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ADVISORY SERVICE ON THE MANUFACTURE OF
FOOTWEAR COMPONENTS AND AUXILIARIES

SI/EGY/85/803

ARAB REPUBLIC OF EGYPT

Technical Report: Pre-feasibility Study on Shoe Components and Auxiliaries Manufacturing*

Prepared for the Government of the Arab Republic of Egypt
by the United Nations Industrial Development Organization,
acting as executing agency for the
United Nations Development Programme

Based on the work of the Research Institute for the Leather and Shoe Industries, Budapest, Hungary

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Explanatory notes

Reference to dollars ($) are to United States dollars.

The monetary unit in Egypt is the Egyptian Pound (LE).

During the experts' fieldwork the official exchange rate was

US$ 1= LE 1.35

Abbreviations used in the study

Organizations

UNIDO	- United Nations Industrial Development Organization
BCK	- Research Institute for the Leather and Shoe Industries

Countries

FRG	- Federal Republic of Germany
GDR	- German Democratic Republic
UK	- United Kingdom of Great Britain and Northern Ireland
USSR	- Union of the Soviet Socialist Republic

Foreign trade terminology

C.I.F.	- Costs, Insurance & Freight
F.O.B.	- Free on Board

Remarks: 1/ The machine suppliers mentioned in the study are listed in Annex 9.

2/ Egyptian factories and their abbreviation are in Appendix 1.

Materials used

Al	- aluminum
EVA	- ethylene-vinyl-acetate
Cu	- copper
Fe	- iron
PA	- polyamide
PE	- polyethylene
PP	- polypropylene
PUR	- polyurethane
PVC	- poly-vinyl-chloride
TR	- thermoplastic rubber
Zn	- zinc

Units of measurement

m	- meter
m2	- square meter
m3	- cubic meter
mm2	- square millimeter
Kg	- Kilogram
g	- gram
h	- hour
KW	- Kilowatt
ft	- foot
sq.ft.	- square foot
mln	- million

INTRODUCTION

The Third Consultation on Leather and Leather Products Industry (Innsbruck 1984.) recommended, inter alia, that UNIDO should assist developing countries in the formulation of programmes for the manufacture of footwear components. It was decided that the study on footwear components and auxiliaries should be based on the situation of an African country suitable for starting up such manufacturing plant.

The selected country was Egypt with its shoe industry consisting of 6,470 unmechanized workshops, 60 semi-mechanized factories and 10 fully mechanized factories.

The Research Institute for the Leather and Shoe Industries (Budapest, Hungary) was subcontracted by UNIDO to prepare a pre-feasibility study for shoe components and auxiliaries manufacturing in Egypt. (Project No: SI/EGY/85/803)

Activities

The project carried out a four-week survey in Egypt between 16th November - 14th December, 1985. during which the experts visited several governmental and private tanneries, leatherboard and shoe factories collecting techno-economic data for the preparation of the pre-feasibility study.

At home base (BCK) the collected data was computed and the draft report prepared. It contains the pre-feasibility study on lasts, cutting dies, graded patterns, insoles, stiffeners and leather unit soles manufacturing with financial computations as to the feasibility of the proposed plant.

During the preparation of the study the experts consulted with the appropriate technical officers of UNIDO.

1. EXECUTIVE SUMMARY

The Third Consultation on Leather and Leather Products Industry (Innsbruck 1984) recommended, inter alia, that UNIDO should assist in the formulation of programmes for the manufacture of footwear components. It was agreed that the study should be based on the situation of a suitable African country. The country selected was Egypt. The aim of the project is to prepare a pre-feasibility study on the manufacture of shoe components. This pre-feasibility study outlines a manufacturing unit for certain footwear components and production tools (See the classification of components and auxiliaries in Annex 3.) such as:

i/ leatherboard and leather components: insoles, counter stiffener, leather unit soles;

ii/ production tools: shoe lasts, cutting dies and graded patterns.

The components to be manufactured were chosen on the basis of the fieldwork. The findings showed that there are adequate unit sole (injection moulded PVC) producers equipped with the most up-to-date machinery, and it seems unnecessary to start up injection moulded unit sole manufacturing. The same applies to the PE or PP heel production; the manufacturers are expanding on their own due to the present market demands.

The majority of lasts for (semi) mechanized shoe production are imported to Egypt from Europe and the users have to pay 100 per cent customs duty on each pair of plastic lasts. The lasts serve as a basis for the designing of footwear and its components. Without a constant supply of lasts, it is not possible to co-ordinate sizes and the range of components, so it seems necessary to establish shoe last production in Egypt. The price level must be well below that of the imported lasts, to be competitive, since the latter have a well established market because of their fashion and quality.

Design and production preparation in last manufacturing require pattern grading. In order to utilize the minimum feasible capacity, it is recommended to offer grading services for small and medium shoe factories having no such facilities. A number of components (e.g. insoles, sock linings, soles, heels etc.) must fit exactly to the last. It is, therefore, highly desirable to obtain reliable patterns and precise cutting dies for their production. So, a small unit capable of supplying cold-bent cutting dies would have a positive impact on the development of the local footwear industry. The demand for graded patterns and cutting dies is proved by the fact, that such items are imported from industrialized countries in Europe, which is rather unusual in the case of a shoe industry of the size existing in Egypt.

Two existing tanneries in Egypt produce leatherboard suitable for insoles and counters (stiffener), which may serve as a good basis for prefabrication of these components. Nevertheless, there is a considerable import, paid in hard currencies. It is, therefore, necessary for the Egyptian footwear industry to have a constant local supply of insoles and counters in order to decrease their production costs.

Genuine leather is one of the most important natural resources of the country. The local tanning sector is capable of supplying good quality sole leather and footwear with natural leather soles are products with higher added value than those having unit soles made of PVC, PUR, TR, EVA or rubber.

Increasing the capacity in this direction and improving the quality will enhance the local shoe manufacturers' export possibilities (competitiveness in price and quality). Establishing prefabricated leather sole production will assist in achieving this objective.

Taking into account market demand and economic sizes of component production, the following production programme is recommended:

Item	Unit	Unit price LE/unit	Production capacity unit/year
Shoe lasts	pair	18.00	130,000
Graded patterns	set	85.00	1,200
Cutting dies	set	720.00	1,200
Insoles	pair	0.65	6,000,000
Stiffeners	pair	0.15	6,000,000
Leather unit soles	pair	4.30	1,500,000

Basic materials for lasts (high and low density PE) and cutting dies (steel strips) should be imported while all the other basic materials are available locally. The quality of the leatherboard supplied by the Model Tannery and the El Nasr Leatherboard Factory is acceptable for insole manufacturing only, and needs to be improved before it can be used for other products by upgrading the process technology. A special mixture of chrome and vegetable-tanned leather wastes should be developed for stiffeners. The supply of locally made sole leather is adequate for leather unit sole manufacture.

The total costs of materials used for components (at the planned 90 per cent capacity utilization) are as follows:

Unit: LE '000

	Local	Imported	Total
Shoe lasts	130	852	982
Cutting dies	3	397	400
Graded patterns	12	21	33
Insoles	855	945	1,800
Stiffeners	268	227	495
Unit soles	2,731	295	3,026
T O T A L:	3,999	2,737	6,736

Since both the tanning industry (supplying leatherboard and sole leather) and the footwear industry (being the market for components to be manufactured by the proposed new plant) are located in and around Cairo and Alexandria, no other geographical areas can be considered. There are companies in the leather and leather products subsectors in both cities, which may show interest in financing and (or) running a component manufacturing unit. The first step, therefore, should be to select one of these entrepreneurs for the project management - in this case staff and investment cost problems could easily be overcome.

Apart from an industrial area the new plant could be situated in any other suitable and convenient location, as the manufacturing process does not pollute the environment (almost no emission treatment is required, the majority of the waste products are reprocessed within the plant or in the leatherboard factories). If the site is in an industrial area, then the overhead costs have to cover the expenses of labour transport as well.

The proposed integrated component manufacturing factory is arranged in a one-floor building (Figure 2-2.), providing the best conditions for workshop transport and plant management. This solution requires relatively simple and cheap civil engineering. All the service units (store, maintenance etc.) are connected directly to the workshop, while the administrative premises and service facilities for labour (e.g. cloak rooms) may be either on the second floor or in a separate building. The layout is made in such a way, that all manufacturing units may be optionally separated and (or) expanded if so required.

The level of mechanization in the proposed plant is fairly high, but this is necessary in order to ensure the uniformity of components, which is the most important quality aspect. All six units are equipped with machines and moulds, each to be supplied by specialized companies such as for instance:

Component to be manufactured	Suggested main equipment supplier	Cost of equipmant US$ '000 (CIF Egypt)
Lasts	INCOMA	770
Cutting dies	SKOMAB	30
Graded patterns	ALBEKO	58
Insoles	MOHRBACH	1,023
Stiffeners	SECOM	205
Leather unit soles	BRUGGI	710
T O T A L (technology):		2,796

The above companies were selected on the basis of offering the most economic alternative of those from whom quotations were obtained. However, should the project be implemented, it is recommended to follow the international bidding procedure to request new offers from various firms.

The lists of production and auxiliary equipment are enclosed in Annexes 6.1-6.8. The total cost of machines (CIF Egyptian port) is LE 3.8 million - including building machinery. US$ 117,000 will be required for vehicles, and LE 110,000 for office equipment and furniture.

The plant's electric energy consumption is 700 KW, the hot water and steam supply will be provided by the boiler station.

The workshop is divided into six production units - each specialized in a certain production item. The units are controlled directly by their supervisors responsible for the output and quality. There are separate workshops for maintenance, sample manufacturing and designing. Packaging is done in the finished products store.

The last and unit sole manufacturing units are equipped with conveyors for material and work-in-progress transport, while in the other sections specially made manual trolleys will be used.

The total overhead cost covering maintenance, insurance, communication, travelling, training, transport, rent and utilities (heat, light, power, water, effluent) is LE 1.4 million.

In the component manufacturing unit only 25 per cent of the work force is proposed to be unskilled labour. Because of its special technology, there is only skilled or semi-skilled labour in the pattern grading unit. In a fairly up-to-date factory it is advised to employ skilled labour to use the automatic or semi-automatic machines and develop the skills to work according to modern technology.

Before starting up the plant it is suggested to train the supervisors, designers, mechanics and the machine operators in practical training courses specializing in their field of work.

The total yearly wages and salaries in the plant are LE 739,065, the portion of the administrative and technical staff salaries is about 12 per cent.

Total investment outlays of the project are distributed over two years (1987 and 1988). Fixed investment and pre-production expenditures amount to LE 7 891 000 together with the working capital (at full capacity) they sum up to LE 9 803 000.

Required investment expenditure in foreign currency (mainly for plant machinery and equipment) equals to ca. 3.47 mln US $.

Production of two out of six products is based exclusively on imported raw materials and components. In the four other products the share of local material costs varies from ca. 30% to 99%.

The project is to be financed by equity capital and a local loan. More than half of investment cost will be covered by equity, the balance will be borrowed for 7 years at 12% interest rate. Required equity was estimated at LE 5 087 000, the loan (to be disbursed in 1988) at LE 3 758 000, which gives a D/E ratio of 42/58.

The financial analysis done with the application of the COMFAR programme has proved that the project is feasible from the commercial point of view.

This conclusion is based upon:

a/ examination of three main financial documents (Balance-Sheet, Net Income Statement and Cash-Flow Table). The project shows no liquidity problems over the whole period of 15 years of production life. The pay-back period is close to 6 years;

b/ liquidity ratio and debt-service ratio analysis. Computed ratios are in line with widely accepted standards;

c/ profitability measures obtained. They seem to be encouraging for an investor. IRR on total investment is 22.75%. Due to the leverage effect, IRR(E) equals to 24.94%. The project generates a positiv net cash flow, which being discounted at 13% gives the NPV (total investment approach) of LE 4.9 mln;

d/ break-even analysis. Especially results concerning break-even price and break-even output level are favourable for the project.

The sensitivity analysis was out to examine the dependance on changes of the most important financial parameters (output level, raw material cost, selling price, interest rate and foreign exchange rate). The analysis showed that the project is highly sensitive to selling price and foreign exchange rate changes. Therefore, a detailed analysis of the future foreign exchange rate trends has been recommended. Also, the price policy of the company should receive careful scrutiny.

Some important merits of the project can be identified from the national economy (macro) point of view. The project will substitute for imports, will create additional job opportunities and will utilize natural resources of the country.
Moreover, by changing qualitative and quantitative features of the Egyptian footwear industry it may indirectly create considerable export possibilities for this industry and positively influence

the balance of payments.

On the other hand this project has been designed to supply the local market only, though it requires substantial investment expenditures in foreign currency and is partly based on imported materials and components. Thus, its ultimate impact on the national balance of payments will depend on the relation between import substitution savings together with additional export earnings from the footwear industry on the one hand, and the necessary investment, as well as production expenditures in foreign currency on the other.

2.PROJECT BACKGROUND AND HISTORY

A general study entitled "Components and Auxiliaries Manufacture for the Shoe and Other Leather Products Industry in the Developing Countries" (ID/WG.411/3) was prepared by the UNIDO Secretariat and presented at the Third Consultation on Leather and Leather Products Industry (Innsbruck 1984). The Consultation recommended that:

"UNIDO, in collaboration with the appropriate agencies and bodies, should assist developing countries in the formulation of programmes for the manufacture of footwear components and auxiliaries at national, sub-regional, regional or interregional levels, as deemed necessary. UNIDO and appropriate bodies should endeavour to involve potential partners from both developed and developing countries in those programmes. Consideration should be given to the existing and potential absorptive capacity of regional trading partners."

This recommendation was further discussed in an ad hoc preparatory meeting on the leather and leather products industry in Africa in December 1984. The meeting recommended tnat IO/AGRO should prepare a project proposal and terms of reference for a study on footwear auxiliaries, and that the study should not be of a general nature but based on the situation of a suitable African country with potential and genuine need for starting up such a manufacturing plant.

The country selected was Egypt and the Government's official request for the project was received through UNDP cable misc. 890 of 25. April 1985. The suitability of Egypt for this project is clearly illustrated by the following summary of an article published in the journal "Leather" of December 1984:

"Egypt has a massive artisan shoe industry. The manufacturing units can be divided either into three categories according to the degree of mechanization, in which case there are 6,470 unmechanized workshops, 60 semi-mechanized factories and 10 fully mechanized factories, or according to employment, in which case there are 5,940 employing less than 9 workers and 600 employing over 9 workers.

Estimated output was only around 60 million pairs in 1982. This figure can be divided into 43 million pairs of modestly priced popular shoes produced by manufacturing units in the public and private sector, plus 17 million pairs of high quality shoes produced by the private sector and joint ventures involving the public sector. Production in 1981 amounted to 56,749,000 pairs, of which 50 per cent were men's, 30 per cent ladies', 8 per cent girls' and 12 per cent children's shoes.

Of the 1981 production, 36.3 million pairs were leather uppered, 1.05 million pairs were industrial footwear (leather uppered), 6.4 million pairs were sandals, 5.0 million pairs were military footwear, 6.7 million pairs were rubber and 1.03 million pairs were plastic. Nationalized shoe factories produced 25 per cent of the leather footwear."

The data concerning the factories visited during the field work is summarized in the Country file in Appendix 1.

The long-term industrial strategy of the developing countries in the leather and leather products sector, in accordance with the recommendations of the UNIDO Consultation on the Leather and Leather Products Industry, should follow an integrated programme appoach. One of the important links in this appoach is the manufacture of footwear components and auxiliaries at national, sub-regional, regional or interregional levels, as deemed necessary. The aim of the project is, therefore, to take the first concrete steps in this direction and to prepare a pre-feasibility study on the manufacture of such components. The study is to be prepared for a selected country (Egypt) and presented as background material at the Regional Leather Sector Meeting in Alexandria scheduled for 1986. This study will also serve as a model for other countries and regions, and may be used as an instrument for negotiating a joint venture agreement and financing for starting up such a production plant.

This study is intended to be presented to the potential Egyptian sponsor or investor; it may be that the production units will be government owned (linked to the El Nasr Tannery) or private/joint venture factories. This study will serve as a guide line for the interested parties in Egypt as well as at the regional meeting on the leather and leather products industry in Africa to be h ld in Alexandria. It may also serve as an example for other African countries attending the meeting and may encourage the financing of similar component manufacturing plants in order to assist in upgrading local footwear industries.

This pre-feasibility study outlines a manufacturing unit for certain footwear components and production tools (See the classification of components and auxiliaries in Annex 4.):

i/ leatherboard and leather components: insoles, counter stiffener, leather unit soles;

ii/ production tools: shoe lasts, cutting dies and graded patterns.

To some extent the study is based on locally available basic materials; it utilizes domestic leatherboard for insole and stiffener production, domestic sole leather for the manufacturing of leather unit soles. On the other hand it is necessary to utilize imported materials in the case of plastic lasts and cutting die manufacturing. Both products are made of special materials, such as the high and low density polyethylene which is the basic material for the lasts or the steel strips for the cutting dies.

The report of the Integrated Development Programme of the Leather and Leather Products Industry in Africa (RP/RAF/85/610) shows that Egypt has a surplus tanning capacity of circa 50 million sq.ft./year and about 50 million pairs/year leather footwear producing capacity. The Government of Egypt tries to encourage the export of footwear, but so far without success, due to the high price of the Egyptian footwear. Still quoting the same report, "the majority of the footwear components are imported with high duty payable (lasts plus 100 per cent, counters 50 per cent, etc)". This is one of the reasons why it seems necessary to start-up a component and tool manufacturing unit. That none of the African countries mentioned in the above report have any kind of similar production units could be considered another reason.

3. MARKET AND PLANT CAPACITY

3.1. Estimation of demand and market size for the products

In the case of Egyptian footwear manufacturing it is quite difficult to calculate market demands for shoe components and auxiliaries due to the composition of the shoe industry, namely the small number of fully-mechanized factories and the fact that the majority of the shoes are produced by semi-mechanized factories and artisans situated in and around Cairo and Alexandria.

The situation of the shoe industry in Egypt between 1979 and 1982 is summarized as follows:

Type of product	1979	1980	1981	1982
	(million pairs			
Footwear production				
Leather footwear	53.5	56.1	56.7	59.4
Rubber	0.6	0.8	0.8	0.8*
TOTAL:	54.1	56.9	57.5	60.2*
Export of footwear				
Leather	0.9	0.0	0.3	0.3
Non-leather	1.8	0.0	1.1	1.1
TOTAL:	2.7	0.0	1.4	1.4*
Import				
Leather	0.0	0.0	0.1*	0.1*
Footwear consumption				
TOTAL:	51.4	56.9	56.2	58.9*

Note: * means an estimate for the given year.

The population of Egypt in 1983 was 45.8 million, the employees working in the footwear industry = 19,000.
(The data are from the World Footwear Market 1985, by SATRA Footwear Technology Centre. Reliable statistics from other sources are not available.)

The above figures would indicate that the footwear production of Egypt would be about 65 million pairs in 1990. Taking into account the rather low consumption (1.3 pairs per capita compared to 4-5 pairs per capita in industrialized countries), it is likely that the local consumption will reach about 70 million pairs/year by the end of this decade. The export possibilities - since most of the basic raw materials for footwear are available in Egypt - will further increase production needs.

The leather footwear produced consists to 70 per cent of medium quality (at the retail price of LE 10-14 equivalent to US$ 7.7-10.8) mainly produced by Bata, independent craftsmen and cooperatives; 30 per cent is of higher quality, (retail price of LE 15-25 equivalent to US$ 11.5-19.2) and are the products of the mechanized or semi-mechanized units and artisans.

The medium quality footwear has non-leather unit soles, mostly PVC, from the local market, while the high quality footwear is generally produced with genuine leather soles.

To ensure higher quality footwear, most of the manufacturers use imported shoe components, such as: insoles or the basic material for insole production (cardboard and/or leatherboard), counters - premoulded or in sheets, toe puffs, plastic heels, threads, laces, adhesives, buckles, ornaments, etc.

Other findings of the field work are that

a/ most of the mechanized or semi-mechanized units import plastic lasts from Europe, mainly from Italy and some from FRG at a price of about LE 30.00/pair including customs duty;

b/ there is a small wooden last manufacturing unit in Cairo, but the lasts are of very poor quality, unsatisfactory for mechanical shoe production;

c/ the majority of the factories visited (with the exception of SLAP and Bata) lack the knowledge and equipment for making cutting dies and have them made in Italy or, in some cases, the uppers are still hand-cut;

d/ with very few exceptions even the fully mechanized units are not equipped with a grading machine, so that the pattern making has to be done abroad which makes it more expensive and more time consuming.

Lastmaking is generally concentrated in a few manufacturing companies only. Because of its uniqueness and the determinant role of shoe lasts in footwear manufacturing, lasts are regarded as the basic element, not only for styling and pattern engineering, but also for coordination of prefabricated components. Thus lasts provide special kinds of standards, serving as a database for sizing and constructing upper patterns, insoles, counters, heels, unit soles, etc. As Appendix 1. shows most of the fully mechanized shoe factories visited have some kind of shoe component manufacturing or as in the case of the Italian-Egyptian Shoe Factory - it started as a component manufacturing plant and started the shoe production later on.

Taking into account all the findings of the field work, it was concluded that starting of **plastic last** manufacturing is of most immediate importance. The plastic lasts used in the industry are all imported, mainly from Italy, due to its important role in creating fashion trends. When calculating the demand for plastic lasts one has to keep in mind mainly the existing mechanized or semi-mechanized shoe producing units. Due to the low price of the local wooden lasts (LE 4.0-6.0 which is about US$ 3.0-4.4), produced by El Wardany and some smaller workshops, the cooperatives and craftmen are most probably going to use them for quite some time. Relying on the information given by the vice-president of the Cooperatives' Society, the members in Cairo and throughout the country make up a total of 7,600 and their shoe production is about 16 million pairs/year, including men's, ladies', and children's shoes and sandals. Among the factories visited most probably the main plastic last consumers will be the fully mechanized factories, like International, Egyptian-Kuwait, 2M, Zalat, Artlezer and Egyptian-Italian Shoe Companies in Cairo, Bata and Abou El Khair in Alexandria.

Graded patterns and **cutting dies** are made only in large shoe factories (e.g. in Bata), at the same time a large number of such tools are imported - mainly from Italy. Owing to the fact, that the average run of a style is about 8,000 pairs, approximately 7,500 sets of graded patterns are required only for footwear production. The technical documentation on shoe lasts also contains series of patterns (e.g. insole contours, longitudinal and cross sections), which are added to the needs of grading services.

Taking into account the share of the mechanized units in the total Egyptian shoe industry, it is estimated that about 35 million pairs of footwear are cut by machines, that needs nearly 2,800 sets of cutting dies yearly.

About 80 per cent of the footwear manufactured in Egypt has conventional insoles. Considering the size of the mechanized industry the need for prefabricated **insoles** is estimated at 20-25 million pairs per year. Some of the existing shoe factories have some special equipment for such production, but they use them only for their own shoe manufacturing (the result is a rather low equipment utilization - less than 20 per cent).

Approximately 50-60 per cent of the footwear made locally contains **counters** (stiffeners), with medium or long wings. The artisans and small-scale industry will probably continue to use genuine leather for such components, i.e. about 15 million pairs of prefabricated counters are used today. The local supply is not significant, some factories in Cairo and Alexandria produce stiffeners for their own use, but the majority are being imported from Europe. This need not be the case, since there are adequate capacities for leatherboard production in Egypt, which - after upgrading their technology - could provide the local shoe industry with sufficient basic materials for counters.

Nearly 8 million pairs of shoes are produced yearly in the country with **genuine leather soles**. The local tanneries are able to supply sole leather of good quality and in shoe factories there are complete lines for unit sole prefabrication - again much underutilized. In many, otherwise up-to-date plants, trimming and edge finishing is done after the sole has been attached to the lasting margin, which could be eliminated by using prefabricated soles.

3.2. Plant capacity

Taking all circumstances into consideration the factory has been plannad to include the following units:

a/ last manufacturing

b/ cutting die production,

c/ graded pattern making,

d/ insole manufacturing,

e/ stiffener production,

f/ leather unit sole manufacturing.

The **last manufacturing** unit planned has a yearly capacity of 120,000-130,000 pairs, meaning a daily production of 500 pairs in one shift only, providing suitable lasts for a yearly footwear production of about 25-30 million pairs. This capacity is the minimum economic size of a well-mechanized plant (with one shift and using the injection moulding equipment in two shifts); i.e. less output would not require less equipment. The 25-30 million pairs of footwear which are the marketing target for the lasts are produced in large and medium shoe factories and the trend in industrial development will increase the demand for plastic lasts. The neighbouring countries' shoe industries import lasts as well, therefore by establishing appropriate export activity, the market for lasts of good quality made in Egypt may be extended further. All these factors justify the establishment of the proposed manufacturing capacity.

It can be expected that **cutting dies** and **graded patterns** will be ordered by the local shoe industry. The outputs of graded patterns and cold bent cutting dies is scheduled to be 1200 sets each per annum. This is about 16 per cent of the total market need. Small quantities of cutting dies and graded patterns are also needed by the own component cutting operations and last manufacturing. The capacity of the unit can easily handle this extra work. If the demand exceeds the planned capacity of 1200 sets per annum an extra shift can be organized.

The size of the **insole manufacturing** unit was selected to be 6 million pairs per year in one shift work. Considering the product range of the Egyptian shoe industry, all these insoles should be either of conventional type (leatherboard insole, shank of the same material or made of cardboard, with optional steel shank in between) or strip type (leatherboard forepart and cardboard s'ankpart, mostly with steel shank). The comparatively low share of ladies footwear would not justify production of insoles with injection moulded PE shank part (PRESMA type). The selected output is the minimum economic size for such type of production, and even with this output the unit would aim at only 1/3 of the local requirement.

The calculation of the plant size of the **stiffener production** was based on the consideration that it will not be possible to meet with this unit the demand for all the varieties of stiffeners required. Therefore small quantities of this product wil still need to be imported. It was also taken into account that the product mix of the Egyptian shoe industry is such (ladies' sandals, unlined gents' shoes etc.) that the real demand for stiffeners is much less than the total footwear production. Keeping in mind that the Egyptian-Italian Shoe Company is based on shoe component manufacturing, the stiffener manufacturing unit was designed with a capacity of 6,000,000 pairs/year, which can easily be increased by applying more complete machine modules as outlined in Chapter 6.

Table 1.

PRODUCTION AND SALES PROGRAMME

Years			1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Products	Unit	Maximum capacity										
CAPACITY UTILIZATION (%)												
Shoe lasts	pair	130000	45	70	80	90	90	90	90	90	90	90
Cutting dies	set	1200	0	40	75	85	90	90	90	90	90	90
Graded patterns	set	1200	35	55	75	90	90	90	90	90	90	90
Insoles	pair	6000000	0	60	75	85	90	90	90	90	90	90
Stiffeners	pair	6000000	0	30	60	80	85	90	90	90	90	90
Leather soles	pair	1500000	40	70	80	90	90	90	90	90	90	90
PRODUCTION PROGRAMME												
Shoe lasts	pair	130000	58500	91000	104000	117000	117000	117000	117000	117000	117000	117000
Cutting dies	set	1200	0	480	900	1020	1080	1080	1080	1080	1080	1080
Graded patterns	set	1200	420	660	900	1080	1080	1080	1080	1080	1080	1080
Insoles	pair	6000000	0	3600000	4500000	5100000	5400000	5400000	5400000	5400000	5400000	5400000
Stiffeners	pair	6000000	0	1800000	3600000	4800000	5100000	5400000	5400000	5400000	5400000	5400000
Leather soles	pair	1500000	600000	1050000	1200000	1350000	1350000	1350000	1350000	1350000	1350000	1350000
SALES REVENUES	Price LE/unit											
Shoe lasts	18.00	2340000	1053000	1638000	1872000	2106000	2106000	2106000	2106000	2106000	2106000	2106000
Cutting dies	720.00	864000	0	345600	648000	734400	777600	777600	777600	777600	777600	777600
Graded patterns	85.00	102000	35700	56100	76500	91800	91800	91800	91800	91800	91800	91800
Insoles	0.65	3900000	0	2340000	2925000	3315000	3510000	3510000	3510000	3510000	3510000	3510000
Stiffeners	0.15	900000	0	270000	540000	720000	765000	810000	810000	810000	810000	810000
Leather soles	4.30	6450000	2580000	4515000	5160000	5805000	5805000	5805000	5805000	5805000	5805000	5805000
TOTAL		14556000	3668700	9164700	11221500	12772200	13055400	13100400	13100400	13100400	13100400	13100400
Average capacity utilization	%	100	25	62	77	87	89	90	90	90	90	90

In order for Egypt to increase the export of footwear it is necessary to improve the quality. As most of the gents' footwear in Egypt is made with PVC soles, it seems necessary to increase the production of all-leather shoes. The necessary vegetable tanned sole leather is available locally. This justifies the starting up of a **leather unit sole production** facility with a yearly capacity of 1,5 million pairs. The products of this facility will be as the synthetic soles, i.e. already finished, colour coated, polished etc. The planned output would cover about 30 per cent of the local demand - leaving scope for import or for further expansion of domestic leather unit sole manufacture.

Table 1. shows the production and sales programme planned between the years 1988 and 1997. The production will reach its planned maximum (90%) in 1993. The **unit prices** for products of the proposed plant are established according to the existing situation in Egypt, i.e. they are about 15-30 per cent lower than those of the same quality available from import (including customs duty). This difference is necessary in order to attract local shoe manufacturers, as in the case of higher prices they still would prefer imported components - especially shoe lasts - because of the fashion aspect and reliability of supply.

The start-up is proposed to take place in two stages: the production of shoe lasts, being the basis for all component manufacturing, in 1988 together with the cutting die making and unit sole production. All manufacturing units will start working the following year at the average rate of 62 per cent of total capacity utilization.

3.3. Conclusions

The majority of lasts for (semi) mechanized shoe production are imported to Egypt from Europe and a 100 per cent customs duty is levied on each pair of plastic lasts. The lasts serve as a basis for designing footwear and its components. Without a constant supply of lasts, it is not possible to co-ordinate sizes and the range of components, and therefore it seems necessary to establish shoe last production in Egypt. The price level must be well below that of the imported lasts, since the latter have a good hold on the market because of their fashion and quality.

Design and production preparation in last manufacturing require pattern grading. In order to utilize the minimum feasible capacity it is recommended to offer grading services for small and medium shoe factories having no such facilities. A number of components (e.g. insoles, sock linings, soles, heels etc.) must fit exactly to the last, therefore, it is highly desirable to obtain reliable patterns and precise cutting dies for their production. For this reason a small unit capable of supplying cold-bent cutting dies would have a positive impact on the development of the local footwear industry. The demand for graded patterns and cutting dies is proved by the fact, that such items are imported from industrialized countries in Europe, which is rather unusual for a shoe industry of the size as it exists in Egypt.

Two existing tanneries in Egypt produce leatherboard suitable for insoles and counters (stiffener), which may serve as a good basis for prefabrication of these components. At present these products are imported at the rxpense of foreign exchange. It is, therefore, necessary for the Egyptian footwear industry to have a constant local supply of insoles and counters in order to decrease production costs.

Genuine leather is one of the most important natural resources of the country. The local tanning sector is capable of supplying good quality sole leather, and footwear with natural leather soles have a better market value than those with unit soles made of PVC, PUR, TR, EVA or rubber. Increasing capacity in this direction and improving the quality will enhance local shoe manufacturers' export possibilities (competitiveness in price and quality). Establishing prefabricated leather sole production will assist in achieving this objective.

Considering market demand and economic sizes of component production, the following production programme is recommended:

Item	Unit	Unit price LE/unit	Production capacity unit/year
Shoe iasts	pair	18.00	130,000
Graded patterns	set	85.00	1,200
Cutting dies	set	720.00	1,200
Insoles	pair	0.65	6,000,000
Stiffeners	pair	0.15	6,000,000
Leather unit soles	pair	4.30	1,500,000

4.MATERIALS AND INPUTS

4.1. Basic materials

The suggested product range is not in accord with the availability of basic and raw materials. The production of shoe lasts and cutting dies requires the import of plastic and metall components, since these are rather unique materials with special quality standards. For all other items 90-97 per cent of the materials are available from local sources.

Through the introduction of modern machinery in footwear production shoe lasts made of hard woog (e.g. beech, maple, horn beem) proved to be lacking in certain properties (e.g. hardness, size stability, durability). (In any case such types of wood are not available in Egypt.) Lasts used in up-to-date footwear manufacturing are usually made of PE - mostly from a mixture of high and low density PE. The waste products of the last manufacturing process can be reused if appropriate regranulating equipment is installed - this reduces the production costs considerably. PE granulates of both kinds are supplied by a large number of well-known chemical companies located in Italy, FRG, UK, GDR, USSR etc. If the component manufacturing plant operates under government ownership, exclusion from high import duty may be obtained or special bilateral agreements with other countries (e.g. with GDR) can guarantee the supply.

Steel strips with cutting edges on one or both sides, and a width of up to 50 mm are products of a fairly sophisticated rolling process, which provides a high degree of precision and uniformity, sharp edges and the required hardness. The economic size of such a production line is too large even for industrialized countries producing large quantities of footwear (e.g. FRG, France, Spain). Therefore there are only a few suppliers of steel strips for cutting dies (Skomab International, Bohler and Sandvik dominate the World Market). It is, therefore, recommended to obtain steel from one of these suppliers, rather than import bent cutting dies. Experiments proved, that materials produced by non-specialized ("general purpose") heavy industry plants are not acceptable for cutting dies.

At the present time there exist two leatherboard factories, both in Cairo, and one is planned to become operational in the near future in Alexandria. The total local production of leatherboard is 2,000 tons per year. As the quality of this material is criticised by shoe factories, a sample of Egyptian leatherboard was tested in the laboratories of BCK in Budapest, Hungary. The test results are attached in Annex 4. The analysis of the test data proves, that the sample leatherboard meets most of the requirements stipulated by international institutions in their guidelines for medium grade materials, but that it is not as good as high quality materials available from European suppliers. Considerable improvements may be achieved by upgrading the composition and technological parameters and thereby render the material acceptable for insole manufacturing. Steel shank and cardboard should be imported also in the future.

For stiffeners a higher proportion of vegetable tanned fibres should be added, for which waste products are available from local tanneries. Thermoplastic adhesives would have to be imported.

Vegetable tanned sole leather is at present manufactured in Egypt. The quality and price range is fairly wide: one Kg costs from LE 3.00 to LE 10.00. Introducing leather unit sole prefabrication does not increase the consumption of this basic material, since the output only replaces those soles made by the old "stuck-on and finish" technology. PE or PP heels, rubber sheets and lower grade sole leather for top-pieces are also locally available.

4.2. Inputs

Auxiliary materials for component manufacturing may be purchased locally. It should be noted that the plant will be self-sufficient with regard to patterns and cutting dies. It will, however, be necessary to import some of the auxiliaries (e.g. nails, dye-stuff, moulds etc.). The same applies to spare parts for production equipment.

The total material requirement for the plant is shown in Table 2; the detailed material specifications of each component to be produced by this plant are attached as Annexes 5.1-5.6.. All items are computed at their total costs, i.e. imported material prices contain customs duty and freight.

MATERIAL REQUIREMENT

Table 2.

Years: Products	Unit	Maximum capacity	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
CAPACITY UTILIZATION	%	100	25	62	77	87	89	90	90	90	90	90
Shoe lasts	pair	130000	45	70	80	90	90	90	90	90	90	90
Cutting dies	set	1200	0	40	75	85	90	90	90	90	90	90
Graded patterns	set	1200	35	55	75	90	90	90	90	90	90	90
Insoles	pair	5000000	0	60	75	85	90	90	90	90	90	90
Stiffeners	pair	6000000	0	30	60	80	85	90	90	90	90	90
Leather soles	pair	1500000	40	70	80	90	90	90	90	90	90	90
MATERIAL REQUIREMENT	TOTAL											
Shoe lasts	LE	1090773	490650	763544	872622	981700	981700	981700	981700	981700	981700	981700
Cutting dies	LE	444902	0	177960	333676	378166	400411	400411	400411	400411	400411	400411
Graded patterns	LE	36612	12814	20136	27459	32950	32950	32950	32950	32950	32950	32950
Insoles	LE	1999680	0	1199803	1499760	1699728	1799712	1799712	1799712	1799712	1799712	1799712
Stiffeners	LE	549600	0	164880	329760	439680	467160	494640	494640	494640	494640	494640
Leather soles	LE	3363213	1345284	2354247	2690568	3026889	3026889	3026889	3026839	3026889	3026839	3026889
TOTAL	LE	7484782	1848748	4680577	5753845	6559114	6708823	6736303	6736303	6736303	6736303	6736303
MATERIAL REQUIREMENT	LOCAL											
Shoe lasts	LE	143983	64794	100791	115190	129589	129589	129589	129589	129589	129539	129589
Cutting dies	LE	3456	0	1382	2592	2937	3110	3110	3110	3110	3110	3110
Graded patterns	LE	13630	4770	7496	10222	12267	12267	12267	12267	12267	12267	12267
Insoles	LE	949680	0	569808	712260	807228	854712	854712	854712	854712	854712	854712
Stiffeners	LE	297600	0	89280	178560	238080	252960	267840	267840	267840	267840	267840
Leather soles	LE	3034920	1213968	2124444	2427936	2731428	2731428	2731428	2731428	2731428	2731428	2731428
TOTAL	LE	4443274	1283533	2893202	3446760	3921529	3984066	3998946	3998946	3998946	3998946	3998946
MATERIAL REQUIREMENT	FOREIGN											
Shoe lasts	LE	946790	426055	662753	757432	852111	852111	852111	852111	852111	852111	852111
Cutting dies	LE	441446	0	176586	331099	375246	397319	397319	397319	397319	397319	397319
Graded patterns	LE	22982	8043	12640	17236	20683	20683	20683	20683	20683	20683	20683
Insoles	LE	1050000	0	630000	787500	892500	945000	945000	945000	945000	945000	945000
Stiffeners	LE	252000	0	75600	151200	201600	214200	226800	226800	226800	226800	226800
Leather soles	LE	328290	131316	229303	262632	295461	295461	295461	295461	295461	295461	295461
TOTAL	LE	3041523	565415	1787382	2307100	2637601	2724775	2737375	2737375	2737375	2737375	2737375

4.3. Conclusions

Basic materials for lasts (high and low density PE) and cutting dies (steel strips) should be imported while all other basic materials are available locally. The quality of the leatherboard supplied by the Model Tannery and the El Nasr Leatherboard Factory is only acceptable for insole manufacturing, and needs to be improved by upgrading the process technology. A special mixture of chrome and vegetable tanned leather wastes should be developed for stiffeners. The supply of locally made sole leather is adequate for leather unit sole manufacture.

The total costs of materials used for components (at the planned 90 per cent capacity utilization) are as follows:

Unit: LE '000

	Local	Imported	Total
Shoe lasts	130	852	982
Cutting dies	3	397	400
Graded patterns	12	21	33
Insoles	855	945	1,800
Stiffeners	268	227	495
Unit soles	2,731	295	3,026
T O T A L:	3,999	2,737	6,736
Share (%)	59	41	100

The share of imported material costs in the ex-factory price of components vary in the range of 36-60 per cent.

5. LOCATION AND SITE

5.1. Location

Cairo and Alexandria are considered suitable locations for establishing a plant for shoe component manufacturing. Most of the shoe manufacturers are situated in or around these two cities. The majority of the tanneries are in Cairo, in the Old Cairo area. Their relocation has been under consideration for some thirty years but so far this scheme has not materialized.

When choosing the optimal location for the plant the following should be kept in mind:

a/ Alexandria being a port has good transport possibilities; the basic materials for the last manufacturing (high and low density PE) should be imported from Europe;

b/ the El Nasr Tanning Company may be one of the major suppliers for the leather unit sole manufacturing unit;

c/ the same company is planning on starting a leatherboard factory, in which case the insole and stiffener production could be based on this;

d/ the two existing leatherboard factories are both in the capital;

e/ the raw material sources for the leather sole and insole are concentrated in Cairo, with the majority of the tanneries being in Old Cairo;

f/ the main consumers of the future products are situated in or around Cairo.

Taking all aspects into consideration it is suggested that Cairo should be the location for the new plant. Alexandria should be considered in the case of the El Nasr Tanning Company being the sponsor for the new project.

5.2. Site

Cairo, being the capital of Egypt, is at present over populated with more than 10 million inhabitants. The same applies to the industrial areas, and the Old Cairo district where most of the tanneries are concentrated. The government has allocated two industrial areas for the planned and newly built industrial plants. (See map on Figure 1-2.) One of them is called El Basateen, the other is "28 Km Alexandria-Cairo Road". There are a few shoe factories already in these areas: Egyptian-Kuwait Shoe Co., Zalat Co. for Shoes - on Alexandria Road; International Shoe Co., 2M and Model Tannery in El Basateen. In both cases the labour has to be transported daily to and from the city, because there is no public transport, and no housing possibilities.

Both industrial areas have water and power supply, telephone connections, but there are no telex lines installed along Alexandria Road. Lack of manpower, is the most serious problem, it is one of the major difficulties of SLAP (Egyptian-Kuwait Co.).

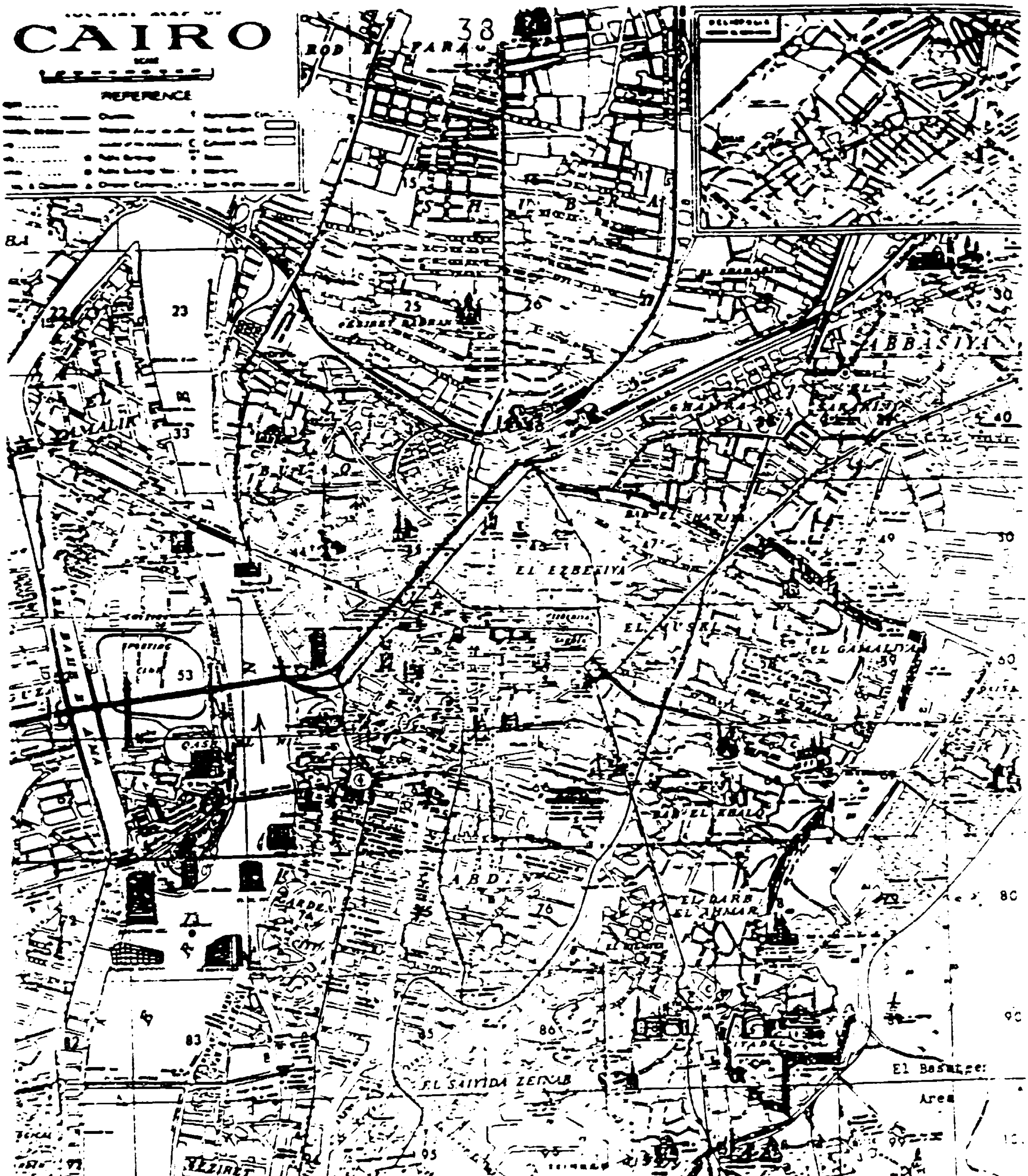

CAIRO
REFERENCE
EL EZBEKIYA
EL GAMALIYA
BAB EL KHALQ
EL DARB EL AHMAR
EL SAIYIDA ZEINAB
El Basatee
Area
GEZIRET
EL RODA
EL KHALIFA

Figure 1-

Being government-owned the land is relatively inexpensive in both areas (according to data collected in Egypt: from LE 25-150 per m2.) It is recommended to utilize already existing buildings, as in this case savings could be made on land and building. If and when the ownership of the new project is decided, the possibility of buying, leasing or utilizing some of SLAP's unused buildings would be advisable. The best result could be achieved by buying up the whole company and starting the operations with the existing capacity, after any debts and other financial problems have been cleared. (This is solely the suggestion of the authors of this study and there was no prior contact with the management of the afore mentioned factory on this issue.)

Another possibility could be to link the new plant to the International Shoe Co. In this case there is also free capacity (machinery for insole production, etc.) which could be utilized. In both cases there is the possibility of constructing additional buildings, which would be necessary in the case of the International Shoe Co. This company is run under the management of the Egyptian Leather Company which would provide directsupply of material for the leather and leatherboard-based component manufacturing.

In either case experience and well qualified responsible personnel should be chosen, otherwise the project will not prove successful. (It is shown in Appendix 1. that a last manufacturing unit constructed around 1976 under the Governorate of Giza, has never been put into operation due to the lack of technical and technological know-how.)

The pre-feasibility study was based on the assumption that new buildings will be constructed on a new site. The respective costs are computed using the maximum cost for land (LE 150.00/m2) and simple industrial buildings (LE 300/m2). If any of the existing companies are interested in the project and they provide space for the plant, then the total investment costs may be reduced accordingly.

5.3. Conclusions

Since both the tanning industry (supplying leatherboard and sole leather) and the footwear industry (being the market for components to be manufactured by the proposed new plant) are located in and around Cairo and Alexandria, no other geographical areas can be considered. There are companies in the leather and leather products subsectors in both cities, which may show interest for financing and (or) running a component manufacturing unit. The first step, therefore, should be to select one of these entrepreneurs for the project management - in this case staff and investment cost problems could be easily overcome.

Apart from an industrial area the new plant could easily be silutated in any other suitable and convenient location as the manufacturing process does not pollute the environment (almost no emission treatment is required, the majority of the waste products are reprocessed within the plant or in the leatherboard factories). If the site is in an industrial area, then the overhead costs have to cover the expenses of labour transport as well.

6. PROJECT ENGINEERING

6.1. Factory and machine layouts

The drawing of the manufacturing plant (Figure 2-2.) shows the total production area together with the stores being 3,436 m2, with the layouts of the machinery in the different units, and the stores for raw materials, auxiliaries, ready products. The offices, shower and dressing rooms, etc. are shown in Figure 3-2. The factory is planned to have all the production units on the ground floor, while the offices and service premises may be either on the first floor or may be in a separate building.

The machinery is as closely concentrated as possible with a view to economizing on space and function, i.e. having a common cutting department next to the raw material store to eliminate the unnecessary transportation within the factory. The production lines are planned so as to have the ready products leaving the conveyore, belts, etc. closest to the stores. The drawings do not show this, but a separate store must be built for the inflammable and explosive materials, such as adhesives, finishes and their solvents, etc. as far away as possible from the main building.

6.2. Machines and technologies

The production equipment is shown in Annexes 6.1-6.6 by production units, with the same numbers used as on the drawings. The technological sequence for each product is shown on flow-charts. (Charts in Annex 7.1-7.7).

Figure 2-2.

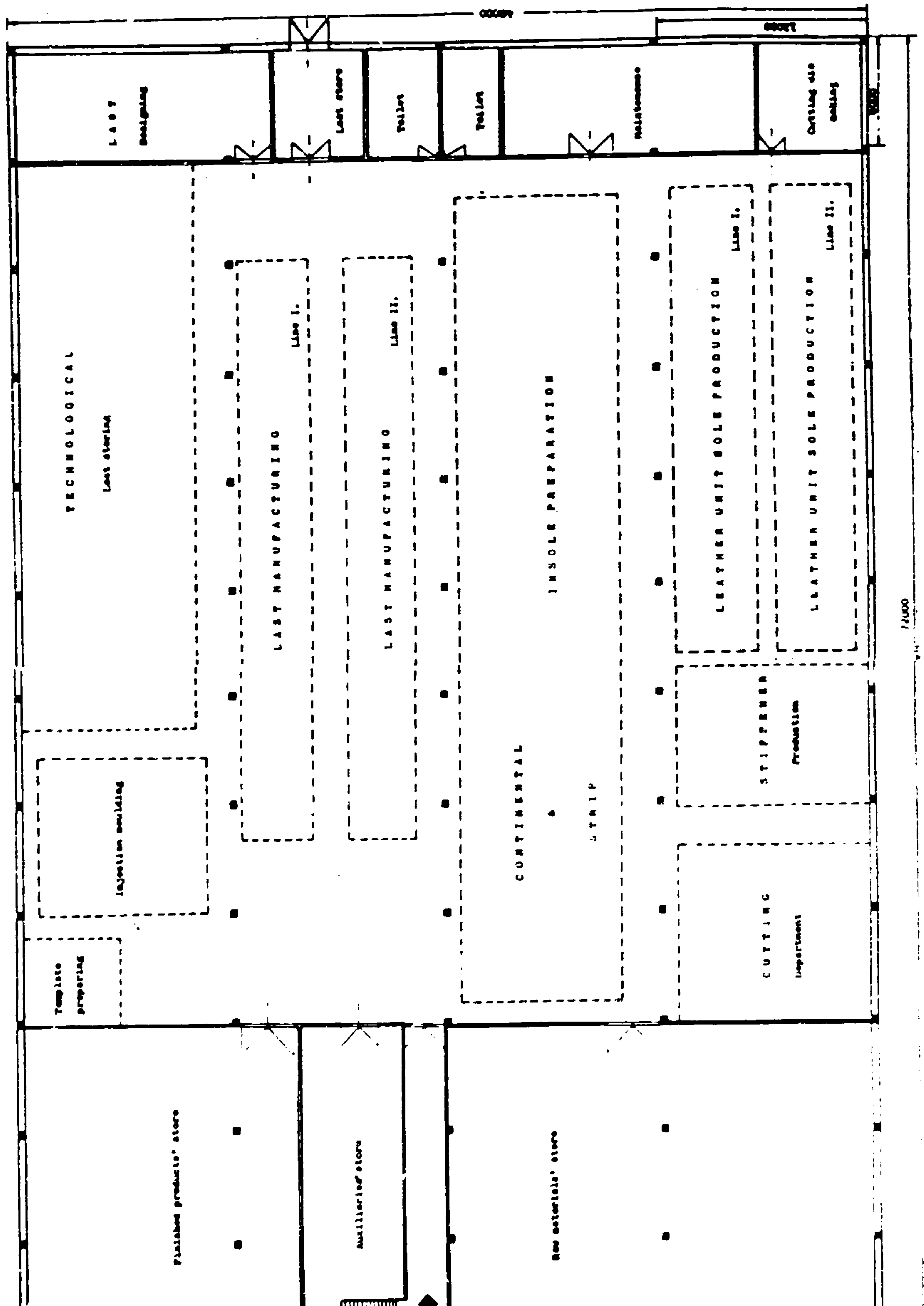
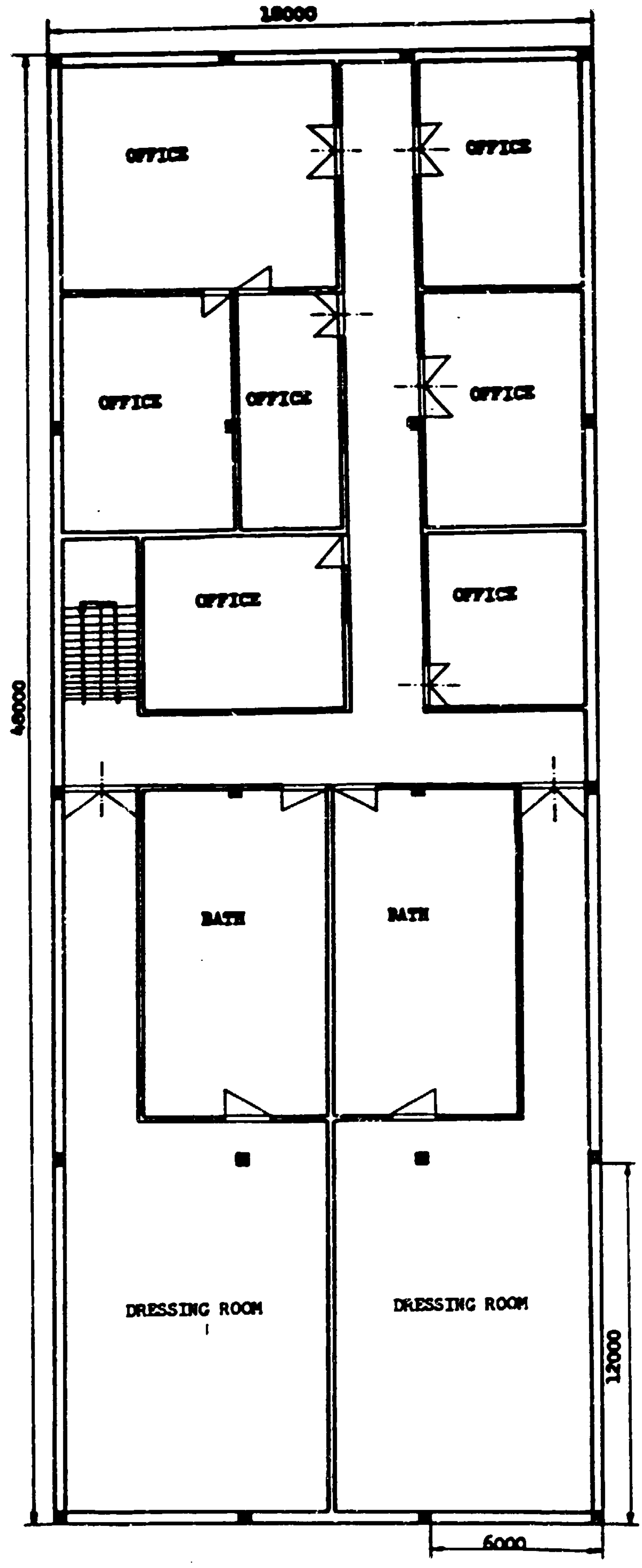

LAST Designing
Last store
Toilet
Toilet
Maintenance
Cutting die making
TECHNOLOGICAL
Last storing
LAST MANUFACTURING
Line I.
LAST MANUFACTURING
Line II.
INSOLE PREPARATION
CONTINENTAL & STRIP
LEATHER UNIT SOLE PRODUCTION
Line I.
LEATHER UNIT SOLE PRODUCTION
Line II.
STIFFENER
Production
Injection moulding
Template preparing
CUTTING
department
Finished products' store
Auxiliaries' store
Raw materials' store
12000

Figure 3-2.



First floor

Where required the proposed machines are equipped with dust-collectors, or in the case of the last manufacturing there is a central silo collecting the PE waste from the turning and other machines for reutilization. After block injection only 50 per cent of the material used remains in the last, the rest is waste material which is regranulated and added to the basic PE at a ratio of about 50 per cent of total weight. The waste from the leatherboard, stiffener and leather unit sole manufacturing should also be collected and utilized in the leatherboard factories.

The Annexes 6.1-6.6. mentioned above contain the most important data, such as the suppliers, the unit prices and the necessary quantities to fulfil the requirements of the production programme, as well as moulds, handtools, spare-parts. New quotations have been collected for the majority of the equipment from various suppliers, but in the case of last and leather unit sole manufacturing, data from existing installations were also taken into account, adjusting the original prices (as at 1980) by adding 30-50 per cent for inflation. The total prices of the units are CIF Egypt.

The e isting machinery (in the last manufacturing unit in Giza) is calculated among the list of the necessary machines at 50% of the original price. The suggested main supplier for the last manufacturing machinery is INCOMA from Italy. Offers were also asked from Messrs. Seidl and Fagus, however, the prices and services they offered were not competitive. The list of machinery is completed with some equipment supplied by different manufacturers. The total cost of the machinery is US$ 594,780 with an additional US$ 60,000 for the injection and press moulds of different sizes and heel heights, which are necessary for starting up the production.

The cutting die manufacturing unit is planned on the basis of a SKOMAB proposal, at the total price of US$ 24,665. SKOMAB is also considered as the supplier of the steel strips to be used, as it is made of a special material and by a special process.

One of the most important suppliers for pattern grading machines and manufacturing equipment is ALBEKO, providing reliability, precision and excellent after-sale services. Taking into consideration their wide range of equipment, their offer was preferred. The total cost of these machines is US$ 46,690.

There are three main technologies adopted for insole manufacturing. The most sophisticated one is the injection moulding process, when PE, PP or polystyrene is used for shank reinforcement. This technology requires expensive machinery (Presma-Italy) and very precise tooling (moulds). The process itself needs extremly thorough preparation and supervision, and the granulate for the plastic part should be imported. The conventional and strip insoles made of leatherboard and cardboard are premanufactured by productive equipment supplied by MOHRBACH (FRG), providing possibilities for making notches in the case of sandal insoles. It is recommended to install this technology and machinery costing US$ 856,920, plus US$ 25,200 for moulds required for various sizes and styles. As an option it may be considered to use traditional technology instead of the automatic machinery numbered 403. and 413. on the layout and in Annex 7.4, which may reduce the investment costs by about 35 per cent.

The idea for stiffener manufacturing is to produce moulded, ready-to-use, components. The production line of SECOM (Italy) serves the purpose fully for the total price of US$ 155,720. It is relatively easy to increase the production of stiffeners if and when necessary by the installation of additional identical sets of machinery. The necessity of suitable moulds cannot be over-emphasized; a cost of US$ 19,920 was planned for the starting period.

In order to improve the quality and the productivity of Egyptian all-leather footwear production, it is necessary to produce leather unit soles, which involve the same work process as that for unit soles made of synthetic materials. With the proposal to equip the unit sole manufacturing mainly with BRUGGI (Italy) machines, quite a variety of leather soles could be produced: soles for gent's shoes with or without heels, ladies' soles without heels, edge painted soles or in natural colourings, etc. The total cost of the machinery is US$ 599,550.

The Annexes 7.7 and 7.8 contain the lists of equipment locally available, and the equipment which is not part of thre production process but necessary for the functioning of the whole plant, including maintenance machinery. Their total costs: LE 122,550 for the local equipment and US$ 650,200 for the other including office equipment and furniture.

The total electric energy requirement is 578 KW for technological purposes and 150 KW for utilities (including lighting). In peak time only 85 per cent of this energy would be needed at 100 per cent capacity utilization.

Technological flow charts are prepared for summarizing the necessary technologies. It is not necessary to buy know-how or licence for the manufacturing of the above products. All suggested machine suppliers, if necessary, train the supervisory staff and labour to operate the machines provided by them.
The listed machinery is fully mechanized and their use does not need a long training time.

The whole plant may be considered as a fairly well mechanized factory providing high productivity and ensuring good quality. By the end of this decade the same technology will be regarded as medium level. Although lower mechanization would provide more working opportunity for local labour and would also decrease the equipment investments; it would, however, affect the quality negatively which, in turn, would lead to a much weaker market position.

6.3. Conclusions

The proposed integrated component manufacturing factory is arranged in a one-floor building (Fig.2-1.), providing the best conditions for workshop transport and plant management. This solution requires relatively simple and cheap civil engineering. All the service units (store, maintenance etc.) are connected directly to the workshop, while the administrative premises and service facilities for labour (e.g. cloak rooms) may be either on the second floor or in a separate building. The layout is made in such a way, that all manufacturing units may be optionally separated and (or) expanded if so required.

The level of mechanization in the proposed plant is fairly high, but this is necessary in order to ensure the uniformity of components, which is the most important quality aspect.

All six units are equipped with machines and moulds, each to be supplied by specialized companies such as for instance:

Component to be manufactured	Suggested main equipment supplier	Cost of equipment US$ '000 (CIF Egypt)
Lasts	INCOMA	770
Cutting dies	SKOMAB	30
Graded patterns	ALBEKO	58
Insoles	MOHRBACH	1,023
Stiffeners	SECOM	205
Leather unit soles	BRUGGI	710
T O T A L (technology):		2,796

The lists of production and auxiliary equipment are enclosed in Annexes 7.1-7.8. The total cost of machines (CIF Egyptian port) is LE 3.8 million - including building machinery. US$ 117,000 will be required for vehicles, and LE 110,000 for office equipment and furniture.

The plant's electric energy consumption is 700 KW, the hot water and steam supply will be provided by the boiler station included in the building equipment required.

7. PLANT ORGANIZATION AND OVERHEAD COSTS

7.1. Plant organization

The project, designed to establish tool and component manufacturing in order to aid the Egyptian shoe industry as well as improve the export possibilities, has six production units:

a/ plastic last manufacturing, including steel plate preparation;

b/ cutting die making;

c/ pattern grading and binding;

d/ strip and conventional insole manufacturing;

e/ premoulded leatherboard stiffener making;

f/ leather unit sole manufacturing.

In the planning of the factory one of the main factors borne in mind was keeping the overhead costs as low as possible by proper determination of the number of personnel not involved in the production process (administrative). The production management is to be carried out by two people; one being responsible for the tool manufacturing, and the other for the component manufacturing.

There are separate stores for raw materials, finished products, auxiliaries and for the inflammable materials. The last manufacturing unit has its own storage area due to the special technological requirements (the lasts must be left for reducing tension and in order to stabilize after the injection of blocks). This area is planned for storing only 1000 pairs of lasts. Because of the fast changes in fashion, the lasts, cutting dies and graded patterns are planned to be delivered to the customers immediately. The raw material store is planned to keep stock of local materials for 30 days, and of imported materials for 90 days.

The size of the store for finished components such as; insoles, stiffeners and leather unit soles was calculated for storing the production output of 2-3 weeks.

There should also be a separately built store-like establishment for the waste products, like the vegetable-tanned leather waste from the leather unit sole manufacturing unit; leatherboard from the insole and stiffener production which could be sold to be reutilized in leatherboard factories.

The factory lay-out was planned to utilize the working area and machinery in the best way. This is the reason for placing last designing and sample making next to the last manufacturing unit. In some phases of styling and pattern last making it is necessary to use some of the machines of the last manufacturing unit. (This eliminates the necessity for a separate turning machine for designing.)

Both the last manufacturing and the leather unit sole producing units are equipped with conveyors. In the case of last production, the machines are posiioned by the 2 conveyors made by INCOMA, the other 2 transporter lines are simple belt conveyors for moving the materials, and components for the leather unit sole production: these simple units can be made locally. These transporter lines could be eliminated but the production area would then have to be increased by about 50 per cent.

The maintenance is planned in such a way that it is not necessary to have separate servicing personnel for each unit, but to have a common maintenance with two supervisors. The personnel should be capable of attending to both electrical and mechanical works; each of them specializing in some area.

7.2. Overhead costs

The overhead costs and cost centres are shown in Table 3. The cost centres are divided into production and administrative centres. One of the most important cost items is the maintenance which is about 50 per cent of the total overhead costs realized in the production centres. Insurance is estimated at LE 175,000 for the whole plant. The costs for travel and communication are included, to allow for the necessity and possibility of travelling abroad several times a year. In order to establish business connections with suppliers and potential customers it is necessary for the people responsible for purchasing and marketing to visit the most important European fairs (e.g. Semaine de Cuir) where the entire leather and shoe industry of the world is represented. Not only for marketing, but also for designing purposes it is most important to see the new trend in styles and colours.

The constant training and retraining of labour and staff is required in any production plant. The cost is divided into 60-40 shares between the production and administrative centres.

The cost for transportation includes the transport of materials, finished products, but excludes the daily transportation of labour if necessary to and from the city. This would increase the cost enormously.

The utility costs are estimated at LE 300,000 and include heat provided by the boiler, electric power, water supply and the disposal of effluents if necessary.

It was considered necessary to calculate with unforeseen costs in case of costs materializing after the preparation of the study or in case of any other cost escalation.

Table 3.

ESTIMATE OF OVERHEADS LE '000

No.	Cost items	Production LE	Administr. LE	Total LE
	EXPENSES			
1	Maintenance	300	50	350
2	Insurance	150	25	175
3	Communication	10	40	50
4	Travel	15	50	65
5	Training	70	50	120
6	Transport	85	15	100
7	Rents	0	30	30
	Subtotal	630	260	890
	UTILITIES			
8	Heat	5	0	5
9	Power	220	30	250
10	Light	25	5	30
11	Water	8	2	10
12	Effluent	3	0	3
	Subtotal	261	37	298
13	Unforeseen costs	160	50	210
	TOTAL	1051	347	1398

7.3. Conclusion

The manufacturing plant is divided into six production units - each one specializing in a certain production item. The units are controlled directly by their supervisors responsible for the output and quality. There are separate workshops for maintenance and sample manufacturing and designing. Packaging is done in the finished products store.

The last and unit sole manufacturing units are equipped with conveyors for material and work-in-progress transport, while in the other sections specially made manual trolleys will be used.

The total overhead cost covering maintenance, insurance, communication, travelling, training, transport, rents and utilities (heat, light, power, water, effluent) is LE 1.4 million.

8. MANPOWER

8.1. Labour and staff

The personnel required for the project is assessed in Tables 4-5. with the requirements of each production unit when operating at the planned capacity. The total labour input is 221 persons including 11 supervisors. The table shows a break-down of the necessary skilled, semi-skilled and unskilled labour. The rate of unskilled labour employed is 25 per cent. There are 12 persons employed in the maintenance unit, all skilled, except for 2 semi-skilled persons. For general services (cleaning, material transportation etc.) 32 persons are planned.

The administrative and technical staff for the whole plant is planned to be 24 persons; designing & pattern making, production management, marketing & purchasing, finance & accounting, administration and services (i.e. drivers). Their average salary is calculated at between LE 1,800 - 4,800.

The annual labour cost is LE 646,833 including staff benefits and taxes. The wages are estimated on the basis of the data of the field work; an average worker's yearly wage is between LE 1200.00-3600.00 or even less. The cost of the 24 administrative and technical staff is estimated at LE 92,232 including staff benefits and taxes.

Table 4.

LABOUR AND WAGES

Production unit	Supervisor pers.	Skilled pers.	Semi-skilled pers.	Unskilled pers.	Total pers.	Supervisors LE/year	Skilled LE/year	Semi-skilled LE/year	Unskilled LE/year	Total LE/year
Wages (LE/year/pers.)						3600	3000	2160	1200	
100 Shoe last manuf.	3	20	15	10	48	10800	60000	32400	12000	115200
200 Cutting die manuf.	1	4	2	2	9	3600	12000	4320	2400	22320
300 Graded pattern manuf.	1	2	4	0	7	3600	6000	8640	0	18240
400 Insole manufacturing	1	11	18	10	40	3600	33000	38880	12000	87480
500 Stiffener manuf.	1	8	4	4	17	3600	24000	8640	4800	41040
600 Leather unit sole m.	1	25	15	15	56	3600	75000	32400	18000	129000
Maintenance	2	8	2	0	12	7200	24000	4320	0	35520
General services	1	10	6	15	32	3600	30000	12960	18000	64560
Subtotal	11	88	66	56	221	39600	264000	142560	67200	513360
Surcharge (26%)						10296	68640	37065	17472	133473
TOTAL						49896	332640	179625	84672	646833

Table 5.

STAFF AND SALARIES

Department	Number of staff pers.	Average salary LE/year/p.	TOTAL LE
1 Design & pattern making	3	3600	10800
2 Production management	2	4800	9600
3 Marketing & purchasing	4	3000	12000
4 Finance & accounting	3	3000	9000
5 General management	3	4800	14400
6 Administration	2	2400	4300
7 Services	7	1800	12600
Subtotal	24	23400	73200
Surcharge (26%)		6084	19032
		-----	-----
TOTAL		29484	92232

8.2. Training

It was found that there is no training centre or school in Egypt either for technical staff or for labour in the shoe industry. There are, however training facilities for tanners, and an unused training centre built within the SLAP which is also equipped with some

machinery (sewing machines and some machinery for assembling). Any training being done at the present time in the footwear industry, is carried out on site by the persons responsible for the production; either the production manager or the supervisors, as seen in some factories.

In the case of establishing component manufacturing units, training is even more important. Before and during the implementation period the staff, labour and maintenance personnel should undergo special training.

The preparatory training should be done either by the staff of the machine suppliers and/or by other institutions familiar with carrying out such programmes. The following personnnel should be trained:

i/ operators, who should be trained in effective working methods (movement sequences), preferably using analytical training techniques;

ii/ designers, and pattern makers to enable them to utilize to the maximum extent the standardization (co-ordination) systems;

iii/ middle management, to control the realization of the adopted methods;

iv/ mechanics, who should be trained in servicing and repairing modern automatic or semi-automatic machinery.

It is necessary, however, to re-train labour and staff periodically. All training should take place after a complete and sound training programme has been prepared, broken down into goals and targets to be achieved daily. It would be advisable for a new plant to train instuctors for the training of the labour. Newly employed labour should undergo a training course before being put to work.

8.3. Conclusions

In the component manufacturing unit only 25 per cent of the work force is proposed to be unskilled labour. Because of its special technology there is only skilled or semi-skilled labour in the pattern grading unit. In a fairly up-to-date factory it is advised to employ skilled labour to use the automatic or semi-automatic machines to develop the skills to work according to modern technologies.

Before starting up the plant it is suggested to train the supervisors, designers, mechanics and the machine operators in practical training courses specializing in their field of work.

The yearly wages and salarias in the plant are LE 739,065. The proportion of the administrative and technical staff's salaries is about 12 per cent.

9. IMPLEMENTATION SCHEDULING

9.1. Construction period

It seems evident that the establishment of the proposed production units is vital for the improvment of the quality of Egyptian footwear. After the decision is taken to construct the component and tool manufacturing plant, the most important step is to purchase the land or lease it together with buildings, as indicated before. If the choice is to buy the land and construct the building, it is necessary to start negotiations with the machine suppliers, in oreder to obtain import licences and clearances, and to make all other arrangement so as to avoid any delay. (The machine suppliers mentioned in the study are listed in Annex 8.) The building construction and installation of the equipment should be cleared with the suppliers and the authorities.

At the same time when the machine installation takes place some of the labour and staff should be trained, so that trained personnel will be available for the testing of the equipment, for trial production, etc. As Table 6 shows, besides the training there are other pre-production investments: such as carrying out a foot measurement programme, range building, making arrangements for suppliers and marketing.

9.2. Pre-production investments

When starting up a new plant there are several pre-production costs (Table 6.) which should be included in the calculations, such as pre-investment studies, detailed planning and tendering, management of project implementation.

PREPRODUCTION INVESTMENTS

Table 6.

No.	Description	Energy req. kW	Foreign costs LE	Local costs LE	Total costs LE
	PREPRODUCTION INVESTMENTS				
	Pre-investment studies		100000		100000
	Detail planning, tendering		110000		110000
	Management of project impl.		70000		70000
	Training of staff		120000	250000	370000
	Foot measurement programme		80000		80000
	Range building		75000		75000
	Arrangement for suppliers		15000	50000	65000
	Arrangement for marketing		20000	65000	85000
	Build up connections		15000	30000	45000
	Subtotal	0.0	605000	395000	1000000
	PRODUCTION EQUIPMENT				
100	Shoe last manufacturing	231.7	1038528		1038528
200	Cutting die manufacturing	7.2	40385		40385
300	Graded pattern manufacturing	1.0	78826		78826
400	Insole manufacturing	67.0	1380537		1380537
500	Stiffener manufacturing	60.4	277209		277209
600	Leather unit sole manufac.	110.4	958432		958432
700	Locally available equipment			122550	122550
	Subtotal	477.7	3773917	122550	3896467
	CIVIL ENGINEERING				
	Land			850000	850000
	Site preparation			40000	40000
	Building			1296000	1296000
800	Civil engineering equipment	100.5		650200	650200
	Subtotal	100.5	0	2836200	2836200
	VEHICLES				
	Vans (2)		81000		81000
	Personal cars (2)		22950		22950
	Buses (2)		54000		54000
	Subtotal	0.0	157950	0	157950
	TOTAL	578.2	4536867	3353750	7890617
	Share (%)		57	43	100

These investments are self-explanatory. The necessity of staff training was explained in Chapter 8.

It is evident that the manufacture of leather products, especially footwear, cannot be done successfully without co-ordination of components, even at the lowest level of mechanization. One of the possible approaches for the development of a standardization and co-ordination system would be to carry out a foot measurement programme, which produces statistics of anthropometric data, characteristics of the population. A shoe sizing system should be elaborated on the basis of the anthropometric survey, as well as a co-ordination system for the component manufacturing. On the basis of the foot measurement standards could be established or adopted for the grading of patterns and last construction.

The other most important pre-investment factor is the range building of the components, which can be done only after the correct sizing and co-ordinating system is established. The range building of the products should specify all the technical information needed for the six production units:

i/ the type of products to be manufactured;

ii/ the different styles, with documentation;

iii/ the size range of the products, the combined sizes in the case of components;

iv/ calculation of the smallest feasible series;

v/ making arrangements for tooling (i.e. moulds for block injection).

All these aspects should be solved before the production is started.

At the same time arrangements should be made for supplies and marketing, for which estimated pre-investment cost of LE 150,000 should be calculated, including expenses of travelling abroad. It is advisable to visit several fairs to establish contacts with different material and auxiliary manufacturers, as well as to become acquainted with machine suppliers. The same applies to Egypt, so as to know beforehand the suppliers for the future plant and to make arrangements for materials. In Egypt it is especially important to have connections with wholesalers and shops, or to build up a chain of shops for the future products, due to the sales policy; each factory has its own shop or chain of shops where their own products are sold. (One of the most significant problems of the SLAP was the lack of retailing or selling possibilities; it did not have its own shop.)

9.3. Conclusions

Pre-production investments should be calculated as part of project implementation and are estimated at LE 1,000,000 with a share of 60 per cent arising in foreign currency which is equivalent to US$ 448,150. This includes pre-investment studies, planning and tendering, management of project implementation, training of staff, foot measurement programme, range building, arrangements for supplies and marketing, and establishment of business connections.

The grand total of the pre-production investment, including production machinery, civil engineering (i.e. land, site preparation, building, civil engineering) and vehicles is LE 7.9 million, with a foreign exchange requirement of LE 4.5 million, equivalent to US$ 3.3 million.

10. FINANCIAL ANALYSIS

Financial analysis of the project will be carried out in four major steps. First, cost estimates will be summarized and examined for both investment and operation. Then sales revenues will be assessed and confronted with these costs.

In the next stage necessary financial means will be discussed and a financial plan of the project will be developed in order to secure the desired liquidity and the best allocation of funds.

Further, three main financial statements, that is : Net Income Statements, Cash-Flow Table and Balance Sheet will be prepared and examined.

Finally, commercial profitability evaluation will be carried out and some basic measures of financial viability will be computed.

To end this part of the study some elements of financial analysis under uncertainty conditions will be presented, specifically the Sensitivity Analysis will be run for most important parameters in order to examine the overall risk involved in project implementation and operation.

For the purpose of the financial analysis the COMFAR /*/ software package developed by UNIDO has been used. All relevant printouts of financial statements are attached to this report in Annexes 1 (Base Version A), 2 (Sensitivity Analysis), 3 (National Economic Evaluation).

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*/ Computer Model for Feasibility Analyssis and Reporting.

The life period of the project which has been assumed for all COMFAR calculations is 1 year of construction and 15 years of operation.

10.1. Cost analysis

Investment cost of this project has been split into fixed investment, pre-production capital expenditures and working capital.

Taking into consideration time distribution of investment outlays, they have been divided into initial investment and investment during production ("current investment").

10.1.1.1. Fixed investment

There are three main components of fixed investment cost in this project, namely:

a/ expenditures connected with the purchase of the land,

b/ expenditures connected with site preparation, as well as costs of structures and civil works,

c/ expenditures for plant machinery and equipment.

A/ LAND

As indicated in Chapter 5 /*/, the land mear Cairo needed for the plant is relatively cheap, being owned by the Government. Several suggestions have been discussed in detail on to locate the proposed plant.

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*/ "Location and site", pp. 33-37.

Some of the ideas presented (such as: utilization of already existing buildings or linking of the new plant with an old shoe factory) aimi at decreasing the cost of land and buildings.

However, in order to be on the safe side, this analysis is based on an assumption, that a new building will be constructed in a new site. Consequently the highest quoted price of land (LE 150.00/m2) has been used for further calculations. Accordingly the total cost of land has been estimated at LE 850 000.

B/ SITE PREPARATION, STRUCTURES and CIVIL WORKS

The suggested lay-out of the plant /1/ is characterised by a high degree of integration and requires relatively simple and low-cost civil engineering.

Cost connected with site preparation, structures and civil works are local ones and are estimated as follows: /2/

	LE
Site praparation	40 000
Building	1296 000
Civil engineering equipment	650 200
TOTAL	1986 200

1/ Chapter 6. Project engineering, pp. 38-45.

2/ Compare Table 6, p. 57.

C/ PLANT MACHINERY AND EQUIPMENT

Detailed lists of production and auxiliary equipment (with type names and origin) are Annexes 6.1.-6.6. Moreover, these annexes are the information source on prices (CIF Egyptian harbour) and necessary quantities of particular items to meet the requirements of the assumed production programme.

Table 7 summarizes cost of production equipment needed for particular products and cost of auxiliary equipment, both broken down into local and foreign expenditures. The next table (8) presents distribution in time of these expenditures.

Table 7 - Production and auxiliary equipment (local/foreign cost)

EQUIPMENT	Foreign cost (LE)	Local cost (LE)	Total cost (LE)
1. Production equipment			
1.1. Shoe last manufacturing	1 038 528	-	1 038 528
1.2. Cutting die manufacturing	40 385	-	40 385
1.3. Graded pattern manufacturing	78 826	-	78 826
1.4. Insole manufacturing	1 380 537	-	1 380 537
1.5. Stiffener manufacturing	277 209	-	277 209
1.6. Leather unit sole manufacture	958 432	-	958 432
2. Auxiliary equipment			
2.1. Vehicles	157 950	-	157 950
2.2. Other, locally available equipment	-	122 550	122 550
T O T A L	3 931 867	122 550	4 054 4417

Table 8. Production and auxiliary equipment (time distribution of expenditures)

LE '000

Description	1987		1988		Total
	Local	Foreign	Local	Foreign	
1. Production equipment	85	1 698	38	2 076	3 897
2. Auxiliary equipment (vehicles)	-	104	-	54	158
T O T A L	85	1 802	38	2 130	4 055

10.1.1.2. Pre-production capital expenditures

The following table give information on the components of pre-production expenses broken down into local and foreign costs.

Table 9 - Pre-production investment

Pre-production investments	Foreign costs (LE)	Local costs (LE)	Total costs (LE)
1. Pre-investment studies	100 000	-	100 000
2. Detailed planning, tendering	110 000	-	110 000
3. Management of project implementation	70 000	-	70 000
4. Training of staff	120 000	250 000	370 000
5. Foot measurement programme	80 000	-	80 000
6. Range building	75 000	-	75 000
7. Arrangements for suppliers, marketing and a build-up of connections	50 000	145 000	195 000
T O T A L	605 000	395 000	1000 000

10.1.1.3. Working Capital

The working capital requirements have been calculated by the COMFAR programme and are presented in the respective schedule of Annex 1. It has been assumed that the working capital must be made available in the first year of production, that is 1988. For the purpose of working capital calculations the following assumptions as to Minimum Coverage Periods (in days) have been made:

Table 10 - Working Capital - Minimum Coverage Periods

ITEM	Minimum Days of Coverage	Coefficient of Turnover
A. Current assets		
Accounts receivable	30	12
Raw materials		
Local	30	12
Imported	90	4
Spare parts	180	2
Work-in-progress	5	72
Finished products	5	24
Cash in hand	15	24
B. Current liabilities		
Accounts payable	30	12

Working capital requirements are subject to changes in the start-up period due to increasing production level. These requirements in the period 1988-1992 are ranging from LE 729 520 to LE 1 905 900. After reaching full production capacity in 1993 they stabilize at the level of LE 1 312 410.

10.1.1.4. Investment Cost-Summing up

The schedule presenting main categories of total investment costs is given below (Table 11).

Table 11 - Total investment cost (foreign/local expenditures)

Description	Foreign (LE)	Local (LE)	Total (LE)
1. Fixed investment (*)			
1.1. Land	-	850 000	850 000
1.2. Site preparation, structures and civil works	-	1 986 200	1 986 200
1.3. Plant machinery and equipment	3 931 867	122 550	4 054 417
2. Pre-production capital expenditures (*)	605 000	395 000	1 000 000
3. Working capital (at full capacity)	454 790	1 457 620	1 912 410
T O T A L	4 991 657	4 811 370	[illegible] 803 027

*/ Investment outlays in 1987 and 1988.

Investment outlays of the project are distributed over two years: 1987 and 1988. Time distribution of these expenditures is given in the table below:

Table 12 - Initial investment (time distribution of expenditures)

LE '000

Description	1987	1988	Total
1. Fixed investment			
1.1. Land	850	-	850
1.2. Site preparation, structures and civil works	1 650	336	1 986
1.3. Plant machinery and equipment	1 887	2 168	4 055
2. Pre-production capital expenditures	700	300	1 000
T O T A L	5 087	2 804	7 891

Initial investment expenditures planned for 1987 cover 100% cost of land, 83% of all expenditures connected with site preparation, structures and civil works and 70% of all pre-production capital expenditures. Only the share of plant machinery and equipment to be bought in 1987 is relatively lower - it comes up to 47% of total equipment cost.

According to the "Production and Sales Programme" submitted in this study (p. 24.), the second year under consideration, that is 1988, belongs not only to theconstruction period, but is at the same time a start-up year for production of three (shoe lasts, graded patterns and leather soles) out of the six products envisafed.

The COMFAR software can accommodate production periods on a yearly basis only and not fractions there off. Hence, investment expenditures planved for 1988 were considered as investment during production - and are presented in a separate schedule (Compare COMFAR schedules in Annes 1).

Investment during production (Current investment) consist of investment in working capital and replacement already depreciated fixed assests.

Depreciation rates used in the financial analysis were the following:

Plant machinery and equipment	- 8 years
Building and other structures	- 40 years
Vehicles	- 5 years.

Detailed information on depreciation due in particular periods may be found in the COMFAR schedule "Total Production Cost" in Annex 1.

The following are some characteristic features of the structure of investment outlays.

Table 13 - Structure of investment outlays

Part	Description	Total (LE'000)
A	Fixed investment (1987 + 1988)	6 891
B	Pre-production capital expenditures (1987 + 1988)	1 000
C	Working capital 1988	730
	Full capacity 1993	1 912

On the basis of available information the following ratios could be computed:

1/ Foreign currency component in parts A + B	0.57
2/ Share of expenditures for plant machinery and equipment in parts A and B	0.51
3/ Share of expenditures on site preparation, structures and civil works in part A and B	0.25
4/ Share of pre-production capital expenditures in parts A and B	0.13

Among investment expenditures - plant machinery and equipment cost is the largest investment item (51% of group A + B). 43.39% of the initial investment outlays of 1987 are required in foreign, convertibel currency. This is equivalent to ca. 1 633 789 US$ /1/. Foreign currency component of investment expenditure (including working capital) in 1988 amounts to 70.27% (ca. 1 837 901 US$) of the total investment outlays planned for this year.

Total foreign currency component of investment cost (1987 + 1988) amounts to the equivalent of ca. 3 471 690 US$.

10.1.2. Production cost analysis

Total production costs can be broken down into five major categories:

a/ Factorycosts, which include cost of raw material, utilities, energy, cost of direct manpower, repair, maintenance and factory overheads;

b/ Administration overheads;

c/ Marketing and distribution cost;

d/ Financial cost;

e/ Depreciation.

Cost estimates for some of these items have been made in previous chapters (e.g. Chapter 4. "Materials and inputs"; Chapter 7. "Plant organization and overhead cost"; Chapter 8. "Manpower").

1/ According to the official exchange rate 1 US$ = LE 1.351.

In this part the financial abalysis a summarized description of particular cost item is presented. The reference information can be found in the COMFAR schedule "Total production cost" of the Annex 1.

10.1.2.1. Raw materials and components

Production of two items: shoe lasts and cutting dies is based exclusively on imported raw materials and components (mainly: special quality plastic and metals).

Leather soles are manufactured mainly (99% in value terms) from local materials and components. In three other cases the share of local materials changes from 1/3 to 1/2 8graded patterns - 36%; insoles - 475; stiffeners - 52%).(*)

Detailed specification of materials requirements for every item of the assumed production programme is given in Annexes 6.1-6.6.

Total material requirements broken down into local and foreign costs, at the pre-planned, target capacity, are presented in the table below:

Table 14 - Total material requirements

Product	Local/1/ (LE)	Foreign/2/ (LE)	Total (LE)
1. Shoe lasts	129 589	852 111	981 700
2. Cutting dies	3 110	397 319	400 411
3. Graded patterns	12 267	20 683	32 950
4. Insoles	854 712	945 000	1 799 712
5. Stiffeners	267 840	226 800	494 640
6. Leather soles	2 731 428	295 461	3 026 889
TOTAL	3 998 946	2 737 375	6 736 303

*/ in value terms
1/ Including cost of energy.
2/ Including customs duty and freight.

10.1.2.2. Direct labour

Information on total cost of direct labour and employment structure is supplied in Table 4 (p. 552). Thepproduction programme assuumed in this project requires 210 skilled, semi-skilled and unskilled workers, as well as 11 supervisors. The annual direct labour cost at planned target capacity is estimated at LE 6646 833. This figure includes a surcharge of 26% covering social security, allowances and the payroll-tax. In the start-up period lower direct labour cost (43% of the normal level) is foreseen only for the forst year of operation (1988). Starting from 1989 we have to take into consideration already full annual cost of direct labour.

10.1.2.3. Other factory and operating cost items

Annual salaries of the managers (staff) of the plants (24 persons) have been estimated at LE 92 232 (including 26% of surcharge). The detailed structure is presented in Table 5 (p. 53).

Chapter 7 "Plant organization and overhead cost provides information on utilities consumption and overhead costs (labour and non-labour).

Detailed structure of these costs is presented in Table 3 (p. 49). Annual cost estimates cover repair and maintenance, insurance, travel and communication, transport, training and rents, as well as utilities consumption cost (heat provided by a boiler, electricity, water supply and disposal of effluents). Together with a provision for unforeseen expenditures they come up to LE 1 393 000/year (at the full 100% production capacity). A summary of these expenditures is given in the table below (Table 15).

Table 15 - Factory and operating costs

LE '000

Description	1988	1989	1990	1991	1992	1993-2002
1. Factory costs items:						
1.1. Utilities	72	185	226	259	265	268
1.2. Repair and maintenance	350	350	350	350	350	350
1.3. Spare-parts	125	125	125	125	125	125
1.4. Factory overheads	490	490	490	490	490	490
2. Operating costs items:						
2.1. Administration overheads	352	352	352	352	352	352
2.2. Sales costs	130	130	130	130	130	130
2.3. Distribution costs	20	50	61	70	71	72

10.1.2.4. Financial cost and depreciation

The project is to be financed by equity capital and a local loan.

The local loan to be oftained in 1988) amounts to LE 3 758 000 and is to be repaid over 7 years with no grace period. Interest charges of 12% are to be paid on the outstanding balance.

According to the specified loan conditions the financial cost will be terminated by 1995. The financial cost is ranging from LE 450 960 to LE 64 420, that is from 5% to 0.006% of the total production cost. Details are presented in the COMFAR schedule "Total Production Cost" in Annex 1.

The same schedule of the COMFAR programme supplies the necessary information on depreciation and amortization charges calculated for every year according to the assumed depreciation rates, already specified in Paragraph 10.1.1.4.

10.2. Sales revenues

Consolidated figures for net sales revenues are presented in the COMFAR Cash-Flow Table in Annex 1. Sales revenues broken down by particular production items are specified in Table 16.

Sales revenues
in LE '000

Table 16

	Product	Price per unit (LE)	1988	1989	1990	1991	1992	1993-2002
1	Shoe lasts	18.00	1053.0	1638.0	1872.0	2106.0	2106.0	2106.0
2	Cutting dies	720.00	0.0	345.6	648.0	734.4	777.6	777.6
3	Graded patterns	35.00	35.7	56.1	76.5	91.8	91.8	91.8
4	Insoles	0.65	0.0	2340.0	2925.0	3515.0	3510.0	3510.0
5	Stiffeners	0.15	0.0	270.0	540.0	720.0	765.0	810.0
6	Leather soles	4.30	2580.0	4515.0	5160.0	5805.0	5805.0	5805.0
	Total		3668.7	9164.7	11221.5	12972.2	13055.4	13100.4

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10.3. Financial plan

As mentioned before, the sources of initial funds are: equity capital and a local loan.

It has been assumed that more than a half of investment cost should be covered by equity capital, raised from interested enterpreneurs, financial institutions or the company wishing to aquire this project. According to the available information, the remaining part of the funds can be borrowed from local banks for 7 years at 12% interest rate - in case the equity capital is ensured.

According to this assumption, the table below shows the suggested structure of initial funds. According to the simulations done on COMFAR this structure of funds can provide sufficient self-financing of the project in which cumulated deficit in the cash-flow balance is avoided.

Table 17 - Sources of initial funds

Sources of funds	1987	1988	LE'000 Total
Equity	5 087	-	5 087
Loan	-	3 758	3 758

Equity of LE 5 087 000 is sufficient to cover initial investment costs of 1987. Debt/equity ratio in this case is 42/58.

The local loan amounting to LE 3 758 000 is planned to be disbursed in 1988, which is the second year of construction and the first year of operation at the same time. Repayment of this loan should start immediately in 1989, with no grace period. The loan should be repaid in 7 equal installments. Gradually decreasing interest charges of 12% are to be paid on the outstanding balance.

Detailed presentation of loan repayment is shown in the COMFAR schedules.

10.4. Financial evaluation

Financial evaluation of a project requires preparation and careful examination of three interrelated groups of financial statements: Projected Balance-Sheet, Net Income Statement and Cash-Flow Table. These documents have been computed by the COMFAR programme and are presented in Annex 1.

A set of important indicators of commercial viability (financial ratios) has been calculated on the basis of information provided by these statements.

Together with the internal rates of return on investment (IRR) and on equity (IRRE), as well as computed net presents values (NPVs) they allow to assess commercial profitability of the project.

10.4.1. Projected Balance-Sheet

The capital structure analysis of the project reveals a rather balanced proportion of debt and equity financing. The long term debt-equity ratio is 42/58 at the beginning of the operation.

The liabilities side of the examined balance sheets is characterised by constantly increasing amounts of reserves in form of retained profits. At the end of the project's life they reach the level of LE 22 577 610 which is ca. 75% of the total liabilities or 80% if current profit of the final year is incuded.

Accumulated profits are matched on the assets side by an increasing net cash surplus. Its share in the total assets comes up to 83% at the end of the project's life period.

In the debt structure, the long term loan dominates in the first half of the project's life. After the loan has been finally repaid in 19944, a small amount of accounts payable remains the only outside liability. Value of fixed assets is fallingdown gradually from the level of LE 7 466 080 at the end of 1988 to LE 2 586 780 in 2002. The share of current assets (inventories, receivables) in total assets amounting to 19%-21% at the beginning of operation decreases to 9%-8.5% at the end.

10.4.2. Net Income Statement

Net Income Statement shows positive gross (taxable) profit yielded by the project throughout the whole life period, except for the first year of operation, when a losss occurs of LE 647 000. This is due to an unfavourable relation of sales revenues and fixed cost at the very beginning of the start-up period. However, higher output capacity in the second year gives positive results, i.e. gross taxable profit yielded this year exceeds LE 900 000 and reaches almost 110% of sales revenue.

In the tax-holiday period the gross and the net profits are identical, increasing gradually up to the level of LE 2 890 330 (ca. 22% of total sales revenue) in 1992. From the sixth year of operation a corporate tax of 50% is to be paid, thus reducing the profits by one half. Yet, the results obtained can be described at least as satisfactory. From 1993 onwards the net (after tax) profits stabilize within the range of LE 1 549 000 - 1 681 010 (12-13% of total sales). This secures the annual rate of return on invested capital of ca. 11-112% in this period (even 17.5% in 1993-1994). Return on equity is above 30%.

10.4.3. Cash-Flow Table

The Cash-Flow Table compares financial inflows and financial outflows generated by a project in particular years. The Cash-Flow Table produced by the COMFAR programme exhibits both the financial surpluses (or deficits) as a difference between financial inflows and outflows, as well as the net cash-flow for NPV calculations.

In our case, financial outflows are matched by inflows throughout the whole life period of the project, except for one year (1995(, when a deficit occurs of LE 2 216 680. However, as one may read from the Cash-Flow Table, this deficit can be easily covered from already accumulated surpluses of earlier periods.

The Cash-Flow Tables prove that the financial liquidity of the project is secured. No additional financing (e.g. by a bank overdraft) is necessary. The project generates financial surpluses on the basis of available initial funds and self-financing.

The net cash-flow for NPV calculation is negative only in the construction period (1987) and in the first and eighth year of operation. After full, pre-planned capacity has been reached the annual net cash-flow exceeds (with the exception of 1995) LE 2 000 000.

The cummulated net cash flow turns positive after the fifth year, revealing a **pay back period** of the project close to six years.

The Cash-Flow Tables produced by COMFAR supply us with additional information on the relation between local and foreign inflows and outflows. Careful examination of the cash-flow structure from this point of view indicates one of the major chalanges to the project. The project is characterised by inflows almost exclusively in local currency and by substantial outflows in foreign currency at the same time. The balance between foreign cash-flows is negative throughout the project's life. Although the project does not generate ultimate deficits expressed in local currency, such a situation may mean an undesivable drain on foreign currency resources.

10.4.4. Ratio analysis

Analysis of these three statements (Balance sheets, Net Income Statements and Cash-Flow Tables) leaves no doubt that the results of financial evaluation of the discussed project should be positive. It was always a good practice, however, to take additionally into consideration some basic financial ratios, which might reveal other important aspects and consequences of the project's implementation. Moreover, it is always interesting to find out on the basis of the ratio analysis to what extent its results confirm conclusions already derived.

Some elements of the ratio analysis have been already undertaken. Profitability ratios and capital structure ratios have been discussed in paragraphs 10.4.2. and 10.4.1. This paragraph deals with liquidity ratios and debt-service ratios.

Under liquidity ratio analysis the Current Ratio and the "Quick" Ratio have been examined. The Current Ratio oscilates around the level of 3.7, and vener drops below 3.6. The "Quick" Ratio varies between 1.18 and 1.4. Both ratios are in line with the established and widely accepted standards. This part of the analysis reveals no financial squeeze.

The Debt-Service Ratio is usually defined as a relation of debt service payments (principal plus interest) to cash generation (net profit plus depreciation).

Except for the first two years of operation this ratio is relatively low, changing within the range of 0.22-0.34. Detailed results of computation are presented in Table 18.

First two years of the start-up period are different in this respect. In the first year the project yields losses, which are even bigger than the depreciation. In 1989 the examined ratio is much higher (0.58), mainly due to the relatively low profits and high interest charges. This is, however, not a serious situation, if examined together with prevoiusly discussed financial statements. Sufficient inflow of financial resources in the beginning of the start-up takes care of servicing the debt.

The ratio analysis confirms earlier conclusions. The results obtained prove that the project can meet even demanding ba[illegible] requirements.

10.4.5. Profitability measures

Two basic measures of profitability - the Internal Rate of Return (IRR) and the Net Present Value (NPV) hav[illegible] been computed for the project, both from the equity owner's and the total investment point of view (compare COMFAR schedu[illegible] ex 1). These measures are based on the discounted cash-flow technique and create the central part of the whole financial analysis.

The results are presented below. Afte[illegible]ing into cor[illegible]ation the expected cost of the capital to [illegible] firm, the the d[illegible]unting r[illegible] calculation was establ[illegible]ed at the level [illegible]

Table 18.

Debt-service ratio

	Description	1989	1990	1991	1992	1993	1994	1995
	1 Principal	536.90	536.80	536.80	536.80	536.80	536.80	536.80
	2 Interest	451.00	386.50	322.10	257.70	193.30	123.90	64.50
A.	Debt-service payment (1 + 2)	937.90	923.30	858.90	794.50	730.10	665.70	601.30
	3 Net profit	936.40	1931.60	2698.70	2890.30	1549.00	1616.60	1648.80
	4 Depreciation	768.40	768.40	768.40	768.40	639.20	568.40	568.40
B.	Cash generation (3 + 4)	1704.80	2700.00	3467.10	3658.70	2188.20	2185.00	2217.20
	Debt-service ratio (A : B)	0.56	0.34	0.25	0.22	0.33	0.30	0.27

A/ RETURN ON EQUITY

Net Present Value at 13% equals to LE 4 841 490, IRR(E) is 24.94%

B/ RETURN ON TOTAL INVESTMENT

Net Present Value a equals to LE 4 946 ,. IRR is 22.75%.

The leverage effect is demonstrated by the higher value of IRR(E) than IRR, according to the assumed proportions of loan and equity in the initial financing. Both NPV and IRR values are relatively high, proving high profitability of the venture.

10.5. Uncertainty analysis

Until now, the financial analysis of the project has been carried out within a given framework. In this paragraph some assumptions will be changed in order to apply risk analysis. This is done in order to check the project's sensitivity to changes of most important assumptions and parameters.

Two main tools have been applied in the uncertainty analysis: the Break-Even Analysis and the Sensitivity Analysis.

10.5.1. Break-Even Analysis

The main formula used for the Break-Even Analysis is the following one:

$$px = f + vx$$

where:

p = selling price,

x = output level,

f = fixed cost,

v = unit variable cost.

A/ BREAK-EVEN PRICE

For this purpose the above formula is rewritten as:

$$\bar{p}_t = \frac{f + vx}{x}$$

where $\bar{p}_t$ stands for the Break-Even Price in a given year "t".

First the computation has been done for a typical, full-capacity year of operation, 1995. The fixed component of the cost (compare data in paragragh 10.1.2.3. and 10.1.2.4.) consists mainly of factory and administration overheads plus depreciation and equals LE 1 785 030. This gives the following level of the Break-Even Price:

$$p_{95} = \frac{1\ 785\ 030 + /\ 9\ 802\ 800 - 1\ 785\ 030\ /}{13\ 100\ 400} = 0.748 \approx 75\%.$$

Because of multi-product output structure, the result obtained shows the minimum price level (in per cent), at which the project breaks even in 11995.

The residual margin of 25% indicates the grade of dependance (for 1995) of the project's performance on the selling price level. This margin seems to be relatively safe, but it has to be kept in mind that it is the maximum percentage price decrease possible, if the project is not to yield a loss.

The proportions obtained for 1995 are typical for the whole full capacity production period. Other Break-Even Prices show only small deviations from the 1995 level. Here are the results of calculation:

Table 19. Break-even prices

Year	1993	1994	1995	1996	1997	1998-2002
Break-even price in (%)	76.5	75.5	75.0	75.9	74.8	74.9

B/ BREAK-EVEN UNIT VARIABLE COST

The following formula has been used:

$$\bar{c}_t = \frac{px - f}{x} \quad ; \quad \bar{c}_{95} = 0.863 = 86.3\ \%.$$

The Break-Even Unit Variable Cost is 86.3%, which is a relatively high. It shows a strong dependance on the variable cost level. The Break-Even PPoint for variable cost is 86.3%; above this level the project would yield a loss.

C/ BREAK-EVEN OUTPUT LEVEL

The following formula has been used:

$$\bar{x}_t = \frac{f}{p-v} \quad ; \quad \bar{x}_{95} = 0.3512 \approx 35.1\ \%\ .$$

The Break-Even Output level is only 35.3% of the full capacity output level. This is mainly due to a relatively low fixed cost component as compared to a substantial difference between sales revenues and variable operating cost. A low Break-Even Point is a positive feature of the project. In this case the fixed costs are absorbed relatively fast by the difference between sales price and variable unit costs.

10.5.2. Sensitivity Analysis

The Sensitivity Analysis has been carried out for the mostimportant financial parameters. It examines the project's dependance on:

- output capacity changes,
- raw material cost changes,
- selling price changes,
- interest rate changes,
- foreign exchange rate changes.

The COMFAR programme has been used to simulate new conditions of the project's implementation and to examine its performance under different assumptions. The results are presented in Annex 2.

A/ OUTPUT CAPACITY DECREASE

A simulation has been run (Version B in COMFAR schedules of Annex 2) to check the impact of not reaching the pre-planned target production capacity. Hence, a feasible normal capacity of 80 per cent is assumed in Version B as compared with 90 per cent in the Basic Version. The results confirm some of the conclusions which have been drawn from the Break-Even Analysis.

The IRR on total investment drops to 16.01% and the IRR(E) (on equity) is reduced to 16.5%. The simulation reveals the project is sensitive to output capacity changes. The reduced capacity level has a clear impact on the project's financial position, but the results obtained seem to be still acceptable.

B/ RAW MATERIAL COST INCREASE

Three simulations have been run in order to examine the impact of the raw material cost increase. In the first case (Version C in the COMFAR schedules, Annex 2) an annual rate of inflation for these costs of 0.7% (which makes an index of 10.2% at the end of the project's life) hass been assumed. In the second simulation (Version D in the COMFAR schedules) consequences of an annual increase of raw material cost of 1.0% (which makes an overall index of 14.9% at the end) have been examined.

The third simulation (Version L in COMFAR schedules) assumes a rise in raw material cost of ca. 32% (2% on an annual basis) at the end of the project's life.

The results obtained prove that the project cannot be regarded as highly sensitive to raw material cost changes.

In the 10% increase case (Version C) IRR is 21.24% and IRRE equals to 23.09%. In the second trial (15% increase) both IRRs are still above the 20% level (IRR = 20.54 and IRRE = 22.21%).

Even a high increase of raw material cost of nearly 32% (at the end of the project's life) causes a decrease of IRR and IRR(E) to the level of 17.93% and 18.95%, respectively.

The difference between these results and those computed for the Basic Version A (22.75% for IRR and 24.94% for IRR(E)), justifies the conclusion concerning the limited influence of raw material cost changes on the commercial profitability of the project.

C/ SELLING PRICE DECREASE

The impact of the selling price changes was examined in two further simulations. First (Version E in COMFAR schedules), a price decrease on all outputs of 10% was assumed. Further (Version F) a 15% decrease was examined. The results prove high sensitivity of the project to changes of the selling price level. In Version E (10% price decrease) the IRR is reduced to 12.42% and the NPV, being discounted at 13%, is a negative one. At the same time the IRR(E) falls down to 12.06% and the corresponding NPV is negative, as well.

Version F supplies us with still worse indicators of commercial profitability. The IRR decreases to the unacceptable level of 77.35% and the IRR(E) is 6.15% (consequently, both NPVs are even more negatiive).

D/ INTEREST RATE CHANGES

This simulation refers to an increase of the interest rate on the long term local loan. An assumption has been introduced that the interes rate goes up from 12% to 15% (Version G in the COMFAR schedules). Under this assumption the project's profitability barely changes: IRR equals to 22.79% and IRR is 23.99%.

The Sensitivity Analysis reveals in this case a very weak influence of interest rate changes on the project's profitability.

E/ FOREIGN EXCHANGE RATE CHANGES

Here, the impact of foreign exchange rate variations on the commercial profitability of the project has been examined.

The official exchange rate used for Basic Version A calculations has been increased gradually by 25% (Version H of the COMFAR schedules), 50% (Version I) and 100% (Version K). This means a higher price (by 25%, 50% and 100% respectively) of foreign currency (in this case US $) expressed in local currency (LE). Being dependant on foreign raw materials, imported machinery and equipment and other imported inputs on one hand, and with the sales limited only to the local market, the project seemed to be sensitive to foreign exchange rate fluctuations. The simulations confirm this hypothesis.

In the first case (a 25% increase of the foreign exchange rate) the IRR falls rapiidly down to 14.45%, IRRE - to 14.50%.

The 50% increase of foreign exchange rate causes further drastic deterioration of commercial profitability indicators, already into the unacceptable area of 7.54% and 6.57%. In the third case both IRRs cannot be found.

10.6. Final conclusions

The whole financial analysis reveals an adequate level of commercial profitability of the project. Its financial structure can meet typical requirements of banks and the financial institutions.

The uncertainty analysis has proved that the project is highly sensitive to selling price and foreign exchange rate changes, in the first place. Therefore, a detailed analysis of the future foreign exchange rate trends should be recommended. Also careful attention should be paid to the future price policy of the company, and to the operating cost.

11. SOCIAL COSTS AND BENEFITS

The project will bring numerous benefits to the national economy. These are the most important ones:

1/ This is an import substituting project. Most of the items from its production programme are still being imported from west European countries, which is adversely affecting the Egyptian balance of payments. Project's implementation may result in substantial (ca. 2 mln US $) savings in foreign currency after these imports have been abandoned.

2/ Introduction of modern manufacturing techniques into the Egyptian footwear industry helps to raise production standards, to international levels and increases the flexibility of this industry towards fashion changes in the world. Moreover, it helps standardization of many important footwear components, which leads to higher productivity, as well as savings in tooling and working capital requirements.

3/ By changing qualitative and quantitative features of the Egyptian footwear industry, the project indirectly creates considerable export possibilities for this industry.

4/ The project helps to utilize natural resources of Egypt - with genuine leather in first place. A good market will be provided for the local tanning and leatherboard industry.

5/ Project implementation means creation of 245 new job opportunities. Mainly the skilled labour is promoted by the project realization. A successful start-up of the plant requires up-grading of many professional skills of the labour force through specialized training.

6/ The project will generate considerable cash flows; large parts of these sums will be collected by the Government in form of Corporate Tax.

The above general analysis is discriptive and indicates that further elaborate investigation of the social costs & benefits is required. Such an exercise was not forseen as part of this study. The information available in the study is inadequate for calculating precise valuation of net economic benefits.

Shoe components & auxiliaries
15th Sept.,1986; by U.Huebner; Version A
Basic version

1 year(s) of construction, 15 years of production
currency conversion rates:
foreign currency 1 unit = 1.0000 units accounting currency
local currency 1 unit = 1.0000 units accounting currency
accounting currency: '000 LE

Total initial investment during construction phase

fixed assets:	5007.00	43.305 % foreign
current assets:	0.00	0.000 % foreign
total assets:	5007.00	43.305 % foreign

Source of funds during construction phase

equity & grants:	5007.00	43.305 % foreign
foreign loans :	0.00	
local loans :	0.00	
total funds :	5007.00	43.305 % foreign

[illegible] fr[illegible] [illegible]perations

[illegible]	1	[illegible]	7
o[illegible] costs:	36[illegible]	7009[illegible]	9170.00
depreciation :	[illegible]	768.38	568.38
interest :	2[illegible]	450.96	128.85
production costs	4316.40	8228.33	9867.22
thereof foreign	23.26 %	30.02 %	34.11 %
total sales :	3668.70	9164.70	13100.40
gross income :	-647.70	936.36	3233.18
net income :	-647.70	936.36	1616.59
cash balance :	1.70	461.55	1648.11
net cashflow :	-3530.02	1449.37	2313.01

Net Present Value at: 13.00 % = 4946.84
Internal Rate of Return on total investment: 22.75 %
Equity paid versus Net income flow (IRRE): 24.71 %
Net Worth versus Net Cash Return (IRRE): 24.94 %

Index of Schedules produced by COMFAR

Total initial investment	Cashflow tables
Total investment during production	Projected balance sheet
Total production costs	Net income statement
Working capital requirements	Source of finance

Total Initial Investment in '000 LE

Year	1987
Fixed investment costs	
Land, site preparation, development	890.00
Buildings and civil works	1610.00
Auxiliary and service facilities	104.00
Incorporated fixed assets	0.00
Plant machinery and equipment	1783.00
Total fixed investment costs	4387.00
Pre-production capital expenditures.	700.00
Net working capital	0.00
Total initial investment costs	5087.00
Of it foreign, in %	43.39

COMFAR 2.0 UNIDO

[illegible]

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Fixed investment costs										
Land, site preparation, development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Buildings and civil works	336.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auxiliary and service facilities	54.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	150.00
Incorporated fixed assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plant, machinery and equipment	2114.00	0.00	0.00	0.00	0.00	0.00	0.00	3897.00	0.00	0.00
Total fixed investment costs	2504.00	0.00	0.00	0.00	150.00	0.00	0.00	3897.00	0.00	150.00
Preproduction capital expenditures	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working capital	729.52	706.33	244.81	193.79	31.46	6.51	0.00	0.00	0.00	0.00
Total current investment costs	3533.52	706.33	244.81	193.79	189.46	6.51	0.00	3897.00	0.00	150.00
Of it foreign, %	70.27	24.03	29.50	23.72	89.77	25.61	0.00	96.84	0.00	100.00

Total Production Costs in '000 LE

Year	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
% of nom. capacity (single product).	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]	0.00	0.00
Raw material I	1049.00	4680.00	5754.00	6860.00	6709.00	6736.00	6736.00	6736.00	6736.00	6736.00
Other raw materials	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	72.00	185.00	226.00	259.00	265.00	268.00	268.00	268.00	268.00	268.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labour, direct	278.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00
Repair, maintenance	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00
Spares	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00
Factory overheads	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00
Factory costs	3164.00	6477.00	7592.00	8431.00	8586.00	8616.00	8616.00	8616.00	8616.00	8616.00
Administrative overheads	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00
Indir. costs, sales and distribution	150.00	180.00	191.00	200.00	201.00	202.00	202.00	202.00	202.00	202.00
Direct costs, sales and distribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	424.92	760.38	760.38	760.38	760.38	639.17	560.38	560.38	832.63	560.38
Financial costs	225.40	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00
Total production costs	4316.41	8220.33	9269.91	10073.49	10165.07	10002.44	9867.22	9802.80	10002.63	9730.38
Costs per unit (single product)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Of it foreign, %	23.26	30.82	32.90	33.63	34.18	34.15	34.11	34.33	36.24	34.56
Of it variable,%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total labour	780.00	1179.06	1190.00	1199.00	1200.00	1201.00	1201.00	1201.00	1201.00	1201.00

[illegible]

Year	mdc	coto	1988	1989	1990	1991	1992	1993	1994-2002
Coverage	mdc	coto							
Current assets &									
Accounts receivable	30	12.0	305.50	504.00	677.92	748.50	761.50	764.17	764.17
Inventory and materials	63	5.7	358.28	872.60	1054.63	1201.05	1223.82	1228.58	1228.58
Energy	0	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spares	180	2.0	62.50	62.50	62.50	62.50	62.50	62.50	62.50
Work in progress	5	72.0	43.98	89.96	105.44	117.10	119.25	119.67	119.67
Finished products	15	24.0	146.50	284.54	331.00	365.96	372.42	373.67	373.67
Cash in hand	15	24.0	66.66	81.83	81.83	81.83	81.83	81.83	81.83
Total current assets			993.19	1975.60	2313.32	2577.02	2621.40	2630.41	2630.41
Current liabilities and									
Accounts payable	30	12.0	263.67	539.75	632.67	702.58	715.50	718.00	718.00
Net working capital			729.52	1435.85	1680.66	1874.44	1905.90	1912.41	1912.41
Increase in working capital			729.52	706.33	244.81	193.79	31.46	6.51	0.00
Net working capital, local			576.39	1113.00	1285.59	1433.40	1452.78	1457.62	1457.62
Net working capital, foreign			153.12	322.85	395.07	441.04	453.12	454.79	454.79

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

Source of Finance, construction in '000 LE

Year	1987
Equity, ordinary	5087.00
Equity, preference	0.00
Subsidies, grants	0.00
Loan A, foreign	0.00
Loan B, foreign	0.00
Loan C, foreign	0.00
Loan A, local	0.00
Loan B, local	0.00
Loan C, local	0.00
Total loan	0.00
Current liabilities	0.00
Bank overdraft	0.00
Total funds	5087.00

Source of Finance, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994-95
Equity, ordinary ..	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity, preference.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants .	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan A, foreign .	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan B, foreign..	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan C, foreign .	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan A, local....	3758.00	-536.86	-536.86	-536.86	-536.86	-536.86	-536.86
Loan B, local....	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan C, local....	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total loan	3758.00	-536.86	-536.86	-536.86	-536.86	-536.86	-536.86
Current liabilities	2[illegible]3.67	276.00	92.92	69.92	12.92	2.50	0.00
Bank overdraft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total funds	4021.67	-260.77	-443.94	-466.94	-523.94	-534.36	-536.86

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow	5087.00
Financial resources	5087.00
Sales, net of tax	0.00
Total cash outflow	5087.00
Total assets	5087.00
Operating costs	0.00
Cost of finance	0.00
Repayment	0.00
Corporate tax	0.00
Dividends paid	0.00
Surplus (deficit)	0.00
Cumulated cash balance	0.00
Inflow, local	2880.00
Outflow, local	2880.00
Surplus (deficit)	0.00
Inflow, foreign	2207.00
Outflow, foreign	2207.00
Surplus (deficit)	0.00
Net cashflow	-5087.00
Cumulated net cashflow	-5087.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7690.37	9440.78	11314.42	12842.12	13068.32	13102.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Financial resources	4021.67	276.08	92.92	69.92	12.92	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	7688.67	8979.23	9396.12	10105.67	10135.93	11458.11	11452.29	15317.08	10718.89	11009.01	10851.01	10851.01
Total assets	3797.19	982.41	337.73	263.70	202.38	9.01	0.00	3897.00	0.00	158.00	0.00	0.00
Operating costs	3666.00	7009.00	8135.00	8983.00	9139.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	1548.98	1616.59	1648.80	1548.89	1681.01	1681.01	1681.01
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1.70	461.55	1918.30	2736.44	2932.39	1644.79	1648.11	-2216.68	2381.51	2091.39	2249.39	2249.39
Cumulated cash balance	1.70	463.25	2381.55	5118.00	8050.39	9695.17	11343.28	9126.60	11508.11	13599.50	15848.89	18098.27
Inflow, local	7632.87	9338.95	11271.08	12814.53	13061.07	13101.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	8593.45	8590.29	8681.08	7856.89	7989.01	7989.01	7989.01
Surplus (deficit)	3174.83	2543.28	4422.52	5545.42	5952.47	4508.44	4510.11	4419.32	5243.51	5111.39	5111.39	5111.39
Inflow, foreign	57.50	101.83	43.33	27.58	7.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	3230.63	2183.56	2547.56	2836.56	3027.33	2864.67	2862.00	6636.00	2862.00	3020.00	2862.00	2862.00
Surplus (deficit)	-3173.13	-2081.72	-2504.22	-2808.97	-3020.08	-2863.67	-2862.00	-6636.00	-2862.00	-3020.00	-2862.00	-2862.00
Net cashflow	-3530.82	1449.37	2841.69	3595.41	3726.94	2374.91	2313.81	-1615.40	2381.51	2091.39	2249.39	2249.39
Cumulated net cashflow	-8617.82	-7168.45	-4326.76	-731.34	2995.60	5370.51	7684.32	6068.92	8450.43	10541.82	12791.21	15040.60

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13100.40	13100.40	13100.40
Financial resources	0.00	0.00	0.00
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	10851.01	10851.01	10851.01
Total assets	0.00	0.00	0.00
Operating costs	9170.00	9170.00	9170.00
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1681.01	1681.01	1581.01
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	2249.39	2249.39	2249.39
Cumulated cash balance	20347.66	22597.05	24846.43
Inflow, local	13100.40	13100.40	13100.40
Outflow, local	7989.01	7987.01	7989.01
Surplus (deficit)	5111.39	5111.39	5111.39
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	2862.00	2862.00	2862.00
Surplus (deficit)	-2862.00	-2862.00	-2862.00
Net cashflow	2249.39	2249.39	2249.39
Cumulated net cashflow	17289.98	19539.37	21788.76

Cashflow Discounting:

a) Equity paid versus Net income flow:

Net present value	4439.67	at	13.00 %
Internal Rate of Return (IRRE1) ..	24.71 %		

b) Net Worth versus Net cash return:

Net present value	4841.49	at	13.00 %
Internal Rate of Return (IRRE2) ..	24.94 %		

c) Internal Rate of Return on total investment:

Net present value	4946.04	at	13.00 %
Internal Rate of Return (IRR) ..	22.75 %		

Net Worth = Equity paid plus reserves

Net Income Statement in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total sales, incl. sales tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Less: variable costs, incl. sales tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variable margin	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
As % of total sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Non-variable costs, incl. depreciation	4090.92	7777.38	8903.38	9751.38	9907.38	9809.17	9738.38	9738.38	10002.63	9738.38	9738.38
Operational margin	-422.22	1387.32	2318.13	3020.83	3148.03	3291.25	3362.03	3362.03	3097.78	3362.03	3362.03
As % of total sales	-11.51	15.14	20.66	23.65	24.11	25.12	25.66	25.66	23.65	25.66	25.66
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00
Gross profit	-647.70	936.36	1931.59	2698.71	2890.33	3097.98	3233.18	3297.60	3097.78	3362.03	3362.03
Allowances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxable profit	-647.70	936.36	1931.59	2698.71	2890.33	3097.98	3233.18	3297.60	3097.78	3362.03	3362.03
Tax	0.00	0.00	0.00	0.00	0.00	1548.98	1616.59	1648.80	1548.89	1681.01	1681.01
Net profit	-647.70	936.36	1931.59	2698.71	2890.33	1548.98	1616.59	1648.80	1548.89	1681.01	1681.01
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Undistributed profit	-647.70	936.36	1931.59	2698.71	2890.33	1548.98	1616.59	1648.80	1548.89	1681.01	1681.01
Accumulated undistributed profit	-647.70	288.66	2220.25	4918.96	7809.29	9358.27	10974.86	12623.66	14172.55	15853.56	17534.57
Gross profit, % of total sales	-17.65	10.22	17.21	21.13	22.14	23.65	24.68	25.17	23.65	25.66	25.66
Net profit, % of total sales	-17.65	10.22	17.21	21.13	22.14	11.82	12.34	12.59	11.87	12.03	12.03
ROE, Net profit, % of equity	-12.73	18.41	37.97	53.05	56.82	30.45	31.78	32.41	30.45	33.05	33.05
ROI, Net profit+interest, % of invest.	-4.90	14.87	24.22	30.93	31.62	17.49	17.52	12.36	11.10	11.99	11.99

[illegible]

Year	1999	2000	2001	2002
Total sales, incl. sales tax	13100.40	13100.40	13100.40	13100.40
Less: variable costs, incl. sales tax.	0.00	0.00	0.00	0.00
Variable margin	13100.40	13100.40	13100.40	13100.40
As % of total sales	100.00	100.00	100.00	100.00
Non-variable costs, incl. depreciation	9738.38	9738.38	9738.38	9738.38
Operational margin	3362.03	3362.03	3362.03	3362.03
As % of total sales	25.66	25.66	25.66	25.66
Cost of finance	0.00	0.00	0.00	0.00
Gross profit	3362.03	3362.03	3362.03	3362.03
Allowances	0.00	0.00	0.00	0.00
Taxable profit	3362.03	3362.03	3362.03	3362.03
Tax	1681.01	1681.01	1681.01	1681.01
Net profit	1681.01	1681.01	1681.01	1681.01
Dividends paid	0.00	0.00	0.00	0.00
Undistributed profit	1681.01	1681.01	1681.01	1681.01
Accumulated undistributed profit	19215.59	20896.60	22577.61	24258.62
Gross profit, % of total sales	25.66	25.66	25.66	25.66
Net profit, % of total sales	12.83	12.83	12.83	12.83
ROE, Net profit, % of equity	33.05	33.05	33.05	33.05
ROI, Net profit+interest, % of invest.	11.99	11.99	11.99	11.99

Projected Balance Sheets, construction in '000 LE

Year	1987
Total assets	5007.00
Fixed assets, net of depreciation	0.00
Construction in progress	5007.00
Current assets	0.00
Cash, bank	0.00
Cash surplus, finance available .	0.00
Loss carried forward	0.00
Loss	0.00
Total liabilities	5007.00
Equity capital	5007.00
Reserves, retained profit	0.00
Profit	0.00
Long and medium term debt	0.00
Current liabilities	3.00
Bank overdraft, finance required.	0.00
Total debt	0.00
Equity, % of liabilities	100.00

COMFAR 2.0 UNIDO

Projected Balance Sheets, Production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total assets	9108.67	9704.36	10624.20	13035.97	15222.36	16236.98	17316.72	18420.66	19977.35	21650.56	23339.37	25030.99
Fixed assets, net of depreciation	6662.00	6497.70	5929.33	5160.95	4392.50	3911.40	3343.03	2774.68	3039.63	3270.65	4060.70	4291.90
Construction in progress	2004.00	0.00	0.00	0.00	150.00	0.00	0.00	3097.00	0.00	150.00	0.00	0.00
Current assets	726.73	1093.76	2231.49	2495.19	2539.37	2540.50	2540.30	2540.30	2540.30	2540.30	2540.30	2540.30
Cash, bank	66.46	84.83	91.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	84.83
Cash surplus, finance available	1.70	463.23	2301.55	3416.00	8030.39	9695.01	11343.20	9126.60	11500.11	13399.50	15040.09	18090.27
Loss carried forward	0.00	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loss	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total liabilities	9108.67	9704.36	10624.20	13035.97	15222.36	16236.99	17316.72	18420.66	19977.35	21650.56	23339.37	25030.99
Equity capital	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00	3007.00
Reserves, retained profit	0.00	0.00	290.66	2220.25	4910.96	7009.29	9330.27	10974.86	12623.66	14173.35	15855.56	17534.57
Profit	0.00	936.34	1931.59	2690.71	2090.33	1540.90	1616.59	1648.00	1590.09	1681.91	1681.01	1681.01
Long and medium term debt	3758.00	3221.14	2684.79	2147.43	1610.37	1073.71	536.06	-0.00	-0.00	-0.00	-0.00	-0.00
Current liabilities	263.67	539.75	632.67	702.50	715.50	710.00	710.00	710.00	710.00	710.00	715.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Total debt	4021.67	3760.89	3316.95	2850.01	2326.07	1791.71	1250.06	710.00	710.00	710.00	710.00	710.00
Equity, % of liabilities	33.03	30.99	47.88	39.57	33.42	31.33	29.30	27.60	25.46	23.49	21.00	20.13

COMFAR 2.0 - IO/FEAS UNIDO Vienna

Projected Balance Sheets, Production in '000 LE

Year	2000	2001	2002
Total assets	26701.60	28382.61	30063.62
Fixed assets, net of depreciation	3723.33	3150.15	2586.70
Construction in progress	0.00	0.00	0.00
Current assets	2540.30	2540.30	2540.30
Cash, bank	81.83	84.83	84.83
Cash surplus, finance available	20347.66	22597.05	24846.43
Loss carried forward	0.00	0.00	0.00
Loss	0.00	0.00	0.00
Total liabilities	26701.60	28382.61	30063.62
Equity capital	3007.00	3007.00	3007.00
Reserves, retained profit	19213.59	20896.60	22577.61
Profit	1681.01	1681.01	1681.01
Long and medium term debt	-0.00	-0.00	-0.00
Current liabilities	710.00	710.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00,
Total debt	710.00	710.50	710.00
Equity, % of liabilities	19.06	17.92	16.92

Shoe components & auxiliaries --- 13th Sept.,1986; by U.Huebner; Version A

Projected Balance Sheets, construction in '000 LE

Year	1987
Total assets	5007.00
Fixed assets, net of depreciation	0.00
Construction in progress	5007.00
Current assets	0.00
Cash, bank	0.00
Cash surplus, finance available	0.00
Loss carried forward	0.00
Loss	0.00
Total liabilities	5007.00
Equity capital	5007.00
Reserves, retained profit	0.00
Profit	0.00
Long and medium term debt	0.00
Current liabilities	0.00
Bank overdraft, finance required.	0.00
Total debt	0.00
Equity, % of liabilities	100.00

Projected Balance Sheets, Production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total assets	9100.67	9704.26	10620.20	12055.97	15222.36	16236.98	17316.72	18428.66	19977.55	21656.56	23339.57	25020.59
Fixed assets, net of depreciation	4462.00	4497.70	5929.33	5160.95	4392.50	3911.00	3343.03	2774.65	5039.03	5270.65	4060.78	4291.90
Construction in progress	2004.00	0.00	0.00	0.00	150.00	0.00	0.00	3097.00	0.00	150.00	0.00	0.00
Current assets	926.73	1093.76	2231.49	2495.19	2539.57	2540.50	2540.50	2540.50	2540.50	2540.50	2540.50	2540.50
Cash, bank	66.66	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83
Cash surplus, finance available	1.70	463.25	2301.55	5110.00	8050.39	9695.17	11363.20	9176.60	11500.11	13599.50	15040.09	16090.37
Loss carried forward	0.00	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loss	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total liabilities	9100.67	9704.26	10620.20	12055.97	15222.36	16236.99	17316.72	18428.66	19977.55	21650.56	23339.57	25020.59
Equity capital	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00
Reserves, retained profit	0.00	0.00	280.66	2270.25	4910.96	7009.29	9350.27	10974.86	12673.66	14172.55	15855.56	17534.57
Profit	0.00	936.36	1931.59	2690.73	2090.33	1540.90	1616.59	1640.00	1510.09	1601.01	1681.01	1681.01
Long and medium term debt	3750.00	3221.16	2684.29	2147.43	1610.57	1073.71	536.86	-0.00	-0.00	-0.00	-0.00	-0.00
Current liabilities	263.67	539.75	632.67	702.50	715.50	710.00	710.00	710.00	710.00	710.00	710.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total debt	4021.67	3760.89	3316.95	2850.01	2326.07	1791.71	1254.86	710.00	710.00	710.00	710.00	710.00
Equity, % of liabilities	55.05	51.79	47.08	39.57	33.42	31.33	29.30	27.60	25.46	23.49	21.80	20.33

COMFAR 2.0 - IO/FEAS UNIDO Vienna

Projected Balance Sheets, Production in '000 LE

Year	2000	2001	2002
Total assets	26701.60	28382.61	30063.62
Fixed assets, net of depreciation	3723.53	3155.15	2586.78
Construction in progress	0.00	0.00	0.00
Current assets	2540.50	2540.50	2540.50
Cash, bank	81.83	81.83	81.83
Cash surplus, finance available	20347.66	22597.05	24846.43
Loss carried forward	0.00	0.00	0.00
Loss	0.00	0.00	0.00
Total liabilities	26701.60	28382.61	30063.62
Equity capital	5007.00	5007.00	5007.00
Reserves, retained profit	19215.59	20896.60	22577.61
Profit	1681.01	1681.01	1681.01
Long and medium term debt	-0.00	-0.00	-0.00
Current liabilities	710.00	710.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00
Total debt	710.00	710.00	710.00
Equity, % of liabilities	19.05	17.92	16.92

Projected Balance Sheets, construction in '000 LE

Year	1987
Total assets	5007.00
Fixed assets, net of depreciation	0.00
Construction in progress	5007.00
Current assets	0.00
Cash, bank	0.00
Cash surplus, finance available	0.00
Loss carried forward	0.00
Loss	0.00
Total liabilities	5007.00
Equity capital	5007.00
Reserves, retained profit	0.00
Profit	0.00
Long and medium term debt	0.00
Current liabilities	0.00
Bank overdraft, finance required.	0.00
Total debt	0.00
Equity, % of liabilities	100.00

COMFAR

Projected Balance Sheets, Production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total assets	9108.67	9704.26	10624.20	12055.97	15272.36	16234.98	17316.72	18420.66	19977.55	21650.56	23339.37	25020.30
Fixed assets, net of depreciation	6662.08	6497.70	5979.33	5160.93	4392.50	3911.40	3343.03	2774.65	5039.83	3270.63	4060.76	4291.90
Construction in progress	3004.00	0.00	0.00	0.00	150.00	0.00	0.00	3097.00	0.00	150.00	0.00	0.00
Current assets	926.73	1093.76	2231.49	2495.19	2539.87	2540.50	2540.50	2540.50	2540.50	2540.50	2540.50	2540.50
Cash, bank	66.46	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83	81.83
Cash surplus, finance available	1.70	663.25	2381.55	5118.00	8050.39	9695.17	11343.20	9176.60	11500.11	13599.50	15040.89	16890.27
Loss carried forward	0.00	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loss	647.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total liabilities	9108.67	9704.26	10624.20	12055.97	15272.36	16234.99	17316.72	18420.66	19977.55	21650.56	23339.37	25020.30
Equity capital	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00	5007.00
Reserves, retained profit	0.00	0.00	208.66	2270.25	4910.96	7009.29	9350.27	10971.86	12623.56	14172.35	15053.56	17534.97
Profit	0.00	936.36	1931.59	2690.71	2090.33	1540.90	1616.39	1648.00	1540.09	1551.07	1601.01	1681.01
Long and medium term debt	3730.00	3221.10	2684.29	2147.43	1610.57	1073.71	536.86	-0.00	-0.00	-0.00	-0.00	-0.00
Current liabilities	263.67	539.79	632.07	702.50	715.50	710.00	710.00	710.00	710.00	710.00	710.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total debt	4021.67	3760.89	3316.95	2850.01	2326.07	1791.71	1254.86	710.00	710.00	710.00	710.00	710.00
Equity, % of liabilities	38.85	51.99	47.08	39.57	33.02	31.33	29.30	27.60	25.46	23.49	21.08	20.33

Projected Balance Sheets, Production in '000 LE

Year	2000	2001	2002
Total assets	26701.60	28382.61	30063.62
Fixed assets, net of depreciation	3723.33	3128.15	2504.70
Construction in progress	0.00	0.00	0.00
Current assets	2540.50	2540.50	2540.50
Cash, bank	81.83	81.83	81.83
Cash surplus, finance available	20347.66	22597.00	24846.43
Loss carried forward	0.00	0.00	0.00
Loss	0.00	0.00	0.00
Total liabilities	26701.60	28382.61	30063.62
Equity capital	5007.00	5007.00	5007.00
Reserves, retained profit	19215.39	20896.60	22577.61
Profit	1681.01	1681.01	1681.01
Long and medium term debt	-0.00	-0.00	-0.00
Current liabilities	710.00	710.00	710.00
Bank overdraft, finance required.	0.00	0.00	0.00
Total debt	710.00	710.00	710.00
Equity, % of liabilities	19.05	17.92	16.92

ANNEX 2

Tab: EGYPTA : Text Variables ---------- COMFAR 2.0 - 10/FEM UNIDO Vienna -----

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by W.Huebner; Version B
Name of Alternative:	Lower capacity -up to 80 %
Accounting currency:	000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in 000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7690.37	9440.70	11314.42	11714.72	11657.72	11647.30	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00
Financial resources	4021.67	276.00	92.92	69.92	12.92	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3668.70	9164.70	11221.50	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00
Total cash outflow	7688.67	8979.23	9396.12	10105.68	10135.93	10730.31	10724.49	14589.20	9991.09	10281.21	10123.21	10123.21
Total assets	3797.19	982.41	337.73	263.70	202.38	9.01	0.00	3897.00	0.00	150.00	0.00	0.00
Operating costs	3666.00	7009.00	8135.00	8983.00	9139.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.84	536.86	536.86	536.86	536.86	536.86	536.66	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	821.18	888.79	921.00	821.09	953.21	953.21	953.21
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1.70	461.55	1918.30	1609.04	1521.79	916.99	920.31	-2944.40	1653.71	1363.59	1521.59	1521.59
Cumulated cash balance	1.70	463.25	2381.55	3990.59	5512.38	6429.37	7349.67	4405.19	6058.90	7422.49	8944.08	10465.66
Inflow, local	7632.87	9338.95	11271.08	11687.13	11650.47	11646.30	11644.00	11644.00	11644.00	11644.00	11644.00	11644.00
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	7865.65	7862.49	7953.20	7129.09	7261.21	7261.21	7261.21
Surplus (deficit)	3174.83	2543.28	4422.52	4418.01	4541.87	3780.65	3782.31	3691.52	4515.71	4383.59	4383.59	4383.59
Inflow, foreign	57.50	101.83	43.33	27.58	7.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	3230.63	2103.56	2547.56	2036.56	3027.33	2844.67	2862.00	6636.00	2862.00	3020.00	2862.00	2862.00
Surplus (deficit)	-3173.13	-2001.72	-2504.22	-2008.97	-3020.08	-2843.67	-2862.00	-6636.00	-2862.00	-3020.00	-2862.00	-2862.00
Net cashflow	-3530.82	1449.37	2841.69	2460.01	2316.34	1647.11	1584.01	-2343.20	1653.71	1363.59	1521.59	1521.59
Cumulated net cashflow	-8617.82	-7168.45	-4326.76	-1858.74	457.59	2104.71	3690.72	1347.51	3001.22	4364.81	5886.40	7407.98

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	11644.00	11644.00	11644.00
Financial resources	0.00	0.00	0.00
Sales, net of tax	11644.00	11644.00	11644.00
Total cash outflow	10123.21	10123.21	10123.21
Total assets	0.00	0.00	0.00
Operating costs	9170.00	9170.00	9170.00
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	953.21	953.21	953.21
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1521.59	1521.59	1521.59
Cumulated cash balance	11987.25	13508.84	15030.42
Inflow, local	11644.00	11644.00	11644.00
Outflow, local	7261.21	7261.21	7261.21
Surplus (deficit)	4383.59	4383.59	4383.59
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	2862.00	2862.00	2862.00
Surplus (deficit)	-2862.00	-2862.00	-2862.00
Net cashflow	1521.59	1521.59	1521.59
Cumulated net cashflow	8929.57	10451.16	11972.74

Cashflow Discounting:

a) Equity paid versus Net income flow:

Net present value	839.11	at	13.00 %
Internal Rate of Return (IRRE1) ..	15.75 %		

b) Net Worth versus Net cash return:

Net present value	1240.93	at	13.00 %
Internal Rate of Return (IRRE2) ..	16.50 %		

c) Internal Rate of Return on total investment:

Net present value	1346.28	at	13.00 %
Internal Rate of Return (IRR) ..	16.01 %		

Net Worth = Equity paid plus reserves

lab EGYPTR : Text Variables

--- COMFAR 2.0 - IO/FEAS UNIDO Vienna ---

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by H.Huebner; Version C
Name of Alternative:	Raw material costs increased by 10 %
Accounting currency:	'000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

COMFAR 2.0 UNIDO

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax . .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

COMFAR 2.0 UNIDO

COMFAR 2.0 - IO/FEAS UNIDO Vienna

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993
Total cash inflow	7690.37	9443.51	11318.42	12846.94	13072.58	13107.00
Financial resources	4021.67	278.81	96.92	74.74	17.18	6.60
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40
Total cash outflow	7688.67	9022.64	9492.34	10263.01	10342.08	11593.47
Total assets	3797.19	993.07	353.10	282.32	218.70	24.82
Operating costs	3656.06	7041.76	8215.84	9121.72	9328.83	9409.08
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27
Repayment	0.00	536.86	536.86	536.86	536.86	536.86
Corporate tax	0.00	0.00	0.00	0.00	0.00	1429.44
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1.70	420.87	1826.08	2583.93	2730.49	1513.54
Cumulated cash balance	1.70	422.57	2248.65	4832.58	7563.08	9076.61
Inflow, local	7632.87	9340.64	11273.43	12817.41	13063.55	13104.33
Outflow, local	4458.94	6823.80	6907.95	7365.48	7232.91	8627.20
Surplus (deficit)	3174.03	2516.84	4365.48	5451.93	5830.64	4477.13
Inflow, foreign	57.50	102.88	44.99	29.53	9.03	2.67
Outflow, foreign	3230.63	2198.84	2584.39	2897.54	3109.18	2966.27
Surplus (deficit)	-3173.13	-2095.97	-2539.40	-2868.01	-3100.15	-2963.60
Net cashflow	-3530.02	1400.69	2749.48	3442.90	3525.04	2243.66
Cumulated net cashflow	-8617.02	-7209.13	-4459.65	-1016.75	2508.29	4751.95

Year	1994	1995	1996	1997	1998	1999
Total cash inflow	13104.47	13104.50	13104.53	13104.56	13104.58	13104.61
Financial resources	4.07	4.10	4.13	4.15	4.18	4.21
Sales, net of tax	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	11611.93	15501.41	10928.08	11243.25	11110.46	11135.85
Total assets	15.68	3912.79	15.90	174.01	16.12	16.24
Operating costs	9457.91	9507.08	9556.58	9606.44	9656.65	9707.21
Cost of finance	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	1472.64	1480.26	1355.59	1462.79	1437.69	1412.41
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1492.54	-2396.91	2176.45	1861.31	1994.12	1968.76
Cumulated cash balance	10569.15	8172.24	10348.69	12210.00	14204.12	16172.88
Inflow, local	13102.82	13102.83	13102.85	13102.87	13102.88	13102.90
Outflow, local	8628.54	8724.01	7904.53	8041.41	8046.19	8051.01
Surplus (deficit)	4474.28	4378.82	5198.32	5061.46	5056.69	5051.89
Inflow, foreign	1.65	1.66	1.68	1.69	1.70	1.71
Outflow, foreign	2983.39	6777.40	3023.55	3201.84	3064.27	3084.85
Surplus (deficit)	-2981.74	-6775.74	-3021.87	-3200.15	-3062.57	-3083.13
Net cashflow	2150.24	-1795.63	2176.45	1861.31	1994.12	1968.76
Cumulated net cashflow	6918.20	5114.56	7291.01	9152.32	11146.44	13115.20

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13104.64	13104.67	13104.70
Financial resources	4.24	4.27	4.30
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	11161.42	11187.17	11213.10
Total assets	16.35	16.47	16.58
Operating costs	9758.12	9809.39	9861.02
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1386.95	1361.32	1335.50
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1943.22	1917.50	1891.60
Cumulated cash balance	18116.09	20033.59	21925.19
Inflow, local	13102.92	13102.94	13102.95
Outflow, local	8055.86	8060.75	8065.66
Surplus (deficit)	5047.06	5042.19	5037.29
Inflow, foreign	1.72	1.74	1.75
Outflow, foreign	3105.57	3126.43	3147.44
Surplus (deficit)	-3103.84	-3124.69	-3145.69
Net cashflow	1943.22	1917.50	1591.60
Cumulated net cashflow	15050.42	16975.91	18067.51

Cashflow Discounting:

a) Equity paid versus Net income flow:

Net present value	3560.79	at	13.00 %
Internal Rate of Return (IRRE1) ..	22.94 %		

b) Net Worth versus Net cash return:

Net present value	3921.87	at	13.00 %
Internal Rate of Return (IRRE2) ..	23.00 %		

c) Internal Rate of Return on total investment:

Net present value	4027.22	at	13.00 %
Internal Rate of Return (IRR) ..	21.24 %		

Net Worth = Equity paid plus reserves

Total Production Costs in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
% of nom. capacity (single product).	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Raw material 1	1849.00	4712.76	5034.04	6698.73	6898.03	6975.00	7023.91	7073.00	7122.59	7172.44	7222.65
Other raw materials	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	72.00	185.00	224.00	259.00	265.00	268.00	268.00	268.00	268.00	268.00	268.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labour, direct	270.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00	647.00
Repair, maintenance	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00
Spares	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00
Factory overheads	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00	490.00
Factory costs	3164.00	6509.76	7472.04	8569.73	8775.03	8855.00	8903.91	8953.00	9002.59	9052.44	9102.65
Administrative overheads	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00	352.00
Indir. costs, sales and distribution	150.00	180.00	191.00	200.00	201.00	202.00	202.00	202.00	202.00	202.00	202.00
Direct costs, sales and distribution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	420.92	760.30	760.30	760.30	760.30	639.17	560.30	560.30	832.63	560.30	560.30
Financial costs	225.00	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00
Total production costs	4316.41	8261.09	9370.75	10212.21	10354.90	10201.53	10155.13	10139.87	10389.21	10174.82	10225.03
Costs per unit (single product)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Of it foreign, %	23.26	30.85	32.96	33.72	34.30	34.30	34.29	34.54	36.40	34.82	34.85
Of it variable,%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total labour	780.00	1179.00	1190.00	1199.00	1200.00	1201.00	1201.00	1201.00	1201.00	1201.00	1201.00

Total Production Costs in '000 LE

Year	1999	2000	2001	2002
% of nom. capacity (single product).	0.00	0.00	0.00	0.00
Raw material 1	7273.21	7324.12	7375.39	7427.02
Other raw materials	0.00	0.00	0.00	0.00
Utilities	268.00	268.00	268.00	268.00
Energy	0.00	0.00	0.00	0.00
Labour, direct	647.00	647.00	647.00	647.00
Repair, maintenance	350.00	350.00	350.00	350.00
Spares	125.00	125.00	125.00	125.00
Factory overheads	490.00	490.00	490.00	490.00
Factory costs	9153.21	9204.12	9255.39	9307.02
Administrative overheads	352.00	352.00	352.00	352.00
Indir. costs, sales and distribution	202.00	202.00	202.00	202.00
Direct costs, sales and distribution	0.00	0.00	0.00	0.00
Depreciation	568.38	568.38	568.38	568.38
Financial costs	0.00	0.00	0.00	0.00
Total production costs	10275.59	10326.50	10377.77	10429.39
Costs per unit (single product)	0.00	0.00	0.00	0.90
Of it foreign, %	34.88	34.90	34.93	34.96
Of it variable,%	0.00	0.00	0.00	0.00
Total labour	1201.00	1201.00	1201.00	1201.00

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax . .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7690.37	9443.51	11318.42	12846.94	13072.30	13107.00	13104.47	13104.50	13104.53	13104.56	13104.58	13104.61
Financial resources	4021.67	278.81	96.92	74.74	17.10	6.60	6.07	4.10	4.13	4.15	4.18	4.21
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	7688.67	9022.64	9492.34	10263.01	10342.00	11593.47	11611.93	15501.41	10928.00	11243.25	11110.46	11135.85
Total assets	3797.19	993.07	332.10	202.32	210.70	24.02	15.60	3912.19	15.90	174.01	16.12	16.30
Operating costs	3666.00	7041.76	8215.04	9121.72	9320.03	9409.00	9437.91	9507.00	9536.50	9606.44	9634.65	9707.21
Cost of finance	225.40	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.06	1429.64	1472.64	1480.26	1355.39	1462.79	1437.69	1412.01
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1.70	420.87	1826.08	2583.93	2730.49	1513.54	1492.54	-2396.91	2176.45	1861.31	1994.12	1968.76
Cumulated cash balance	1.70	422.57	2248.65	4832.58	7563.08	9076.61	10569.15	8172.24	10348.69	12210.00	14204.12	16172.88
Inflow, local	7632.07	9340.64	11273.43	12817.41	13063.35	13104.33	13102.82	13102.83	13102.85	13102.87	13102.88	13102.90
Outflow, local	4458.04	6023.80	6907.93	7365.40	7232.91	8627.20	8628.54	8724.01	7904.53	8041.41	8046.19	8051.01
Surplus (deficit)	3174.03	3316.84	4365.50	5451.93	5830.44	4477.13	4474.28	4378.82	5198.32	5061.46	5056.69	5051.89
Inflow, foreign	57.30	102.88	44.99	29.53	9.03	2.67	1.65	1.66	1.68	1.69	1.70	1.71
Outflow, foreign	3230.43	2198.84	2584.39	2897.54	3109.18	2966.27	2983.39	6777.40	3073.35	3201.84	3064.27	3084.84
Surplus (deficit)	-3173.13	-2095.97	-2539.40	-2868.01	-3100.15	-2963.60	-2981.74	-6775.74	-3071.67	-3200.15	-3062.57	-3083.13
Net cashflow	-3330.02	1088.69	2749.40	3442.90	3525.04	2243.66	2150.24	-1795.63	2176.45	1861.31	1994.12	1968.76
Cumulated net cashflow	-8617.02	-7209.13	-4459.65	-1016.75	2508.29	4751.95	6918.20	5114.56	7291.01	9152.32	11146.44	13115.20

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow . .	13104.60	13104.67	13104.70
Financial resources .	4.20	4.27	4.30
Sales, net of tax . .	13100.40	13100.40	13100.40
Total cash outflow . .	11161.42	11187.17	11213.10
Total assets	16.35	16.47	16.50
Operating costs . . .	9756.12	9809.39	9861.02
Cost of finance . . .	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax . . .	1388.95	1361.32	1335.58
Dividends paid . . .	0.00	0.00	0.00
Surplus (deficit) .	1943.22	1917.50	1891.60
Cumulated cash balance	18116.09	20033.59	21925.19
Inflow, local	13102.92	13102.94	13102.95
Outflow, local	8055.86	8060.75	8065.66
Surplus (deficit) .	5047.06	5042.19	5037.29
Inflow, foreign . . .	1.72	1.74	1.75
Outflow, foreign . . .	3105.57	3126.43	3147.44
Surplus (deficit) .	-3103.84	-3124.69	-3145.69
Net cashflow	1943.22	1917.50	1891.60
Cumulated net cashflow	15058.42	16975.91	18867.51

Cashflow Discountings:

a) Equity paid versus Net income flow:

Net present value	3560.79	at	13.00 %
Internal Rate of Return (IRRE1) ..	22.94 %		

b) Net Worth versus Net cash return:

Net present value	3921.07	at	13.00 %
Internal Rate of Return (IRRE2) ..	23.00 %		

c) Internal Rate of Return on total investment:

Net present value	4027.22	at	13.00 %
Internal Rate of Return (IRR) ..	21.24 %		

Net Worth = Equity paid plus reserves

[illegible] EGYPTC : Text Variables

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by H.[illegible]; Vers. D
Name of Alternative:	Raw material costs increased by 15 %
Accounting currency:	000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax . .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

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Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7690.37	9444.60	11320.13	12849.04	13074.05	13100.83	13106.30	13106.36	13106.42	13106.40	13106.54	13106.60
Financial resources	4021.67	279.90	98.63	76.84	19.05	8.43	5.90	5.96	6.02	6.00	6.10	6.20
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.00	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	7688.67	9041.23	9533.80	10331.18	10431.86	11652.77	11682.23	15503.00	11071.19	11347.17	11227.04	11264.48
Total assets	3797.19	997.63	359.73	290.43	223.90	31.07	22.74	3919.96	23.19	101.43	23.66	23.90
Operating costs	3666.00	7055.00	8250.66	9181.78	9011.41	9513.60	9504.06	9635.91	9720.12	9801.06	9874.73	9909.10
Cost of finance	225.48	450.96	386.34	322.41	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	1377.10	1009.39	1405.05	1269.03	1365.40	1329.65	1371.04
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00
Surplus (deficit)	1.70	403.43	1786.35	2517.87	2642.60	1456.06	1424.07	-2076.63	2005.20	1758.31	1879.50	1842.12
Cumulated cash balance	1.70	405.13	2191.48	4709.35	7351.95	8808.01	10232.08	7755.44	9840.71	11599.22	13478.72	15320.84
Inflow, local	7632.87	9341.36	11274.45	12818.66	13064.64	13105.42	13103.90	13103.94	13103.97	13104.01	13104.04	13104.08
Outflow, local	4458.04	6835.85	6933.54	7407.23	7287.05	8642.05	8645.46	8743.11	7925.84	8064.97	8072.04	8079.18
Surplus (deficit)	3174.83	2505.51	4340.90	5411.43	5777.59	4463.37	4458.43	4360.83	5178.13	5039.04	5032.01	5024.90
Inflow, foreign	57.50	103.32	45.71	30.38	9.81	3.41	2.40	2.42	2.45	2.47	2.49	2.52
Outflow, foreign	3230.63	2205.40	2580.26	2923.95	3144.80	3010.72	3036.77	6039.89	3093.30	3283.00	3155.00	3185.30
Surplus (deficit)	-3173.13	-2102.07	-2534.55	-2893.57	-3134.99	-3007.30	-3034.38	-6037.47	-3092.85	-3280.53	-3152.54	-3182.78
Net cashflow	-3530.82	1391.25	2709.75	3376.04	3437.13	2106.19	2089.77	-1075.36	2085.20	1758.31	1879.50	1842.12
Cumulated net cashflow	-8617.82	-7226.57	-4516.82	-1139.99	2297.16	4403.35	6573.12	4497.76	6783.03	8541.34	10421.04	12263.16

COMFAR 2.0 UNIDO

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13106.66	13106.73	13106.79
Financial resources	6.26	6.33	6.39
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	11302.30	11340.49	11379.06
Total assets	24.10	24.38	24.62
Operating costs	10024.29	10100.20	10176.86
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1253.87	1215.91	1177.58
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1804.37	1766.24	1727.73
Cumulated cash balance	17125.20	18891.44	20619.16
Inflow, local	13104.12	13104.16	13104.19
Outflow, local	8086.39	8093.67	8101.03
Surplus (deficit)	5017.73	5010.48	5003.16
Inflow, foreign	2.54	2.57	2.60
Outflow, foreign	3215.91	3246.81	3278.03
Surplus (deficit)	-3213.36	-3244.24	-3275.44
Net cashflow	1804.37	1766.24	1727.73
Cumulated net cashflow	14067.53	15833.76	17561.49

Cashflow Discountings

a) Equity paid versus Net income flow:

Net present value	3171.79	at	13.00 %
Internal Rate of Return (IRRE1) ..	22.11 %		

b) Net Worth versus Net cash return:

Net present value	3514.77	at	13.00 %
Internal Rate of Return (IRRE2) ..	22.21 %		

c) Internal Rate of Return on total investment:

Net present value	3620.12	at	13.00 %
Internal Rate of Return (IRR) ..	20.34 %		

Net Worth = Equity paid plus reserves

Tab: EGYPT1 : Text Variables

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by H.Hoebner; Vers. L
Name of Alternative:	Raw material costs increased by 30 %
Accounting currency:	'000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5087.00
Financial resources .	5087.00
Sales, net of tax . .	0.00
Total cash outflow . .	5087.00
Total assets	5087.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2287.00
Outflow, foreign . . .	2287.00
Surplus (deficit) .	0.00
Net cashflow	-5087.00
Cumulated net cashflow	-5087.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993
Total cash inflow	7690.37	9448.58	11325.99	12856.21	13080.94	13115.24
Financial resources	4021.67	283.88	104.49	84.01	25.54	14.84
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40
Total cash outflow	7688.67	9103.27	9673.02	10561.57	10737.36	11856.19
Total assets	3797.19	1012.85	382.15	318.07	250.77	56.54
Operating costs	3666.00	7102.60	8367.46	9384.52	9692.04	9871.09
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27
Repayment	0.00	536.86	536.86	536.86	536.86	536.86
Corporate tax	0.00	0.00	0.00	0.00	0.00	1198.03
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1.70	345.31	- 1652.98	2294.64	2343.58	1259.05
Cumulated cash balance	1.70	347.01	1999.99	4294.63	6638.22	7897.26
Inflow, local	7632.87	9343.77	11277.87	12822.93	13068.43	13109.22
Outflow, local	4458.04	6876.03	7019.48	7548.37	7471.36	8693.27
Surplus (deficit)	3174.83	2467.74	4258.39	5274.56	5597.07	4415.95
Inflow, foreign	57.50	104.81	48.12	33.27	12.51	6.02
Outflow, foreign	3230.63	2227.24	2653.53	3013.19	3266.00	3162.92
Surplus (deficit)	-3173.13	-2122.43	-2605.41	-2979.92	-3253.48	-3156.90
Net cashflow	-3530.82	. 1333.13	2576.38	3153.61	3138.13	1989.17
Cumulated net cashflow	-8617.82	-7284.69	-4708.31	-1554.70	1583.43	3572.60

Year	1994	1995	1996	1997	1998	1999
Total cash inflow	13112.80	13113.04	13113.30	13113.55	13113.82	13114.09
Financial resources	12.40	12.64	12.90	13.15	13.42	13.69
Sales, net of tax	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	11924.98	15866.58	11346.73	11716.78	11640.29	11723.46
Total assets	47.77	3945.73	49.70	208.70	51.71	52.74
Operating costs	10019.83	10171.54	10326.29	10484.14	10645.14	10809.37
Cost of finance	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	1191.68	1148.03	970.74	1023.94	943.44	861.35
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1187.82	-2753.54	1766.56	1396.78	1473.52	1390.65
Cumulated cash balance	9085.08	6331.54	8098.10	9494.88	10968.40	12359.05
Inflow, local	13107.76	13107.91	13108.06	13108.21	13108.37	13108.53
Outflow, local	8704.24	8809.93	8000.93	8148.56	8164.37	8188.50
Surplus (deficit)	4403.52	4297.98	5107.13	4959.65	4944.00	4920.03
Inflow, foreign	5.04	5.14	5.24	5.34	5.45	5.56
Outflow, foreign	3220.74	7056.65	3345.80	3560.22	3475.92	3542.94
Surplus (deficit)	-3215.70	-7051.51	-3340.56	-3562.88	-3470.47	-3537.38
Net cashflow	1053.52	-2152.26	1766.56	1396.78 .	1473.52	1390.65
Cumulated net cashflow	5026.12	3273.87	5040.43	6437.20	7910.73	9301.37

Shoe components & auxiliaries / EG/PT --- 15th Sept.,1986; by H.Huebner; Vorng.L

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13114.36	13114.64	13114.92
Financial resources	13.96	14.24	14.52
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	11808.25	11894.75	11982.99
Total assets	53.09	54.87	55.97
Operating costs	10976.07	11147.73	11322.01
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	777.53	692.15	605.01
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1306.11	1219.89	1131.94
Cumulated cash balance	13665.16	14885.05	16016.99
Inflow, local	13108.69	13108.85	13109.02
Outflow, local	8196.95	8213.72	8230.84
Surplus (deficit)	4911.74	4895.13	4878.18
Inflow, foreign	5.67	5.79	5.90
Outflow, foreign	3611.30	3681.03	3752.15
Surplus (deficit)	-3605.63	-3675.24	-3746.25
Net cashflow	1306.11	1219.89	1131.94
Cumulated net cashflow	10607.48	11827.37	12959.31

Cashflow Discounting:

a) Equity paid versus Net income flow:
Net present value .... 1018.90 at 13.00 %
Internal Rate of Return (IRRE1) .. 18.89 %

b) Net Worth versus Net cash return:
Net present value .... 2098.60 at 13.00 %
Internal Rate of Return (IRRE2) .. 18.95 %

c) Internal Rate of Return on total investment:
Net present value .... 2203.95 at 13.00 %
Internal Rate of Return (IRR) .. 17.93 %

Net Worth = Equity paid plus reserves

(a) EGYPTD : Text Variables

Project Name:	Shoe components & ancillaries / Egypt
Date:	15th Sept.,1986; by U.Haeberer; Vers. E
Name of Alternative:	Selling prices decreased by 10 %
Accounting currency:	'000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax . .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

COMFAR 2.0 UNIDO

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow . .	7323.50	8524.31	10192.27	11564.90	11762.78	11792.86	11790.36	11790.36	11790.36	11790.36	11790.36	11790.36
Financial resources .	4021.67	276.08	92.92	69.92	12.92	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax . .	3301.83	8248.23	10099.35	11494.98	11749.86	11790.36	11790.36	11790.36	11790.36	11790.36	11790.36	11790.36
Total cash outflow . .	7688.67	8979.23	9396.12	10105.68	10135.93	10803.09	10797.27	14662.06	10063.87	10353.99	10195.99	10195.99
Total assets	3797.19	902.41	337.73	263.70	202.38	9.01	0.00	3897.00	0.00	130.00	0.00	0.00
Operating costs . . .	3664.00	7009.00	8135.00	8983.00	9139.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00
Cost of finance . . .	227.48	430.96	386.84	322.11	287.69	193.37	129.08	60.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax . . .	0.00	0.00	0.00	0.00	0.00	893.96	961.37	995.78	893.87	1053.99	1025.99	1025.99
Dividends paid . . .	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit) .	-365.17	-454.92	796.15	1459.22	1626.85	989.77	993.09	-2871.70	1726.49	1436.37	1594.37	1594.37
Cumulated cash balance	-365.17	-820.09	-23.94	1435.28	3062.13	4051.90	5044.99	2173.29	3899.78	5336.14	6930.51	8524.88
Inflow, local	7266.00	8422.48	10148.93	11537.31	11755.53	11791.86	11790.36	11790.36	11790.36	11790.36	11790.36	11790.36
Outflow, local	4458.04	6795.67	6840.56	7269.12	7108.99	7938.43	7935.27	8026.06	7201.87	7333.99	7333.99	7333.99
Surplus (deficit) .	2807.96	1626.81	3308.37	4268.19	4646.73	3853.43	3855.09	3764.30	4588.49	4456.37	4456.37	4456.37
Inflow, foreign . . .	57.50	101.83	43.33	27.58	7.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign . . .	3230.63	2183.56	2547.56	2836.56	3027.33	2864.67	2862.00	6634.00	2862.00	3020.00	2862.00	2862.00
Surplus (deficit) .	-3173.13	-2081.72	-2504.22	-2808.97	-3020.08	-2863.67	-2862.00	-6634.00	-2862.00	-3020.00	-2862.00	-2862.00
Net cashflow	-3897.69	452.90	1719.54	2318.19	2421.40	1719.90	1658.79	-2270.42	1726.49	1436.37	1594.37	1594.37
Cumulated net cashflow	-8904.69	-8451.79	-6732.25	-4414.06	-1992.66	-272.76	1386.03	-884.39	842.10	2278.46	3872.83	5467.20

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	11790.36	11790.36	11790.36
Financial resources	0.00	0.00	0.00
Sales, net of tax	11790.36	11790.36	11790.36
Total cash outflow	10195.99	10195.99	10195.99
Total assets	0.00	0.00	0.00
Operating costs	9170.00	9170.00	9170.00
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1025.99	1025.99	1025.99
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1594.37	1594.37	1594.37
Cumulated cash balance	10119.25	11713.61	13307.98
Inflow, local	11790.36	11790.36	11790.36
Outflow, local	7333.99	7333.99	7333.99
Surplus (deficit)	4456.37	4456.37	4456.37
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	2862.00	2862.00	2862.00
Surplus (deficit)	-2862.00	-2862.00	-2862.00
Net cashflow	1594.37	1594.37	1594.37
Cumulated net cashflow	7061.57	8655.93	10250.30

Cashflow Discountings

a) Equity paid versus Net income flow:

Net present value	-801.51	at	13.00 %
Internal Rate of Return (IRRE1) ..	10.73 %		

b) Net Worth versus Net cash return:

Net present value	-399.60	at	13.00 %
Internal Rate of Return (IRRE2) ..	12.06 %		

c) Internal Rate of Return on total investment:

Net present value	-294.34	at	13.00 %
Internal Rate of Return (IRR) ..	12.42 %		

Net Worth = Equity paid plus reserves

Ide: EGYPTE : Text Variables

-- COMFAR 2.0 - ID/FEAD UNIDO Vienna ----

Project Name:	Shoe components & auxiliaries / Egypt
Date:	15th Sept.,1986; by W.Huebner; Vers. F
Name of Alternative:	Selling prices decreased by 15 %
Accounting currency:	'000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	5007.00
Financial resources .	5007.00
Sales, net of tax . .	0.00
Total cash outflow . .	5007.00
Total assets	5007.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2800.00
Outflow, local	2800.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	2207.00
Outflow, foreign . . .	2207.00
Surplus (deficit) .	0.00
Net cashflow	-5007.00
Cumulated net cashflow	-5007.00

COMFAR 2.0 UNIDO

COMFAR 2.0 - 10/FEAS UNIDO Vienna

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7140.00	8068.81	9635.29	10931.29	11115.31	11163.29	11160.79	11160.79	11160.79	11160.79	11160.79	11160.79
Financial resources	4021.67	276.08	92.92	69.92	12.92	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3118.42	7792.73	9542.37	10861.37	11102.39	11160.79	11160.79	11160.79	11160.79	11160.79	11160.79	11160.79
Total cash outflow	7688.67	8979.23	9396.12	10105.67	10135.93	10478.31	10472.49	10337.20	9759.08	10029.21	9871.21	9871.21
Total assets	3797.19	902.41	337.73	263.70	202.30	9.01	0.00	3097.00	0.00	150.00	0.00	0.00
Operating costs	3666.00	7009.00	8135.00	8983.00	9139.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00
Cost of finance	225.48	430.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	569.18	636.79	669.00	569.08	701.21	701.21	701.21
Dividends paid	0.00	0.00	- 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	-548.58	-910.42	239.17	825.62	979.38	664.99	668.31	-3196.40	1401.71	1111.58	1269.58	1269.58
Cumulated cash balance	-548.58	-1459.00	-1219.83	-394.22	585.16	1250.15	1918.46	-1278.03	123.68	1235.27	2504.85	3774.44
Inflow, local	7082.38	7966.98	9591.95	10903.71	11108.06	11162.29	11160.79	11160.79	11160.79	11160.79	11160.79	11160.79
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	7613.64	7610.49	7701.28	6877.08	7009.21	7009.21	7009.21
Surplus (deficit)	2624.34	1171.30	2743.39	3634.59	3999.47	3528.65	3530.31	3439.52	4263.71	4131.59	4131.59	4131.59
Inflow, foreign	57.50	101.83	43.33	27.58	7.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	3230.63	2103.56	2347.56	2036.56	3027.33	2864.67	2862.00	6636.00	2862.00	3020.00	2862.00	2862.00
Surplus (deficit)	-3173.13	-2001.72	-2504.22	-2008.97	-3020.08	-2863.67	-2862.00	-6636.00	-2862.00	-3020.00	-2862.00	-2862.00
Net cashflow	-4001.10	77.40	1162.56	1604.59	1773.93	1395.11	1334.01	-2393.20	1401.71	1111.59	1269.59	1269.59
Cumulated net cashflow	-9168.10	-9090.70	-7928.14	-6243.56	-4469.62	-3074.51	-1740.51	-4133.71	-2734.00	-1822.41	-552.83	716.76

Shoe components & auxiliaries / Egypt --- 15th Sept.,1986; by U.Neubeer; Vers. F

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Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow . .	11140.79	11140.79	11140.79
Financial resources .	0.00	0.00	0.00
Sales, net of tax . .	11140.79	11140.79	11140.79
Total cash outflow . .	9071.21	9071.21	9071.21
Total assets	0.00	0.00	0.00
Operating costs . . .	9170.00	9170.00	9170.00
Cost of finance . . .	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax . . .	701.21	701.21	701.21
Dividends paid . . .	0.00	0.00	0.00
Surplus (deficit) .	1269.58	1269.58	1269.58
Cumulated cash balance	5044.02	6313.61	7583.19
Inflow, local	11140.79	11140.79	11140.79
Outflow, local	7009.21	7509.21	7009.21
Surplus (deficit) .	4131.59	4131.59	4131.59
Inflow, foreign . . .	0.00	0.00	0.00
Outflow, foreign . . .	2062.00	2062.00	2062.00
Surplus (deficit) .	-2062.00	-2062.00	-2062.00
Net cashflow	1269.59	1269.59	1269.59
Cumulated net cashflow	1986.34	3255.93	4525.51

Cashflow Discountings

a) Equity paid versus Net income flow:
        Net present value .... -3403.11 at 13.00 %
        Internal Rate of Return (IRRE1) .. 2.91 %
b) Net Worth versus Net cash return:
        Net present value .... -3001.29 at 13.00 %
        Internal Rate of Return (IRRE2) .. 6.13 %
c) Internal Rate of Return on total investment:
        Net present value .... -2895.94 at 13.00 %
        Internal Rate of Return (IRR) .. 7.35 %
Net Worth = Equity paid plus reserves

Tab: EGYPTF : Text Variables ---------- COMFAR 2.0 - IO/FEAS UNIDO Vienna -----

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by W.Huebner; Vers.6
Name of Alternative:	Interest rate up to 15 %
Accounting currency:	000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1997
Total cash inflow	5087.00
Financial resources	5087.00
Sales, net of tax	0.00
Total cash outflow	5087.00
Total assets	5087.00
Operating costs	0.00
Cost of finance	0.00
Repayment	0.00
Corporate tax	0.00
Dividends paid	0.00
Surplus (deficit)	0.00
Cumulated cash balance	0.00
Inflow, local	2880.00
Outflow, local	2880.00
Surplus (deficit)	0.00
Inflow, foreign	2207.00
Outflow, foreign	2207.00
Surplus (deficit)	0.00
Net cashflow	-5087.00
Cumulated net cashflow	-5087.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7690.37	9440.70	11314.02	12842.12	13068.32	13102.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Financial resources	4021.67	276.00	92.92	69.92	12.92	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3568.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	7745.04	9091.97	9492.75	10186.20	10200.35	11482.27	11468.40	15375.13	10710.89	11009.01	10851.01	10851.01
Total assets	3797.19	902.41	337.73	263.70	202.38	9.01	0.00	3897.00	0.00	150.00	0.00	0.00
Operating costs	3666.00	7009.00	8135.00	8903.00	9139.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00	9170.00
Cost of finance	281.85	543.70	483.17	402.64	322.11	241.59	161.06	80.53	-0.00	0.00	0.50	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	1520.82	1600.48	1640.75	1540.89	1681.01	1681.01	1681.01
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	-54.67	348.81	1821.66	2655.92	2867.97	1620.63	1632.00	-2274.73	2381.51	2091.39	2249.39	2249.39
Cumulated cash balance	-54.67	294.14	2115.81	4771.72	7639.69	9260.32	10892.32	8667.59	11049.10	13140.49	15389.87	17639.26
Inflow, local	7632.87	9338.95	11271.08	12814.53	13061.07	13101.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Outflow, local	4514.41	6908.41	6945.20	7349.65	7173.02	8617.60	8606.40	8689.13	7856.89	7989.01	7989.01	7989.01
Surplus (deficit)	3118.46	2430.54	4325.89	5464.89	5888.05	4484.30	4494.00	4411.27	5243.51	5111.39	5111.39	5111.39
Inflow, foreign	57.50	101.83	43.33	27.58	7.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	3230.63	2103.56	2547.56	2836.56	3027.33	2864.67	2862.00	6636.00	2862.00	3020.00	2862.00	2862.00
Surplus (deficit)	-3173.13	-2001.72	-2504.22	-2808.97	-3020.08	-2863.67	-2862.00	-6636.00	-2862.00	-3020.00	-2867.00	-2867.00
Net cashflow	-3530.82	1449.37	2041.69	3595.41	3726.94	2399.07	2329.92	-1607.35	2381.51	2091.39	2249.39	2249.39
Cumulated net cashflow	-8617.82	-7168.45	-4326.76	-731.34	2995.60	5394.67	7724.59	6117.24	8498.75	10590.14	12839.53	15088.91

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13100.40	13100.40	13100.40
Financial resources	0.00	0.00	0.00
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	10851.01	10851.01	10851.01
Total assets	0.00	0.00	0.00
Operating costs	9170.00	9170.00	9170.00
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1681.01	1681.01	1681.01
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	2249.39	2249.39	2249.39
Cumulated cash balance	19880.65	22130.04	24379.42
Inflow, local	13100.40	13100.40	13100.40
Outflow, local	7989.01	7989.01	7989.01
Surplus (deficit)	5111.39	5111.39	5111.39
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	2862.00	2862.00	2862.00
Surplus (deficit)	-2862.00	-2862.00	-2862.00
Net cashflow	2249.39	2249.39	2249.39
Cumulated net cashflow	17338.30	19587.69	21837.07

Cashflow Discountings:

a) Equity paid versus Net income flow:			
Net present value	4120.60	at	13.00 %
Internal Rate of Return (IRRE1) ..	23.75 %		
b) Net Worth versus Net cash return:			
Net present value	4530.50	at	13.00 %
Internal Rate of Return (IRRE2) ..	23.99 %		
c) Internal Rate of Return on total investment:			
Net present value	4960.31	at	13.00 %
Internal Rate of Return (IRR) ..	22.79 %		

Net Worth = Equity paid plus reserves

Tab: EGYPTG : Text Variables

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by U.Huebner; Vers.H
Name of Alternative:	Exchange rate increased by 25%
Accounting currency:	'000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in 000 LE

Year	1987
Total cash inflow	5630.75
Financial resources	5630.75
Sales, net of tax	0.00
Total cash outflow	5630.75
Total assets	5630.75
Operating costs	0.00
Cost of finance	0.00
Repayment	0.00
Corporate tax	0.00
Dividends paid	0.00
Surplus (deficit)	0.00
Cumulated cash balance	0.00
Inflow, local	2880.00
Outflow, local	2880.00
Surplus (deficit)	0.00
Inflow, foreign	2750.75
Outflow, foreign	2750.75
Surplus (deficit)	0.00
Net cashflow	-5630.75
Cumulated net cashflow	-5630.75

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993
Total cash inflow	7704.74	9466.24	11325.25	12849.01	13070.13	13103.15
Financial resources	4036.04	301.54	103.75	76.81	14.73	2.75
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40
Total cash outflow	8496.32	9525.12	10033.01	10814.81	10892.76	11747.26
Total assets	4432.34	1050.30	366.61	282.09	246.71	9.68
Operating costs	3838.50	7487.00	8743.00	9673.75	9851.50	9885.50
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27
Repayment	0.00	536.86	536.86	536.86	536.86	536.86
Corporate tax	0.00	0.00	0.00	0.00	0.00	1121.96
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	-791.58	-58.88	1292.24	2034.20	2177.37	1355.89
Cumulated cash balance	-791.58	-850.46	441.78	2475.98	4653.35	6009.24
Inflow, local	7632.87	9338.95	11271.08	12814.53	13061.07	13101.90
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	8166.43
Surplus (deficit)	3174.83	2543.28	4422.52	5545.42	5952.47	4935.47
Inflow, foreign	71.88	127.29	54.17	34.48	9.06	1.25
Outflow, foreign	4038.28	2729.44	3184.44	3545.69	3784.17	3580.83
Surplus (deficit)	-3966.41	-2602.15	-3130.28	-3511.22	-3775.10	-3579.58
Net cashflow	-4324.10	328.94	3615.64	2093.17	2971.92	2086.02
Cumulated net cashflow	-9962.85	-9633.91	-6018.27	-3925.10	-953.18	1132.83

Year	1994	1995	1996	1997	1998	1999
Total cash inflow	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Financial resources	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	11747.12	16555.41	10981.28	11343.34	11145.84	11145.84
Total assets	0.00	4840.50	0.00	197.50	0.00	0.00
Operating costs	9885.50	9885.50	9885.50	9885.50	9885.50	9885.50
Cost of finance	128.84	60.42	-0.00	0.00	0.00	0.00
Repayment	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	1195.92	1270.13	1095.78	1260.34	1260.34	1260.34
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	1353.28	-3455.01	2119.12	1757.06	1954.56	1954.56
Cumulated cash balance	7362.52	3907.51	6026.63	7783.68	9738.24	11692.79
Inflow, local	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Outflow, local	8169.62	8260.41	7403.78	7568.34	7568.34	7568.34
Surplus (deficit)	4930.78	4839.99	5696.62	5532.06	5532.06	5532.06
Inflow, foreign	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	3577.50	8295.00	3577.50	3775.00	3577.50	3577.50
Surplus (deficit)	-3577.50	-8295.00	-3577.50	-3775.00	-3577.50	-3577.50
Net cashflow	2018.98	-2853.73	2119.12	1757.06	1954.56	1954.56
Cumulated net cashflow	3151.81	298.08	2417.20	4174.25	6128.81	8083.37

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13100.40	13100.40	13100.40
Financial resources	0.00	0.00	0.00
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	11145.84	11145.84	11145.84
Total assets	0.00	0.00	0.00
Operating costs	9885.50	9885.50	9885.50
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	1260.34	1260.34	1260.34
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1954.56	1954.56	1954.56
Cumulated cash balance	13647.35	15601.91	17556.46
Inflow, local	13100.40	13100.40	13100.40
Outflow, local	7568.34	7568.34	7568.34
Surplus (deficit)	5532.06	5532.06	5532.06
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	3577.50	3577.50	3577.50
Surplus (deficit)	-3577.50	-3577.50	-3577.50
Net cashflow	1954.56	1954.56	1954.56
Cumulated net cashflow	10037.92	11992.48	13947.04

Cashflow Discountings:

a) Equity paid versus Net income flow:

Net present value	396.05	at	13.00 %
Internal Rate of Return (IRRE1) ..	16.01 %		

b) Net Worth versus Net cash return:

Net present value	700.64	at	13.00 %
Internal Rate of Return (IRRE2) ..	14.50 %		

c) Internal Rate of Return on total investment:

Net present value	895.98	at	13.00 %
Internal Rate of Return (IRR) ..	14.45 %		

Net Worth = Equity paid plus reserves

Tab) EGYPTH : Text Variables ---------- COMFAR 2.0 - IO/FEAS UNIDO Vienna -----

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1986; by H.Huebner; Vers.I
Name of Alternative:	Exchange rate increased by 50 %
Accounting currency:	1000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	6190.50
Financial resources .	6190.50
Sales, net of tax . .	0.00
Total cash outflow . .	6190.50
Total assets	6190.50
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2880.00
Outflow, local	2880.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	3310.50
Outflow, foreign . . .	3310.50
Surplus (deficit) .	0.00
Net cashflow	-6190.50
Cumulated net cashflow	-6190.50

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7719.12	9491.70	11336.00	12855.91	13071.94	13103.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Financial resources	4050.42	327.00	114.50	83.71	16.54	3.00	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Total cash outflow	9303.98	10071.01	10669.90	11523.95	11649.59	12036.41	12041.96	17793.74	11243.60	11677.60	11440.60	11440.60
Total assets	5067.50	1110.19	395.50	300.40	291.04	16.34	0.00	5781.00	0.00	237.00	0.00	0.00
Operating costs	4011.00	7965.00	9351.00	10344.50	10564.00	10601.00	10601.00	10601.00	10601.00	10601.00	10601.00	10601.00
Cost of finance	225.40	430.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.06	536.06	536.06	536.06	536.06	536.06	536.06	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	694.94	775.25	807.46	602.60	839.60	839.60	839.60
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	-1584.86	-579.31	666.19	1331.96	1422.35	1066.99	1058.45	-4693.34	1856.72	1422.72	1659.72	1659.72
Cumulated cash balance	-1584.86	-2164.17	-1497.98	-166.03	1256.32	2323.31	3381.76	-1311.58	545.14	1967.86	3627.59	5287.31
Inflow, local	7632.87	9338.95	11271.00	12814.53	13061.07	13101.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	7739.41	7748.96	7839.74	6950.60	7147.60	7147.60	7147.60
Surplus (deficit)	3174.83	2543.28	4422.52	5545.42	5952.47	5362.49	5351.45	5260.66	6149.73	5952.73	5952.73	5952.73
Inflow, foreign	86.25	152.75	65.00	41.38	10.88	1.50	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	4845.94	3275.33	3821.33	4254.83	4541.00	4297.00	4293.00	9954.00	4293.00	4530.00	4293.00	4293.00
Surplus (deficit)	-4759.69	-3122.58	-3756.33	-4213.46	-4530.13	-4295.50	-4293.00	-9954.00	-4293.00	-4530.00	-4293.00	-4293.00
Net cashflow	-5117.38	408.51	1509.58	2198.93	2216.90	1797.12	1724.15	-4092.06	1856.73	1422.73	1659.73	1659.73
Cumulated net cashflow	-11307.88	-10899.37	-9389.79	-7110.86	-4901.97	-3104.85	-1380.70	-5472.76	-3616.04	-2193.31	-533.59	1126.14

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow . .	13100.40	13100.40	13100.40
Financial resources .	0.00	0.00	0.00
Sales, net of tax . .	13100.40	13100.40	13100.40
Total cash outflow . .	11440.68	11440.68	11440.68
Total assets	0.00	0.00	0.00
Operating costs . . .	10601.00	10601.00	10601.00
Cost of finance . . .	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax . . .	839.68	839.68	839.68
Dividends paid . . .	0.00	0.00	0.00
Surplus (deficit) .	1659.72	1659.72	1659.72
Cumulated cash balance	6947.04	8606.76	10266.49
Inflow, local	13100.40	13100.40	13100.40
Outflow, local	7147.68	7147.68	7147.68
Surplus (deficit) .	5952.73	5952.73	5952.73
Inflow, foreign . . .	0.00	0.00	0.00
Outflow, foreign . . .	4293.00	4293.00	4293.00
Surplus (deficit) .	-4293.00	-4293.00	-4293.00
Net cashflow	1659.73	1659.73	1659.73
Cumulated net cashflow	2785.86	4445.59	6105.31

Cashflow Discountings:

a) Equity paid versus Net income flow:

Net present value	-3443.56	at	13.00 %
Internal Rate of Return (IRRE1) ..	3.73 %		

b) Net Worth versus Net cash return:

Net present value	-3440.22	at	13.00 %
Internal Rate of Return (IRRE2) ..	6.57 %		

c) Internal Rate of Return on total investment:

Net present value	-3334.07	at	13.00 %
Internal Rate of Return (IRR) ..	7.54 %		

Net Worth = Equity paid plus reserves

Tab: EGYPT1 : Text Variables -- COMFAR 2.0 - 10/FEPB UNIDO Vienna ---

Project Name:	Shoe components & auxiliaries / EGYPT
Date:	15th Sept.,1984; by H.Huebner; Vers.2
Name of Alternative:	Exchange rate increased by 100 %
Accounting currency:	1000 LE
Name of Product (A):	Shoe lasts
Name of Product (B):	Cutting dies
Name of Product (C):	Graded patterns
Name of Product (D):	Insoles
Name of Product (E):	Stiffeners
Name of Product (F):	Leather soles

Cashflow Tables, construction in '000 LE

Year	1987
Total cash inflow . .	7294.00
Financial resources .	7294.00
Sales, net of tax . .	0.00
Total cash outflow . .	7294.00
Total assets	7294.00
Operating costs . . .	0.00
Cost of finance . . .	0.00
Repayment	0.00
Corporate tax . . .	0.00
Dividends paid . . .	0.00
Surplus (deficit) .	0.00
Cumulated cash balance	0.00
Inflow, local	2880.00
Outflow, local	2880.00
Surplus (deficit) .	0.00
Inflow, foreign . . .	4414.00
Outflow, foreign . . .	4414.00
Surplus (deficit) .	0.00
Net cashflow	-7294.00
Cumulated net cashflow	-7294.00

Cashflow tables, production in '000 LE

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total cash inflow	7747.87	9542.62	11357.75	12869.70	13075.57	13103.90	13100.40	13100.40	13100.40	13100.40	13100.40	13100.00
Financial resources	4079.17	377.92	136.25	97.50	20.17	3.50	0.00	0.00	0.00	0.00	0.00	0.00
Sales, net of tax	3668.70	9164.70	11221.50	12772.20	13055.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.40	13100.00
Total cash outflow	10919.29	11162.78	11943.67	12942.23	13163.26	12773.80	12697.70	20304.20	12032.00	12348.00	12032.00	12032.00
Total assets	6337.81	1253.97	453.28	337.26	379.71	11.60	0.00	7671.00	0.00	316.00	0.00	0.00
Operating costs	4354.00	8921.00	10567.00	11746.00	11909.00	12032.00	12032.00	12032.00	12032.00	12032.00	12032.00	12032.00
Cost of finance	225.48	450.96	386.54	322.11	257.69	193.27	128.85	64.42	-0.00	0.00	0.00	0.00
Repayment	0.00	536.86	536.86	536.86	536.86	536.86	536.86	536.86	0.00	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surplus (deficit)	-3171.42	-1620.17	-585.92	-72.53	-87.69	330.10	402.70	-7203.80	1068.40	752.40	1068.40	1068.00
Cumulated cash balance	-3171.42	-4791.59	-5377.52	-5450.05	-5537.74	-5207.64	-4804.94	-12008.42	-10940.02	-10188.07	-9119.62	-8051.22
Inflow, local	7632.87	9338.95	11271.08	12814.53	13061.07	13101.96	13100.40	13100.40	13100.40	13100.40	13100.40	13100.00
Outflow, local	4458.04	6795.67	6848.56	7269.12	7108.59	7044.47	6973.70	7032.70	6308.00	6308.00	6308.00	6308.00
Surplus (deficit)	3174.83	2543.28	4422.52	5545.42	5952.47	6057.43	6126.70	6068.12	6792.40	6792.40	6792.40	6792.00
Inflow, foreign	115.00	203.67	86.67	55.17	14.50	2.00	0.00	0.00	0.00	0.00	0.00	0.00
Outflow, foreign	6461.25	4367.11	5095.11	5673.11	6054.67	5729.33	5724.00	13272.90	5724.00	6040.00	5724.00	5724.00
Surplus (deficit)	-6346.25	-4163.44	-5008.44	-5617.94	-6040.17	-5727.33	-5724.00	-13272.00	-5724.00	-6040.00	-5724.00	-5724.00
Net cashflow	-6703.94	-632.33	337.47	786.44	706.86	1060.23	1068.40	-6602.60	1068.40	752.40	1068.40	1068.00
Cumulated net cashflow	-13997.95	-14630.30	-14292.83	-13506.38	-12799.53	-11739.30	-10670.90	-17273.50	-16205.10	-15452.70	-14384.30	-13315.90

Cashflow tables, production in '000 LE

Year	2000	2001	2002
Total cash inflow	13100.40	13100.40	13100.40
Financial resources	0.00	0.00	0.00
Sales, net of tax	13100.40	13100.40	13100.40
Total cash outflow	12032.00	12032.00	12032.00
Total assets	0.00	0.00	0.00
Operating costs	12032.00	12032.00	12032.00
Cost of finance	0.00	0.00	0.00
Repayment	0.00	0.00	0.00
Corporate tax	0.00	0.00	0.00
Dividends paid	0.00	0.00	0.00
Surplus (deficit)	1068.40	1068.40	1068.40
Cumulated cash balance	-6982.82	-5914.42	-4846.02
Inflow, local	13100.40	13100.40	13100.40
Outflow, local	6308.00	6308.00	6308.00
Surplus (deficit)	6792.40	6792.40	6792.40
Inflow, foreign	0.00	0.00	0.00
Outflow, foreign	5724.00	5724.00	5724.00
Surplus (deficit)	-5724.00	-5724.00	-5724.00
Net cashflow	1068.40	1068.40	1068.40
Cumulated net cashflow	-12247.50	-11179.10	-10110.70

Cashflow Discounting:

a) Equity paid versus Net income flow:
Net present value .... -11941.90 at 13.00 %
Internal Rate of Return (IRRE1) .. not found

b) Net Worth versus Net cash return:
Net present value .... -11929.11 at 13.00 %
Internal Rate of Return (IRRE2) .. not found

c) Internal Rate of Return on total investment:
Net present value .... -11823.76 at 13.00 %
Internal Rate of Return (IRR) .. not found

Net Worth = Equity paid plus reserves

Annex 3.

Terminology of Materials, Auxiliaries and Components used for Leather Products Manufacture

Basic materials are processed directly from raw materials usually found in native state (e.g. from wood, oil, ores, animal skins). The most important items used for composite elements of leather products and/or their components are:

- genuine (tanned) leather or leatherboard,
- leatherboard, (leather fibre board)
- simulated leathers (coated fabrics, poromerics, foils),
- textiles (fabrics, threads, yarns),
- timbers, board,
- paper or paperboard,
- cork,
- rubber (natural and synthetic),
- plastics (EVA, PA, PE, PUR, PVC, TR, etc.),
- metals (mostly Al, Cu, Fe),
- paper or paperboard.

Auxiliary materials are those items used for assembling of components, cleaning and finishing, machine servicing etc. The more frequently used auxiliaries are:

- adhesives and hot-melts,
- nails, tacks, staples, rivets, rings, wires, zippers,
- laces, threads, reinforcing and binding tapes,
- needles, awls,

- dyes, pitch, creams, talcum powder,
- inks, dissolvents, chemical agents, fuels,
- hydraulic oil, lubricants,
- wrapping materials, marking/stamping foils.

Components are cut (e.g. vamp, quarter, tongue, etc) or prefabricated parts (e.g. insoles, leather unit soles) of leather or other materials ready for assembling and further processing to finished products.

Manufacturing tools are frequently used auxiliary equipments for cutting/trimming, perforating, marking/stamping, forming (moulding), pressing, roughing, burning, polishing/buffing, sparing etc. The shoe last is considered a special kind of tool, used for forming the upper and as a basis for assembling the footwear components.

Patterns are (generally plane) detail models of designs to be cut from sheet materials, with bound edges for easy handcutting or used for checking the precision of tools or operation performance.

Annex 4.

Test results of the Egyptian leatherboard

from Model Tannery

A sample of the leatherboard manufactured by the Model Tannery was examined for the purpose of insole manufacturing by the Quality Checking Department of the Research Institute for the Leather and Shoe Industries (BCK) in Hungary. The tests were made in January, 1986, the testing methods of the leatherboard were according to those of the Pirmasens recommendations.

Properties		Dimensions	Values
Thickness		mm	1.82
Tensile strength	l	Kp/mm2	8.2
(Dry)	c		7.7
	a		7.9
Elongation at	l	%	11.0
break	c		18.5
(Dry)	a		14.7
Volume weight		g/cm3	0.75
Dimension change	l	%	1.67
(linear)	c		2.67
	a		2.17
Water absorption		%	21.2
Moisture contents		%	11.3
Bending	l/c		non-cracking

Remark: l - lengthwise
c - crosswise
a - average

MATERIALS

Annex 5.1.

1 SHOE LASTS

Material	Requir. per pair	unit	Rate LE/unit	Maximal capacity pairs	COSTS Local LE	Foreign LE	Total LE
HD polyethylene	0.450	kg	2.05	130000		119925	119925
LD polyethylene	1.050	kg	1.20	130000		163800	163800
Regranulated PE	1.500	kg	1.50	130000		292500	292500
'V' hinge	1.000	pair	0.50	130000		65000	65000
Hinge pin	2.000	pair	0.70	130000		182000	182000
Spring	1.000	pair	0.62	130000		80600	80600
Thimble	1.000	pair	0.26	130000		33800	33800
Nails	0.010	kg	3.70	130000		4810	4810
Steel plate	0.050	kg	0.67	130000		4355	4355
Auxiliaries	1.000	pair	1.50	130000		195000	195000
Energy	4.615	KWh	0.24	130000	143988		143988
TOTAL					143988	946790	1090778
Share		%			13	86	100

Unit mater. cost LE/pair 8.39

MATERIALS

Annex 5.2.

2 CUTTING DIES

Material	Requir. per piece	Unit	Rate LE/unit	Maximal capacity sets	COSTS Local LE	Foreign LE	Total LE
Steel strip	0.650	m	5.60	1200		419328	419328
Metal components	0.200	kg	0.86	1200		19814	19814
Auxiliaries	1.000	piece	0.02	1200		2304	2304
Energy	0.125	KWh	0.24	1200	3456		3456
TOTAL					3456	441446	444902
Share		%			0	99	100.00
Unit mater. cost		LE/set	370.75				
		LE/pc	3.86				

REMARKS:
1 set=12 sizes
1 size=8 pieces

MATERIALS

Annex 5.3.

3 GRADED PATTERNS

Material	Requir. per piece	Unit	Rate LE/unit	Maximal capacity sets	Local LE	COSTS Foreign LE	Total LE
Cardboard	0.022	m2	0.95	1200	12640		12640
Binding strip	0.150	m	0.12	1200		10886	10886
Metal sheet	0.055	kg	0.60	1200	554		554
Auxiliaries	1.000	pc	0.02	1200		12096	12096
Energy	0.003	KWh	0.24	1200	435		435
TOTAL					13630	22982	36612
Share		%			37	62	100.00
Unit mater. cost		LE/set	30.51				
		LE/pc	0.06				

REMARKS:
12 sizes/set
14 patterns/size
3 copies/pattern = 504 copies
25% of patterns
for hand cutting

Annex 5.4.

MATERIALS

4 INSOLES

Material	Requir. per pair	Unit	Rate LE/unit	Maximal capacity pairs	COSTS Local LE	Foreign LE	Total LE
Leatherboard	0.060	m2	2.55	6000000	918000		918000
Cardboard	0.100	kg	0.95	6000000		570000	570000
Steel shank	0.500	pair	0.06	6000000		180000	180000
Auxiliaries	1.000	pair	0.05	6000000		300000	300000
Energy	0.022	Kwh	0.24	6000000	31680		31680
TOTAL					949680	1050000	1999680
Share		%			47	52	100.00

Unit mater. cost LE/pair 0.33

REMARK:
50% of insoles
without shanks

Annex 5.5.

MATERIALS
=========

5 STIFFENERS

Material	Requir. per pair	Unit	Rate LE/unit	Maximal capacity pairs	COSTS Local LE	Foreign LE	Total LE
Leatherboard	0.016	m2	2.80	6000000	268800		268800
Adhesive	0.010	kg	3.20	6000000		192000	192000
Auxiliaries	1.000	pair	0.01	6000000		60000	60000
Energy	0.020	KWh	0.24	6000000	28800		28800
TOTAL					297600	252000	549600
Share		%			54	45	100.00

Unit mater. cost LE/pair 0.09

MATERIALS

6 LEATHER UNIT SOLES

Material	Requir. per pair	Unit	Rate LE/unit	Maximal capacity pairs	COSTS Local LE	Foreign LE	Total LE
Sole leather	0.340	kg	5.60	1500000	2856000		2856000
Toppiece	0.040	kg	2.10	1500000	126000		126000
Adhesive	0.007	kg	6.98	1500000		73290	73290
Auxiliaries	1.000	pair	0.17	1500000		255000	255000
Energy	0.147	Kwh	0.24	1500000	52920		52920
TOTAL					3034920	328290	3363210
Share		%			90	9	100.00

Unit mater. cost LE/pair 2.24

1 SHOE LAST MANUFACTURING

Annex 6.1.

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
101	Injection moulding	DONZELLI	PAF/2	1	77.5	217000	217000
102	Water basin	DONZELLI		1		13200	13200
103	Mixer	DONZELLI		1	3.0	3730	8730
104	Band saw	***		1	1.2	1640	1640
105	Coarse mill	INCOMA	S.NOVAR.	1	12.0	24300	24300
106	Fine mill	INCOMA	S.NOVAR.	1	10.0	27130	27130
107	Extruder	INCOMA		1	30.0	30440	30440
108	Dosing bin	INCOMA		1		3850	3850
109	Water basin	INCOMA		1		2160	2160
110	Regranulator	INCOMA		1	11.0	13040	13040
111	Rough turning	***	LFM 5	1	14.0	10200	10200
112	Rough&fine turning	INCOMA	FFA	1	12.0	43510	43510
113	Band saw&hinge cut	INCOMA		1	1.4	11350	11360
114	Slotting	INCOMA	CCT/A310	1	4.0	14130	14130
115	Fine turning	***	LFM 3	4	16.8	10030	40320
116	Toe dog taking	***	SFM 2	1	1.5	3000	3000
117	Heel dog taking	***	FFM 3	1	1.5	2920	2920
118	Top plane milling	***	LPM 2	1	4.6	2630	2680
119	Insert hinge pin	INCOMA	F3/2	1		13740	13740
120	Template bed milling machine	INCOMA	F3A	1	2.2	11100	11100
121	Attaching jack	INCOMA	IPT3413	2		5010	10020
122	Forming press	INCOMA	SLA	1	7.5	17760	17760
123	Rough&fine grinding	INCOMA	PUL A3	2	1.6	3900	7300
124	Steel shears	Black&Deck		1	1.6	3220	3220
125	Grinding machine	INCOMA	MPB	2	1.6	1700	3400
126	V cutting device	INCOMA		1	1.4	4350	4350
127	Hole drilling	***	RS 1315	1	1.4	920	920
128	Drilling&hinge ins.	INCOMA	FPC-PPC	1	1.6	5420	5420
129	Soldering iron	INCOMA		1	0.5	430	430
130	Perforating machine	INCOMA	RTL	2	4.2	960	1920
131	Template boring	INCOMA		2		11040	22080
132	Marking	INCOMA	NPL	1		4820	4320
133	Template forming	INCOMA	PPG	1	6.8	9700	9700
134	Model vice & table	INCOMA		3		430	1290
135	Hinge pin inserting	INCOMA	HPP/2AB	1	0.8	4350	4350
136	Template shears	INCOMA		1		2850	2350
	Subtotal				231.7		594780
	Mould (injection)	INCOMA		24		1750	42000
	Press mould	INCOMA		24		750	18000
	Handtools						7500
	Spare-parts						35000
	Freight+insurance						72000
	TOTAL				231.7		769280
	Total, LE	1.35					1038528

REMARK:
*** from the existing plant (Giza) (SEIDL)

Annex 6.2.

2 CUTTING DIE
MANUFACTURING

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
201	Stand for material barrels	SKOMAB	11.120	2		260	520
202	Material barrel C 19/32	SKOMAB	11.131	3		390	1170
203	Material barrel C 19/32-II	SKOMAB	11.132	2		420	840
204	Manual steel shears	SKOMAB	11.143	1		660	660
205	Hydr. steel shears	SKOMAB	11.150	1	2.6	2960	2960
206	Spare blades	SKOMAB	11 [illegible]	4		120	480
207	Measuring device	SKOMAB	1[illegible]	1		240	240
208	Code marking	SKOMAB	1[illegible]	1		1070	1070
209	Revolving head	SKOMAB	11.[illegible]1	1		590	590
210	Bending H/V 1	SKOMAB	11.310	1		1600	1600
211	Bending tools	SKOMAB	11.311	2		120	240
212	Pattern pliers	SKOMAB	11.370	1		70	70
213	Pattern clips 19/32	SKOMAB	11.371	40		15	600
214	Welding fixture II	SKOMAB	11.412	1		1630	1630
215	Welding fixture I	SKOMAB	11.432	1		880	880
216	Welding machine WTV	SKOMAB	11.450	1	2.4	1330	1330
217	Picker press	SKOMAB	11.530	1		790	790
218	Tools (upper/lower)	SKOMAB	11.532	2		100	200
219	Plates TPL+319	SKOMAB	11.560	1		640	640
220	Plate 632	SKOMAB	11.650	1		270	270
221	Tools 619+632	SKOMAB	11.570	2		70	140
222	Grinding machine	SKOMAB	11.340	1	0.6	760	760
223	Stand for grinder	SKOMAB	11.345	1		290	290
224	Grinding wheel	SKOMAB	11.341	3		12	36
225	Cutting wheel	SKOMAB	11.342	5		4	20
226	Pressing tools (set)	SKOMAB	11.535	1		120	120
227	Marker tool set	SKOMAB	11.536	1		60	60
228	Knife dresser	SKOMAB	11.720	2		55	110
229	Carbide tips	SKOMAB	11.721	5		20	100
230	Stretching tools 990	SKOMAB	11.324	1		1490	1490
231	Stretching tools	SKOMAB	11.325	1		1020	1020
232	Hydraulic broach M50	SKOMAB	11.350	1	1.6	3540	3540
233	Bushing M1 or M2	SKOMAB	11.353	2		32	64
234	Broaching tool	SKOMAB	11.355	1		105	105
	Subtotal				7.2		24665
	Handtools						[illegible]50
	Spare-parts						1200
	Freight+insurance						3400
	TOTAL				7.2		29915
	Total, LE		1.35				40385

Annex 6.3.

3 GRADED PATTERNS
MANUFACTURING

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
301	Pattern grading	ALBEKO	Nr.25	2	0.5	20660	41320
302	Pattern vice	ALBEKO	Nr.19	1		320	320
303	Pattern shears	ALBEKO	Nr.20	1		480	480
304	Pattern buffing	ALBEKO	Nr.26	1	0.5	620	620
305	Pattern punching	ALBEKO	Nr.23N	1		660	660
306	Marking set	ALBEKO		1		170	170
307	Pattern binding	ALBEKO	Nr.22A	1		450	450
308	Binding moulding	ALBEKO	Nr.24	1		1230	1230
309	Pattern stud attaching	ALBEKO	Nr.29A	1		1440	1440
	Subtotal				1.0		46690
	Handtools						1300
	Spare-parts						4700
	Freight+insurance						5700
	TOTAL				1.0		58390
	Total, LE	1.35					78825

Annex 6.4.

4 INSOLE MANUFACTURING

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
401	Circular board cutting	MOHRBACH	59	1	3.0	24480	24480
402	Splitting machine	MOHRBACH	45	1	0.8	7260	7260
403	Aut. production line	MOHRBACH	61-54	1	2.4	59380	59380
404	Cutting machine for insole&shank pieces	MOHRBACH	50a	2	4.2	36780	73560
405	Feeding device	MOHRBACH	50z	2	1.2	14100	28200
406	Groove cutting	MOHRBACH	NSM 77	3	1.8	14800	44400
407	Marking machine	MOHRBACH	63	2	3.0	11550	23100
408	Riveting machine	MOHRBACH	97	3	3.0	13940	33540
409	Insole moulding	MOHRBACH	41	4	31.6	34060	136240
410	Waistsheel trimming	MOHRBACH	5GF 8	6	7.2	6550	39300
411	Insole notching	MOHRBACH	LEM 4	2	2.0	3520	7040
412	Shank piece skiving	MOHRBACH	F 302	1	2.0	17780	17780
413	Insole cementing & shank attaching	MOHRBACH	71-72	6	4.8	52090	312540
	Subtotal				67.0		806920
	Mould	MOHRBACH		56		450	25200
	Handtools						4500
	Spare-parts						44000
	Freight+insurance						92000
	TOTAL				67.0		1022620
	Totaly LE	1.35					1380537

Annex 6.5.

5 STIFFENER MANUFACTURING

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
501	Strip cutter	MOHRBACH	50	1	3.0	24480	24480
502	Stiffener cutting	MOHRBACH	50a	1	2.1	36760	36760
503	Feeding device	MOHRBACH	50z	1	0.6	14100	14100
504	Stiffener skiving	SECOM	U 32	2	4.0	4260	8520
505	Collector	SECOM	R 39	2		3630	7260
506	Pre-moulding	SECOM	G 35	2	6.7	3800	7600
507	Stiffener moulding	SECOM	G 40	2	13.0	13120	26240
508	Cementing machine	SECOM	SC 760	2	6.0	7670	15340
509	Stiffener drying	SECOM	SC 770	2	20.0	7710	15420
	Subtotal				50.4		155720
	Mould	SECOM		24		830	19920
	Handtools						3200
	Spare-parts						8500
	Freight+insurance						18000
	TOTAL				50.4		205340
	Total, LE	1.35					277209

Annex 6.6.

6 LEATHER UNIT SOLE MANUFACTURING

No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price US $	Total cost US $
601	Cutting press	KAEV	C 2053	8	24.0	22300	178400
602	Surface scouring	SCHAFER	ASA	2	2.0	8100	16200
603	Splitting, stamping	BRUGGI	CN-UP	1	5.0	36700	36700
604	Sole roughing	BRUGGI	SF	1	5.6	13130	13130
605	Sole cementing	BRUGGI	SUOLA	2	1.0	4470	8940
606	Dryer	BRUGGI	ES	2	5.0	17790	35580
607	Sole edge pounding	BRUGGI	LS	2	1.0	3530	7060
608	Trimming	BRUGGI	FS	1	4.0	37340	37340
609	Lift splitting	BRUGGI	UP	1	2.0	4530	4530
610	Lift roughing	BRUGGI	SF	1	5.6	13130	13130
611	Lift cementing	BRUGGI	SUOLA	2	1.0	4470	8940
612	Pressing & heel base preparing	BRUGGI	REB	4	10.0	6890	27560
613	Heel scouring	BRUGGI	E 15	6	18.0	4170	25020
614	Heel polishing	BRUGGI	B 16	6	6.0	3120	18720
615	Heel press&nail	BRUGGI	EL/5	3	3.0	8640	25920
616	Sole trimming	BRUGGI	FD/1	2	8.0	28560	57120
617	Edge inking	BRUGGI	CP/10	5	4.8	11610	58050
618	Edge polishing	BRUGGI	GEL/SPA	4	4.0	3110	12440
619	Whetting machine	BRUGGI	AM/1	1	0.4	3150	3150
	Subtotal				110.4		[illegible]
	Handtools						7400
	Spare-parts						52000
	Freight+insurance						71000
	TOTAL				110.4		70995
	Total, LE	1.35					95843

Annex 6.7.

7 LOCALLY AVAILABLE EQUIPMENT

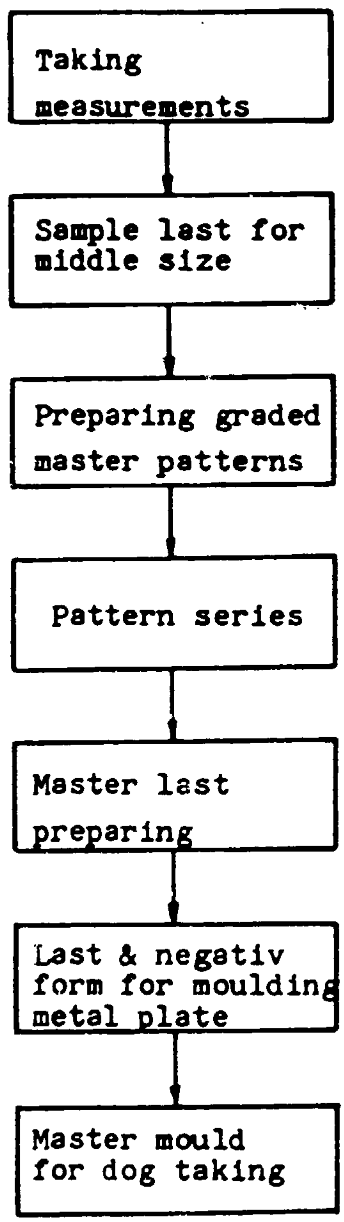
No.	Equipment	Supplier	Type	Qt.	Energy cons. kW	Unit price LE	Total cost LE
701	Work bench			30		120	3600
702	Chair			250		60	15000
703	Container		large	120		28	3360
704	Container		medium	170		22	3740
705	Container		small	250		12	3000
706	Trolley		large	10		260	2600
707	Trolley		medium	15		200	3000
708	Trolley		small	15		150	2250
709	Storing shelf			300		25	7500
710	Closets for tools			25		140	3500
711	Cleaning equipment		set	1		32000	32000
712	Transporter belt		line	2		3000	6000
713	Miscellaneous		set	1		37000	37000
	TOTAL						122550

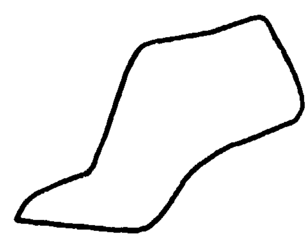
8 OTHER EQUIPMENT

Annex 6.8.

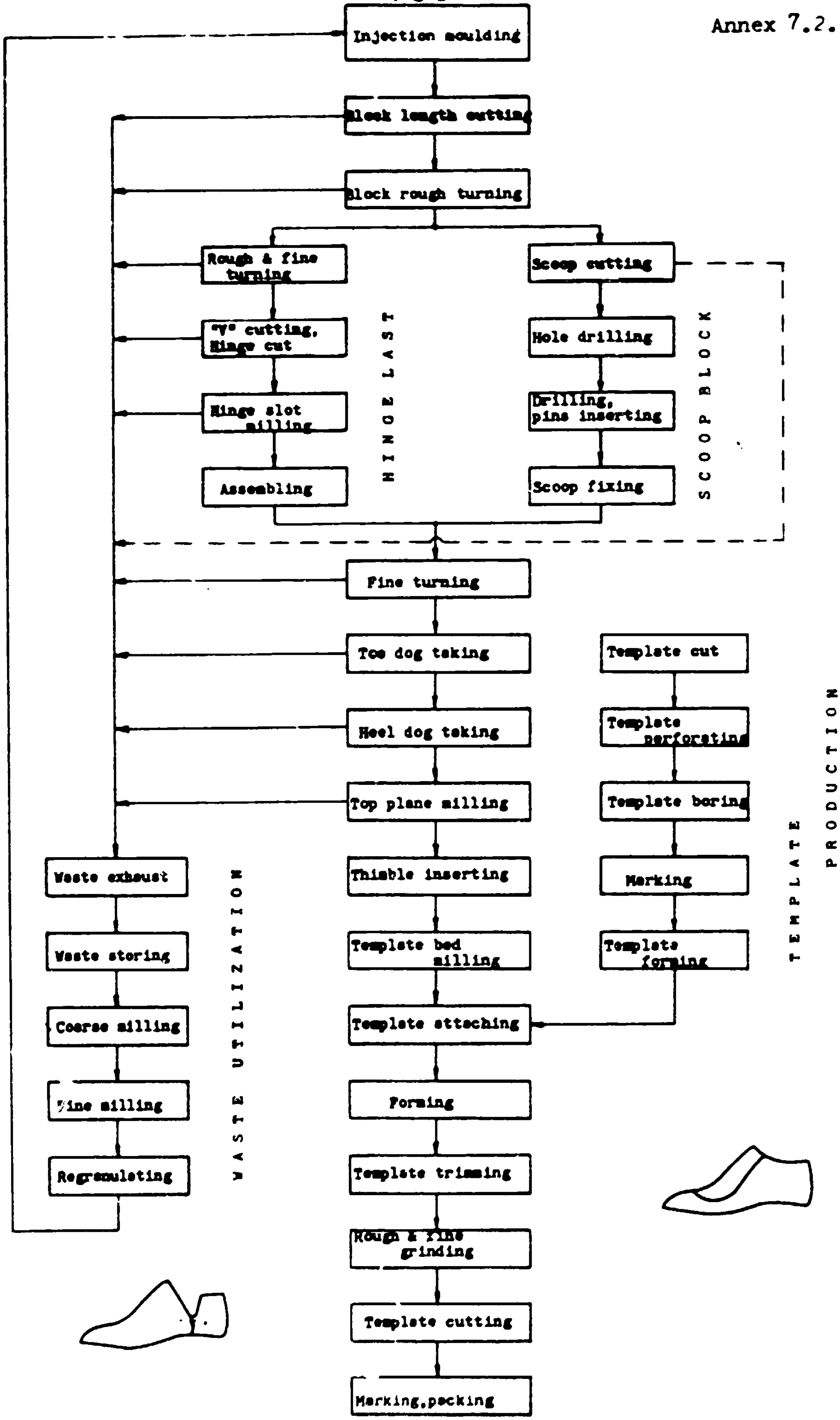
No.	Equipment	Supplier	Type	Qt.	Energy cons. kw	Unit price LE	Total costs LE
	BUILDING EQUIP.						
801	Boiler			1	3.0	55000	55000
802	Silo	INCOMA		1		32500	32500
803	Compressor	INCOMA		2	12.0	5200	10400
804	Cyclone	INCOMA		1	4.5	37000	37000
805	Ventillator			4	24.0	7400	29600
806	Scale			2		850	1700
807	Exhausting system		set	1	12.0	43000	43000
808	Compr. air supply		set	1		18000	18000
809	Transformer			1		28000	28000
810	Crane			1	4.0	65000	65000
811	Transporter	INCOMA	line	2		9500	19000
812	Miscellaneous		set	1	10.0	45000	45000
	Subtotal				69.5		384200
	MAINTENANCE						
813	Lathe			1	6.0	22000	22000
814	Universal milling			1	8.0	26000	26000
815	Drill			2	5.5	12000	24000
816	Grinding			3	1.5	8000	24000
817	Hand tools		set	1		20000	20000
818	Miscellaneous		set	1		40000	40000
	Subtotal				21.0		156000
	OFFICE EQUIPMENT		set	1	10.0		60000
	FURNITURE	Various	set	1			50000
	TOTAL				100.5		650200

Annex 7.1.

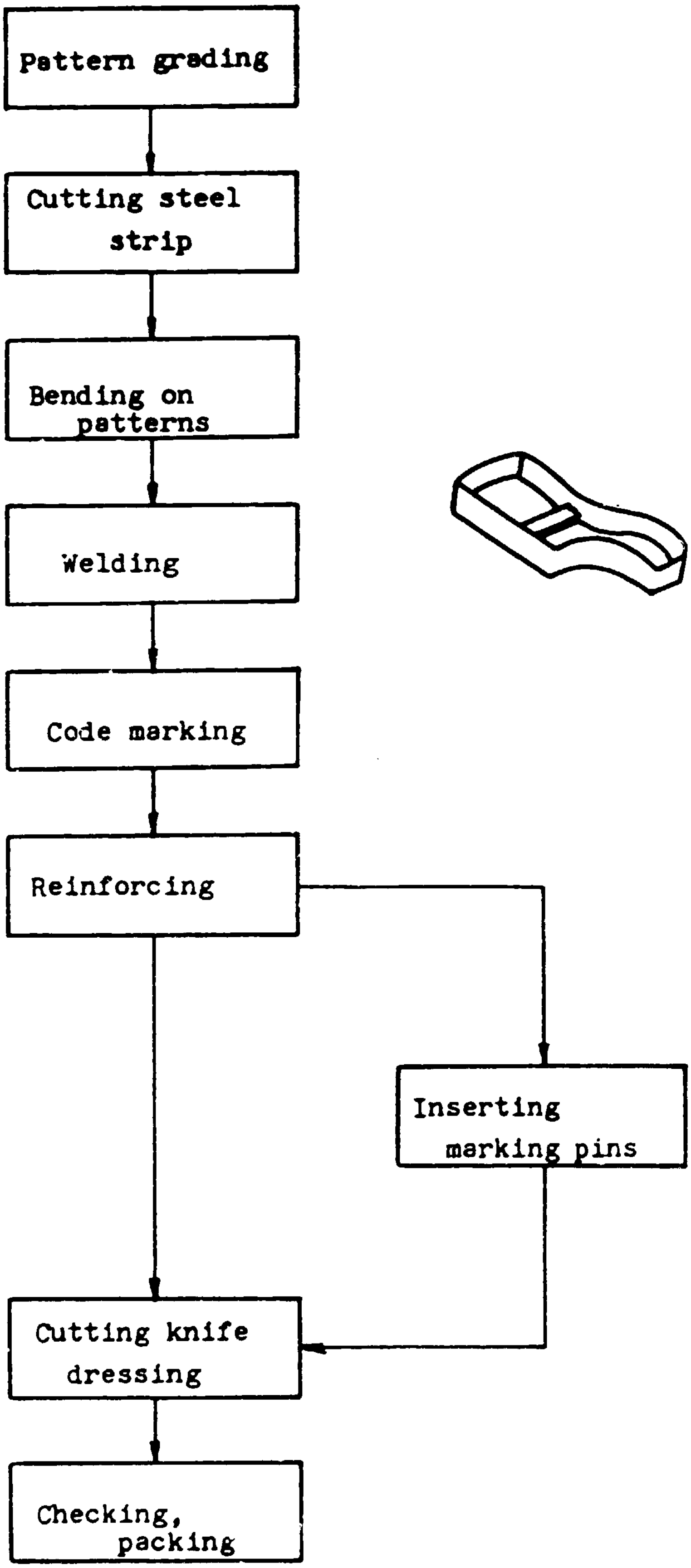

Taking measurements
Sample last for middle size
Preparing graded master patterns
Pattern series
Master last preparing
Last & negativ form for moulding metal plate
Master mould for dog taking



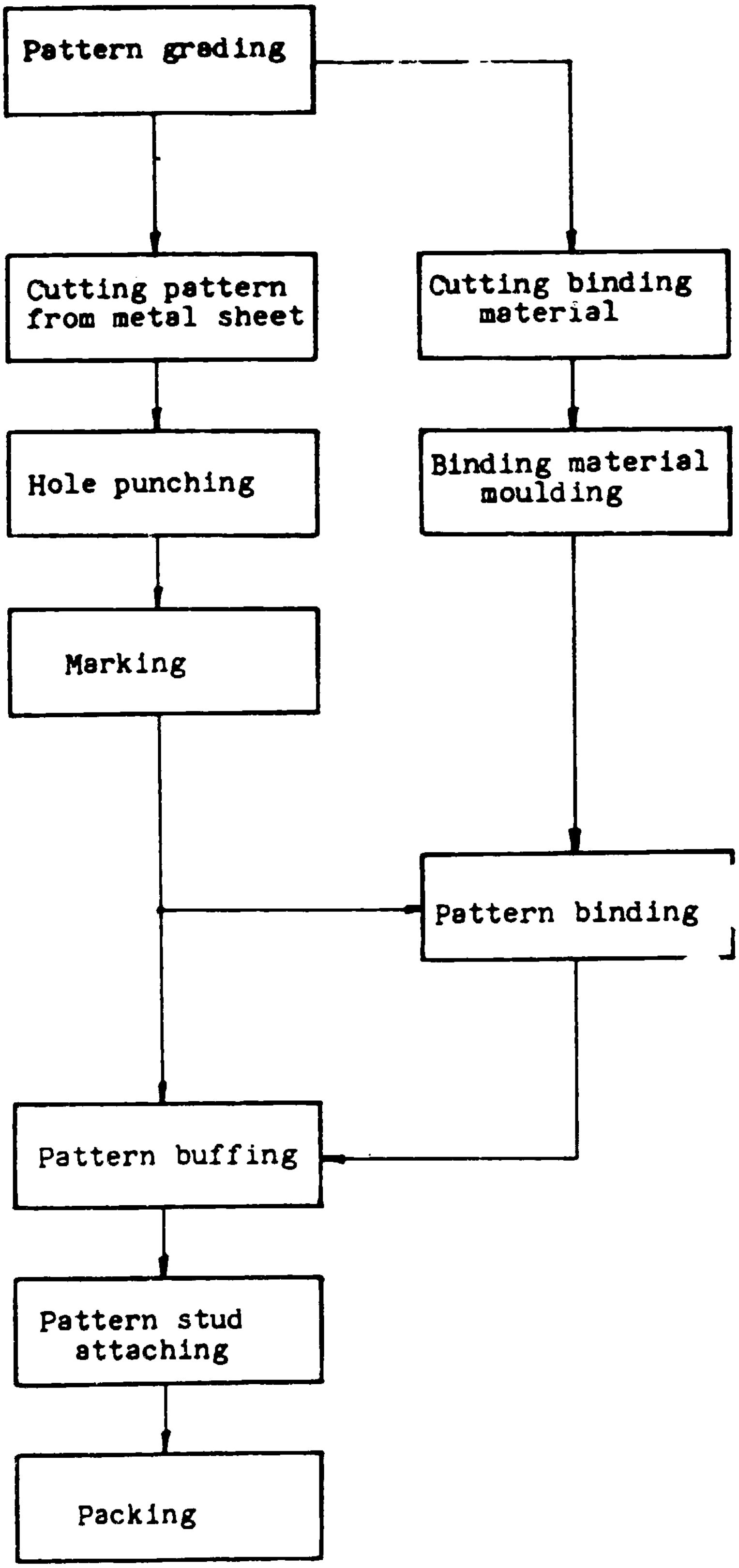
Annex 7.2.


Injection moulding
Block length cutting
Block rough turning
Rough & fine turning
"V" cutting, Hinge cut
Hinge slot milling
Assembling
HINGE LAST
Scoop cutting
Hole drilling
Drilling, pins inserting
Scoop fixing
SCOOP BLOCK
Fine turning
Toe dog taking
Heel dog taking
Top plane milling
Thimble inserting
Template bed milling
Template attaching
Forming
Template trimming
Rough & fine grinding
Template cutting
Marking, packing
Template cut
Template perforating
Template boring
Marking
Template forming
TEMPLATE PRODUCTION
Waste exhaust
Waste storing
Coarse milling
Fine milling
Regranulating
WASTE UTILIZATION

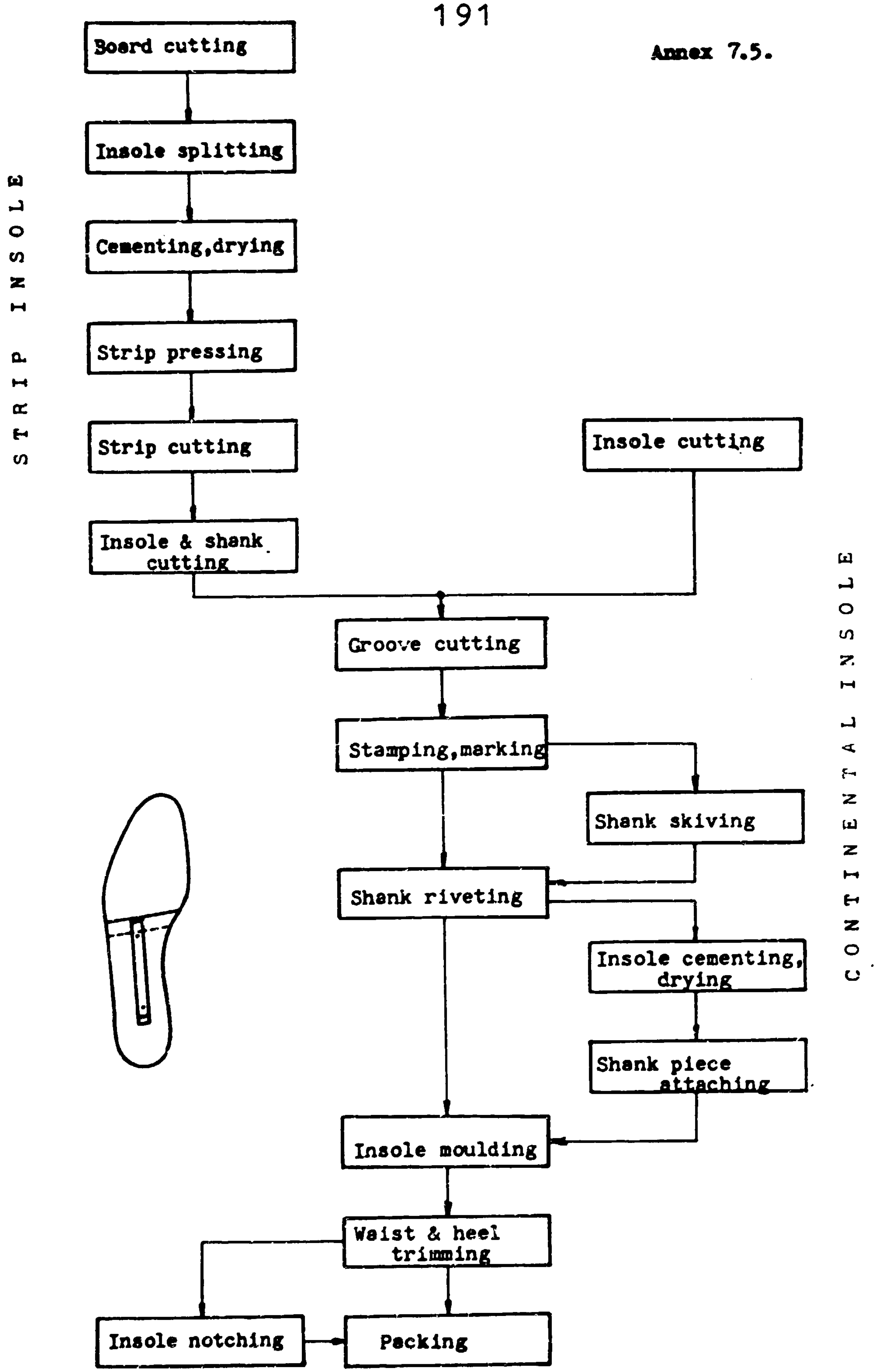
Annex 7.3.


Pattern grading
Cutting steel strip
Bending on patterns
Welding
Code marking
Reinforcing
Inserting marking pins
Cutting knife dressing
Checking, packing

Annex 7.4.


Pattern grading
Cutting pattern from metal sheet
Cutting binding material
Hole punching
Binding material moulding
Marking
Pattern binding
Pattern buffing
Pattern stud attaching
Packing

Annex 7.5.


STRIP INSOLE
Board cutting
Insole splitting
Cementing,drying
Strip pressing
Strip cutting
Insole & shank cutting
CONTINENTAL INSOLE
Insole cutting
Groove cutting
Stamping,marking
Shank skiving
Shank riveting
Insole cementing, drying
Shank piece attaching
Insole moulding
Waist & heel trimming
Insole notching
Packing

Annex 7.6.

Strip cutting of leatherboard

↓

Stiffener cutting

↓

Stiffener skiving

↓

Stiffener pre-moulding

↓

Stiffener moulding

↓

Cementing

↓

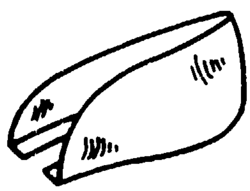
Drying

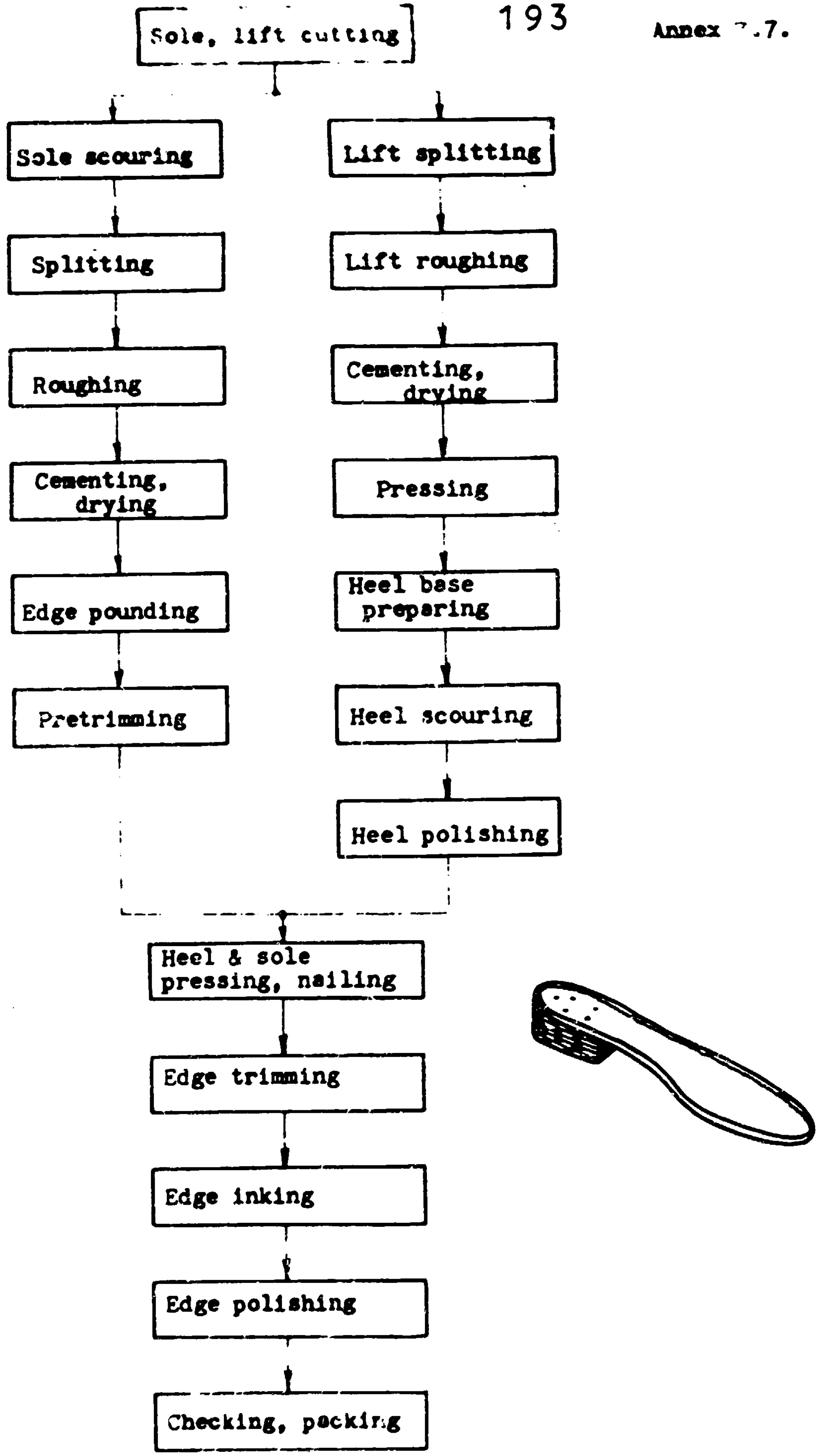
↓

Quality checking

↓

Packing




Sole, lift cutting
Sole scouring
Splitting
Roughing
Cementing, drying
Edge pounding
Pretrimming
Lift splitting
Lift roughing
Cementing, drying
Pressing
Heel base preparing
Heel scouring
Heel polishing
Heel & sole pressing, nailing
Edge trimming
Edge inking
Edge polishing
Checking, packing

Annex 8.

MACHINE SUPPLIERS MENTIONED IN THE STUDY

1. Albeko Schuhmaschinen GmbH

   D-6000 Frankfurt am Main

   Postfach 110151/FRG

   Tel: (069) 231047 Telex: 413172

2. Costruzioni Meccaniche BRUGGI s.a.s.

   27029 Vigevano/Italy

   Tel: (0381) 4066

3. Incoma o.m.r.

   21010 Germignaga (VA)/Italy

   Via A. Diaz 39-41

   Tel: 51687 Telex: 380555 omr

4. KAEV Konnyuipari Gepgyarto Vallalat

   1393. Budapest POB 329/Hungary

   Budapest, VI., Rozsa F. u.55.

   Tel: 224-807 Telex: 4131

5. Mohrbach Maschinenfabrik GmbH

   6651 Piesschweiler-Muhlbach 1/FRG

   Munschweiler Strasse 3-5.

   Tel: (06336) 401-403 Telex: 0452203

6. Oleodinamica Donzelli

20020 Solaro (Milano)/Italy

Via della Repubblica 24.

Tel: Telex: 34120 oleodon

7. Presma s.p.a.

21040 Torba di Gornate, Olona (VA)/Italy

Via Varese 19.

Tel: (0331) 820159 Telex: 334636 presma

8. SKomab International GmbH

A-1232 Wien/Austria

Zetschegasse 1.

Tel: 0222/67 3601-0 Telex: 132077 skoma

Appendix 1.

Country file

by
Magdolna NAGY, Ferenc SCHMEL

Research Institute of the Leather and Footwear Industries

The Research Institute has been subcontracted by the UNIDO for preparing a pre-feasibility study for shoe components and auxiliaries manufacturing (project No:DP/EGY/85/803).

The project carried out a four-week survey in Egypt between the 16th November and the 14th of December 1985, during which the experts visited several governmental and private shoe factories and tanneries collecting techno-economic data concerning:

- market situation;
- export, import regulations;
- taxation system;
- material inputs
    - material supply,
    - range and quality of materials used for components;
- project engineering, civil engineering & costs;
- equipments available locally;
- overheads: factory, administrative and sales costs;
- manpower: labour availability,
    - their skill level of training,
    - wages and salaries in the industry.

In the followings the most important data are given under the name of each factory including its address and the name of the manager. Whereever data were available they are noted under the headings of:

- production range,
- product price,
- daily production,
- wages,
- costs and
- factory characteristics.

Such information may be useful to experts visiting Egypt in connection with the shoe or leather industry.

It is reported that in Egypt there are about 6,540 establishments in the shoe industry and their production is around 57 million pairs of leather footwear. Most of the production units are situated in or around Cairo and Alexandria and may be broken down as follows:

6,470 small units with less than 10 employees,
60 semi-mechanized workshops,
10 fully mechanized factories.

The most important factories visited are the Bata Shoe factory, International Shoe Company, Kuwait Egyptian Shoe Company, 2M Company, Egyptian Italian Company, Zalat Company, Ladies Shoes Factory (Alexandria), Artlezer. Among the visited tanneries are the Egyptian Leather Company, El Nasr Tanning Company and the Cairo Tanning Company.

Persons met

Mr. Ezz El Dien Ibrahim	Manager Chamber of Leather Industry
Mr. Mohamed Hafez El-Ashry	Assistant manager Chamber of Leather Industry
Mr. Foad Namatallah	Secretary Chamber of Leather Industry
Prof. Dr. Hassan El Sissi	Member of the board National Research Center
Mr. Mohamed Helmi Ragab	Member of the board Glove factory
Mr. Salah El Madawy	General manager Governorate of Giza
Mr. Ahmed Abd El Fatah	General manager Cooperation Society
Mr. A. El Nafie	General director Egyptian Kuwait Shoes Co. (SLAP)
Mr. Mohamed El Awadi	Engineer Egyptian Kuwait Shoes Co. (SLAP)
Mr. Emam A. H. Hassanein	Chairman Egyptian Leather Company (Model Tannery)
Mr. Abd El Kader Abd El Hamid	Chief of production sector Model Tannery
Mr. Sobhi Mohamed Osman	Chief of Technical sector Model Tannery
Mr. Kadry A. Henawi	Production general manager International Shoe Company
Mr. Mohamed Wasfi	Managing director " Artlezer " Company
Mr. Ahmed Helmy	General manager Nile Leatherboard Company

Mr. Aly Shorosh	Manager Shorosh Company
Mr. Ramadan Shorosh	Manager Shorosh Company
Mr. Hassan Ali Hassan	Managing director Cairo Tanning Company
Mr. Ali Hassan Said Abousena	Manager Tannery & PVC sole factory
Mr. Moh. Taufic W. Yamout	Engineer Al Shanti for Chemical Ind.
Mr. M. Phonem	Export-import representative
Mr. Hossam Zalat	Partner & manager
Mr. Ismail Zalat	Partner & manager Z A L A T Co. for Shoes
Mr. Taher Ragab	Director E M Company for Shoes
Mr. K. H. Ramadan	Marketing manager Egyptian Italian Company
Mr. Hassan Wardani	Managing director Wooden last factory
Mr. Morsi Mahmoud	Production manager B A T A Shoe Factory
Mr. Yehia M. S. Al MoKadem	Chairman of the board Nasr Leather Tanning Co.
Mr. Ibrahim Loufty El Sayed	Production sector manager
Mr. Mohamed El Yazi	Production manager
Mr. Mohamed El-Khawanky	Admin. sector manager
Mr. Kamal B. Micheal	Chief of engineer
Mr. Anwar Abou El Khier	Manager & designer Ladies Shoes Factory
Mr. Mohamed Nasr	Shoe manufacturer
Mr. Moustafa El Khadi	Heel manufacturer

Name of factory: Egyptian Kuwait Co. (SLAP)

Manager: Mr. Mohamed Nafie

Address: 28 Km Cairo-Alexandria Desert Road

Telephone: 925039 - 925002 Telex:

The factory was built in: 1980.
The production started in 1981.

Production range: men's
ladies'
children's

Price of product: LE 35.00/men's footwear
LE 14.50/ladies' shoes
LE 6.00/children's
LE 4.00/babies'

Production capacity: 1,200,000 pairs/shift/year

Daily production: 1,000 pairs/day

Manpower: direct labour: 300
office staff: 250

Wages: LE 150-160.00/month.

Factory characteristics:

1. The factory is fully mechanized, with up-to-date machinery.
2. Technical assistance was given by Bally experts.
3. The factory has financial difficulties and lacks working capital.
4. Doesn't have channels for distribution.
5. Has a cutting die, insole and stiffener producing unit.
6. Has a training center for upper manufacturing.
7. Has ample space for other manufacturing units.

Name of factory: International Shoe Co.

Manager: Mr. Kadry A. Henawi

Address: El Basateen

Telephone: 520710-520187 Telex: 23026 ELCO-UN

The factory was built in:

Production range: men's footwear (true moccasin, casual)
children's shoes

Price of product:

Production capacity: 1,000,000 pairs/year

Daily production: 1,600-1,800pairs/day (one shift only)

Manpower: direct labour: 300
office staff: 45

Wages: LE 130-150.00/month

Costs:

Factory characteristics:

1. Recieves the leather & leatherboard from the Model Tannery.
2. Delivers the waste to the leatherboard producing unit.
3. Uses their own leatherboard for producing insoles and stiffeners.
4. The factory is working at about 50% of its full capacity.
5. The manager trains the workers on site, 15-25 workers at a time.

Name of factory: Model Tannery (Egyptian Leather Company)

Manager: Mr. Sobhy Mohamed Osman

Address: El Basateen

Telephone: 520187 Telex: 23026 ELCO-UN

Production range:	upper leather lining leather sole leather leatherboard
Price of product:	upper leather: LE 1.20/sq.ft. lining leather: LE 1.00/sq.ft. sole leather: LE 3.00/Kg leatherboard: LE 3.00/Kg (1.8 mm thick)
Production capacity:	upper & lining: 12,000,000 sq.ft./year sole leather: 900 tons/year leatherboard: 1,200 tons/year
Daily production:	upper & lining: 10,000,000 sq.ft./year sole leather: 400 tons/year leatherboard: 1,000 tons/year
Manpower:	direct labour: 1,400 office staff: 200
Wages:	LE 130-150.00/month
Price of land:	LE 1,030,000/10,000 sq.ft.

Factory characteristics:

1. Imported about 3,000 tons of dry-salted hides from Sudan.
2. The tannery is able to export wet-blues, crusts and splits.
3. Sells leatherboard to the International Shoe Co. as well as to private shoe manufacturers.
4. Receives waste from the above company.

Name of factory: Nile Leatherboard Co.

Manager: Mr. Ahmed Helmy

Address: P.O.Box 39 Shobra El-Khema, Egypt

Telephone: 649014 Telex: 92514 ETECO-UN

Production range:	leatherboard: 1.0-3.0 mm thickness (the production started in 1978.)
Price of product:	LE 3.2/ heet (1.5 mmthickness) (1 sheet yields 35 pairs of insoles)
Production capacity:	1,500 tons/year/1 shift (max. 2,000 tons)
Daily production:	1,000 - 1,500 tons/year
Manpower:	direct labour: 100; office staff: 18
Wages:	LE 120.00/month

Costs:

- raw materials & chemicals:	LE	656.00/1 ton of leatherboard
- salary:	LE	118.00/1 ton
- service:	LE	57.00/1 ton
- others:	LE	112.00/1 ton
- interest:	LE	106.00/1 ton
- consumption:	LE	131.00/1 ton
- miscellaneous:	LE	30.00/1 ton
T O T A L:	LE	1,213.00/1 ton
water:	LE	2,000.00/month
electricity:	LE	0.23/KWh
transportation:	LE	0.01/sheet

Factory characteristics:

1. Imports about 500.000 LE worth of chemicals yearly, mainly latex.
2. At the present moment most of the products are on stock, due to the "problems" with the quality.

Name of factory: " ARTLEZER " Co.

Manager: Mr. Mohamed Wasfi

Address: 26.EL Sergany St. Abbassia, Cairo

Telephone: 821872 Telex:93174 HEDIEA UN
(att.Wasfi)

Production range:	men's footwear in 60% of production ladies' shoes in 30% children's and babies' in 10%
Price of product:	average price: LE 11-13.00/pair
Production capacity:	125,000 pairs/year
Daily production:	500-700 pairs/day of men's shoes 200-250 pairs/day of ladies' shoe
Manpower:	direct labour: 110 office staff: 15
Wages:	upper cutters: LE 30.00/day/100 pairs sewing machinists: LE 20.00/day/50 pairs assembling: LE 100.00 + 100% bonus
Costs:	water: LE 50.00/month electricity: LE 450.00/month building: foundation + LE 350.00/m3

Factory characteristics:
----

1. At the present time the factory is semi-mechanized.
2. Ladies' footwear, sandals as well as shoes are still hand-lasted.
3. Exports about 500,000 $ worth of goods to Arabian countries.
4. The factory trains workers on site.
5. Overhead costs are about 30% due to the big quantity of products on stock.

Name of factory: Factory for wooden lasts

Manager: Governorate of Geiza

Address:

Telephone: 822550-853544

The factory was built in: 1976

Production range:

Price of product:

Production capacity: would be about 300-400 pairs/day

Daily production:

Manpower:

Wages:

Costs:

Factory characteristics:

1. The factory equipment was bought from Maschinenfabrik Seidl KG., consisting of wooden last manifacturing machines and common services unit for shoe makers.
2. An Egyptian technician was trained in Pirmasens shoe last factory and Fortunas factories.
3. The factory has never been started due to the lack of experts operating the machinery. The Egyptian technician has left Egypt after the training abroad.
4. Since 1976. the machinery has never been used, is still on site.

Name of factory: Cairo Co. for Tanning

Manager: Mr. Hassan Aly Hassan

Address: 63. El Foustat St., Old Cairo

Telephone: 844589 Telex:

Production range:	shoe upper leather sole leather garment leather PVC soles for men & children leather soles with PVC injected leather soles for men and ladies stacked heels
Price of raw materials:	LE 35.00/hide LE 10.00/buffalo calf hide LE 25.00 LE/buffalo hide LE 1,500-1,600/1 ton of PVC granules
Production capacity:	150 tons/year/sole leather 1,000,000 sq.ft./year/upper leather 900,000 pairs of PVC soles/year
Daily production:	about 60-70% of its capacity
Manpower:	direct labour: 50-60 office staff: 5
Wages:	LE 4-8.00/day - piece work in sole production

Costs:

office & factory overhead cost:	6 %
mould making in Italy:	US$ 1,000/1 mould
electricity:	LE 1,000-1,500/month
water, including sewage:	LE 300/month

Factory characteristics:

1. Has an installed camera in each work shop, controlling the trainees at work.
2. With every new style of sole the customer is given sample lasts in every size.
3. At the present due to the market possibilities the factory is reducing the sole production and is increasing the leather production by introducing two new drums.
4. Once the factory was exporting leather to France, but at present it is prohibited.

Name of factory: Aiy & Ramadan Shorosh

Manager: Mr. Aly Shorosh

Address: 14. Masna El Harir St. Gamalia

Telephone: 824777-888 Telex: 720 ATABA UN

The factory was built in:

Production range:
- different types and sizes of nails
- tin cans painted or unpainted for suppliers
- shoes polish in all colours,
- shoe laces

Manpower: direct labour:500

Name of factory: Furnishing material producing unit

Manager: Mr. Mohomed Ghounim

Address: Shoubra El Khoma

Telephone: 949919 Telex:

Production range:
- solid shoe polish
- liquid shoe polish
- floor polish
- nails
- tin cans for themselves

Manpower: total: 30

Wages: 4-5 LE/day

Name of factory: Abou Sina factory for PVC soles

Manager: Kamal Abou Sina

Address: Old Cairo

Telephone: 943124

Production range:
- fully plastic shoes
- one or two coloured PVC soles
- upper leather

Price of product:

two coloured PVC soles:	LE 0.75/babies'
	LE 1.50/ men's
one coloured soles:	LE 1.00/pair

Production capacity:

Daily production: 3,500 pairs/day/one shift

Manpower: direct labour: 20 in sole production
20 in tannery
3

Wages: LE 200/month

Costs: US$ 1,200/mould from Italy
LE 1,400/ton of PVC granules

Factory characteristics:

1. At the moment there is no fully plastic shoe production due to lack of demand.
2. The managers opinion is that there is no market for the two coloured soles at the above price.
3. It is more economic to produce leather at the present time instead of soles.

Name of factory: Al Shanti for chemical industry

Manager: Mr.J. M.Ahmed Al Shanti

Address: office: 41 Abdel Khalek Sarwat St.
factory: Madinat El Asher, Min. Ramadan B,I Area

Telephone: 905583 - 908365

Production range:

- PVC granules: transparent & master batches,
- plastic shoes: fully plastic shoes, boots, sport shoes with textile upper,
- PVC sheets, rolls,
- pipes, bottles, etc.,
- detergents,

Price of product:

PVC granules:	LE 1,400/ton
fully plastic shoes:	LE 0.75/pair
sport shoes:	LE 3.00/pair
PVC boots:	LE 3.00/pair

Production capacity: PVC granules: max. 2,000 tons/month

Daily production:

600-700 tons of PVC granules/month
100,000 pairs os plastic shoes/week
50,000 pairs of sport shoes/week
3,000 pairs of boots/week

Manpower: direct labour: 300
(only in the plastic shoes dep.)

Wages: LE 100/month

Factory characteristics:

1. It is one of the biggest chemical factory in Egypt.
2. Due to import regulations the sole manufacturers buy most of the PVC granules from this factory, though it is more expensive that the imported.
3. It has a closing room where they prepare the textile uppers for the sport shoes.

Name of factory: Zalat Co. for shoes

Manager: Mr. Mohamed Zalat

Address: Km. 28. Cairo-Alexandria Desert Road

Telephone: 539705 - 539695 Telex: 92985 MDHTL-UN

The factory was built in: 1983.

Production range: men's shoes only

Price of product: Shoes with leather sole: LE 23.00/pair
the above without lining: LE 21.00/pair
Shoes with PVC soles: LE 16.50/pair

Production capacity: 30 % more than the daily production

Daily production: 500 pairs/day with PVC soles
250 pairs/day with leather soles

Manpower: direct labour: 100
office staff: 10

Wages: LE 150-200/month/7 hours/6 days a week

Costs:

- land:	LE 15,000/22,000 m2
- building:	LE 300,000/1,200m2
- electricity:	LE 500/month
- water:	LE 250/month
- moulds	US$ 1,400/mould
- PVC granules	LE 1,600/ton
- transportation:	LE 1,300/month
- factory overhead:	10 % on raw material cost
- factory profit	6 % of the total cost (fixed by the government)
- tax:	40 % of the profit
- shops tax:	22 % of sales price

Factory characteristics:

1. The factory has 2 Plastak PVC injection moulding machines for sole production.
2. They are taking steps to export some of their products.

Name of factory: 2M Company for shoes

Manager: Mr. Amin Mohamed Mahmoud

Address: El-Basateen, office: 15.Sabri Abu Alam St., Cairo

Telephone: 521288-520343 / 746762-753818   Telex: 92551 EGTAL / 94215 GGYPC

The factory was built in: 1982.

Production range: men's & boys' shoes (from size 31-45)

Price of product:

full leather shoes:	LE 30-33.00/pair
shoes with soles of leather + PVC:	LE 16-18.00/pair
with PVC soles:	LE 14-16.00/pair

Production capacity: 300,000 pairs/year

Daily production: 1,200 pairs/day

Manpower:
- direct labour: 250 + 25 trainees
- office staff: 45

Wages: LE 50-250.00/month

Costs:
- land & building: LE 3,000,000/10,000m2 - 75 % built
- electricity: LE 1,000/month
- water: LE 100/month

Factory characteristics:

1. Training is done on site on 2 years courses with an average of 15 trainees yearly.
2. In the 1960's the factory has been exporting footwear to the Soviet Union, later to W. Germany now about 50,000 pairs to Iraq.
3. The factory sells its products in more than 220 shops in Cairo and in 60 shops in Alexandria.
4. From the start-up the factory does not pay tax for 5 years then progressively from 20 to 80 % of the profit.

Name of factory: El Wardany last factory

Manager: Mr. Mostafa El Wardany

Address: 30 El Khalig El Masry St. El Waily, Cairo

Telephone: 903323-823432

The factory was built in:

Production range:	wooden lasts PVC soles Scholl type sandals with artificial leather upper
Price of product:	lasts: LE 5-7.00/pair sandals: LE 3.30/pair soles: LE 1.00/pair
Production capacity:	lasts: 120 pairs/day sandals: 1,000 pairs/day soles: 2,500 pairs/day
Daily production:	lasts: 100 pairs/day sandals: 300 pairs/day soles: 1,400 pairs/day
Manpower:	direct labour: 20
Wages:	LE 200.00/month

Costs:

wood for lasts:	LE	40-60.00/ton
PVC granules:	LE	1,600.00/ton + LE 150.00 (if expanded)

Factory characteristics:

1. They are trying to produce plastic lasts but are in need of an injection moulding machine.
2. The most important customers are: BATA, International Co., Egyptian-Italian Co., Saccara, Artlezer and others.

Name of factory: Egyptian Italian Shoe Co.

Manager: Mr. Mohomed Samir Kamal

Address: Industrial Area, 6. District.Nasr City

Telephone: 833345-822219 Telex: 93608 KAMSR-UN
8229944

The factory was built in: 1980-1981.

Production range:	moccasin & casual shoes	
	shoe components:	heels
		insoles
		toepuffs, counters
		soles for ladies' shoes

Price of product:	moccasin:	LE 15-16.00/pair
	high heels:	LE 0.50/pair
	insoles:	LE 0.60/pair
	counters:	LE 0.15/pair

Production capacity:	gents' shoes:	1,000 pairs/day
	insoles:	25,000 pairs/day
	heels:	1,000 pairs/day

Daily production: about 50% of the capacity

Manpower:	direct labour:	140
	office staff:	15

Wages: LE 150.00/month
LE 200.00/month for men

Costs: lasts: LE 30.00/pair from Italy

Factory characteristics:

1. 100 % of the raw materials for the component manufacturing is imported.
2. The factory was founded for component manufacturing and and shoe manufacturing started later on.
3. The factory is equiped with a grading machine but they are unable to make use of it, buy patterns, series, cutting knives from Italy.

Name of factory: El Nasr Tanning Company

Chairman: Yehia M. S. Al Mokadem

Address: 8.El Houria St.,Alexandria
Factory: El Max

Telephone: 805877-808663 Telex: 54088NTC

The company has 6 factories: 2 tanneries
2 glove factories
1 shoe factory
1 injection moulding unit

Production range:
full grain leather
split leather
leather for the military
furniture leather
suede for clothing

Price of product:
upper leather: LE 1-1.50/sq. ft.
military: LE 0.25/sq. ft.
lining: LE 0.55/sq. ft.

Production capacity: 6,000,000 sq. ft./year

Daily production:

Manpower: total: 1,500 persons

Wages: LE 75-80.00/month

Factory characteristics:

1. At the moment they are planning to build a new shoe factory and is studying the possibilities of starting a leather board factory.
2. The tannery imports hides from Africa, for example from Sudan, Ethiopia, Kenya and Somalia.
3. The main buyers are BATA, International Shoe Co. and SLAP.

Name of factory: Ladies Shoes Factory

Manager: Mr. Anuar Abouel Khier

Address: 5, Kenesset Debbana, Alexandria

Telephone: 807277-858089 Telex: 54304

The factory was built in: the beginning of the 1980's

Production range: high fashion ladies' shoes

Price of product: retail price: LE 25.00/pair

Production capacity:

Daily production: 500 pairs/day

Manpower: direct labour: 100

Wages: LE 300-800.00/month

Costs:	Kid leather:	LE	2-3.00/sq. ft.
	leatherboard:	LE	3.00/sheet
		US$	1.50/sheet
	stiffener:	LE	0.50/pair
	toepuffs:	LE	0.15/pair

Factory characteristics:

1. The manager is the designer as well.
2. The factory has its own insole production.
3. The labour is trained on site.

Name of factory: Mohamed Nasr Factory for Shoes

Manager: Mr Mohamed Nasr

Address: 9, Mohamed Mehrez St., Alexandria

Telephone: 4920893

Production range: ladies' shoes

Price of product: LE 18-25.00/pair

Production capacity:

Daily production: 500 pairs/day

Manpower: direct labour: 80

Wages:

Costs:

land:	LE 200,000.00/3,000 m2
building:	LE 200,000.00/3,000 m2
machinery:	US$150,000.00

Factory characteristics:

1. The factory is semi-mechanized at the present .
2. The manager is trying to modernize his factory and start a new factory with 25 workers - 500 pairs/day production.
3. The factory is equiped with a grading machine and the manager makes his own patterns.

Name of factory: Factory for heels

Manager: Mr. Moustafa El Kadi

Address: 82,El Bal El Akhdar St., El Labban, Alexandria
Telephone: 4935482

Production range:	heels with different heel height 10 different styles
Price of product:	LE 0.40-0.50/pair
Production capacity:	
Daily production:	
Manpower:	direct labour: 10
Wages:	
Costs:	moulds: LE 500.00/mould polystyrene: LE 2,000.00/ton polypropylene: LE 1,500.00/ton

Factory characteristics:

1. New machines are put into operation for heel production.
2. T e factory is starting TR sole production as well.