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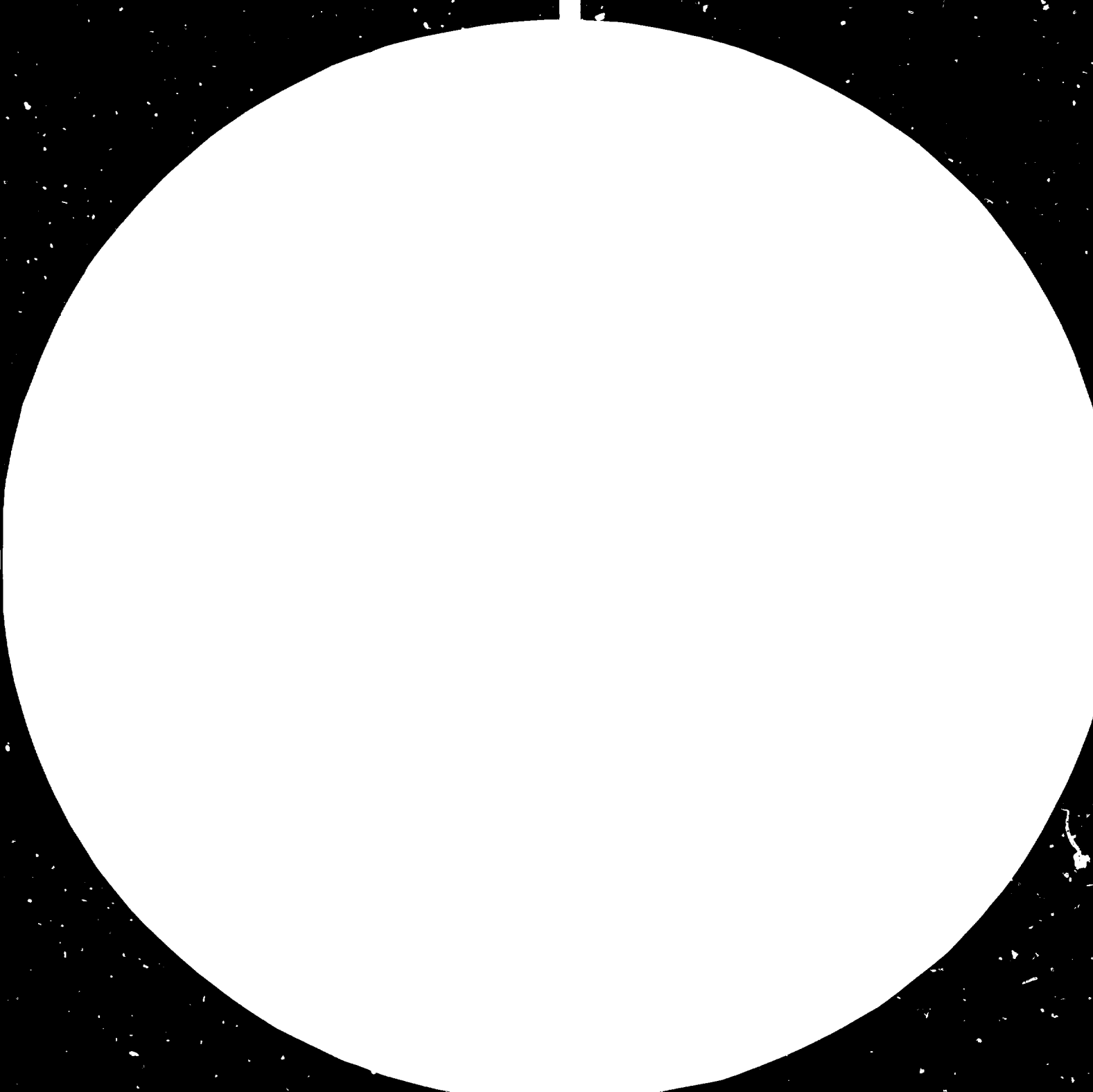
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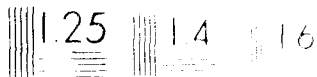


A resolution test chart for 1.0. It features a vertical column of five parallel lines on the left and a horizontal row of five parallel lines on the right, meeting at a corner. The number "1.0" is printed in a large, bold, sans-serif font to the right of the vertical lines.

1.0

A resolution test chart for 1.1. It features a vertical column of five parallel lines on the left and a horizontal row of five parallel lines on the right, meeting at a corner. The number "1.1" is printed in a large, bold, sans-serif font to the right of the vertical lines.

1.1

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10 June 1983
ENGLISH

Egypt

ASSISTANCE IN THE PLANNING OF THE
RELOCATION OF THE TANNERIES IN CAIRO AND ALEXANDRIA

SI/EGY/83/803

EGYPT

Technical Report

on a Mission from 14 April - 13 May 1983

by

Gerhard Felsner, Industrial Development Officer,
Agro-industries Branch, Division of Industrial Operations

Prepared for the Government of Egypt
by the United Nations Industrial Development Organization

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1. Background

The project entitled "Assistance in the Planning of the Relocation of the Tanneries in Cairo and Alexandria" (SI/EGY/82/803), designed to provide the Ministry of Industry and Mineral Wealth through the Chamber of Leather Industry with a draft terms of reference on how to proceed in the preparation of the relocation of the subject tanneries and the assistance needed to initiate such a move to new industrial sites being considered as most suitable was carried out by a UNIDO staff member from the Agro-Industries Section during 14 April to 13 May 1983.

Based on the industrial planning concept together with the future development plans for the various sectors, the Government has decided to relocate the tanneries in Cairo and Alexandria, taking into account environmental considerations of the leather manufacturing industry. A decree to this effect, concerning the tanneries located in "old Cairo" was issued in 1952. Since that time, only the public sector tanneries of Cairo have been relocated and provided with large and modern tanning facilities, known as "Egyptian Leather Company El Basateen" 15 km south west of Cairo. The private sector tanneries of Cairo, which have remained in their historical area are troubled with the problem of limited water supply and an insufficient sewerage system.

The situation in Alexandria is similar but of different scale and nature. The tanneries, both public and private, are located in the harbour area adjacent to the newly extended grain storage facilities which at present do not have the needed infrastructure in terms of modern road and rail links. The tannery area has been earmarked to provide room for the extension of the port facilities. A new industrial site for the relocation of the tanneries has been allocated by the Governorate of Alexandria.

2) Summary

The Egyptian tanning industry is well capable of providing the present and future needs of the local leather allied industries with ample room left for product development quality improvement and capacity utilization.

The relocation of the tanneries from the cities of Cairo and Alexandria to new industrial areas will not only set in motion the much delayed modernisation of this industry - in particular the private sector - but will also reward the tanneries through this transformation with future competitiveness on the international market.

Given the present availability of suitable industrial sites, it appears that Alexandria, which has a large area allocated for industrial development for which additional infrastructure facilities are being provided, intends to proceed with the relocation of the tanneries in the near future.

The few non-allocated industrial sites in El-Basateen are also considered suitable for the relocation of at least some of the tanneries from Old Cairo.

3) General information on the Egyptian leather industry

i) Location

The tanneries in Egypt are - with the exception of some unaccounted artisan type establishments in the rural area - located in Cairo and Alexandria representing either public sector enterprises or private companies of varying categories and sizes.

The tanneries in Cairo are clustered and aggregated in the tannery area of "old Cairo", whereas the tanneries in Alexandria are grouped in the congested port area.

ii) Number of tanneries

Cairo: public sector (El Basateen) (Egyptian Leather Corporation)

one company with three leather production facilities

private sector: (Old Cairo)

230 registered companies,

in addition it is estimated that about 70 unregistered entrepreneurs have established themselves as "tanners" in mainly abandoned constructions of the site.

Alexandria: public sector (El Nasr Tanning Co)

one company comprised of four different production facilities

private sector:

18 companies (all registered)

II. Findings

1) Raw material

a) Livestock population for 1981 (in 1000 heads)

cattle 1.954

buffalo 2.327

goat 1.451

sheep 1.599

These estimates are based on the information contained in the
FAO Production Year Book 1981, Volume 31.

b) Local hide and skin production for 1981 were as follows:

	<u>Abattoirs</u>	<u>%</u>	<u>Pastoral</u>	<u>%</u>	<u>Total</u>
Cattle	420.069	45	513.418	55	933.487
Buffalo	129.088	45	157.774	55	286.862
Buffalo calves	144.155	55	118.455	45	262.610
Camels	34.715	40	52.070	60	86.785
sheep/goat	388.521	31	855.095	69	1243.616

Source: Veterinary Medicine Organization, Ministry of Agriculture

This data include also hides obtained from cattle and buffalo
imported on the hoof and slaughtered in municipal abattoirs
which is estimated as being about 10% of the total cattle and
buffalo slaughtered.

c) Imports of hides

In 1981 5736 tons of hides representing LE5,579,822 have been imported, with Sudan as major supplier having exported into Egypt 1367 tons of hides (cattle) at US\$1,570,009. Cattle hides from Sudan are shade dried or dried salted, weighing between 8-12 kg per hide. Uganda, Ethiopia, Kenia, Somalia, Tanzania and Central African Republic made up the rest. The 1367 tons imported from Sudan have been processed by:

private sector - 950 tons

public sector - 417 tons

It is understood that for 1983 Egypt has contracted from Sudan 2300 tons of cattle hides at US\$1100 CIF (ex Omdurman US\$1200 CIF) per ton which will be supplied:

40% to the public sector

60% to the private sector

Sudan exported also 1981 into Egypt camel on the hoof at a value of LE15 million. The value of a camel is estimated to be 200-300 E.Pds. which suggests imports of between 50,000 - 75,000 camel for that period.

d) Hides and skin collections

Hides and skins are usually collected by the hides and skin traders from the butchers which are closely associated with the traditional activities of the abattoirs and similar establishments. The methods applied for flaying are very primitive and are detrimental to the quality of hides and skins. It is understood from discussions with the tanning and trading community that it would be very difficult or nearly impossible to change the attitude of the butchers in order to enhance the quality of hide and skins by implementing modern measures in the field of flaying. Efficient skinning equipment and the related technologies have been introduced in the past but unfortunately have shown only short lasting results. Goat skins originating from the governorates of Upper Egypt are showing in general no flaying defects as the skin is removed from the carcass by way of pulling.

It is the established responsibility of the hide and skin dealer to conserve the raw material. After collection the green hides/skins are washed and salted. As the hides/skins are usually purchased en bloc there is practically no selection on the quality or any difference in the price agreed, fresh salt (50 kg about LE3.-) is only used for the skins of buffalo calves and in some instances for goat skins as well; mixed or partly used salt is reserved for bovine hides. Buffalo hides are treated with used salt containing all the impurities from the previous curing operations, which of course impairs the danger of insufficient conservation.

Due to the existing shortage of the local raw material, hides and skins are stored for a short period only, in most cases the stock is turned over within two weeks which in turn explains that the known negative effects of using impure salt for curing does not produce curing defects strong enough to substantiate the implementation of updated preservation methods. The tanners are in the position to exercise some pressure towards improved curing and handling, after all it represents their raw material which they have to deal with later.

e) Price structure of raw hides and skins

Since 1972 the prices paid for the raw material have increased by up to 300%. Due to the meat shortage and the relative high prices paid to the livestock producers for their slaughter stock, the price structure of hide and skins which does represent 5-6% of the value of a live animal has shown a continuous upward trend.

Prices paid by the tanneries to the hides and skins traders: May 1983

LOCAL MATERIAL

Bovine :	LE23-25 (per hide) = green weight	23-27 kg
	wet salted "	approx. 20 kg
		yielding approx. 35-37 sq.ft. of leather
Buffalo:	per kg for LE0,50	Green weight 30-35 (FM)
		yielding approx. 40-45 sq.ft. of leather

Buffalo calf : LE7,00 per skin yielding about 8-14 sq.ft. of leather

Goat : LE2,0 per skin, yielding 3-4 sq. ft

Sheep : LE3,0 " " " 7-8 sq. ft

The merchants are expected to operate on a five to six percent profit margin, although terms of payment and transport arrangements as well as rebates on certain grounds will have a substantial impact on the final prices paid by the tanners.

The present legislation prohibits the export of raw hides and skins.

f) Imports of tannery chemicals

All the tanning chemicals except lime and sodium bicarbonate have to be imported. A foreign company specialized in the manufacture of leather dyeing and finishing products has set up production facilities to cater for the specific needs of the local tanning industry.

It is further understood that a major European chemical company will commission a plant designed to produce locally fats and oils for the tanning industry taking advantage of the existing plentiful supply of lanolin as a base ingredient.

2) Present tanning capacities and utilization

a) Number of public and private sector tanneries and installed capacities.

Cairo:public sector

three tanneries, having a combined capacity per month
1,360,000 sq. ft. of upper + light leather
100 tons of sole leather

With small alteration on existing production lines the quantity of light leather (goat/sneep) would be increased from the present 140,000 sq. ft to 300,000 sq. ft. per month.

Further one leather board manufacturing plant is capable to produce 75 tons of leather boards per month which represents 100% utilization.

Private sector:

The 230 registered tanneries in old Cairo are estimated to operate at a production of 20-50% based on the installed capacity. 80% can be referred as obsolete establishments generating any type of leather with not much hope to improve the quality; there seem to be no records on the individual production figures available bearing any reliable resemblance in respect of installed capacities. About 15% of the registered tanneries can be classified as semi mechanized having some mechanical installation like a drum or other production equipment.

Only 5% of the tanneries could be referred to with some reservation as mechanized. There are only ten functioning splitting machines at the whole tanning complex. Although it has been noted that some new machinery is being added.

An in-depth assessment of the tannery complex in "old Cairo" provides the following information:

The tanneries are located in 155 buildings of which 117 provide production facilities for one tannery per each building. Of the remaining 38 buildings each of these houses more than one tannery, most on basis of sub-letting.

The tanneries have in total 981 installed drums. One "drum unit" is supposed to be relevant to the employment of at least two workers which indicates that a tannery with five installed drums provides employment for at least ten labourers.

Of the 981 drums; 315 are for chrome tanning

505 " " vegetable "

161 " " retanning and dyeing

In the 117 buildings there are 601 drums installed of which:

212 are for chrome tanning
254 " " vegetable "
125 " " retanning and dyeing

In the 38 buildings there are

98 chrome tanning drums
241 vegetable " "
41 retanning/dyeing drums

totalling 380

The 981 registered drums of "old Cairo" represent about 75% of the installed capacity covering the whole Egyptian private sector.

Alexandria: public sector

The three tanneries are reported to be operating at nearly full capacity, producing about 400,000 sq.ft. of upper and approximately 25 tons of sole leather per month, having the resources and the necessary equipment. A new modern unit with all the sophisticated installations and machines are expected to be commissioned soon. The combined capacity of this plant will be 400 hides per day - sole and upper leather.

A leather board factory, capable to produce 2000 tons of insoles per year is in the stage of planning.

Private sector:

The 18 tanneries are producing an estimated 500,000 sq.ft. of leather per month which is made up of:

80% upper leather (bovine, buffalo)
15% lining " (sheep/goat)
5% garment " (goat)

These figures represent roughly 30% of the installed capacity.

In addition to, 70 tons of sole leather per month could be produced taking in account the installed capacity of which only 25% is presently utilized.

In general the assessment of the production capacity is based on the number of drums installed. On this basis it is assumed that one drum is relevant for the production of up to 200,000 sq.ft. of upper leather or 18,000 kg vegetable leather per year. The tanning drums are usually of the similar size (1000 kg load).

This criteria does not apply to the tanneries of the public sector, where the factories are assess^{ed} on the production capacities based on the capabilities of the summarized installations of ~~machinery~~ and equipment.

The total capacity of the Egyptian private sector tanneries is estimated to be for:

upper and light leather	92 million sq.ft. per year	
sole leather	12,366 tons	"
leather boards	1,000 tons	"

The public tanneries - Cairo + Alexandria - have an installed capacity to produce per annum:

upper and light leather	25 million sq.ft.
sole leather	1,600 tons
leather boards	1,000 tons

2) Number of tannery employees by categories and wages paid:

Public sector:

Cairo: employees 1440 (inclusive administrative staff)

wages: LE80-120 per month as an average

Alexandria: employees : approx. 700 (inclusive administrative staff)

wages: LE80-120 per month

Private sector:

Cairo:	10 tanneries having	15-19 drums		30-40 employees
	12	" "	10-15 "	20-30 "
	60	" "	5-10 "	10-20 "
	148	" "	1-4 "	2-8 "

wages: LE80-120 per month

Alexandria: 2 tanneries up to 50 employees

3	"	"	35	"
4	"	"	25	"
9	"	"	15	"

wages: LE80-120 per month, it is estimated that about
up to 8% of the employees are earning more than LE120;
up to LE250 per month

3) Production of various types of leather and leather products

Article	1 9 7 8		1 9 7 9		1 9 8 0		1 9 8 1	
	Quantity	Value (1000 LE)	Quantity	Value (1000 LE)	Quantity	Value (1000 LE)	Quantity	Value (1000 LE)
Upper and light leather	90,308,000 sq ft	40670	93,021,000 sq ft	44710	92,200,000 sq ft	41758	65,367,000 sq ft	34691
Sole and industrial leather	812.8 ton	1058	556.7 ton	808	681 ton	1004	471 ton	963
Split and by products	-	101	-	61	-	145	-	34
Leather fibre boards	355 ton	719	253 ton	521	920 ton	1196	753 ton	1039
Leather gloves	52000 pairs	106	52000 pairs	127	55000 pairs	164	55000 pairs	172
Leather goods	12400 tons	11160	13640 tons	16368	-	22342	-	32081
Leather shoes and Synthetic shoes	47,77 Mill.	238642	53,472 Mill.	347743	56,144 Mill.	392855	56,749 Mill. ^{*)}	413078
		294,456 (1978=100)		410,338 (+39%)		459,464 (+ 56%)		482,058 (+ 63%)

*) of which approx. 47 mill represent leather shoes

Source: Chamber of Leather Industry

The production of leather indicating the percentage of the public and private sector are as follows:

	1978	1979	1980	1981
Public sector	14%	28%	15%	21%
Private "	86%	72%	85%	79%

4) Remarks on the quality of leather

Taking into consideration the mechanical and technological means available to some tanneries - particular in the field of the public sector - it is felt that not all resources are being utilized to enhance the quality of the product.

a) Upper leather

It has been noticed that a substantial part of the upper leather manufactured could be processed into semi-aniline finished leather, taking advantage of the fine grain characteristics for which the Egyptian bovine hides are known for. The local shoe industry would welcome such a development and seemed prepared to pay higher prices for more enriched and qualitatively better leather

A better product selection system applied on the different stages of processing would certainly contribute to a healthier balance of product-mix.

With no doubt, there are constraints on the availability of good quality raw material, local and imported, which are the reason for many complaints (e.g. curing, flaying) and appear to be beyond the tanners influence.

A common technical problem shared by virtually every tannery visited is the presence of irregular patches of loose grain on most leathers, which appear only after chrome-tanning. The cause of it has not been identified but might be related to the liming methods. Some of the leather inspected seemed over-stretched, lacking the feel and n a p of genuine leather.

b) Sole leather

Sole leather is either produced from buffalo hides (men's shoe) or bovine hides (ladies shoe). The quality varies from tannery to tannery considerable, but there is also the technical skill as demonstrated by one

tannery capable to produce sole leather of a quality comparable to the best of Europe. Flay marks are often the reason for down grading of an otherwise good product.

c) Garment leather

This leather is mostly produced from goat skins but unfortunately mainly in dull shades only, lacking the elegance and softness of a product requested for this particular line. The production is at present at its lowest as there are no sizeable export order of leather garments on hand. Should the market trend revert the tanneries would certainly be able to cater for a fashionable and trendy type of garment leather.

d) Lining leather

Lining leather is made from sheep and goat skins. It is regrettable to learn that due to lack of other production outlets a large percentage of goat skins is processed into lining leather, with a low commercial value, depriving the very leather of its distinctive characteristics.

5) Sales prices of leather ex tannery - May 1983

Upper leather:

Bovine + buffalo calf:

full aniline LE1,25 per sq.ft. - 5% of local prod.

semi " 1,10-1,15 " 10-15% "

full + corrected grain : 0,70-1,25 sq.ft. - 70-80% of local prod.

patent + printed 1,15-1,30 " 2-3% "

Uppers from buffalo hides are fetching in proportion LE0,20 less per sq.ft. in comparison to bovine and buffalo calf leather.

Garment leather:

goat/sheep : LE0,75-0,80 per sq.ft.

Lining leather

goat/sheep: LE0,40-0,60 per sq.ft.

The price difference between the first, second, and third grade is usually LE0,05 per sq.ft.

Sole leather

Bovine: LE2,20-2,60 per kg

Buffalo: LE2,00-2,60 "

6) Evaluation of management and technical skills and training needs.

The management of the tanneries, both public and private, have acquired, with the exception of smaller establishments, either through their educational background or by practical experience the technical know-how to produce leather of reasonable quality. The technologies to process better quality leather are to most of them not unknown. There seems a general lack of interest to implement new and improved technologies due to the market related situation of finished leather and the uncertainty of the pending relocation prevalent in the private sector. As far as training of technician, foremen and machine operators is concerned, there exists a great need for a proper facility to provide vocational and practical training, although training centres in Alexandria and Cairo have been established but they are linked with the public sector only. A new approach to the matter covering the training requirements for the whole leather industry is of outstanding importance in order to cope with the technological demand of future developments.

7) Standard of installed tannery equipment and machinery

a) Public sector

The tanneries of this sector with the exception of one unit in Alexandria are well equipped, featuring most of the requirements needed for modern and efficient leather production; this refers in particular to the new tannery in Alexandria which will be commissioned soon where the most advanced machinery and equipment is being installed.

b) Private sector

The standard of the machinery and equipment installed can be directly linked to the size of the individual production unit. Larger units - around 50 employees with inputs of 200 hides per day - are fairly well equipped, having machines for fleshing, splitting,

scudding, setting out, vacuum dryer and even rotary spraying equipment. The medium and smaller tanneries may have only some of these machines. Against a fee, those tanners less equipped are allowed to make use of certain machines of the better mechanized units.

In both sectors, public and private, the need to improve the quality of maintenance and repair work is obvious.

8) Marketing of leather

Due to the present legislation (since 1979) the export of raw hides and skins, wet blue and semi finished and finished leather is prohibited. The leather manufactured is consumed locally by the leather allied industries which purchase their requirements either through leather merchants (commission about 5%) or as in the use of larger shoe factories direct from the tanneries.

The tanning industry is capable to provide the leather product sector with the volume of leather as required; obviously there are differences of opinion between the various bodies concerned on the execution of certain marketing strategies. The tanning industry would appreciate to be able to negotiate more favourable terms of payment for their products together with the shoe and leather goods industry, which as stated, is drawing some benefits from the export restriction applied to any type of leather.

The installed tanning capacities are far from being fully utilized due to the limitations of the local demand.

9) The role of the Egyptian leather industry in comparison to other industrial sectors:

<u>Sector</u>	<u>Value of production in Mill.£E</u> <u>1978</u>	<u>Share of total outputs</u>	<u>Value of production in Mill.£E</u> <u>1979</u>	<u>Share of total outputs</u>
Textile (spinning + weaning)	1099.3	31.7%	1160.8	28.4%
Food canning industry	989.1	28.5%	1145.3	28.0%
Chemical industry	279.1	8.1%	350.9	8.6%
Metallurgical industry	666.1	19.2%	824.3	20.2%
Leather industry	269.2	7.7%	404.5	9.9%
Mixed industry	102.9	3.0%	3.0	2.8%
Fishes, straw, bambus	3.4	0.1%	0.1	0.1%
Mineral industries	60.0	1.7%	1.7	2.0%

Source : Chamber of Leather Industry

Exports of leather, leather goods, leather shoes and furs:

<u>Article</u>	<u>Value</u> <u>1978</u> <u>£E</u>	<u>Value</u> <u>1979</u> <u>£E</u>
Leather (crust or wet blue)	200.860	8.260.064 (+4302%)
Leather goods	4.099.715	4.870.416 (+18.8%)
Leather shoes	5.348.582	3.200.262(-40.2%)
Furs (rabbit)	748.618	1.380.253 (+84.4%)
	<u>10.565.815</u>	<u>17.786.915 (66.9%)</u>

which revenues represent for 1978 3.6% and for 1979 4.3% of the total leather and leather products manufactured.

III. Future aspects of the Egyptian tanning industry

1) Potential to increase the quantity and improve the quality of the leather.

There are apparently no serious constraints to achieve higher productivity linked with improved quality standards of using the existing equipment and the present production facilities. The industry has shown in the past its ability to meet additional demands on leather, provided the rewards are attractive enough. On the other hand the improper flaying, curing and handling methods of hides and skins produced locally are causing much concern to the tanners which are claiming that this constraint is restricting their range of products. It is anticipated that the new abattoirs in Cairo and Alexandria will contribute significantly to the enhancement of the raw material, however, the fact remains that a large portion of supply will remain at the present level. Concerted efforts to implement a country-wide hide and skin improvement program should be directed toward this goal. Estimates indicate that about 5% of all hides and skins produced locally show serious defects of improper skinning and handling which generates a loss to the national economy of about LE20 million per annum.

2) Population growth and expected consumption of leather shoes

It is estimated that Egypt will have by the year 2000 a population of 66,198,000 in comparison to the present 45 million.

The local shoe consumption in the year 2000 is estimated to be 166,250,000 pairs of which 75% will have synthetic soles (PVC + PU) and 25% made of leather. It is understood that all the upper parts of the shoes will be manufactured from leather.

The present capacity of the shoe industry is approximately 100 million pairs per annum.

A brief survey of the Egyptian shoe industry

In the whole of Egypt there are 6470 registered shoe manufacturers employing a work force of between 40,000-50,000, which can be divided into:

10 fully mechanized units
60 semi " "
6400 artisan type "

These units are divided into 600 factories employing more than 9 workers and 5940 establishments with less than 9 employees each.

The smallest production unit represents a working table (one foreman + 3 workers).

There are 540 workshop having more than 9 working tables and 6000 units with 3 working tables or less.

Of the 56,749,000 pairs of leather shoes produced in 1981 and valued at LE413,078 million only 212,136 pairs have been exported representing a total value of LE1,031,172.

Of these exports

82.8% by value have been shipped to Arab States
12.4% " " " " to African countries
4.8% " " " " to Europe/USA

The public sector shoe factories produced in 1981 12,203,890 pairs of shoes valued at LE27,325,250, which is 6.6% of the total output (by value).

Profit and price structure

A law enforcing price control is limiting the profit margin for
shoe manufacturer to 6%
retailer to 22% for gents shoe
29% for ladies shoe

about 50% of the shoes retailed are fetching less than LE8,00
20% " " " " between LE8-10
15% " " " " LE10-12
10% " " " " LE12-14
4% " " " " LE14-17
1% " " " " more than LE17

The total shoe production is made up of: 50% men shoes, 30% ladies shoes, 12% children shoes and 8% girls shoes.

Relocation of tanneries

Cairo:

The new industrial areas (El Basateen, -where the new abattoir of Cairo is being built, -10th Ramadan City, Sadat City) considered some years ago as possible sites for the relocation of the private sector tanneries have in the meantime attracted scores of other industrial establishments and are at present not able to provide the infrastructure required to initiate the relocation of the tanneries taking into consideration the substantial demand on industrial water linked with an integrated efficient treatment system.

The water consumption, based on the present installed tanning capacity of the private sector in Cairo:

- 69 million sq.ft. of upper + light leather per annum
- 9274 tons of sole leather per annum

would indicate that approximately 47,000 tons of raw material have to be processed to achieve full capacity utilization, which in turn would require 940,000-1410,000 m³ water yearly. This represents roughly the quantity of water required anywhere to produce with modern methods, inclusive recycling of liquids, the amount of leather as quantified above.

The four major factors in selecting a suitable location for a tannery are:

- a) availability of raw material
- b) availability of water
- c) possibility of economic disposal of effluent
- d) availability of suitable infrastructure (including external engineering facilities)

Recommendation

Until other industrial sites suitable for the relocation of the tanneries have been identified, water supply and sewer facilities in the tanning area of "old Cairo" should be improved.

Alexandria:

The Governorate of Alexandria has informed that the only industrial site considered for the relocation of public and private sector tanneries will be the Margam area, 20 km west of Alexandria.

This new industrial area which is in the process of further development has already road and rail links to Alexandria, as well as some existing industries

(textiles). The site earmarked for the tanneries is adjacent to the new abattoir of Alexandria presently being built and financed through US AID: in total this particular site covers about 320,000 m² of which 92,000 m² will be used for the construction and amenities of the slaughter house with an additional 42,000 m² reserved for extension for a utility service centre which could serve both, the slaughter house and the tanneries. 17,200 m² of land has been allocated.

The tanneries would occupy an area of 106,550 m² (52,000 m² public, 54,550 m² private) with the provision for extension of some 47,900 m².

As the area has to be claimed from marsh land the site preparation and foundation works are relatively expensive, the land is on the other hand available to a nominal value only, which in some form or other does contribute to a compensation for the high cost of site preparation to be incurred. Considering future site development plans (tanneries) it has been suggested to take advantage of the faster and more economic Strauss method where pattern like arranged concrete pylons driven into the ground will form the basis for the foundation.

The site preparation for the slaughter house presently under construction is carried out by removing sand of 1 m deep from the ground which requires pumping installations for the drainage of the area. The excavated site is then filled up with rocks, gravel and sand, up to 3m, which is about 2.5 m above the water level. Tanneries would use saline water for a good part of the leather production.

Recommendation

Taking into consideration the future "next door" availability of raw hides and skins as well as the possibility to use saline water for certain ~~leather~~ operations the inspected site is recommended suitable for the relocation of the tanneries of Alexandria.

Conclusion

The amount of funds to enable the relocation of the subject tanneries will be considerable, which the private sector is not able to finance out of their own resources, however a substantial financial commitment will be necessary. It has been reported that the tanneries would be able to increase their share if they were allowed to export crust and finished leather and import reconditioned

tanning machines thus saving much needed foreign currencies and improve their financial position.

To assist the Egyptian tanning industry in their further development and planning, it is recommended to provide the Government with well elaborated indepth information and detailed lay-outs of factories designed for different lines of production and varrying capacities as defined.

Tannery for:

1. Upper leather

- a. smallest commercial viable unit
- b. unit capable to produce 3000 sq.ft. per day
- c. " " " 6000 " "
- d. " " " 10000 " "

2. Garment/lining leather

- a. smallest commercial viable unit
- b. unit capable to produce 2000 sq.ft. per day
- c. " " " 4000 " "
- d. " " " 6000 " "

3. Sole leather

- a. unit capable to produce 200 tons per year
- b. " " " 400 " "
- c. " " " 600 " "

The study on the subject will, in particular, provide information on:

- production parameters
- ground space, floor space
- type, prices and capacity of machines and equipment installed
- number of workers
- consumption of chemicals
- consumption of utilities
- effluent, recycling of tanning liquids.

The terms of reference for phase II "Assistance in the Planning of the Relocation of the tanneries in Cairo and Alexandria" are identical with the recommendation to the government in providing factory layouts and the relevant techno-economical information of eleven model tanneries being in agreement with Egyptian Chamber of Leather Industry.

A detailed draft project proposal covering phase II is attached (Appendix 1).

LIST OF PERSONS METCairo: National Research Centre

Prof. Dr. Hassan El-Sissi

Chamber of Egyptian Leather Industry

Mr. Abdel Khaleg - Chairman

Mr. Ezz El Din Ibrahim - General Manager

Mr. A. Said - Secretary

UNDP/UNIDO

Mr. Tharwat Sabry - Planning Officer

GOFI (General Organization for Industrialisation - Ministry
of Industry and Mineral Wealth)

Mr. Farad Gabriel - Deputy Director

Mr. Abdel Dayem A.El Sawy - Planning and Technical Adviser

Mr. El-Gohary - Architect

Mr. Hafez M. Abdel-Monem - Planning Engineer

Mrs. Hamyda El-Kerraly - Planning Engineer

Tanneries (private sector)

Mr. Fouad Ali Hassan - Director of Ali Hassan Tannery, Old Cairo

Mr. Taha M. Eid - Director of El-Radio tannery, Old Cairo

Mr. Mamdouh Th.M. Mekky, Director of El Shark tannery, Old Cairo

Mr. Ahmed Hafez Abbassi, Managing Partner of Tannery
Hafez Abbassi Sons, Old Cairo

Mr. Bilal Y.H. Ammar, Director of Ammar tannery, Old Cairo

Mr. Farouk M.Abou El Seoud, Director of Abou El Soud
Sons tannery, Old Cairo

in addition 12 small tanneries in the area have been visited.

Tanneries (public sector)

Mr. Emam H.H. Hassanein, Chairman of Egyptian Leather Company
El-Basatin

Mr. Abd El Kader Abd El Hamid, Production General Manager
of Model Tanneries

Shoe Factories

Mr. Taher Ragab, General Manager of 2 M Corporation, Cairo
Mr. E. Gemy, Technical Manager of 2 M Co. - Cairo
Mr. Peter Field, General Manager of SLAP -Sadat City
Mr. Medhat Abbouda, Technical Manager of Abbouda
Shoe Co. - Cairo

Leather Goods Manufacturer

Mr. Abdel Khalek M.Abou Eid, Director of Ramses Factory - Cairo
Mr. Antoine Badra, Director of Badra and Co., - Cairo

Agencies/Institutions

Mr. John J. Lainson, Country Director of Egypt of
International Executive Service Corps.- U.S.
Mr. David Higin, US Aid Financial Investment Section, -Cairo
Mr. Jean-Claude Mellor, EEC Representative for Egypt, -Cairo
Mr. R. Fitchert, Project Manager, World Bank - Cairo
Mr. S.V.S. Sharma, Industrial Estates Consultant (UNIDO),
Small-Scale Industries, - Cairo
Representatives of the GTZ at the Embassy of FRG - Cairo

Alexandria

Mr. Bahie El Dine Saleh, Director General, Federation of
Egyptian Industries
Mr. Mohamed Salama Ismail, Member of Alexandria Governorate,
Head of Small-Scale Industries
Mr. Mahmud Rasmy, Engineer, Head of Planning
Mr. Mohamed Helmi Ragab, Chairman of Chamber of Leather
Industry, Alexandria Branch

Tanneries (private sector)

Mr. Samir Ahmed Abbassi
Mr. Nabil Ahmed Abbassi, partners of S.A.Abbassi Co.tannery
Mr. Noubar M. Zarbhanelian, Director of Mardig
Zarbhanielian Son tannery
Mr. A.Shahin, Director of Shahin Brothers tannery
In addition, 8 smaller tanneries have been visited.

Tanneries (public sector)

Mr. Shafik El Mallah, Financial Director of El-Nassr tannery

Mr. Mohamed Abd El-Razak El-Yazi, Chemist/technical manager
of El-Nassr tannery.

Leather Merchant

Mr. Ali El Sayed Mamoud

Mr. Zakaria Hassan Aly

Mr. Said Mohamed Abdou

Shoe Factories

Mr. Aly Hussein

In addition four hides and skins traders have been visited.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROPOSAL

PART A - BASIC DATA

COUNTRY/REGION : EGYPT

PROJECT NUMBER : SI/EGY/

PROJECT TITLE: : Assistance in the Planning of the
Relocation of Tanneries in Cairo
and Alexandria. Phase II.

SCHEDULED START : October 1983

SCHEDULED COMPLETION : 3 months after implementation of project.

ORIGIN AND DATE OF
OFFICIAL REQUEST :

GOVERNMENT COUNTERPART : Ministry of Industry and Mineral Wealth
AGENCY :

UNIDO CONTRIBUTION : US\$ 26,870

GOVERNMENT CONTRIBUTION :

CURRENCY REQUIRED

FOR UNIDO INPUT :

CONVERTIBLE : US\$ 26,870

OTHER :

UNIDO SUBSTANTIVE
BACKSTOPPING SECTION : Agro-industries Branch

PROGRAMME COMPONENT CODE : 31.7.D.

PART II - NARRATIVE

1. Objectives

(a) Development Objective

The development objective is to provide better environmental conditions for the Egyptian tanning industry and their employees; and

To strengthen the capabilities of the leather sector industries after the tanneries have been relocated to the new industrial sites.

(b) Immediate Project Objectives

(i) To provide the Ministry of Industry and Mineral Wealth, through the Chamber of Leather Industries, with in-depth information on the latest technological developments in the tanning industry and to draft model tanneries and factory layouts for different capacities and an inter-changeable range of products.

(i) To provide an estimate of the capital required to furnish each of the units with modern machinery and equipment designed for the production of a specific type of leather.

2. Special Considerations

No specific prerequisites are required on the part of the Government except what is specified under item 6 (a), Government inputs.

3. Background and Justification

The Egyptian tanning industry is concentrated in Cairo and Alexandria. Environmental considerations as well as an overall industrial planning concept have been the reason for the Government to decide on the relocation of the tanneries in both cities; a decree to this effect was issued in 1952. Since this time only the public sector tanneries of Cairo have been provided with new production facilities in a newly established industrial area, known as El-Basateen (15 km south of Cairo). The private sector tanneries have remained in their congested places with little room for further developments. There are 230 registered private tanneries in Old Cairo employing some 2,500 - 3,000 workers. The tanneries face the problem of sporadic water supply, power cut-offs and an inappropriate sewerage system.

The situation in Alexandria is similar but of a different nature. The tanneries, both public and private, are located in the harbour area adjacent to the newly extended grain storage facilities which at present lack the needed infrastructure, i.e. modern road and rail connections. The tannery area has been earmarked for the extension of the port facilities. A new industrial site for the relocation of tanneries has been allocated by the Governorate of Alexandria (20 km to the west of the city).

Under the project "Assistance in the Planning of the Relocation of the Tanneries in Cairo and Alexandria", SI/EGY/82/803, a fact-finding mission has been carried out by a UNIDO staff member from 14 April - 13 May 1983 who also assessed the Egyptian tanning industry. The mission report stated that the total value of leather and leather products manufactured during 1981 reached E£ 482 million (US\$ 600 million) of which about 80% is being attributed to the private sector industries. At present there exists no time table indicating when the actual relocation will take place. However, the tanning industry wishes to be advised on the further planning, factory layouts and the estimated capital requirements for the installation of modern machinery and equipment designed for different plant capacities and products in order to be best prepared for the relocation of tanneries.

4. Project Outputs

- (a) Eleven well elaborated tannery layouts taking into consideration the utilization of modern machinery and equipment applying advanced and most economical leather processing methods. The subject tanneries will have the following production capacities:
 - (i) for production of upper leather:
 - smallest commercially viable unit
 - unit capable of producing 3,000 sqft/day
 - unit capable of producing 6,000 sqft/day
 - unit capable of producing 10,000 "
 - (ii) for production of garment/lining leather
 - smallest commercially viable unit
 - unit capable of producing 2,000 sqft/day
 - unit capable of producing 4,000 sqft/day
 - unit capable of producing 6,000 sqft/day
 - (iii) for production of sole leather
 - unit capable of producing 200 tons of leather/year
 - unit capable of producing 400 tons of leather/year
 - unit capable of producing 600 tons of leather/year
- (b) A detailed report giving cost estimates of machinery and equipment for each tanning unit.
- (c) A study on the expected consumption of chemicals, utilities and the quantities of effluent discharged for each plant unit, taking into consideration the installation of tanning liquid recycling equipments.

5. Project Activities and Modalities of Implementation

After a period of three months, the leather industry consultant, who will be based in Vienna, will carry out the following activities:

- (a) To collect information on modern tannery design and the specific machinery and equipment required for each unit;
- (b) To visit selected tanneries which are specialized in the production of
 - upper leather
 - garment leather
 - sole leatherin Austria, West Germany and Italy.
- (c) To draft the tannery layouts and to finalize the report containing all relevant information on machinery and equipment, production capacities, consumption of chemicals and utilities including specifications of all mechanical items required, and the amount of capital needed to equip each tanning unit.
- (d) To consult with the Egyptian Ministry of Industry (GOFI, Governorate) and the Chamber of Leather Industry in Cairo and Alexandria on technical matters concerning the tannery layouts, capital requirements and any other relevant questions which might arise. To forward the tannery layouts and report to the Chamber of Leather Industry.

6. Project Inputs

(a) Government Inputs

- Appointment of a counterpart during the consultant's stay in Egypt.
- Provision of local transport for the international consultant and the local counterpart.

(b) UNIDO Inputs

11-51 Leather Industry Consultant.

The incumbent of the post will be a fully qualified leather technologist capable of providing factory layouts for modern upper, garment and sole leather tanneries.

Duration

3 m/m

15-00 Travel

The consultant is expected to travel to (a) Germany (Frankfurt), Italy (Milan/Turin) in order to visit selected tanneries and manufacturers of tannery machines, for a period of two weeks.

Cost: US\$ 850,- (travel) + DSA à \$80 = \$ 1,120.

- (b) Cairo and Alexandria for final consultation and clarifications, for a period of one week
Cost: US\$ 1,100 (travel) + DSA à \$107 = \$ 750

21-00 Subcontract

The subcontract will cover expenses for the final drafting and printing of eleven tannery layouts and the cost of secretariat services for typing the final version of the report. Cost: \$ 1,000

7. Proposed Evaluation

The activities and results of the project will be evaluated on the basis of the expert's report and the acceptance of the expert's recommendations by the recipient Government.

8. Envisaged Follow-up

Based on further developments concerning the relocation of tanneries in Cairo and Alexandria the Government of Egypt may request additional assistance from international organizations including UNIDO.



PROJECT BUDGET/REVISION

3. COUNTRY Egypt	4. PROJECT NUMBER AND AMENDMENT	5. SPECIFIC ACTIVITY 31.7.D.
10. PROJECT TITLE Assistance in the Planning of the Relocation of tanneries in Cairo and Alexandria		

15. INTERNATIONAL EXPERTS (functional titles required except for line 11-50)	16. TOTAL		17. 1983		18.		19.		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
11-01										
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
11-51 Short term consultants	3	22,050	3	22,050						
11-99 Sub-total—International experts ^a	3	22,050	3	22,050						
21. REMARKS										

^a If more than 16 experts are required check here and attach continuation sheet 1A. This sub-total *must* include all experts.



4. PROJECT NUMBER SI/EGY/	16. TOTAL		17. 1983		18.		19.		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
OPAS EXPERTS (functional titles required)										
12-01										
12-02										
12-03										
12-99 Sub-total—OPAS experts ^b										
ADMINISTRATIVE SUPPORT PERSONNEL										
13-00 Clerks, secretaries, drivers										
13-50 Freelance interpreters (non-UNDP projects)										
13-99 Sub-total—Administrative support personnel										
UN VOLUNTEERS (functional titles required)										
14-01										
14-02										
14-03										
14-04										
14-99 Sub-total—UN Volunteers ^b										
15-00 Project travel		3,820		3,820						
16-00 Other personnel costs (including UNIDO staff mission costs)										
NATIONAL EXPERTS (functional titles required)										
17-01										
17-02										
17-03										
17-04										
17-05										
17-99 Sub-total—National experts ^b										
19-99 TOTAL—PERSONNEL COMPONENT	3	25,870	3	25,870						

^bIf additional individual budget lines are required, check here and attach continuation sheet 1A. These sub-totals must include budget lines listed on page 1A.



4. PROJECT NUMBER SI/EGY	16. TOTAL		17. 1983		18.		19.		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
SUBCONTRACTS										
21-00 Subcontracts		1,000		1,000						
TRAINING										
31-00 Individual fellowships										
32-00 Study tours; UNDP group training										
33-00 In-service training										
34-00 Non-UNDP group training										
35-00 Non-UNDP meetings										
39-99 TOTAL - TRAINING COMPONENT										
EQUIPMENT										
41-00 Expendable equipment										
42-00 Non-expendable equipment										
43-00 Premises										
49-99 TOTAL - EQUIPMENT COMPONENT										
MISCELLANEOUS										
51-00 Sundries										
55-00 Hospitality (non-UNDP projects)										
56-00 Support costs (CC and DC projects only)										
59-99 TOTAL - MISCELLANEOUS COMPONENT										
SURPLUS/DEFICIT										
81-00 Surplus/Deficit (ADM/FS use only)										
99-99 PROJECT TOTAL	3	26,870	3	26,870						
^c COST SHARING (UNDP/IPF projects only)										
^c NET UNDP CONTRIBUTION										

^c For information only - not for PAD input

UNITED NATIONS



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO

27 May 1983

Request from the Government of the Arab Republic of Egypt
for Special Industrial Services

JOB DESCRIPTION

SI/EGY/82/803/11- /31.7.D.

Post title Consultant in Leather Industry.

Duration Three months.

Date required

Duty station Vienna, with travel as specified.

Purpose of project During the first phase of the project the Egyptian leather industry has been assessed and all relevant issues related to the relocation of tanneries in Cairo and Alexandria have been studied. The second phase is to assist the Egyptian tanning industry in the planning of new production facilities and in preparing factory layouts of model tanneries designed for the production of different types of leather and different capacities.

Duties The consultant will be specifically expected to:

1. Prepare factory layouts for eleven model tanneries for the following production facilities and capacities:
 - a) Upper leather: - smallest commercially viable unit
- units capable of producing 3,000; 6,000; and 10,000 sqft/day.
 - b) Garment/lining leather:
- smallest commercially viable unit
- units capable of producing 2,000; 4,000; and 6,000 sqft/day.
 - c) Sole leather: - units capable of producing 200, 400 and 600 tons per year.
2. Visit selected tanneries and tannery machinery manufacturers in Germany and Italy (two weeks).
3. Select the most appropriate machines for each unit and to state the amount of capital needed for each tannery.

..../..

Applications and communications regarding this Job Description should be sent to:

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

4. Provide all relevant data on the estimated consumption of utilities and chemicals together with the most effective and economic tannery effluent and tanning liquids recycling systems for each plant or group of plants, as well as the workforce employed in each unit.
5. Travel to Cairo to submit the tannery layouts together with the relevant report to the Chamber of leather industry and to discuss technical matters on this subject.

The technical report will also contain recommendations to the Government on further action which might be taken.

Qualifications:

Extensive experience in the leather industry of developed and developing countries with emphasis on the planning of tanneries and their requirements of machinery and equipment needed to operate such plants. Knowledge of Egyptian tanning industry would be an asset.

Language:

English.

Background
Information:

The Egyptian tanning industry is concentrated in Cairo and Alexandria. Environmental considerations as well as an overall industrial planning concept have been the reason for the Government to decide on the relocation of the tanneries in both cities; a decree to this effect was issued in 1952. Since this time only the public sector tanneries of Cairo have been provided with new production facilities in a newly established industrial area, known as El-Basateen (15 km south of Cairo). The private sector tanneries have remained in their congested places with little room for further developments. There are 230 registered private tanneries in Old Cairo employing some 2,500 - 3,000 workers. The tanneries face the problem of sporadic water supply, power cut-offs and an inappropriate sewerage system.

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.../..

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