0	12	50.0	12	50.0
Production Controller	4.2	3	12.6	12	50.0	6	25.0	-	-	-	-	-	-
Production Supervisors	3.7	3	11.1	36	133.0	60	220.0	36	133.0	24	88.0	-	-
Instructors	4.0	9	36.0	24	96.0	-	-	-	-	-	-	-	-
Marketing Expert	4.2	-	-	-	-	12	50.0	12	50.0	-	-	-	-
Designer	4.0	-	-	-	-	3	12.0	3	12.0	-	-	-	-
Chemical Expert	4.0	-	-	12	48.0	12	48.0	-	-	-	-	-	-
Purchasing Expert	4.0	-	-	6	24.0	6	24.0	3	12.0	-	-	-	-
Technologist	4.0	-	-	6	24.0	12	48.0	-	-	-	-	-	-
TOTALS: m/m		27		120		135		78		48		24	
US$ '000			125.7		491.0		543.0		323.3		204.0		116.0
TSh million			2.2		8.6		9.5		5.6		3.6		2.0
TOTAL:		US$ 1,803 - TSh mill. 31.5											

* Including living expenses.

Table A.14. Estimated working capital

(in million TSh)

	Min. days coverage	Coeff't of turn-over	Year of Operation 1	2	3	4	5
CURRENT ASSETS							
Accounts Receivable:	30	12	6.3	16.9	27.7	39.7	49.2
Inventory:							
Dom. material	90	4	7.2	18.9	35.7	56.5	74.3
Imp. material	180	2	12.6	30.8	51.7	72.0	87.1
Spare parts	360	1	3.2	3.2	3.2	3.2	3.2
Work in progress	30	12	6.3	15.0	25.2	36.9	46.1
Finished products	15	24	3.2	8.0	13.2	19.1	23.7
Cash in hand:	15	24	57.9	82.2	102.5	122.2	133.9
Current Assets			96.7	175.0	259.2	349.6	417.5
CURRENT LIABILITIES							
Accounts Payable:	30	12	4.6	11.6	20.7	31.1	39.5
WORKING CAPITAL							
Net Working Capital:			92.1	163.4	238.5	318.5	378.0
Increase in Working Capital:				71.3	75.1	80.0	59.5

Table A.15. Cash balance schedule
(in million TSh)

	Year of Operation				
	1	2	3	4	5
Total Production Costs	124.4	232.0	360.0	504.1	614.9
LESS					
Raw materials	54.0	137.4	246.2	370.2	471.3
Utilities	0.6	1.3	2.0	2.8	3.4
Depreciation	11.9	11.1	9.3	8.9	6.3
	66.5	149.8	257.5	381.9	481.0
Required Cash Balance	57.9	82.2	102.5	122.2	133.9

Table A.16. Net income statement
(in million TSh)

	Pre-operational	Year of Operation 1	2	3	4	5
Sales revenue	-	188	437	698	958	1,150
Operating costs	-	106	213	341	486	596
Gross profit	-	82	224	357	472	554
Corporate tax (50 %)	-	41	112	178	236	277
Accumulated Undistributed Net Profit		41	153	331	567	844
Ratios:						
Gross Profit: Sales - %		43.6	51.2	51.1	49.2	48.1
Net Profit: Sales - %		21.8	25.6	25.5	24.6	24.0

Table A.17. Cash flow statement for financial planning

(in million TSh)

	Pre-operational	Year of Operation				
		1	2	3	4	5
CASH INFLOWS						
Financial resources	103	-	-	-	-	-
Current liabilities	-	5	7	9	10	8
Sales revenue	-	188	437	698	958	1,150
	103	193	444	707	968	1,158
CASH OUTFLOWS						
Fixed assets	89	16	3	-	3	3
Rehabilitation expenses	14	12	15	9	6	2
Current assets	-	97	79	84	91	67
Operating costs	-	94	202	332	477	590
Corporate tax	-	41	112	178	236	277
	103	260	411	593	813	939
NET CASH FLOW	0	(67)	33	114	155	219
CUMULATIVE CASH BALANCE	0	(67)	(34)	80	235	454

Table A.18. Projected balance sheet

(in million TSh)

	Pre-operational	Year of Operation 1	2	3	4	5
ASSETS (total)	103	203	275	424	661	938
Current Assets						
Cash balance	-	-	-	80	235	454
Current assets	-	97	175	259	350	417
Fixed Assets	89	94	85	76	70	65
Rehabilitation Expenses	14	12	15	9	6	2
LIABILITIES (total)	103	203	275	424	661	938
Current Liabilities	-	5	12	21	31	39
Cash Deficit		67	34	-	-	-
Accumulated Retained Profits	-	41	153	331	567	844
Equity and Loan Capital, short and medium term borrowing	103	90	76	72	63	55

Table A.19. Cash flow analysis

(in million TSh)

Year of Operation	Cash Inflow	Cash Outflow						
	Sales Revenue	Fixed Assets	Rehabilitation Expenses	Working Capital	Operating Costs	Corporate Tax	Total	Net Cash Flow
Pre-operational		89	14	-	-	-		(103)
1	188	16	11	92	94	41	254	(66)
2	437	3	15	71	202	112	403	34
3	698	-	9	75	332	178	594	104
4	958	3	6	80	477	236	802	156
5	1,150	3	2	59	590	277	931	219
6	1,150	-	-	-	590	277	931	219
7	1,150	-	-	-	590	277	931	219
8	1,150	-	-	-	590	277	931	219
9	1,150	-	-	-	590	277	931	219

Note: No provision is made for recovery of working capital nor for residual value of fixed assets.

Table A.20. Foreign exchange requirements
(in million TSh)

	Pre-operational	Year of Operation 1	2	3	4	5	Total
Rehabilitation Expenses	11	12	15	9	6	2	55
Raw Materials	-	16	38	65	90	109	318
Spare Parts	-	3	3	3	3	3	15
New Fixed Assets	-	21	3	-	3	3	30
Less Export Revenue	-	-	-	6	34	96	136
TOTAL	11	52	59	71	68	21	282

Note: The total foreign exchange requirement is equivalent to $US 16.1 million for the first six years (including pre-operational phase).

Table A.21. Output (sales revenue) valued at c.i.f. prices

	$US per pair	TSh per pair	Year of Operation 1	2	3	4	5
			million TSh				
Canvas shoes	3.50	61.25	21.4	42.8	55.0	61.2	61.2
Jogging shoes	7.00	122.50	12.2	24.5	26.9	26.9	26.9
Clogs	7.50	131.25	13.1	26.2	26.2	26.2	26.2
Safari boots	9.00	157.50	-	15.7	47.2	63.0	63.0
Sandals	7.00	122.50	-	12.2	49.0	73.5	89.4
Moccasins	18.00	32.50	-	-	3.1	11.0	17.3
Dress shoes	13.00	227.50	-	-	-	34.1	91.0
Insoles	0.75	13.12	-	-	3.1	6.2	9.3
Prefab. soles	2.00	35.00	-	1.7	5.2	7.0	8.7
Unit soles	1.10	19.25	-	-	5.8	11.6	13.5
Shoe laces	0.04	0.70	1.4	3.5	5.6	5.6	5.6
Wooden soles	3.50	61.25	3.1	6.2	12.2	12.2	12.2
Heels	0.55	9.62	1.4	2.8	3.8	4.8	4.8
			52.6	135.6	243.1	343.3	429.1

Table A.22. Total adjusted production costs

(in million TSh)

	Year of Operation				
	1	2	3	4	5
Direct Materials:					
Domestic f.o.b.	16.0	49.7	101.9	163.1	209.3
Imported c.i.f.	15.8	38.5	64.6	90.0	108.9
Factory labour	3.4	6.8	8.9	12.3	14.8
Utilities	0.4	0.9	1.5	2.1	2.5
Tooling	0.9	2.2	3.5	4.9	5.8
Maintenance	1.9	4.6	6.1	8.4	10.1
Transport	1.5	3.4	5.7	7.8	9.4
Factory overheads	8.2	13.7	16.5	19.3	19.3
TOTAL FACTORY COSTS	48.1	119.8	208.7	307.9	380.1
Administrative overheads	9.0	9.7	11.2	11.2	11.2
Sales costs	2.5	2.6	3.4	3.4	3.4
Cistribution costs	1.9	4.6	7.6	10.5	12.6
TOTAL OPERATING COSTS	61.5	136.7	230.9	333.0	407.3

Table A.23 Calculation of economic rate of return

(in million TSh)

Year of Operation	Cash Inflow (Benefits)	Cash Outflow (Costs)					Net Cash Flow
	Value of Sales	Fixed Assets	Rehabilitation Expenses	Working Capital	Operating Costs	Total Costs	
Pre-operational	-	43	17	-	-	-	(60)
1	53	19	11	81	61	172	(119)
2	136	3	15	55	137	210	(74)
3	243	-	9	56	231	296	(53)
4	343	3	6	59	333	401	(58)
5	429	3	2	43	407	455	(26)
6	429	-	-	-	407	407	22
7	429	-	-	-	407	407	22
8	429	-	-	-	407	407	22
9	429	-	-	-	407	407	316
Recovery of working capital	294						
							(8)

Note: No account is taken of the residual value of the fixed assets.

Annex IV

FINANCIAL, ECONOMIC AND SENSITIVITY ANALYSES USING COMFAR

Based on the financial and economic analyses of the rehabilitation of the MSC a sensitivity analysis was carried out using the UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR).

Since there are special operational requirements and an established logic in COMFAR programmes, some assumptions had to be made which in turn influenced the results of the computations. The following should be noted for clear understanding:

(a) COMFAR allows to consider a maximum of six products; consequently some of the shoe types and components had to be combined in one category;

(b) The rehabilitation expenses are considered as investment costs (mainly as capital expenditures);

(c) The earliest time COMFAR allows a depreciation of investments is the first year after the investment has been made;

(d) COMFAR automatically computes interest rates for capital expenditures;

(e) COMFAR automatically minimizes cash reserves which in turn leads to smaller drawings of the credit; thus no minimum coverage period for cash is foreseen in the computation of working capital requirements;

(f) In the basic analysis some variable costs (e.g. utilities, tooling, transport) were assumed to be proportional to revenues. As COMFAR automatically takes variable costs as proportional to production capacity utilization, special cost adjustment had to be introduced in order to show equal figures of the total production costs.

The computations were carried out for the first ten years of MSC operation after the completion of the rehabilitation programme.

A. Economic analysis

The parameters are based on the following assumptions;

(a) The exchange rate of the Tanzanian shilling against the United States dollar increased by 75 per cent (i.e. the Tanzanian shilling is devaluated);

(b) The selling prices for all items are decreased by 15 per cent as a local market response to larger supplies;

(c) The labour costs are increased by 40 per cent (lower productivity).

The computations made under the COMFAR programme show some discrepancies in comparison to the basic financial analysis:

(a) Due to the minimized cash-in-hand requirements and the lower production costs during the starting-up period (since COMFAR computes them proportional to sales revenues and actual production mix), the capital requirements are lower;

(b) Owing to the same reason, the sales revenues are somewhat higher.

Tab: MOR01E : Text Variables

********** COMFAR 3.1 - demonstration at UNIDO IV *****

Project Name:	Morogoro Shoe Co.,base case econ.analys
Date:	1984-09-25
Name of Alternative:	emulation from MORG01 economic,01/85ban
Accounting currency:	million Tanzania Shillings
Name of Product (A):	CANVAS SHOES
Name of Product (B):	JOGGING SHOES,CLOGS AND DRESS SHOES
Name of Product (C):	SAFARI BOOTS
Name of Product (D):	SANDALS
Name of Product (E):	MOCCASINS
Name of Product (F):	SOLES,LACES AND HEELS

Tab: MOR01E : General Variables

********** COMFAR 3.1 - demonstration at UNIDO IV *****

Multiplier to compute foreign into accounting currency:	1.000
Multiplier to compute local into accounting currency:	1.000
Construction phase:	1 years, planned yearly
Interest rate for computation of future values in % p.a.:	10.000
Percent rate for DF-Discounting:	10.000

Total initial investment costs in million Tanzania Shillings

Year	1995
Fixed investment costs	
.Land, site preparation, development	17.64
.Buildings and civil works	10.30
.Auxiliary and service facilities	0.48
.Incorporated fixed assets	0.0
.Plant machinery and equipment	24.88
Total fixed investment costs	53.30
Pre-production capital expenditures	7.70
Net working capital	0.0
Total initial investment costs	60.70
Of it foreign, in %	19.12

Total investment costs, production phase in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Fixed investment costs					
.Land, site preparation, development	0.0	0.0	0.0	0.0	0.0
.Buildings and civil works	8.60	9.50	5.60	3.50	2.00
.Auxiliary and service facilities	3.00	2.50	0.0	3.50	3.00
.Incorporated fixed assets	0.0	0.0	0.0	0.0	0.0
.Plant, machinery and equipment	13.50	0.0	0.0	0.0	0.0
Total fixed investment costs	25.10	12.00	5.60	7.00	5.00
Pre-production capitals expenditures	3.00	5.60	3.00	3.00	0.0
Working capital	42.21	44.49	33.96	26.15	12.78
Total current investment costs	70.31	62.09	42.56	36.15	17.78
Of it foreign, %	61.52	57.51	56.72	62.82	66.47

Total investment costs, production phase in million Tanzania Shillings

Year	1991-95	1996
Fixed investment costs		
.Land, site preparation, development	0.0	0.0
.Buildings and civil works	0.0	0.0
.Auxiliary and service facilities	0.0	0.0
.Incorporated fixed assets	0.0	0.0
.Plant, machinery and equipment	0.0	0.0
Total fixed investment costs	0.0	0.0
Pre-production capitals expenditures	0.0	0.0
Working capital	0.0	-160.89
Total current investment costs	0.0	-160.89
Of it foreign, %	0.0	42.30

Total production costs in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
% of nom. capacity (single product)	0.0	0.0	0.0	0.0	0.0
Raw material 1	111.37	222.74	296.99	318.20	318.20
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	0.88	1.75	2.25	2.50	2.50
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	5.18	10.36	13.32	14.80	14.80
Repair, maintenance	5.56	11.13	14.31	15.90	15.90
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	19.30	19.30	19.30	19.30	19.30
Factory costs	142.29	265.29	335.56	370.70	370.70
Administrative overheads	-88.68	-146.36	-127.55	-60.10	11.20
Indir. costs, sales and distribution	8.89	17.78	22.86	25.40	25.40
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	4.53	18.90	23.62	16.53	15.13
Financial costs	1.30	3.07	3.00	3.00	1.70
Total production costs	67.83	158.68	256.99	355.53	424.13
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	-29.47	2.71	16.26	22.14	28.21
Of it variable,%	194.43	166.30	132.60	106.88	88.87
Total labour	7.30	14.49	18.62	24.10	27.40

Moregoro Shoe Co.,base case econ.analys --- 1984-[illegible]-[illegible]

Total production costs in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
% of nom. capacity (single product)	0.0	0.0	0.0	0.0	0.0
Raw material 1	318.20	318.20	318.20	318.20	318.20
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	2.50	2.50	2.50	2.50	2.50
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	14.80	14.80	14.80	14.80	14.80
Repair, maintenance	15.90	15.90	15.90	15.90	15.90
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	19.30	19.30	19.30	19.30	19.30
Factory costs	370.70	370.70	370.70	370.70	370.70
Administrative overheads	11.20	11.20	11.20	11.20	11.20
Indir. costs, sales and distribution	25.40	25.40	25.40	25.40	25.40
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	10.68	6.87	3.82	1.46	0.71
Financial costs	0.30	-0.10	-1.00	-1.80	-1.80
Total production costs	418.28	414.07	410.12	406.96	406.21
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	27.54	27.18	27.28	26.94	26.81
Of it variable,%	90.08	91.00	91.88	92.59	92.76
Total labour	27.40	27.40	27.40	27.40	27.40

Moregoro Shoe Co.,base case econ.analys --- 1984-[illegible]-[illegible]

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net working capital in million Tanzania Shillings

Year			1986	1987	1988	1989	1990
Coverage:	acc	coto					
Current assets and							
Accounts receivable	30	12.0	5.13	11.39	19.24	27.75	33.94
Inventory and materials	120	3.0	37.37	74.75	96.10	106.79	106.78
Energy	0	---	0.0	0.0	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0	0.0	0.0
Work in progress	30	12.0	11.86	22.11	27.96	30.89	30.89
Finished products	15	24.0	2.19	4.96	9.67	12.82	15.41
Cash in hand	0	---	-2.48	-4.40	-5.36	-0.55	0.55
Total current assets			54.06	108.80	148.61	177.69	190.19
Current liabilities and							
Accounts payable	30	12.0	11.86	22.11	27.96	30.89	30.89
Net working capital			42.21	86.70	120.65	146.80	159.29
Increase in working capital			42.21	44.49	33.96	26.15	12.49
Net working capital, local			27.05	57.43	71.85	85.33	91.13
Net working capital, foreign			15.16	33.26	48.80	61.51	68.16

Note: acc = minimum days of coverage ; coto = coefficient of turnover .

Moragoro Shoe Co.,base case econ.analys --- 1994-09-26

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net working capital in million Tanzania Shillings

Year			1991-95	1996	1997-2000
Coverage:	acc	coto			
Current assets and					
Accounts receivable	30	12.0	33.94	-0.85	-0.85
Inventory and materials	120	3.0	106.78	0.0	0.0
Energy	0	---	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0
Work in progress	30	12.0	30.89	1.61	1.61
Finished products	15	24.0	15.41	-0.43	-0.43
Cash in hand	0	---	2.55	-0.43	-0.43
Total current assets			190.08	-0.09	-0.09
Current liabilities and					
Accounts payable	30	12.0	30.89	1.61	1.61
Net working capital			159.19	-1.70	-1.70
Increase in working capital			0.0	-160.89	0.0
Net working capital, local			91.12	-1.70	-1.70
Net working capital, foreign			68.06	0.0	0.0

Note: acc = minimum days of coverage ; coto = coefficient of turnover .

Source of finance, construction in million Tanzania Shillings

Year	1985
Equity, ordinary .	55.00
Equity, preference.	0.0
Subsidies, grants .	0.0
Loan A, foreign .	0.0
Loan B, foreign .	0.0
Loan C, foreign .	0.0
Loan A, local . .	6.00
Loan B, local . .	0.0
Loan C, local . .	0.0
Total loan	6.00
Current liabilities	0.0
Bank overdraft . .	0.0
Total funds	61.00

COMFAR 1.1 - demonstration at UNIDO IV

Source of finance, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Equity, ordinary	0.0	0.0	0.0	0.0	0.0	0.0
Equity, preference	0.0	0.0	0.0	0.0	0.0	0.0
Subsidies, grants	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, foreign	0.0	0.0	0.0	0.0	0.0	0.0
Loan B, foreign	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, foreign	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, local	24.00	0.0	0.0	-10.00	-14.00	-4.00
Loan B, local	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, local	0.0	0.0	0.0	0.0	0.0	0.0
Total loan	24.00	0.0	0.0	-10.00	-14.00	-4.00
Current liabilities	11.86	10.25	5.86	2.93	0.0	0.0
Bank overdraft	56.73	66.02	33.02	40.86	12.20	-12.84
Total funds	92.59	76.27	38.88	30.79	-1.80	-16.84

Morogoro Shoe Co.,base case econ.analys --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Source of finance, production in million Tanzania Shillings

Year	1992	1993	1994	1995	1996
Equity, ordinary	0.0	0.0	0.0	0.0	0.0
Equity, preference	0.0	0.0	0.0	0.0	0.0
Subsidies, grants	0.0	0.0	0.0	0.0	0.0
Loan A, foreign	0.0	0.0	0.0	0.0	0.0
Loan B, foreign	0.0	0.0	0.0	0.0	0.0
Loan C, foreign	0.0	0.0	0.0	0.0	0.0
Loan A, local	-9.00	-9.00	0.0	0.0	0.0
Loan B, local	0.0	0.0	0.0	0.0	0.0
Loan C, local	0.0	0.0	0.0	0.0	0.0
Total loan	-9.00	-9.00	0.0	0.0	0.0
Current liabilities	0.0	0.0	0.0	0.0	-29.28
Bank overdraft	-5.93	-5.86	-13.07	-12.70	-158.63
Total funds	-14.93	-13.86	-13.07	-12.70	-187.91

Morogoro Shoe Co.,base case econ.analys --- 1984-09-18

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow tables, construction in million Tanzania Shillings

Year	1985
Total cash inflow . .	51.00
. Financial resources	51.00
. Sales, net of tax .	0.0
Total cash outflow . .	60.70
. Total assets	60.40
. Operating costs . .	0.0
. Cost of finance . .	0.30
. Repayment	0.0
. Corporate tax . . .	0.0
. Dividends paid . . .	0.0
Surplus (deficit) .	0.30
Cumulated cash balance	0.30
Inflow, local	51.00
Outflow, local	49.70
Surplus (deficit) .	11.30
Inflow, foreign . . .	0.0
Outflow, foreign . . .	11.00
Surplus (deficit) .	-11.30
Net cashflow	-60.40
Cumulated net cashflow	-60.40

COMFAR ... - demonstration at UNIDO IV ---

Cashflow tables, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Total cash inflow	145.16	212.04	292.29	388.08	442.39	430.19
. Financial resources	90.58	76.27	38.88	43.79	12.20	0.0
. Sales, net of tax	90.58	135.77	243.40	344.29	430.19	430.19
Total cash outflow	132.86	196.94	273.68	381.58	440.39	430.19
. Total assets	82.16	72.34	48.41	39.08	17.38	0.0
. Operating costs	41.50	136.70	220.87	333.00	407.30	407.30
. Cost of finance	1.80	3.00	3.00	3.00	1.70	0.30
. Repayment	0.0	0.0	0.0	12.00	14.00	16.64
. Corporate tax	-11.60	-15.10	-8.60	-6.50	0.00	5.95
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	11.30	15.10	8.60	6.50	2.00	-0.00
Cumulated cash balance	11.60	26.70	35.30	41.80	43.80	43.80
Inflow, local	89.41	76.09	37.06	43.88	12.20	0.0
Outflow, local	111.12	180.22	270.07	391.89	318.22	316.04
Surplus (deficit)	-21.71	-104.13	-193.01	-249.01	-306.02	-316.04
Inflow, foreign	55.76	135.95	245.22	345.20	430.19	430.19
Outflow, foreign	21.75	16.71	43.61	89.69	122.16	115.15
Surplus (deficit)	33.01	122.22	201.61	255.51	308.03	315.04
Net cashflow	-77.48	-58.17	-27.29	-21.29	5.50	13.64
Cumulated net cashflow	-154.88	-198.05	-225.33	-246.62	-241.12	-224.15

Morogoro Shoe Co.,base case econ.analys --- 1984-09-26

COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow tables, production in million Tanzania Shillings

Year	1992	1993	1994	1995	1996	1997
Total cash inflow	430.19	430.19	430.19	430.19	0.0	0.0
. Financial resources	0.0	0.0	0.0	0.0	0.0	0.0
. Sales, net of tax	430.19	430.19	430.19	430.19	0.0	0.0
Total cash outflow	430.19	430.19	430.19	430.19	-8.61	-6.35
. Total assets	0.0	0.0	0.0	0.0	-190.17	0.0
. Operating costs	407.30	407.30	407.30	407.30	-10.20	-10.20
. Cost of finance	-0.30	-1.00	-1.80	-1.80	-1.80	-1.80
. Repayment	14.93	13.86	13.07	12.70	187.91	0.0
. Corporate tax	8.36	10.03	11.62	11.99	5.65	5.65
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	-0.00	0.0	-0.00	-0.00	8.61	6.35
Cumulated cash balance	43.80	43.80	43.80	43.80	52.41	58.76
Inflow, local	0.0	0.0	0.0	0.0	0.0	0.0
Outflow, local	313.33	312.26	311.47	311.10	55.60	-10.20
Surplus (deficit)	-313.33	-312.26	-311.47	-311.10	-55.60	10.20
Inflow, foreign	430.19	430.19	430.19	430.19	0.0	0.0
Outflow, foreign	116.86	117.93	118.72	119.09	-64.22	3.85
Surplus (deficit)	313.33	312.26	311.47	311.10	64.22	-3.85
Net cashflow	14.83	12.86	11.27	10.90	194.72	4.65
Cumulated net cashflow	-209.33	-196.49	-185.22	-174.32	20.40	24.95

Morogoro Shoe Co.,base case econ.analys --- 1984-09-26

---------- COMFAR 1.1 - Demonstration at UNIDO (V ---

Cashflow Discounting in million Tanzania Shillings

a. Return on Equity:

Net present value	-71.04	at	10.00 %
Internal Rate of Return (IRRE)			0.0 %

b. Internal Rate of Return without outside financing:

Net present value	-134.70	at	10.00 %
Internal Rate of Return (IRR)			2.08 %

c. Future Value of cash outflow during pre-production:

Total cash outflow	50.70		
Future Value	50.70	at	10.00 %

COMFAR 1.1 - demonstration at UNIDO IV ---

Net income statement in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total sales, incl. sales tax	92.58	135.77	240.40	344.29	433.19
Less: variable costs, incl. sales tax.	131.88	263.76	339.12	376.80	376.80
Variable margin	-79.30	-127.99	-98.72	-32.51	56.39
As % of total sales	-150.82	-94.27	-39.02	-9.44	12.41
Non-variable costs, incl. depreciation	-65.85	-102.16	-85.22	-27.27	45.69
Operational margin	-13.45	-19.83	-10.50	-5.24	7.71
As % of total sales	-25.58	-14.61	-4.31	-1.52	1.79
Cost of finance	1.80	3.00	3.00	3.00	1.70
Gross profit	-15.25	-22.83	-13.50	-8.24	6.01
Allowances	11.00	15.10	3.60	3.60	2.00
Taxable profit	-26.25	-37.93	-22.10	-14.74	4.01
Tax	-11.00	-15.10	-8.60	-5.50	0.00
Net profit	-15.25	-22.83	-13.50	-8.24	4.00
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	-15.25	-22.83	-13.50	-8.24	4.00
Accumulated undistributed profit	-15.25	-38.08	-51.58	-59.82	-55.82
Gross profit, % of total sales	-29.00	-16.82	-5.54	-2.39	1.40
Net profit, % of total sales	-29.00	-16.82	-5.54	-2.39	0.92
ROE, Net profit, % of equity	-37.73	-41.52	-24.54	-14.98	7.28
ROI, Net profit+interest, % of invest.	-15.15	-18.64	-9.13	-4.19	4.39

Net income statement in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total sales, incl. sales tax	430.19	430.19	430.19	430.19	430.19
Less: variable costs, incl. sales tax.	376.80	376.80	376.80	376.80	376.80
Variable margin	53.39	53.39	53.39	53.39	53.39
As % of total sales	12.41	12.41	12.41	12.41	12.41
Non-variable costs, incl .depreciation	41.18	37.37	34.32	31.96	31.21
Operational margin	12.21	16.02	19.07	21.43	22.18
As % of total sales	2.84	3.72	4.43	4.98	5.16
Cost of finance	0.30	-0.10	-1.00	-1.80	-1.80
Gross profit	11.91	16.12	20.07	23.23	23.98
Allowances	0.0	0.0	0.0	0.0	0.0
Taxable profit	11.91	16.12	20.07	23.23	23.98
Tax	5.95	8.06	10.03	11.62	11.99
Net profit	5.95	8.06	10.03	11.62	11.99
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	5.95	8.06	10.03	11.62	11.99
Accumulated undistributed profit	-49.87	-41.81	-31.77	-20.15	-8.16
Gross profit, % of total sales	2.77	3.75	4.67	5.40	5.58
Net profit, % of total sales	1.38	1.87	2.33	2.70	2.79
ROE, Net profit, % of equity	10.82	14.65	18.24	21.12	21.80
ROI, Net profit+interest, % of invest.	4.81	6.12	6.95	7.55	7.84

---------- COMFAR III - demonstration at UNIDO IV ---

Projected balance sheets, construction in million Tanzania Shillings

Year	1995
Total assets	61.00
Fixed assets, net of depreciation	0.0
Construction in progress	60.70
Current assets	0.0
Cash, bank	0.0
Cash surplus, finance available .	0.30
Total liabilities	61.00
Equity capital	55.00
Reserves, retained profit	0.0
Profit, loss	0.0
Long and medium term debt	6.00
Current liabilities	0.0
Bank overdraft, finance required.	0.0
Total debt	6.00
Equity, % of liabilities	90.16


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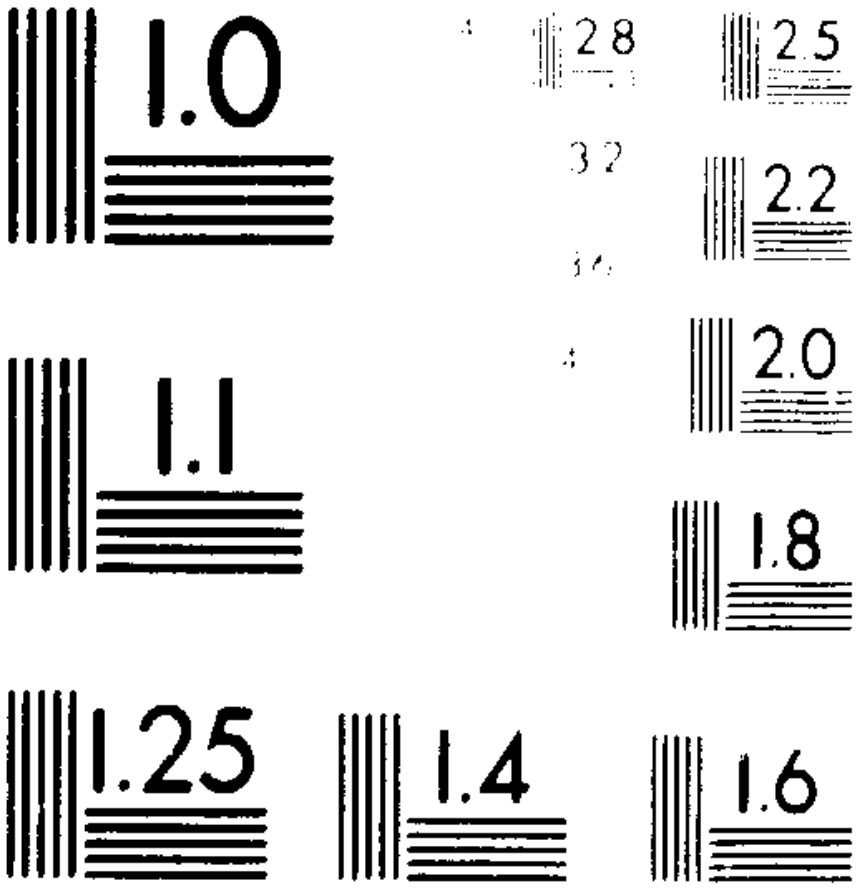

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total assets	138.33	191.77	217.15	239.70	241.90
Fixed assets, net of depreciation	56.17	65.36	59.93	52.00	46.82
Construction in progress	28.10	17.60	8.60	10.00	5.00
Current assets	56.55	113.20	151.97	178.24	187.53
Cash, bank	-2.48	-4.40	-3.26	-0.55	2.55
Cash surplus, finance available	0.0	0.0	0.0	0.0	0.0
Total liabilities	138.33	191.77	217.15	239.70	241.90
Equity capital	55.00	55.00	55.00	55.00	55.00
Reserves, retained profit	0.0	-15.25	-38.08	-51.58	-59.82
Profit,(loss)	-15.25	-22.83	-13.50	-8.24	4.00
Long and medium term debt	30.00	30.00	30.00	17.00	3.00
Current liabilities	11.86	22.11	27.96	30.89	30.89
Bank overdraft, finance required	56.73	122.75	155.77	196.83	208.82
Total debt	98.58	174.85	213.73	244.52	242.72
Equity, % of liabilities	39.76	28.68	25.33	22.95	22.74

Moregoro Shoe Co.,base case econ.analys --- 1984-09-26

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total assets	231.21	224.34	220.52	219.06	218.36
Fixed assets, net of depreciation	41.14	34.26	30.44	28.99	28.23
Construction in progress	0.0	0.0	0.0	0.0	0.0
Current assets	187.53	187.53	187.53	187.53	187.53
Cash, bank	2.55	2.55	2.55	2.55	2.55
Cash surplus, finance available	0.0	0.0	0.0	0.0	0.0
Total liabilities	231.21	224.34	220.52	219.06	218.36
Equity capital	55.00	55.00	55.00	55.00	55.00
Reserves, retained profit	-55.82	-49.87	-41.81	-31.77	-20.15
Profit,(loss)	5.95	9.06	10.03	11.62	11.99
Long and medium term debt	-1.00	-10.00	-18.00	-18.00	-18.00
Current liabilities	30.89	30.89	30.89	30.89	30.89
Bank overdraft, finance required	196.19	190.26	184.40	171.33	158.63
Total debt	226.09	211.15	197.29	184.22	171.52
Equity, % of liabilities	23.79	24.52	24.94	25.11	25.19

B. Financial analysis

Tab: MOR01F : Text Variables

********** COMFAR 1.1 - demonstration at UNIDO IV *****

Project Name:	Morogoro Shoe Co., base case, financial
Date:	1984-09-18
Name of Alternative:	emulation from acrogl 09 jan 85/pem
Accounting currency:	million Tanzania Shillings
Name of Product (A):	CANVAS SHOES
Name of Product (B):	JOGGING SHOES,CLOSE AND DRESS SHOES
Name of Product (C):	SAFARI BOOTS
Name of Product (D):	SANDALS
Name of Product (E):	MOCCASINS
Name of Product (F):	SOLES,LACES AND HEELS

Tab: MOR01F : General Variables

********** COMFAR 1.1 - demonstration at UNIDO IV *****

Multiplier to compute foreign into accounting currency:		1.000
Multiplier to compute local into accounting currency:		1.000
Construction phase:	1 years, planned	yearly
Interest rate for computation of future values in % p.a.:		10.000
Percent rate for CF-Discounting:		10.000

Total initial investment costs in million Tanzania Shillings

Year	1985
Fixed investment costs	
.Land, site preparation, development	36.50
.Buildings and civil works	10.00
.Auxiliary and service facilities	1.00
.Incorporated fixed assets	0.0
.Plant machinery and equipment	51.50
Total fixed investment costs	99.00
Pre-production capital expenditures	6.80
Net working capital	0.0
Total initial investment costs	105.80
Of it foreign, in %	10.40

COMFAR 1.1 - demonstration at UNIDO IV

Total investment costs, production phase in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Fixed investment costs					
.Land, site preparation, development	0.0	0.0	0.0	0.0	0.0
.Buildings and civil works	8.60	9.50	5.60	3.50	2.00
.Auxiliary and service facilities	3.00	2.50	0.0	3.50	3.00
.Incorporated fixed assets	0.0	0.0	0.0	0.0	0.0
.Plant, machinery and equipment	13.50	0.0	0.0	0.0	0.0
Total fixed investment costs	25.10	12.00	5.60	7.00	5.00
Pre-production capitals expenditures	3.00	5.60	3.00	3.00	3.0
Working capital	64.24	66.64	49.39	37.96	18.88
Total current investment costs	92.34	84.24	57.99	47.96	23.38
Of it foreign, %	62.31	59.34	55.70	55.36	48.38

Morogoro Shoe Co., base case, financial --- 1984-09-19

COMFAR 1.1 - demonstration at UNIDO IV

Total investment costs, production phase in million Tanzania Shillings

Year	1991-95	1996
Fixed investment costs		
.Land, site preparation, development	0.0	0.0
.Buildings and civil works	0.0	0.0
.Auxiliary and service facilities	0.0	0.0
.Incorporated fixed assets	0.0	0.0
.Plant, machinery and equipment	0.0	0.0
Total fixed investment costs	0.0	0.0
Pre-production capitals expenditures	0.0	0.0
Working capital	0.0	-237.12
Total current investment costs	0.0	-237.12
Of it foreign, %	0.0	45.92

Morogoro Shoe Co., base case, financial --- 1984-09-19

COMFAR 1.1 - demonstration at UNIDO IV

Total production costs in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
% of nom. capacity (single product).	0.0	0.0	0.0	0.0	0.0
Raw material 1	164.96	329.91	424.17	471.30	471.30
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	1.19	2.38	3.06	3.40	3.40
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	6.89	13.79	17.73	19.70	19.70
Repair, maintenance	7.39	14.77	18.99	21.10	21.10
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	25.70	25.70	25.70	25.70	25.70
Factory costs	206.12	386.55	489.65	541.20	541.20
Administrative overheads	-123.96	-207.81	-187.87	-98.30	15.00
Indir. costs, sales and distribution	11.85	23.66	30.42	33.80	33.80
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	20.38	12.15	12.79	12.79	13.40
Financial costs	4.80	4.80	4.80	4.80	3.50
Total production costs	119.17	219.35	349.78	494.29	606.90
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	16.76	17.51	24.42	27.97	25.41
Of it variable,%	161.32	175.29	141.34	111.10	96.51
Total labour	10.48	20.86	27.02	33.20	36.50

Morogoro Shoe Co., base case, financial --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Total production costs in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
% of nom. capacity (single product).	0.0	0.0	0.0	0.0	0.0
Raw material 1	471.30	471.30	471.30	471.30	471.30
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	3.40	3.40	3.40	3.40	3.40
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	19.70	19.70	19.70	19.70	19.70
Repair, maintenance	21.10	21.10	21.10	21.10	21.10
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	25.70	25.70	25.70	25.70	25.70
Factory costs	541.20	541.20	541.20	541.20	541.20
Administrative overheads	15.00	15.00	15.00	15.00	15.00
Indir. costs, sales and distribution	33.80	33.80	33.80	33.80	33.80
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	13.40	10.32	4.72	2.21	1.46
Financial costs	2.10	1.70	0.80	0.0	0.0
Total production costs	605.50	602.02	595.52	592.21	591.46
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	29.40	29.54	29.75	29.54	29.45
Of it variable,%	90.72	91.24	92.24	92.75	92.87
Total labour	36.50	36.50	36.50	36.50	36.50

Morogoro Shoe Co., base case, financial --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Net working capital in million Tanzania Shillings

Year			1986	1987	1988	1989	1990
Coverage:	adc	coto					
Current assets and							
Accounts receivable	30	12.0	7.83	16.87	27.68	39.73	49.17
Inventory and materials	122	2.9	56.48	112.97	145.25	161.38	161.38
Energy	0	---	0.0	0.0	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0	0.0	0.0
Work in progress	30	12.0	17.18	32.21	40.80	45.10	45.10
Finished products	15	24.0	3.42	7.45	12.57	18.45	23.15
Cash in hand	0	---	-3.50	-6.40	-5.23	-1.32	3.40
Total current assets			81.42	163.10	221.08	263.34	282.22
Current liabilities and							
Accounts payable	30	12.0	17.18	32.21	40.80	45.10	45.10
Net working capital			64.24	130.89	180.28	218.24	237.12
Increase in working capital			64.24	66.64	49.39	37.96	18.88
Net working capital, local			34.80	69.06	94.75	115.72	128.28
Net working capital, foreign			29.44	61.83	85.53	102.52	108.88

Note: adc = minimum days of coverage ; coto = coefficient of turnover .

COMFAR 1.1 - demonstration at UNIDO IV

Net working capital in million Tanzania Shillings

Year			1991-95	1996	1997-2000
Coverage:	adc	coto			
Current assets and					
Accounts receivable	30	12.0	49.17	0.0	0.0
Inventory and materials	122	2.9	161.38	0.0	0.0
Energy	0	---	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0
Work in progress	30	12.0	45.10	2.14	2.14
Finished products	15	24.0	23.15	0.0	0.0
Cash in hand	0	---	3.40	0.0	0.0
Total current assets			282.22	2.14	2.14
Current liabilities and					
Accounts payable	30	12.0	45.10	2.14	2.14
Net working capital			237.12	0.0	0.0
Increase in working capital			0.0	-237.12	0.0
Net working capital, local			128.28	0.0	0.0
Net working capital, foreign			108.88	0.0	0.0

Note: adc = minimum days of coverage ; coto = coefficient of turnover .

Source of finance, construction in million Tanzania Shillings

Year	1985
Equity, ordinary .	55.40
Equity, preference.	0.0
Subsidies, grants .	0.0
Loan A, foreign .	0.0
Loan B, foreign .	0.0
Loan C, foreign .	0.0
Loan A, local . .	48.00
Loan B, local . .	0.0
Loan C, local . .	0.0
Total loan	48.00
Current liabilities	0.0
Bank overdraft . .	2.40
Total funds	105.80

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Source of finance, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Equity, ordinary .	0.0	0.0	0.0	0.0	0.0	0.0
Equity, preference.	0.0	0.0	0.0	0.0	0.0	0.0
Subsidies, grants .	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan B, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, local . .	0.0	0.0	0.0	-13.00	-14.00	-4.00
Loan B, local . .	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, local . .	0.0	0.0	0.0	0.0	0.0	0.0
Total loan	0.0	0.0	0.0	-13.00	-14.00	-4.00
Current liabilities	17.18	15.04	8.59	4.30	0.0	0.0
Bank overdraft . .	37.58	-37.58	0.0	0.0	0.0	0.0
Total funds	54.76	-22.54	8.59	-8.70	-14.00	-4.00

Morogoro Shoe Co., base case, financial --- 1984-09-18

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Source of finance, production in million Tanzania Shillings

Year	1992	1993	1994-95	1996
Equity, ordinary .	0.0	0.0	0.0	0.0
Equity, preference.	0.0	0.0	0.0	0.0
Subsidies, grants .	0.0	0.0	0.0	0.0
Loan A, foreign .	0.0	0.0	0.0	0.0
Loan B, foreign .	0.0	0.0	0.0	0.0
Loan C, foreign .	0.0	0.0	0.0	0.0
Loan A, local . .	-9.00	-8.00	0.0	0.0
Loan B, local . .	0.0	0.0	0.0	0.0
Loan C, local . .	0.0	0.0	0.0	0.0
Total loan	-9.00	-8.00	0.0	0.0
Current liabilities	0.0	0.0	0.0	-42.96
Bank overdraft . .	0.0	0.0	0.0	0.0
Total funds	-9.00	-8.00	0.0	-42.96

Morogoro Shoe Co., base case, financial --- 1984-09-18

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow tables, construction in million Tanzania Shillings

Year	1995
Total cash inflow . .	105.80
. Financial resources	105.80
. Sales, net of tax .	0.0
Total cash outflow . .	105.80
. Total assets	103.40
. Operating costs . .	0.0
. Cost of finance . .	2.40
. Repayment	0.0
. Corporate tax . . .	0.0
. Dividends paid . . .	0.0
Surplus (deficit) .	0.0
Cumulated cash balance	0.0
Inflow, local	105.40
Outflow, local	94.80
Surplus (deficit) .	10.60
Inflow, foreign . . .	0.40
Outflow, foreign . . .	11.00
Surplus (deficit) .	-10.60
Net cashflow	-103.40
Cumulated net cashflow	-103.40

COMFAR 1.1 - demonstration at UNIDO IV

Cashflow tables, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Total cash inflow	235.90	450.56	709.32	961.10	1147.69	1147.69
. Financial resources	54.76	15.04	8.59	4.30	0.0	0.0
. Sales, net of tax	181.14	435.52	700.72	956.80	1147.69	1147.69
Total cash outflow	221.90	429.50	566.16	768.27	898.78	867.19
. Total assets	109.52	99.28	66.58	52.26	23.88	0.0
. Operating costs	94.00	202.40	332.20	476.70	590.00	590.00
. Cost of finance	4.80	4.80	4.80	4.80	3.50	2.10
. Repayment	0.0	37.58	0.0	13.00	14.00	4.00
. Corporate tax	13.58	85.44	162.57	221.51	267.39	271.09
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	14.00	21.07	143.16	192.83	248.91	280.50
Cumulated cash balance	14.00	35.07	178.23	371.05	619.97	900.46
Inflow, local	220.82	445.48	700.41	924.64	1051.69	1051.69
Outflow, local	171.92	248.55	281.55	379.85	442.10	419.80
Surplus (deficit)	98.89	196.93	418.86	545.80	609.58	631.89
Inflow, foreign	5.08	5.08	8.90	36.45	96.00	96.00
Outflow, foreign	89.97	180.95	284.61	389.42	456.65	447.39
Surplus (deficit)	-84.89	-175.87	-275.70	-352.97	-360.65	-351.39
Net cashflow	-35.96	46.41	139.37	206.33	266.41	286.69
Cumulated net cashflow	-139.36	-90.95	48.42	254.75	521.17	807.86

Morogoro Shoe Co., base case, financial --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Cashflow tables, production in million Tanzania Shillings

Year	1992	1993	1994	1995	1996	1997-2000
Total cash inflow	1147.69	1147.69	1147.69	1147.69	0.0	0.0
. Financial resources	0.0	0.0	0.0	0.0	0.0	0.0
. Sales, net of tax	1147.69	1147.69	1147.69	1147.69	0.0	0.0
Total cash outflow	873.54	874.89	867.74	868.11	-237.12	0.0
. Total assets	0.0	0.0	0.0	0.0	-280.08	0.0
. Operating costs	590.00	590.00	590.00	590.00	0.0	0.0
. Cost of finance	1.70	0.80	0.0	0.0	0.0	0.0
. Repayment	9.00	8.00	0.0	0.0	42.96	0.0
. Corporate tax	272.84	276.09	277.74	278.11	0.0	0.0
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	274.15	272.80	279.95	279.57	237.12	0.0
Cumulated cash balance	1174.62	1447.42	1727.37	2006.95	2244.07	2244.07
Inflow, local	1051.69	1051.69	1051.69	1051.69	0.0	0.0
Outflow, local	424.80	423.80	415.80	415.80	-128.25	0.0
Surplus (deficit)	626.89	627.89	635.89	635.89	128.25	0.0
Inflow, foreign	96.00	96.00	96.00	96.00	0.0	0.0
Outflow, foreign	448.74	451.09	451.94	452.31	-108.88	0.0
Surplus (deficit)	-352.74	-355.09	-355.94	-356.31	108.88	0.0
Net cashflow	284.85	281.60	279.95	279.57	280.08	0.0
Cumulated net cashflow	1092.62	1374.22	1654.17	1933.74	2213.82	2213.82

Morogoro Shoe Co., base case, financial --- 1984-09-18

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow Discounting in million Tanzania Shillings

a) Return on Equity:

Net present value	1182.07	at	10.00 %
Internal Rate of Return (IRRE)			149.36 %

b) Internal Rate of Return without outside financing:

Net present value	1082.90	at	10.00 %
Internal Rate of Return (IRR)			67.18 %

c) Future Value of cash outflow during pre-production:

Total cash outflow	105.80		
Future Value	105.80	at	10.00 %

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net income statement in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total sales, incl. sales tax	181.14	435.52	700.72	956.80	1147.69
Less: variable costs, incl. sales tax.	192.26	384.51	494.37	549.30	549.30
Variable margin	-11.12	51.01	206.36	407.50	598.39
As % of total sales	-6.14	11.71	29.45	42.59	52.14
Non-variable costs, incl .depreciation	-77.29	-169.96	-149.39	-59.82	54.10
Operational margin	66.77	220.97	355.75	467.32	544.29
As % of total sales	36.86	50.74	50.77	48.84	47.42
Cost of finance	4.80	4.80	4.80	4.80	3.50
Gross profit	61.97	216.17	350.95	462.52	540.79
Allowances	11.60	15.10	8.60	6.50	2.60
Taxable profit	50.37	201.07	342.35	456.02	538.79
Tax	13.59	85.44	162.57	221.51	267.39
Net profit	36.78	115.64	179.77	234.51	271.39
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	36.78	115.64	179.77	234.51	271.39
Accumulated undistributed profit	36.78	152.42	332.19	566.70	838.10
Gross profit, % of total sales	34.21	49.63	50.08	48.34	47.12
Net profit, % of total sales	20.31	26.55	25.66	24.51	23.65
ROE, Net profit, % of equity	66.40	208.73	324.50	423.31	489.68
ROI, Net profit+interest, % of invest.	31.06	79.50	115.29	140.69	156.99

Morogoro Shoe Co., base case, financial --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Net income statement in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total sales, incl. sales tax	1147.69	1147.69	1147.69	1147.69	1147.69
Less: variable costs, incl. sales tax.	549.30	549.30	549.30	549.30	549.30
Variable margin	598.39	598.39	598.39	598.39	598.39
As % of total sales	52.14	52.14	52.14	52.14	52.14
Non-variable costs, incl .depreciation	54.10	51.02	45.42	42.91	42.16
Operational margin	544.29	547.37	552.97	555.48	556.23
As % of total sales	47.42	47.69	48.18	48.40	48.47
Cost of finance	2.10	1.70	0.80	0.[illegible]	0.0
Gross profit	542.19	545.67	552.17	555.48	556.23
Allowances	0.0	0.0	0.0	0.0	0.0
Taxable profit	542.19	545.67	552.17	555.48	556.23
Tax	271.09	272.84	276.09	277.74	278.11
Net profit	271.09	272.84	276.09	277.74	278.11
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	271.09	272.84	276.09	277.74	278.11
Accumulated undistributed profit	1109.19	1382.03	1658.11	1935.85	2213.97
Gross profit, % of total sales	47.24	47.55	48.11	48.40	48.47
Net profit, % of total sales	23.62	23.77	24.06	24.20	24.23
ROE, Net profit, % of equity	489.34	492.48	498.35	501.34	502.01
ROI, Net profit+interest, % of invest.	156.02	156.79	158.13	158.62	158.83

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Projected balance sheets, construction in million Tanzania Shillings

Year	1985
Total assets	105.80
Fixed assets, net of depreciation	0.0
Construction in progress	105.80
Current assets	0.0
Cash, bank	0.0
Cash surplus, finance available .	0.0
Total liabilities	105.80
Equity capital	55.40
Reserves, retained profit	1.0
Profit,(loss)	0.0
Long and medium term debt	48.00
Current liabilities	0.0
Bank overdraft, finance required.	2.40
Total debt	50.40
Equity, % of liabilities	53.58

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total assets	194.94	288.03	476.40	702.20	959.60
Fixed assets, net of depreciation	95.42	101.37	106.19	102.01	98.61
Construction in progress	28.10	17.60	8.60	10.00	5.00
Current assets	84.92	169.50	226.31	264.66	278.33
Cash, bank	-3.50	-6.40	-5.23	-1.32	3.40
Cash surplus, finance available	0.0	5.97	140.53	326.85	573.77
Total liabilities	194.94	288.03	476.40	702.20	959.60
Equity capital	55.40	55.40	55.40	55.40	55.40
Reserves, retained profit	0.0	36.78	152.42	332.19	566.70
Profit,(loss)	36.78	115.64	179.77	234.51	271.39
Long and medium term debt	48.00	48.00	48.00	33.00	21.00
Current liabilities	17.19	32.21	40.80	45.10	45.10
Bank overdraft, finance required	37.58	0.0	0.0	0.0	0.0
Total debt	102.76	80.21	88.80	80.10	66.10
Equity, % of liabilities	28.42	19.23	11.63	7.89	5.77

Morogoro Shoe Co., base case, financial --- 1984-09-18

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total assets	1226.69	1490.53	1758.61	2036.35	2314.47
Fixed assets, net of depreciation	90.21	79.39	75.17	72.96	71.50
Construction in progress	0.0	0.0	0.0	0.0	0.0
Current assets	278.83	278.83	278.83	278.83	278.83
Cash, bank	3.40	3.40	3.40	3.40	3.40
Cash surplus, finance available	854.26	1129.42	1401.22	1681.17	1960.75
Total liabilities	1226.69	1490.53	1758.61	2036.35	2314.47
Equity capital	55.40	55.40	55.40	55.40	55.40
Reserves, retained profit	838.10	1109.19	1382.03	1658.11	1935.85
Profit,(loss)	271.09	272.84	276.09	277.74	278.11
Long and medium term debt	17.00	8.00	0.0	0.0	0.0
Current liabilities	45.10	45.10	45.10	45.10	45.10
Bank overdraft, finance required	0.0	0.0	0.0	0.0	0.0
Total debt	62.10	53.10	45.10	45.10	45.10
Equity, % of liabilities	4.52	3.72	3.15	2.72	2.39

Morogoro Shoe Co., base case, financial --- 1984-09-18

C. Sensitivity analysis

Tab: MOR04E : Text Variables

********** COMFAR 1.1 - demonstration at UNIDO IV *****

Project Name: Morogoro Shoe Co.,L+40.Sales-15,TS deval

Date: 1984-10-02

Name of Alternative: eval.from MOR084 economic, 01/85pah

Accounting currency: million Tanzania Shillings

Name of Product (A): CANVAS SHOES

Name of Product (B): JOGGING SHOES,CLOSS AND DRESS SHOES

Name of Product (C): SAFARI BOOTS

Name of Product (D): SANDALS

Name of Product (E): MOCCASINS

Name of Product (F): SOLES,LACES AND HEELS

Tabl MOR04E : General Variables

********** COMFAR 1.1 - demonstration at UNIDO IV *****

Multiplier to compute foreign into accounting currency: 1.748

Multiplier to compute local into accounting currency: 1.000

Construction phase: 1 years, planned yearly

Interest rate for computation of future values in % p.a.: 10.000

Percent rate for CF-Discounting: 10.000

Total initial investment costs in million Tanzania Shillings

Year	1985
Fixed investment costs	
.Land, site preparation, development	17.64
.Buildings and civil works	14.94
.Auxiliary and service facilities	0.48
.Incorporated fixed assets	0.0
.Plant machinery and equipment	24.88
Total fixed investment costs	57.94
Pre-production capital expenditures	11.44
Net working capital	0.0
Total initial investment costs	69.38
Of it foreign, in %	27.71

COMFAR 1.1 - demonstration at UNIDO IV

Total investment costs, production phase in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Fixed investment costs					
.Land, site preparation, development	0.0	0.0	0.0	0.0	0.0
.Buildings and civil works	15.03	16.61	9.79	6.12	3.50
.Auxiliary and service facilities	5.24	4.37	0.0	6.12	5.24
.Incorporated fixed assets	0.0	0.0	0.0	0.0	0.0
.Plant, machinery and equipment	23.60	0.0	0.0	0.0	0.0
Total fixed investment costs	43.87	20.98	9.79	12.24	8.74
Pre-production capitals expenditures	5.24	9.79	5.24	5.24	0.0
Working capital	53.99	58.38	45.77	35.76	17.29
Total current investment costs	103.01	89.14	60.81	53.24	26.03
Of it foreign, %	73.40	70.01	69.39	74.56	77.61

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

COMFAR 1.1 - demonstration at UNIDO IV

Total investment costs, production phase in million Tanzania Shillings

Year	1991-95	1996
Fixed investment costs		
.Land, site preparation, development	0.0	0.0
.Buildings and civil works	0.0	0.0
.Auxiliary and service facilities	0.0	0.0
.Incorporated fixed assets	0.0	0.0
.Plant, machinery and equipment	0.0	0.0
Total fixed investment costs	0.0	0.0
Pre-production capitals expenditures	0.0	0.0
Working capital	0.0	-212.78
Total current investment costs	0.0	-212.78
Of it foreign, %	0.0	55.91

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

COMFAR 1.1 - demonstration at UNIDO IV

Total production costs in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
% of nom. capacity (single product).	0.0	0.0	0.0	0.0	0.0
Raw material 1	139.66	279.76	359.69	399.66	399.66
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	0.88	1.75	2.25	2.50	2.50
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	7.25	14.50	18.65	20.72	20.72
Repair, maintenance	5.56	11.13	14.31	15.90	15.90
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	19.30	19.30	19.30	19.30	19.30
Factory costs	172.87	326.44	414.20	458.08	458.08
Administrative overheads	-128.58	-210.91	-183.46	-92.52	11.20
Indir. costs, sales and distribution	8.89	17.78	22.86	25.40	25.40
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	4.53	29.66	36.87	25.51	23.24
Financial costs	3.15	4.80	4.80	4.80	3.50
Total production costs	60.87	167.77	295.26	421.26	521.42
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	-39.99	4.49	24.72	33.85	40.12
Of it variable,%	266.92	193.67	141.49	110.19	89.02
Total labour	9.37	18.63	24.16	30.02	30.02

COMFAR 1.1 - demonstration at UNIDO IV

Total production costs in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
% of nom. capacity (single product).	0.0	0.0	0.0	0.0	0.0
Raw material 1	399.66	399.66	399.66	399.66	399.66
Other raw materials	0.0	0.0	0.0	0.0	0.0
Utilities	2.50	2.50	2.50	2.50	2.50
Energy	0.0	0.0	0.0	0.0	0.0
Labour, direct	20.72	20.72	20.72	20.72	20.72
Repair, maintenance	15.90	15.90	15.90	15.90	15.90
Spares	0.0	0.0	0.0	0.0	0.0
Factory overheads	19.30	19.30	19.30	19.30	19.30
Factory costs	458.08	458.08	458.08	458.08	458.08
Administrative overheads	11.20	11.20	11.20	11.20	11.20
Indir. costs, sales and distribution	25.40	25.40	25.40	25.40	25.40
Direct costs, sales and distribution	0.0	0.0	0.0	0.0	0.0
Depreciation	15.38	9.90	6.05	2.02	0.71
Financial costs	2.10	1.70	0.80	0.0	0.0
Total production costs	512.16	505.98	501.52	496.69	495.38
Costs per unit (single product)	0.0	0.0	0.0	0.0	0.0
Of it foreign, %	39.31	38.86	38.99	38.59	38.43
Of it variable,%	90.63	91.74	92.55	93.45	93.70
Total labour	33.32	33.32	33.32	33.32	33.32

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net working capital in million Tanzania Shillings

Year			1986	1987	1988	1989	1990
Coverage:	adc	coto					
Current assets and							
Accounts receivable	30	12.0	4.43	11.11	21.13	32.58	41.22
Inventory and materials	132	2.7	51.63	103.26	132.76	147.51	147.51
Energy	0	---	0.0	0.0	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0	0.0	0.0
Work in progress	30	12.0	14.41	27.20	34.52	38.17	38.17
Finished products	15	24.0	1.85	4.81	9.61	15.22	19.55
Cash in hand	0	---	-4.02	-6.92	-5.47	-1.52	2.80
Total current assets			68.29	139.47	192.56	231.97	249.26
Current liabilities and							
Accounts payable	30	12.0	14.41	27.20	34.52	38.17	38.17
Net working capital			53.89	112.26	158.04	193.80	211.08
Increase in working capital			53.89	58.38	45.77	35.76	17.29
Net working capital, local			27.40	54.13	72.74	86.29	92.11
Net working capital, foreign			26.49	58.14	85.30	107.52	118.97

Note: adc = minimum days of coverage ; coto = coefficient of turnover .

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net working capital in million Tanzania Shillings

Year			1991-95	1996	1997-2000
Coverage:	adc	coto			
Current assets and					
Accounts receivable	30	12.0	41.22	-0.85	-0.85
Inventory and materials	132	2.7	147.51	0.0	0.0
Energy	0	---	0.0	0.0	0.0
Spares	0	---	0.0	0.0	0.0
Work in progress	30	12.0	38.17	1.61	1.61
Finished products	15	24.0	19.55	-0.43	-0.43
Cash in hand	0	---	2.80	-0.43	-0.43
Total current assets			249.26	-0.09	-0.09
Current liabilities and					
Accounts payable	30	12.0	38.17	1.61	1.61
Net working capital			211.08	-1.70	-1.70
Increase in working capital			0.0	-212.78	0.0
Net working capital, local			92.11	-1.70	-1.70
Net working capital, foreign			118.97	0.0	0.0

Note: adc = minimum days of coverage ; coto = coefficient of turnover .

Source of finance, construction in million Tanzania Shillings

Year	1985
Equity, ordinary .	55.00
Equity, preference.	0.0
Subsidies, grants .	0.0
Loan A, foreign .	0.0
Loan B, foreign .	0.0
Loan C, foreign .	0.0
Loan A, local . .	15.00
Loan B, local . .	0.0
Loan C, local . .	0.0
Total loan	15.00
Current liabilities	0.0
Bank overdraft . .	0.0
Total funds	70.00

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Source of finance, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Equity, ordinary .	0.0	0.0	0.0	0.0	0.0	0.0
Equity, preference.	0.0	0.0	0.0	0.0	0.0	0.0
Subsidies, grants .	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan B, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, foreign .	0.0	0.0	0.0	0.0	0.0	0.0
Loan A, local . .	33.00	0.0	0.0	-13.00	-14.00	-4.00
Loan B, local . .	0.0	0.0	0.0	0.0	0.0	0.0
Loan C, local . .	0.0	0.0	0.0	0.0	0.0	0.0
Total loan	33.00	0.0	0.0	-13.00	-14.00	-4.00
Current liabilities	14.41	12.80	7.31	3.66	0.0	0.0
Bank overdraft . .	50.78	32.08	-14.78	-1.59	-37.43	-29.07
Total funds	98.19	44.88	-7.46	-10.93	-51.43	-33.07

Morogoro Shoe Co.,L+40,Sales 15,TS deval --- 1984-10-02

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Source of finance, production in million Tanzania Shillings

Year	1992	1993	1994-95	1996
Equity, ordinary .	0.0	0.0	0.0	0.0
Equity, preference.	0.0	0.0	0.0	0.0
Subsidies, grants .	0.0	0.0	0.0	0.0
Loan A, foreign .	0.0	0.0	0.0	0.0
Loan B, foreign .	0.0	0.0	0.0	0.0
Loan C, foreign .	0.0	0.0	0.0	0.0
Loan A, local . .	-9.00	-8.00	0.0	0.0
Loan B, local . .	0.0	0.0	0.0	0.0
Loan C, local . .	0.0	0.0	0.0	0.0
Total loan	-9.00	-8.00	0.0	0.0
Current liabilities	0.0	0.0	0.0	-36.56
Bank overdraft . .	0.0	0.0	0.0	0.0
Total funds	-9.00	-8.00	0.0	-36.56

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow tables, construction in million Tanzania Shillings

Year	1985
Total cash inflow . .	70.00
. Financial resources	70.00
. Sales, net of tax .	0.0
Total cash outflow . .	69.38
. Total assets	68.63
. Operating costs . .	0.0
. Cost of finance . .	0.75
. Repayment	0.0
. Corporate tax . . .	0.0
. Dividends paid . . .	0.0
Surplus (deficit) .	0.62
Cumulated cash balance	0.62
Inflow, local	70.00
Outflow, local	50.15
Surplus (deficit) .	19.85
Inflow, foreign . . .	0.0
Outflow, foreign . . .	19.23
Surplus (deficit) .	-19.23
Net cashflow	-68.63
Cumulated net cashflow	-68.63

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

COMFAR 1.1 - demonstration at UNIDO IV

Cashflow tables, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990	1991
Total cash inflow	175.60	252.35	371.41	503.06	627.84	627.84
. Financial resources	98.18	44.88	7.31	3.66	0.0	0.0
. Sales, net of tax	77.42	207.47	364.10	499.40	627.84	627.84
Total cash outflow	164.62	237.25	362.81	496.56	625.84	557.69
. Total assets	117.41	101.94	68.12	56.89	26.03	0.0
. Operating costs	33.19	133.31	253.60	390.96	494.68	494.68
. Cost of finance	3.15	4.80	4.80	4.80	3.50	2.10
. Repayment	0.0	0.0	14.78	14.59	51.43	33.07
. Corporate tax	-9.12	-2.90	21.52	29.32	50.21	57.84
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	10.98	15.10	8.60	6.50	2.00	40.15
Cumulated cash balance	11.60	26.70	35.30	41.80	43.80	83.95
Inflow, local	92.62	39.33	4.14	2.07	0.0	0.0
Outflow, local	113.71	184.89	250.47	295.55	361.57	337.39
Surplus (deficit)	-21.08	-145.56	-246.33	-297.48	-361.57	-337.39
Inflow, foreign	82.97	213.02	367.27	500.99	627.84	627.84
Outflow, foreign	50.92	52.36	112.34	197.01	264.26	250.30
Surplus (deficit)	32.05	160.66	254.93	303.98	363.57	377.54
Net cashflow	-84.06	-24.98	20.86	22.23	56.93	75.32
Cumulated net cashflow	-152.68	-177.67	-156.80	-134.57	-77.64	-2.32

Morogoro Shoe Co.,L+40,Sales-15,75 deval --- 1984-10-02

COMFAR 1.1 - demonstration at UNIDO IV

Cashflow tables, production in million Tanzania Shillings

Year	1992	1993	1994	1995	1996	1997
Total cash inflow	627.84	627.84	627.84	627.84	0.0	0.0
. Financial resources	0.0	0.0	0.0	0.0	0.0	0.0
. Sales, net of tax	627.84	627.84	627.84	627.84	0.0	0.0
Total cash outflow	566.31	566.63	560.25	560.90	-218.24	-5.45
. Total assets	0.0	0.0	0.0	0.0	-249.35	0.0
. Operating costs	494.68	494.68	494.68	494.68	-10.20	-10.20
. Cost of finance	1.70	0.80	0.0	0.0	0.0	0.0
. Repayment	9.00	8.00	0.0	0.0	36.56	0.0
. Corporate tax	60.93	63.16	65.57	66.23	4.75	4.75
. Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Surplus (deficit)	61.53	61.20	67.59	66.93	218.24	5.45
Cumulated cash balance	145.48	206.68	274.27	341.21	559.44	564.90
Inflow, local	0.0	0.0	0.0	0.0	0.0	0.0
Outflow, local	313.32	312.32	304.32	304.32	-104.01	-10.20
Surplus (deficit)	-313.32	-312.32	-304.32	-304.32	104.01	10.20
Inflow, foreign	627.84	627.84	627.84	627.84	0.0	0.0
Outflow, foreign	252.99	254.31	255.93	256.58	-114.23	4.75
Surplus (deficit)	374.85	373.52	371.91	371.25	114.23	-4.75
Net cashflow	72.23	70.00	67.59	66.93	254.80	5.45
Cumulated net cashflow	69.91	139.91	207.50	274.43	529.24	534.69

Morogoro Shoe Co.,L+40,Sales-15,75 deval --- 1984-10-02

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Cashflow Discounting in million Tanzania Shillings

a) Return on Equity:

Net present value	225.75	at	10.00 %
Internal Rate of Return (IRRE)			55.29 %

b) Internal Rate of Return without outside financing:

Net present value	165.15	at	10.00 %
Internal Rate of Return (IRR)			21.33 %

c) Future Value of cash outflow during pre-production:

Total cash outflow	69.38		
Future Value	69.38	at	10.00 %

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

---------- CONFAR 1.1 - desonstration at UNIDO IV ---

Net income statement in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total sales, incl. sales tax	77.42	207.47	364.10	499.40	627.84
Less: variable costs, incl. sales tax.	162.46	324.92	417.76	464.18	464.18
Variable margin	-85.04	-117.45	-53.66	35.23	163.66
As % of total sales	-109.85	-56.61	-14.74	7.05	26.07
Non-variable costs, incl .depreciation	-104.75	-161.95	-127.29	-47.71	53.74
Operational margin	19.70	44.50	73.64	82.94	109.92
As % of total sales	25.45	21.45	20.22	16.61	17.51
Cost of finance	3.15	4.80	4.80	4.50	3.50
Gross profit	16.55	39.70	68.84	78.14	106.42
Allowances	11.60	15.10	8.60	6.50	2.00
Taxable profit	4.95	24.60	60.24	71.64	104.42
Tax	-9.12	-2.80	21.52	29.32	50.21
Net profit	14.08	27.40	38.72	42.32	54.21
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	14.08	27.40	38.72	42.32	54.21
Accumulated undistributed profit	14.08	41.48	80.19	122.51	176.72
Gross profit, % of total sales	21.38	19.14	18.91	15.65	16.95
Net profit, % of total sales	18.18	13.21	10.63	8.47	8.63
ROE, Net profit, % of equity	25.59	49.82	70.40	76.94	98.56
ROI, Net profit+interest, % of invest.	9.22	11.15	12.19	11.39	13.12

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Net income statement in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total sales, incl. sales tax	627.84	627.84	627.84	627.84	627.84
Less: variable costs, incl. sales tax.	464.18	464.18	464.18	464.18	464.18
Variable margin	163.66	163.66	163.66	163.66	163.66
As % of total sales	26.07	26.07	26.07	26.07	26.07
Non-variable costs, incl .depreciation	45.88	40.10	36.55	32.52	31.21
Operational margin	117.78	123.56	127.11	131.14	132.45
As % of total sales	18.76	19.68	20.25	20.89	21.10
Cost of finance	2.10	1.70	0.80	0.0	0.0
Gross profit	115.68	121.86	126.31	131.14	132.45
Allowances	0.0	0.0	0.0	0.0	0.0
Taxable profit	115.68	121.86	126.31	131.14	132.45
Tax	57.84	60.93	63.16	65.57	66.23
Net profit	57.84	60.93	63.16	65.57	66.23
Dividends paid	0.0	0.0	0.0	0.0	0.0
Undistributed profit	57.84	60.93	63.16	65.57	66.23
Accumulated undistributed profit	234.56	295.49	358.65	424.22	490.45
Gross profit, % of total sales	18.43	19.41	20.12	20.89	21.10
Net profit, % of total sales	9.21	9.70	10.06	10.44	10.55
ROE, Net profit, % of equity	105.17	110.78	114.83	119.22	120.41
ROI, Net profit+interest, % of invest.	13.63	14.24	14.54	14.91	15.06

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

---------- COMFAR 1.1 - demonstration at UNIDO IV ---

Projected balance sheets, construction in million Tanzania Shillings

Year	1985
Total assets	70.00
Fixed assets, net of depreciation	0.0
Construction in progress	69.38
Current assets	0.0
Cash, bank	0.0
Cash surplus, finance available .	0.62
Total liabilities	70.00
Equity capital	55.00
Reserves, retained profit	0.0
Profit,(loss)	0.0
Long and medium term debt	15.00
Current liabilities	0.0
Bank overdraft, finance required.	0.0
Total debt	15.00
Equity, % of liabilities	78.57

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1986	1987	1988	1989	1990
Total assets	182.26	254.54	285.80	317.18	319.96
Fixed assets, net of depreciation	64.85	84.31	78.21	67.73	61.97
Construction in progress	49.12	30.76	15.03	17.48	8.74
Current assets	72.31	146.38	198.02	233.50	246.46
Cash, bank	-4.02	-6.92	-5.47	-1.52	2.80
Cash surplus, finance available	0.0	0.0	0.0	0.0	0.0
Total liabilities	182.26	254.54	285.80	317.18	319.96
Equity capital	55.00	55.00	55.00	55.00	55.00
Reserves, retained profit	0.0	14.08	41.48	80.19	122.51
Profit,(loss)	14.08	27.40	38.72	42.32	54.21
Long and medium term debt	48.00	48.00	48.00	35.00	21.00
Current liabilities	14.41	27.20	34.52	38.17	38.17
Bank overdraft, finance required.	50.78	82.86	68.08	66.50	29.07
Total debt	113.19	158.07	150.60	139.67	88.24
Equity, % of liabilities	30.18	21.61	19.24	17.34	17.19

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

COMFAR 1.1 - demonstration at UNIDO IV

Projected balance sheet, production in million Tanzania Shillings

Year	1991	1992	1993	1994	1995
Total assets	344.74	396.67	451.82	517.39	583.62
Fixed assets, net of depreciation	55.33	45.73	39.68	37.66	36.96
Construction in progress	0.0	0.0	0.0	0.0	0.0
Current assets	246.46	246.46	246.46	246.46	246.46
Cash, bank	2.80	2.80	2.80	2.80	2.80
Cash surplus, finance available	40.15	101.68	162.89	230.47	297.41
Total liabilities	344.74	396.67	451.82	517.39	583.62
Equity capital	55.00	55.00	55.00	55.00	55.00
Reserves, retained profit	176.72	234.56	295.49	358.65	424.22
Profit,(loss)	57.84	60.93	63.16	65.57	66.23
Long and medium term debt	17.00	8.00	0.0	0.0	0.0
Current liabilities	38.17	38.17	38.17	38.17	38.17
Bank overdraft, finance required.	0.0	0.0	0.0	0.0	0.0
Total debt	55.17	46.17	38.17	38.17	38.17
Equity, % of liabilities	15.95	13.87	12.17	10.63	9.42

Morogoro Shoe Co.,L+40,Sales-15,TS deval --- 1984-10-02

Annex V

DETAILED SCHEDULE OF IMPLEMENTATION OF THE REHABILITATION PROGRAMME AT TLAI AND MSC

JOB	NAME	DURATION	COMPLETE	PREREQUISITES								
				1	2	3	4	5	6	7	8	9
1	T1 Negotiate w/ Foreign Ptrs	6	No									
2	T2 Physical Inven TLAI Co's.	3	No									
3	G1 Evaluate Recommendations	4	No									
4	M1 Equipment Conservation	8	No									
5	Dummy	0	No									
6	T3 Correction of Bal Sheets	2	No	2								
7	G2 Decide Rehabilitation	2	No	1	3	6						
8	G3 Create Trading Company	12	No	1	3	6						
9	G4 Import Provisions	4	No	7								
10	T4 Plan for Rehabilitation	1	No	7								
11	G5 Request Funds for Rehab	4	No	7								
12	G6 Intro Export Incentives	4	No	7								
13	T5 Foreign Trade Admn	4	No	9								
14	Dummy	0	No									
15	T6 Provide Working Capital	2	No	11								
16	F1 Contract Foreign Partner	8	No	11								
17	F2 Foot Measure Program	20	No	10	11							
18	Dummy	0	No									
19	M2 Collect Domestic Orders	2	No	8								
20	M3 Invest New Equipment	12	No	16								
21	F3 Instructor Training	6	No	16								
22	F4 Reorganize Management	2	No	4	8	15	16					
23	M4 Sell Surplus Equipment	8	No	4	8	15	16					
24	T7 Market Research Abroad	4	No	12	13							
25	F5 Style Selection	1	No	19								
26	M5 Purchase Materials	2	No	17	25							
27	F6 Request Tools	4	No	17	25							
28	Dummy	0	No									
29	Dummy	0	No									
30	M6 Operator Training	16	No	21								
31	F7 Select Training/Management	1	No	22								
32	M7 Start Production	1	No	20	23	24	26	27	30	31		

JOB	NAME	DURATION	COMPLETE	EARLY START	EARLY FINISH	LATE START	LATE FINISH
1	T1 Negotiate w/ Foreign Ptrs	6	No	0	6	0	6
2	T2 Physical Inven TLAI Co's.	3	No	0	3	1	4
3	G1 Evaluate Recommendations	4	No	0	4	2	6
4	M1 Equipment Conservation	8	No	0	8	26	34
5	Dummy	0	No	0	0	0	0
6	T3 Correction of Bal Sheets	2	No	3	5	4	6
7	G2 Decide Rehabilitation	2	No	6	8	6	8
8	G3 Create Trading Company	12	No	6	18	22	34
9	G4 Import Provisions	4	No	8	12	30	34
10	T4 Plan for Rehabilitation	1	No	8	9	17	18
11	G5 Request Funds for Rehab.	4	No	8	12	8	12
12	G6 Intro Export Incentives	4	No	8	12	34	38
13	T5 Foreign Trade Admn	4	No	12	16	34	38
14	Dummy	0	No	0	0	0	0
15	T6 Provide Working Capital	2	No	12	14	32	34
16	F1 Contract Foreign Partner	8	No	12	20	12	20
17	F2 Foot Measure Program	20	No	12	32	18	39
18	Dummy	0	No	0	0	0	0
19	M2 Collect Domestic Orders	2	No	18	20	35	37
20	M3 Invest New Equipment	12	No	20	32	30	42
21	F3 Instructor Training	6	No	20	26	20	26
22	F4 Reorganize Management	2	No	20	22	39	41
23	M4 Sell Surplus Equipment	8	No	20	28	34	42
24	T7 Market Research Abroad	4	No	16	20	38	42
25	F5 Style Selection	1	No	20	21	37	38
26	M5 Purchase Materials	2	No	32	34	40	42
27	F6 Request Tools	4	No	32	36	38	42
28	Dummy	0	No	0	0	0	0
29	Dummy	0	No	0	0	0	0
30	M6 Operator Training	16	No	26	42	26	42
31	F7 Select Training/Management	1	No	22	23	41	42
32	M7 Start Production	1	No	42	43	42	43

JOB	NAME	EARLY START	EARLY FINISH	LATE START	LATE FINISH	SLACK TIME
1	T1 Negotiate w/ Foreign Ptrs	0	6	0	6	0
2	T2 Physical Inven TLAI Co's.	0	3	1	4	1
3	G1 Evaluate Recommendations	0	4	2	6	2
4	M1 Equipment Conservation	0	8	26	34	26
5	Dummy	0	0	0	0	0
6	T3 Correction of Bal Sheets	3	5	4	6	1
7	G2 Decide Rehabilitation	6	8	6	8	0
8	G3 Create Trading Company	6	18	22	34	16
9	G4 Import Provisions	8	12	30	34	22
10	T4 Plan for Rehabilitation	8	9	17	18	9
11	G5 Request Funds for Rehab	8	12	8	12	0
12	G6 Intro Export Incentives	8	12	34	38	26
13	T5 Foreign Trade Admn	12	16	34	38	22
14	Dummy	0	0	0	0	0
15	T6 Provide Working Capital	12	14	32	34	20
16	F1 Contract Foreign Partner	12	20	12	20	0
17	F2 Foot Measure Program	12	32	18	38	6
18	Dummy	0	0	0	0	0
19	M2 Collect Domestic Orders	18	20	35	37	17
20	M3 Invest New Equipment	20	32	30	42	10
21	F3 Instructor Training	20	26	20	26	0
22	F4 Reorganize Management	20	22	39	41	19
23	M4 Sell Surplus Equipment	20	28	34	42	14
24	T7 Market Research Abroad	16	20	38	42	22
25	F5 Style Selection	20	21	37	38	17
26	M5 Purchase Materials	32	34	40	42	8
27	F6 Request Tools	32	36	38	42	6
28	Dummy	0	0	0	0	0
29	Dummy	0	0	0	0	0
30	M6 Operator Training	26	42	26	42	0
31	F7 Select Training/Management	22	23	41	42	19
32	M7 Start Production	42	43	42	43	0

JOB	DURATION	COMPLETE	EARLY START	EARLY FINISH	LATE START	LATE FINISH	SLACK TIME
1	6	No	0	6	0	6	0
2	3	No	0	3	1	4	1
3	4	No	0	4	2	6	2
4	8	No	0	8	26	34	26
5	0	No	0	0	0	0	0
6	2	No	3	5	4	6	1
7	2	No	6	8	6	8	0
8	12	No	6	18	22	34	16
9	4	No	8	12	30	34	22
10	1	No	8	9	17	18	9
11	4	No	8	12	8	12	0
12	4	No	8	12	34	38	26
13	4	No	12	16	34	38	22
14	0	No	0	0	0	0	0
15	2	No	12	14	32	34	20
16	8	No	12	20	12	20	0
17	20	No	12	32	18	38	6
18	0	No	0	0	0	0	0
19	2	No	18	20	35	37	17
20	12	No	20	32	30	42	10
21	6	No	20	26	20	26	0
22	2	No	20	22	39	41	19
23	8	No	20	28	34	42	14
24	4	No	16	20	38	42	22
25	1	No	20	21	37	38	17
26	2	No	32	34	40	42	8
27	4	No	32	36	38	42	6
28	0	No	0	0	0	0	0
29	0	No	0	0	0	0	0
30	16	No	26	42	26	42	0
31	1	No	22	23	41	42	19
32	1	No	42	43	42	43	0