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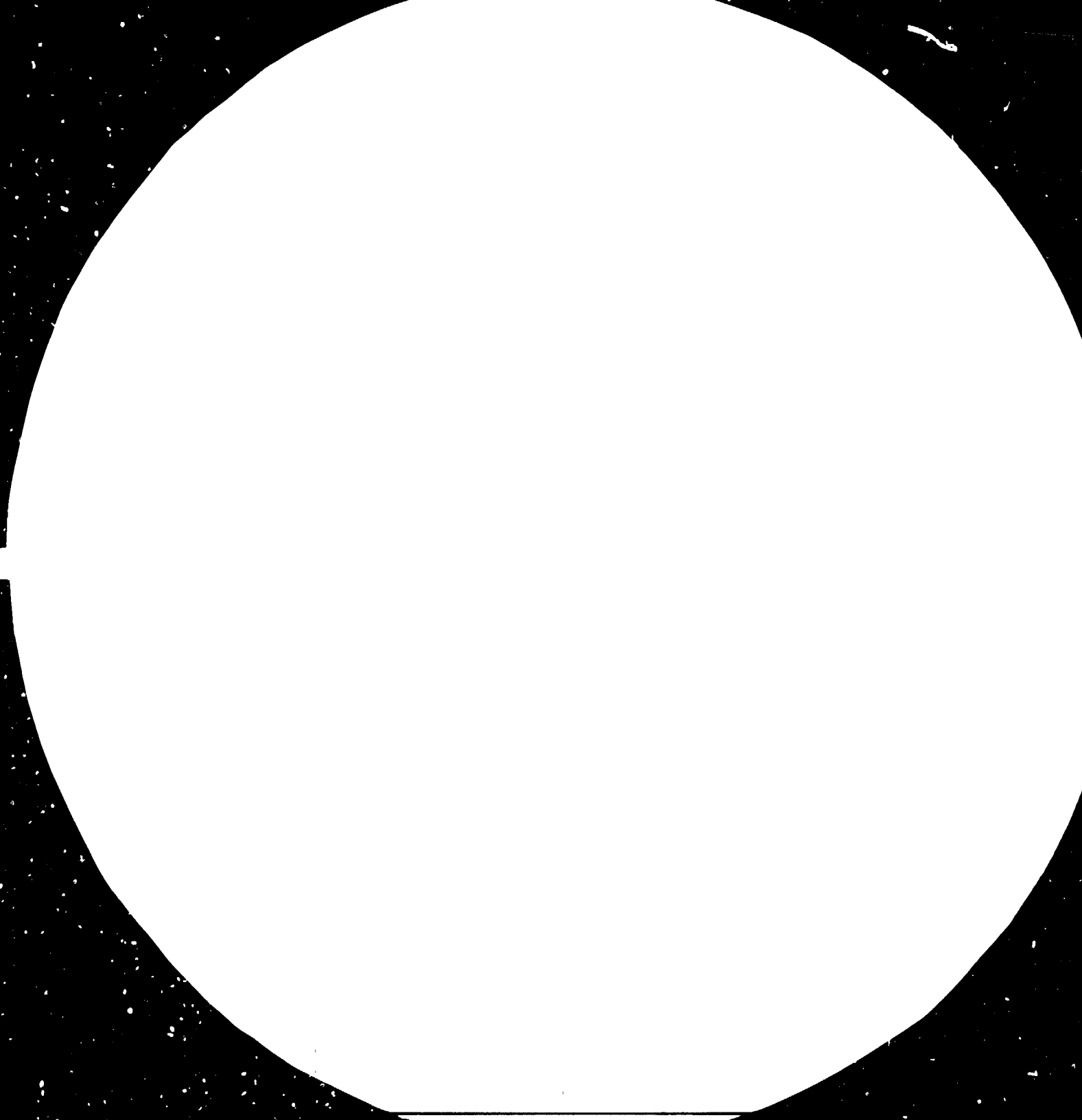
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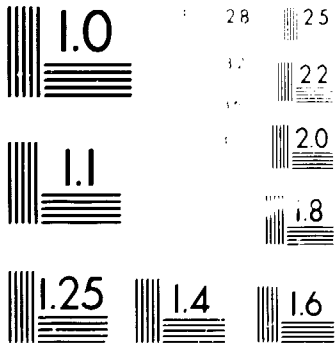
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Third Consultation on the Leather and  
Leather Products Industry

Innsbruck, Austria, 16-20 April 1984

REGIONAL SURVEY ON AFRICA \* *(Leather industry)*

by

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## Introduction

The African region has considerable leather potential, with 20% of world cattle herds, 28% of world goat population and 11% of world sheep population. Against this base, the potential hides and skins production represents 4.8% of world availability of cattle hides and the respective share of world availability for goat and sheepskins are 21% and 9%.

The industrial situation within Africa is vastly different among developing countries of the region, and for this reason little can be said about problems which are common to the region as a whole. As a result this regional survey concentrates on a country profile approach, summarizing available information on raw material availability, potential leather capacities and the processing capabilities of each country. The information compiled, it is hoped, will be up-dated on an on-going basis in order that the potentialities of each country can be better appreciated, and the possibilities for international co-operation identified.

Annex I to this paper reviews the problems of raw material recovery and the slaughter system, deficiencies in which place a widespread constraint on the industry in Africa. Annex II poses certain questions on regional co-operation which may be taken up as regional deliberations on the leather and leather products industry in Africa. Annex III summarizes available regional data on raw material potentials and potential leather production.

ALGERIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Algeria, for 1981:

	<u>Livestock population</u> 1981 (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>off-take rates in %</u> (calculated)
Cattle	1.370	0,85	275	20,0
Goats	2.723	1,90	980	36,0
Sheep	13.600	8,91	4.170	30,7

La Société Nationale des Industries des Peaux et Cuir, SONIPEC, established in 1966, has the task of ensuring the integration of the entire leather sector, from the collection of raw hides and skins, the production of tanned leather and up to the manufacture of footwear and of various types of leather products and related articles.

SONIPEC is a public sector enterprise, which by the end of 1981, was expected to have some 14.000 employees. The company has two main areas of activity: production and marketing. Its objective is to satisfy the domestic market's demand and to export the excess, which in 1978 was estimated to be some 20 % of the total production. In 1978 approximately 80 % of the raw cattle hides required by SONIPEC's tanneries were imported.

Information on existing abattoirs and slaughterhouses, as well as on the actual recovery and the quality of hides and skins is not available to UNIDO.

Industrial capacity in tanning

SONIPEC has three large cattle hide tanneries, which, in 1974, had a joint annual production capacity of 17.500 tons raw hide input, and two skin tanneries with a production capacity of 4.000 tons raw skins per year. The work force at these tanneries, in 1974, was reported to be totalling 1.750 persons.

During the period 1974-1977 it was planned to establish additional tanneries. However, information is not yet available which would confirm that these planned factories have actually been established, and their possible production capacity, etc.



Current production performance

The actual production at the SONIPEC tanneries is not known. However, the following production data were reported for the year 1974:

<u>Bovine upper leather</u> (million sq.ft.)	<u>Bovine sole leather</u> (million sq.ft.)	<u>Leather from goat and sheep skins</u> (million sq.ft.)
15,6	1.098	12,7

For sole leather it was estimated that the demand, by 1980, would be about 1.400 tons. However, information on production data for later years are not yet available.

Industrial capacity in leather products

Footwear manufacturing industry

SONIPEC, in 1974, had six shoe factories, with a total installed production capacity of some 1,5 million pairs per year. In 1977 it bought up the BATA shoe factory, which had a production capacity of 5 million pairs per year. With the establishment of further footwear production units it was expected to increase footwear production further to be able to meet the increased demand of the domestic market.

Up-to-date data for the production of different types of footwear, leather and non-leather, are not available for Algeria (at present).

In addition to the SONIPEC shoe factories there are many privately owned shoe factories, too, both industrialized and artisanal units.

Current production performance

According to Leather (January 1978), footwear production in 1977 at SONIPEC's factories was given as 7 million pairs, which was estimated at some 25 % of the rational production. The total overall footwear production in Algeria, accordingly, would be some 28 million pairs per year.

### Leather goods manufacturing industry

There are several leather goods factories in Algeria, but their number and their production capacity is not known. SONIPEC has a leather garment factory, which, in 1974, had a production capacity of 2.000 leather garments per month, and a work force of some 230 persons. In 1976, export of leather garments was valued at 20 million Algerian Dinars.

In 1977 a new SONIPEC factory was opened for the production of luggage and protective gloving, using only domestically produced leather and synthetic materials, and with a production capacity of 1,5 million pieces of luggage per year.

A leatherboard factory was due to open in 1977, planned to produce some 4.500 tons of leatherboard annually.

Further information on the situation and export performance of leather goods manufacturing units is, however, not available (at present).

### Potentials for industrialization in the sector

The tanning industry as well as the footwear and leather products manufacturing industry in Algeria is already well established and developed, and is able to produce various products of a quality acceptable in export markets. The country's location close to European markets is a significant advantage for its export potential.

Due to the actual need to import considerable quantities of raw cattle hides for the tanning industry, there does not seem to be any scope for further expansion of the bovine leather sector. However, in the skin leather sector there is considerable scope for increased production, due to the available raw material base. This is especially the case for selected skin leather types, for leather garment and other speciality leather types. Increased footwear production for export would also be considered a realistic proposal, in view of the rather well developed footwear production capacities.

Identification of feasible projects for the development of the sector

In 1978 SONIPEC had plans to create four new shoe factories and a factory for the production of leather clothing, as well as for the creation of a new bovine leather tannery with a production capacity of 20 million square feet leather/year, and possibly also for a new skin leather tannery. As the final goal of SONIPEC's operation is a total integration of all activities within the leather sector, there were also plans to establish a glaze factory and a shoe component factory.

Due to lack of up-to-date information it is, however, necessary to check whether some or all of these planned factories have actually been established and put into operation.

ANGOLA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35 presents the following estimated data for Angola, for 1981:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	3.200	1,99	320	10,0
Goats	940	0,65	340	36,2
Sheep	230	0,15	60	26,1

The Company responsible for the production and commercialization of meat and other animal products including hides and skins is DENAPROPE, under the supervision of the Ministry of Agriculture.

Most of the actual slaughterings are carried out in the villages and only a small part in the existing slaughterhouses, which for various reasons are operating at very low production levels.

The total daily effective capacity of the four industrial slaughterhouses in the four main towns of the country is estimated at 330 heads of cattle (equal to 82.500 heads per year) which could be increased to about 680 heads per day (equal to 170.000 heads per year) if the planned extensions are implemented.

The municipal slaughterhouses in other towns have a combined daily capacity of nearly 600 heads of cattle, which equals 150.000 heads a year.

The total annual capacity of existing slaughterhouses would, therefore, be approximately 320.000 heads, which would represent an off-take rate of 10 %, a figure which would be considered realistic. However, under the existing conditions this level of slaughtering is not reached, by far. Information on actual recovery is also unreliable.

Very few goat and sheep skins are cured and collected. No figures of availability of skins for actual tanning are known.

#### Quality of hides and skins

The inherent quality, i.e. the thickness and evenness of the hides and skins as well as the quality - lowering damages caused by insects, dung, flaying cuts, etc., must in all these regards be regarded as rather low.

DINAPROPE is supplying the domestic tanning industry as to their needs. All improvements as to take-off, curing, collecting and trade organization, as well as pricing of the hides and skins, will be directed by that company.

#### Industrial capacity in tanning

Almost the only company to produce leather in Angola is the firm CURBOL, which in addition to its tannery also has a shoe factory. There exist a few other smaller tanneries in the country, but in late 1981 they were all operating at a very low level, if at all.

The production at the CURBOL tannery was also very low, in 1980 estimated at only some 80.000 square feet of leather, in 1981 even less than that, too.

#### Industrial capacity in leather products

##### Footwear industry

In Angola there are five footwear manufacturing factories, including the CURBOL shoe factory. The total annual production of footwear was about 800.000 pairs, in 1980. The local footwear manufacturers are using some 30 % of their requirements from locally produced leather, while some 70 % are imported.

In 1981 it was estimated that the production of footwear would be as follows:

230.000 pairs of leather footwear, and  
270.000 pairs of non-leather footwear  

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500.000 pairs footwear (all types)

This production is considerably below installed production capacities of existing shoe factories. The decrease in production is partly caused by lack of leather for the production of leather footwear, but also due to a number of other constraints existing in the country. All shoes produced in Angola or imported are sold through the governmental internal trade organization. Prices and all other conditions are fixed by this organization.

#### Leather goods manufacturing industry

In 1981, except possibly for some very limited artisanal productions, no products made of leather were known to be produced in Angola. A factory making briefcases and similar articles using plastic sheets and textiles exist, but further details are lacking.

Some leather goods were imported, but in very limited quantities.

#### Potentials for industrialization in the sector

Provided well planned and well executed actions are taken to considerably increase the actual recovery of available hides and skins in the country as well as to substantially improve their quality, the raw material basis for a sound development of the leather and leather products industry would be ensured.

The tanning industry should increase and improve, both quantitatively and qualitatively, its output of finished leather, which would be feasible after completion of the rehabilitation programme proposed.

The footwear manufacturing industry should increase its production of leather footwear to such an extent, that all leather to be produced by the revitalized tanning industry is absorbed, at least initially, in Angola, thereby also reducing present imports of footwear to the country.

Only in the long term it may be possible to consider producing leather footwear for export markets. The relatively low quality of the leather as well as of the footwear produced actually in Angola seems to be suitable for the

domestic market only, which in any case needs to be satisfied first, to avoid costly imports of such products that can be manufactured within the country itself.

Main constraints on industrialization

a) Only a small part of available hides and skins in Angola are cured and collected for the trade. This represents a great loss to the country, also in foreign exchange earnings. The value of the actually collected hides is also diminished through improper take-off and curing methods. The potential recovery of hides and skins in the country, however, indicates that, if the collection is substantially increased and the handling of these valuable raw materials is correctly carried out, there is a good basis for a sound development of the leather industry sector in Angola.

b) Because of the severe conditions existing, the tanning and footwear industries have suffered greatly during the last few years. The main constraints are: i) lack of know-how, technical knowledge and industrial experience, at all levels, ii) machinery and equipment needing repair and maintenance as well as replacement, iii) transport difficulties, and iv) scarcity of water supply to the largest tannery (CURBOL). A rehabilitation of the tanneries and shoe factories is, therefore, very much required. A massive training, at all levels, is also evidently needed to ensure that the industrial plants will again be operating in a satisfactory manner.

Potential areas for international co-operation from both public and private sources

The main area for international co-operation would, in the shorter term, be actual implementation of the rehabilitation programme proposed for the CURBOL tannery and shoe factory, upon confirmation of the availability of the funds required for such programme, estimated at approximately US\$ 1 million (possibly through UNIDF or bilateral sources).

In the long term direct co-operation between rehabilitated Angolan companies and foreign companies, in the tanning as well as in the footwear manufacturing industry, might be considered, to ensure further development of this sector in Angola.

Identification of feasible projects for the development of the sector

a) A rehabilitation programme for the CURBOL tannery and footwear factory has been elaborated by UNIDO, which includes the services of experts in the leather as well as in the footwear industry, the training of local staff through "in plant training", locally organized seminars on the development of the leather sector, and possibly study tours to acquaint local technical and managerial personnel with the operation and activities of similar factories in other developing and in industrialized countries. Procurement of certain essential machinery and equipment is also required.

Financial assistance is sought for the carrying out of such rehabilitation programme, through UNIDO or through bilateral assistance programmes.

b) In a later phase of the modernization of the CURBOL tannery, more replacements of machinery and equipment would be required. New machines needed could be: a rotary plating press, a new shaving machine, a Y-type tanning/retanning machine, a toggle drying unit. The substitution of all mechanical machines by hydraulic ones would be a long-term objective, in order to ensure efficient operation of all tannery processes in the future.

BENIN

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Benin, for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	770	0,48	95	12,3
Goats	930	0,65	285	30,6
Sheep	965	0,63	250	25,9

A considerable part of the hides and skins produced in the country is utilized for human consumption. There are a few units drying hides and skins which are used by existing artisanal tanning units.

Exports of reptile skins and of cattle hides from the harbour of Cotonou represent those quantities which are coming in transit from Niger.

Limited amounts of live animals were reported to be imported into the country, in quantities of some 6.000 cattle and some 10.000 goats and sheep (in 1970).

#### Industrial capacity in tanning

There is no mechanized tannery in the country. Some years back (in 1974) there were plans to consider the establishment of a tannery in Benin with proposed production capacity of some 450.000 skins of goats and of sheep. However, in view of the limited availability of hides and skins of an acceptable quality level, and particularly because of the high percentage of hides and skins used for human consumption, and for which a higher price can be obtained by the primary producer, it seems that this project was shelved.

Up-to-date information on the number and possible production capacity of existing artisanal tanning units is not available to UNIDO.

#### Current production performance

Up-to-date information is not available.

#### Industrial capacity in leather products

The company BATA S.A. Dahoméenne, at Cotonou, has a shoe factory with an annual production capacity of 800.000 pairs of different types of footwear (leather, rubber, plastic), and a total workforce (in 1974) of 120 people. Materials needed were all imported.

#### Current production performance

In 1972, the production at the BATA shoe factory was reported to be some 550.000 pairs per year (all types of footwear).

More up-to-date information is not available to UNIDO (at present).



BOTSWANA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Botswana, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	2.950	1,83	240	8,1
Goats	680	0,47	235	34,6
Sheep	180	0,12	50	27,8

The Botswana Meat Commission, BMC, a Government-owned corporation, has a modern abattoir, where some 1.200 heads of cattle are slaughtered per day for its beef packing. Butchers in villages and town slabs also slaughter quite a large number of cattle, although figures for slaughterings in rural areas are not available. Estimates for sheep is about 100 heads slaughtered per day, and for goats some 50 heads per day.

The actual annual recovery of hides and skins in Botswana, therefore, is estimated at:

1.550 hides/day	or	387.500 cattle hides per year,
50 goat skins/day	or	12.500 goat skins per year,
100 sheep skins/day	or	25.000 sheep skins per year.

These figures (which are given by Mr. C.K. Rao in his 1981 report) indicate that the off-take rate for cattle of 8,1 % calculated from the above FAO figures is too low (may be up to 13,1 %).

The cattle hides produced in Botswana range from 25 kg to 42 kg per piece and yield an area of from 30 to 45 square feet per piece. The hides are uniform and are good in substance. They suffer, however, frequently from several ante-mortem defects caused by parasites, diseases and mechanical damages. Post-mortem defects are mostly flay cuts, hair ship and putrefaction (due to inadequate curing methods applied).

The above-mentioned defects are found in hides and skins obtained from rural butcheries. Even the hides from BMC, which are well processed and handled, are not free from ante-mortem defects. The cattle hides, particularly those from BMC, because of their uniform substance and large size, are well suited for corrected grain finished leathers.

In addition to cattle hides and goat and sheep skins, quite a large number of wild animal skins such as fox, antelope, lion, elephant and also ostrich are produced. Data on their available numbers and on potential availability is, however, not available.

#### Industrial capacity in tanning

The largest tannery in Botswana is the Lobatse Tannery, which is a subsidiary of Botswana Meat Commission. It obtains the raw cattle hides from the BMC abattoir - as fresh hides. The tannery, which has an installed production capacity of 1.200 hides per day, is modern in equipment and operations and has a suitable effluent treatment plant. It produces wet-blue leathers for export, mainly to Europe.

The Botswana Enterprises Development Unit, BEDU, has a tannery, which employs 14 persons, located at Pilane Industrial Estate, Mochudi. It has a production capacity of 75 hides per day, and produces finished upper leather for use by local footwear and leather goods manufacturing units. It also produces smaller quantities of finished leather from goat and sheep skins.

Botswana Game Industries, Ltd., BGI, at Francistown is reported to have complete machinery for the production of finished leather, but is concentrating on the production of leathers made from the hides of elephants and lions and of other game skin leathers.

#### Current production performance

In 1979 the following production figures were reported:

Lobatse Tannery	- 600 hides/day = 150.000 hides/year = approx. 5,0 mill. sq.ft. in wet-blue
BEDU Tannery	- 50 hides/day = 12.500 hides/year = approx. 0,5 mill. sq.ft. in finished leather
BGI Tannery	- no production data available

Figures for the production of leather by local artisanal units are not available to UNIDO.

More up-to-date production figures for the industrial tanneries are also not available.

#### Industrial capacity in leather goods

In the Pilane Industrial Estate, Mochudi, there are four units specializing in the production of sandals, leather handbags and other small leather goods (like pouches, etc.). Vegetable tanned leather (imported from South Africa) is used for some of these products, while chrome tanned leather from the BEDU tannery is used for other articles.

The SRDA-unit at Kanya has a small production of footwear. Consumption figures of leather used by the above units is, however, not available.

The establishment of a factory for the production of footwear and protective leather clothing in Botswana was investigated in 1979. The actual establishment of such factory has, however, not been confirmed.

#### Current production performance

Up-to-date production figures for footwear and leather goods production in Botswana are not available to UNIDO, at present.

#### Potentials for industrialization in the sector

The potential availability of goat skins seems to indicate that the creation of additional production capacity for the processing of goat skins (and to a lesser extent of sheep skins) might be possible, provided that the actual recovery of these skins is substantially improved.

When the Lobatse tannery has reached a stage of development where it can process the hides up to the finished leather stage, then it might be of interest to consider the establishment of a footwear manufacturing factory, which, at least partly, could also produce leather shoe upper for export.

Main constraints on industrialization

Small domestic market limits the demand for leather and leather products. Collecting system in remote areas is deficient and leads to a considerable wastage, particularly of raw skins.

Potential areas for industrial co-operation from both public and private sources

This has to be considered on a case-by-case basis.

Identification of feasible projects for the development of the sector

a) The establishment of a footwear manufacturing factory in the country, which could also produce leather shoe uppers for export, may be reconsidered. A detailed feasibility study for such factory would have to be carried out, based on up-to-date information on the actual situation.

b) The possible establishment of a skin tannery (goat skins and sheep skins) should be investigated.

c) The establishment of a few rural tanneries, as recommended in Mr. Rao's report (1981), in far away districts, where available hides and skins are otherwise completely wasted, would also be worth looking into in more detail.

BURUNDI

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Burundi, for 1981:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	872	0,54	120	13,8
Goats	686	0,48	250	36,4
Sheep	332	0,22	125	37,7

The quality of the goat and sheep skins is considered to be fairly good, while the quality of the hides is rather poor, but improving, especially due to the progress achieved in after-slaughter treatment.

As a consequence of transportation difficulties, and of the ignorance of the primary producer, a considerable part of the potentially available raw hides and skins, are, however, wasted, which is to be considered a serious loss to the national economy of the country.

Industrial capacity in tanning

The number of raw hides and skins actually available in Burundi is not large enough to supply more than one medium-sized tannery. In 1976 the Tannerie du Burundi, BURTAN, was created in the form of a mixed company, in which the Government had the majority of shares. Machinery was bought and the actual establishment of the tannery was rather well advanced, when a conflict arose between the Government and the foreign management contracting firm. As a consequence of this conflict, in 1981, the company BURTAN actually stopped practically all its activities.

The Government, in 1982, sold its share in the company to a private Burundi group, which owns more than 70 % of the shares and has decided to reactivate the operation of the company. The new company name is "Société Nationale des Peaux" (SNP).

Through the services of a UNIDO leather industry consultant international technical assistance is provided to the SNP, in order to try and start up the production at the tannery in the near future, initially up to the wet-blue or crust stage, but later partly also to the finished stage, in order to supply local leather products manufacturing units with locally produced finished leather. The production capacity of this tannery would be some 250 hides per day plus some 2.000 skins per day.

#### Industrial capacity in leather products

At GIHETA here is a small leather shoe factory employing some 15 workers and with a production of about 10 pairs per day, in addition to shoe repair activity. The available machinery, although partly obsolete and somewhat unbalanced, has a much greater capacity, probably in the range of 200-400 pairs per day.

At GITEGA a secondary art school also has a small unit for the production of clogs (wooden soles with leather uppers). Some 10 pairs are produced daily.

The finished leather for both these small units is imported, usually at a rather high price. A local production of finished leather of a reasonable quality would certainly make an expansion much easier and cheaper.

A feasibility study for a modernization and extension of the shoe factory has been carried out in 1980 by a UNIDO consultant. This project has, however, not yet materialized.

The production of other leather products is negligible.

#### Potentials for industrialization in the sector

The raw material basis in Burundi is considered sufficient to supply a medium-sized tannery with locally produced hides and skins, for the production of semi-processed and also finished leather. This tannery, which is under establishment, is expected to start up production in a foreseeable future

The establishment of a medium-sized footwear factory in the country is planned, and when locally produced finished leather of acceptable quality will be available from the tannery, this project would seem to be feasible. Also, the production of leather goods should be taken into consideration.

Main constraints on industrialization

There is a serious lack of local specialists and workers who have knowledge of and experience in the industrial production of leather.

Due to the prolonged delay in putting the new tannery into actual operation, there has also been no incentive to proceed with the establishment of the planned shoe factory.

Export of raw hides and skins has suffered from the unfortunate conflict between the BURTAN company and its foreign partner. These factors have created a negative image concerning the possibility of developing the entire leather sector.

Potential areas for international co-operation from both public and private sources

Technical co-operation between the new tannery (SNP) and possible foreign partners, in the actual operation of the tannery and in marketing the products to be produced, wet-blue and/or crust leather from hides as well as from skins, would be a realistic area of international co-operation.

At a later stage, a joint venture or other form of co-operation, between the shoe factory (under consideration) and interested foreign partners would be another potential area of co-operation.

Identification of feasible projects for the development of the sector

A pre-feasibility study for the establishment of a medium-sized footwear manufacturing factory in Burundi, has been prepared in 1980 with the assistance of a UNIDO consultant. It is planned that this factory would have an annual production capacity of some 130.000 pairs of leather footwear per year, destined for the domestic market.

A pre-condition for its establishment seems to be that the new tannery will be operating and producing finished leather of an acceptable quality leather. A revision of the pre-feasibility study will be necessary, in view of the time elapsed since its elaboration.

CAMEROON

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Cameroon, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	3.284	2,04	370	11,3
Goats	2.434	1,69	720	29,6
Sheep	2.174	1,42	650	29,9

The supervised slaughterings are estimated to be, for cattle, some 64 % of total slaughterings, for goat and sheep, the supervised slaughterings amount to some 5 % only, the rest is usually home-slaughtered (Bouchet's report 1978).

New abattoirs were being built, in 1978, at Duala and at Yaoundé, to replace old installations. They will, therefore, not increase the supervised slaughterings significantly, but were expected to bring about a considerable improvement in flaying performance.

All hides and skins produced in Cameroon are first dried, with or without sodium arsenate treatment. Since 1976, the Société des Tanneries et Peausseries du Cameroun, STPC, is entrusted with the supervision and handling of the collection of hides and skins in the country. STPC has set up eight main collection, drying and sorting centres. These centres take about 70 % of the material collected by the sub-centres. They are directly subordinated to STPC, with the exception of the Yaoundé centre and sub-centres, which have the responsibility of a private collector.

It should, however, be noted that it is not possible to establish correctly the Cameroonian production of hides and skins entering the commercial circuit, because of the significant influence of the uncontrolled flow of raw hides and skins to neighbouring countries, particularly to Nigeria, where higher prices are paid for hides and skins (mainly used for human consumption). Figures given for actual recovery, therefore, have to be considered with caution.



By setting up its network of collection and drying facilities, STPC hopes to improve the conditions of preservation of skins from abattoirs in the larger and some smaller towns. It will, however, take much longer to obtain improved bush-slaughtered skins.

Salting of hides and skins has been tried by STPC, but the high cost involved and the humid climatic conditions prevailing, especially in the coastal area, have made it difficult to obtain the improved preservation effects expected.

#### Industrial capacity in tanning

There is a mechanized tannery in Cameroon, the Société des Tanneries et Peausseries du Cameroun, STPC, which was established only a few years back (early 1978), located at Ngaoundere. Its installed annual production capacity is reported to be

224.000 hides, and  
560.000 goat and sheep skins.

The total workforce in the tannery is about 230 people. The tannery is a modern establishment, adequately equipped with tannery machinery, and with a power station to ensure continuous power supply to the factory.

There are further a number of artisanal tanning units, mainly in the Northern areas of the country. Their combined production is of the order of 10.000 hides per year. Information on production output of skin leather is not available.

#### Current production performance

The STPC is a company in which the Government is the major shareholder. Its objective is to tan hides and skins produced in the country. A considerable part of the production is exported as semi-processed leather, mainly to the European market. The rest is finished and sold in the domestic market.

Up-to-date actual production figures are, however, not known to UNIDO.

Industrial capacity in leather products

Footwear industry

There are four mechanized shoe factories in the country, with the following annual production capacities:

	<u>Annual production capacity</u>
- CHAUSSCAM, Yaoundé (established 1977)	200.000 pairs of simple footwear, and 62.500 pairs of all-leather footwear
- Société Artisanale Camerounaise de Chaussure (SACC) (established in 1966, manufactures also leather goods)	375.000 pairs of leather footwear, 40 % with leather soles, and 60 % with elastomer soles
- BATA Cameroun (established in 1962) location: Douala-Bassa	6.800.000 pairs of all types of footwear, with some 37 % with leather uppers (EEC report 1974)
- MAVEM, at Douala	A factory producing non-leather footwear; its production capacity is not known.

Current production performance

In 1978, the following production data were reported on (Bouchet report) for the above shoe factories (except for MAVEM):

Chausscam	- no production data given
SACC	- some 1000 pairs/day, approx. 250.000 pairs/year
BATA	- 1.700.000 pairs of all types footwear/year, of which 350.000 pairs of leather footwear (these figures seem, however, to be much too low).

The total footwear production, broken down according to type of footwear produced was given to be (1976/77):

2,8 million pairs rubber footwear
1,4 million pairs plastic footwear
0,3 million pairs closed leather uppered footwear
<u>0,1 million pairs other types</u>
4,6 million pairs footwear altogether

### Leather goods manufacturing industry

There are two relatively large leather goods manufacturing plants in the country, and a number of smaller, artisanal type units, too:

(i) SACC, Société Artisanale Camerounaise de Chaussure, established in 1966, in addition to its footwear production, has a production capacity for "leather goods" of

790 suitcases per day + 60 attaché cases/day, and  
150 handbags per day.

The factory does not, however, use leather in their fancy goods and luggage departments.

(ii) Société Industrielle de Maroquinerie Camerounaise, SIMACA (established in 1977), manufactures ladies' leather handbags, for the domestic market and partly also for export (in small quantities). This factory had a leather consumption, in 1978, of some 66.000 square feet per year (of which 22.500 sq. feet bovine leather and 44.000 sq. feet of leather from goat and sheep skins). They were, however, planning to move the factory to the industrial zone at Bonaberi, to improve product quality and to double their production. Whether this has been realized, is, however, not known to UNIDO.

### Potentials for industrialization in the sector

The potential recovery of hides and skins, in particular of goat skins and sheep skins, compared with the production capacity of the STPC-tannery, would indicate that there are good possibilities for an increase in the local production of leather in Cameroon. However, due to the uncertainty with respect to actual recovery of good quality hides and skins, mainly because of the uncontrolled flow of such raw materials to neighbouring countries, considerable caution has to be applied when considering a possible expansion of the leather tanning industry in the country.

### Main constraints on industrialization

For the tannery: Local transportation and communication problems (mail, telephone, etc.) are still serious problems for the STPC-tannery, which is located in the interior of the country, in order to provide employment in an area which up until then had not yet been industrialized.

Availability of trained personnel and skilled labour is still limited in Cameroon. There is, therefore, a need for further training of personnel, for the tannery as well as for some of the leather products manufacturing plants.

Potential areas for industrial co-operation from both public and private sources

To be considered on a case-by-case basis.

Identification of feasible projects for the development of the sector

These may be identified during a possible visit to the country, in order to obtain more detailed and up-to-date information on the situation of the leather and allied industries in Cameroon.

CENTRAL AFRICAN REPUBLIC

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for the Central African Republic, in 1981:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	1.272	0,79	170	13,4
Goats	951	0,66	200	21,0
Sheep	86	0,06	45	52,3

As indicated by the high off-take rate for sheep there is a significant import of live animals into the country. Up-to-date information on actually imported live animals is, however, not available (at present).

Industrial capacity in tanning

There is no mechanized tannery in the Central African Republic. The number and production capacity of rural tanning units is not known to UNIDO.

Current production performance

No up-to-date information available.

Industrial capacity in leather products

Since 1968, the company BATA S.A. has a shoe factory in Central African Republic, at Bangui, with an installed annual production capacity of some 1,3 million pairs of footwear, in 1972 (leather footwear, rubber and plastic footwear).

In 1971 they had a total work force of 160 people, and produced approximately 622.000 pairs of footwear.

Current production performance

Up-to-date information is not available.

CHAD

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Chad, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	3.850	2,36	225	5,9
Goats	2.300	1,60	690	30,0
Sheep	2.300	1,51	800	34,8

Note: The following comments are based on the situation in Chad early 1978, as reported by the UNIDO consultant Djonovic, and on an article in Leather, May 1977. More up-to-date information is not available to UNIDO.

There is no national organization for marketing hides and skins. These raw materials are bought from slaughterhouses and butchers by STICPA (Compagnie Française de l'Afrique Occidentale) and by Brahim Seyne. The hides are treated with an arsenic solution before drying under shades. There are slaughterhouses at Farcha, N'Djaména (the capital) and Sarh. Hides and skins from rural centres are sun-dried without previous treatment.

It is estimated that 30 % of the hides and skins are lost because of poor flaying or defective drying. For export the hides as well as the skins are classified according to established categories.

Recorded production of hides and skins is said to be considerably less than the real production, because of the large number of non-recorded slaughterings in rural centres and illegal exports to adjacent countries. Up-to-date information on actually recovered hides and skins is, however, not available.

The importance to the country of this sector is shown by the following table, which gives the export figures for 1975 for the main export items:

Exports in 1975, in million FCFA

Cotton	6.400
Meat	730
Fish	354
Live animals	292
Hides and skins	85

Industrial capacity in tanning

At Sarh a mechanized tannery has been established many years ago with an annual production capacity of some 30.000 bovine hides and some 150.000 skins. For various reasons this tannery has never come into proper operation. Several tentatives have, however, been made to clear up the factory's financial situation and to get its production started up.

However, to UNIDO's knowledge, the tannery has not yet started production. There are a few artisanal units producing leather, mainly vegetable tanned leather, for domestic market uses. Their production capacity is not known.

Current production performance

Up-to-date information on this is not available.

Industrial capacity in leather products

Footwear industry

In 1978 the situation of the footwear manufacturing industry in Chad was as follows:

One relatively large artisanal footwear manufacturing unit, named "Chaussures d'Or" at N'Djaména, with a few machines installed, had an estimated production capacity of 10.000 pairs per year. Their product quality is quite good.

The company SADI (Société Africaine de Développement Industrielle) had a production of simple sandals, mainly for ladies, of some 150.000 pairs per year, with leather upper straps and leather or synthetic soles.

In addition, there were several artisanal units, having a mixed production of footwear and leather goods, with a production capacity each of from 20 to 40 pairs per week. These units had usually each one sewing machine and some tools only, and the quality of their products was rather irregular.

At Sarh there is a mechanized shoe factory, SIVIT, which was installed in 1969, but which has never been put into actual operation, for a number of reasons. It has a production capacity of some 100.000 pairs per year, planned to be leather uppered shoes (children's, ladies' and men's shoes).

The possibility has been discussed of moving this existing factory to N'Djaména and start up its production there. But no further information has been received as to what is the present situation of this factory. Most probably it is still not operating.

#### Leather goods manufacturing industry

There are several artisanal units producing different types of leather goods in the country. The main leather goods manufacturing unit is the Centre Artisanal at N'Djaména, which was established in 1968 and which has four different departments, for

leather goods and saddlery,  
book-binding workshop,  
traditional jewelry, and  
wooden and ivory sculptures.

The leather articles produced include handbags (in bovine leather or reptile leather), belts, and wallets, etc. The quality of the work and of the products is medium. The right finishing to these products is, however, lacking, and they would not be competitive on export markets.

The leather goods manufacturers would have been able to produce much better quality articles if the leather they use had been of better quality and the tools had been suitable for the specific purpose. They do not have tools especially suited for leather goods manufacture, but meant for use in footwear manufacture.

#### Current production performance

Up-to-date information on the actual production of leather products in Chad is not available to UNIDO.



CONGO

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Congo (Brazzaville), for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	75	0,05	14	18,7
Goats	133	0,09	23	17,3
Sheep	69	0,05	13	18,8

Information on actual recovery and on the quality of hides and skins produced in the country is not available. In view of the very limited amounts of hides and skins available there is probably little interest within the country for these raw materials.

Industrial capacity in tanning

There is no mechanized tannery in the country. Some years back, a private entrepreneur was considering the possible establishment in the Congo of a small tannery for the tanning of crocodile hides. However, it appears that this project has later on been shelved.

Current production performance

No information is available on possible artisanal production of leather in the country.

Industrial capacity in leather products

The company BATA S.A. has a shoe factory, located at Pointe-Noire, using imported materials, with an installed annual production capacity (in 1974) of 1,4 million pairs of footwear, of which 225.000 pairs plastic shoes, 275.000 rubber shoes and 900.000 pairs of leather footwear. Its total workforce was reported to be 225 people.

Current production performance

In 1972 the BATA shoe factory was reported to have produced:

90.000 plastic shoes,  
185.000 rubber shoes, and  
505.000 leather shoes.

More up-to-date information on footwear production outputs in the Congo is not available to UNIDO (at present).

DJIBOUTI

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Djibouti, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	34	0,02	3	8,8
Goats	530	0,37	220	41,5
Sheep	330	0,22	100	30,3

Animal husbandry, particularly goat and sheep husbandry, traditionally ensure the subsistence of the nomadic population in the interior of the country. However, in view of the limited availability of pastures and of water supply, the productivity of the animals is very low. There are also important losses of animals occurring due to these factors.

There appear to be a significant import of live goats and sheep from neighbouring countries, indicated by the high off-take rates, especially for goats, but figures concerning the actual magnitude of these imports are not available to UNIDO.

The expansion of the existing slaughterhouse was studied by experts from IDCAS in 1981, and may have been carried out under a bilateral type of arrangement.

#### Industrial capacity in tanning

At present there is no mechanized tannery in the country. However, a feasibility study for the establishment in Djibouti of a tannery producing wet blue (semi-finished) leather from sheep and goat skins for export was carried out by a private French company in 1980. Evidently this tannery-project is now under active consideration.

The proposed production capacity of this planned tannery, namely some 180.000 goat skins and some 340.000 sheep skins annually exceeds considerably the actual recovery of such skins in the country. In fact it almost equals the potential recovery of goat skins, and is more than three times the potential recovery of sheep skins. The plan, therefore, assuming that the FAO-figures on skin production are realistic, foresees that significant amounts of goat skins and particularly of sheep skins are imported (as live animals or otherwise).

This would suggest that there is a need to look very carefully into the actual availability of raw materials before a final decision or the possible establishment of such tannery is taken.

#### Current production performance

No information is, at present, available to UNIDO on this aspect.

#### Industrial capacity in leather products

Information on the production of footwear and other leather products in Djibouti is not available to UNIDO at present.

In 1981 a project was suggested concerning the establishment in the country of a workshop to manufacture leather products. However, no further information is available to UNIDO as to whether this project has actually materialized.

EGYPT

Raw material availability, in quantitative and qualitative terms

Based on the data presented in the FAO Production Yearbook 1981, Vol.35, the following estimated figures are given for Egypt:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	1.954	1,21	880	45,0
Buffaloes	2.327	1,44	900	38,7
		<u>2,65</u>		
Goat	1.451	1,01	1.320	91,0
Sheep	1.599	1,05	1.150	71,9

The high values of the off-take rates obtained indicate that import of live animals into Egypt is rather important. According to the FAO Trade Yearbook 1981, Vol.35, in 1981 these imports were 115.000 cattle and 50.000 goats and sheep. Taking the imported cattle into account, the calculated off-take rate for cattle would be reduced to 39,2 %. However, the recorded figure for imports of goats and sheep does not change significantly the high off-take rate calculated for these categories. There may, however, be some imports which are not accounted for. Therefore, the off-take rates given for goats and sheep should be considered with caution. The production of goat skins and sheep skins may have been estimated too high.

Additional information obtained refers to imports of camels on the hoof, from the Sudan, of more than 50.000 camels in 1981.

There is also a considerable import of raw cattle hides into Egypt. In 1981, according to the Chamber of Leather Industry, a total of 5.736 tons of hides were imported, representing a value of more than 5,5 million Egyptian pounds (1 E f approx. = 1,22 US\$). About 25 % of these came from the Sudan, shade dried or dry-salted cattle hides (8 to 12 kg per hide). The rest came from other African countries: Central African Republic, Ethiopia, Kenya, Somalia, Tanzania and Uganda.

The Sudanese hides, in 1981, were processed to some 30 % by the public sector tanneries, and to some 70 % by the private sector tanneries. It is estimated that in 1983, the import of cattle hides from the Sudan will increase considerably, by almost 1000 tons, to some 2.300 tons in all.

#### Hides and skins collection and quality

Hides and skins are usually collected by hides and skins traders from the butchers, which are closely associated with the traditional activities of the abattoirs and slaughterhouses. The methods applied for flaying are rather primitive, and are detrimental to the quality of hides and skins. Experience has shown, however, that it would be very difficult to change the attitude of the butchers in order to enhance the quality of hides and skins by implementing modern flaying methods. In the past efficient skinning equipment and improved technologies have been introduced, but unfortunately without providing lasting results.

The improper flaying, curing and handling methods used for hides and skins produced locally are causing much concern to the tanners, who claim that this constraint is restricting their range of products.

There are rather large abattoirs in Cairo as well as in Alexandria, and several, but less important, slaughterhouses in Lower Egypt and also in Upper Egypt. It is anticipated that the new additional abattoirs now being established in Cairo and Alexandria will contribute significantly to improving the raw hides and skins produced by them. However, a large portion of the supply will still remain at the present unsatisfactory level.

It is estimated that approximately 5 % of all hides and skins produced locally have serious defects caused by improper skinning and handling. The loss to the national economy resulting therefrom has been calculated to more than 20 million Egyptian pounds per year.

Goat skins originating from the Governorates of Upper Egypt are generally without flaying defects, as the skin is removed from the carcass by way of pulling.

It is reported that approximately 40 % of cattle and buffaloes are slaughtered in slaughterhouses, the rest outside of controlled slaughterplaces. The amount of sheep slaughtered in slaughterhouses is estimated at only 20 % of the total sheep slaughterings, and for goats these figures are even lower.

Industrial capacity in tanning

The tanneries in Egypt are - with the exception of a few artisanal types of establishments in rural areas - 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.

Number of tanneries:

In Cairo: In the public sector there is one company, El Basateen, with three leather production facilities.

In the private sector there are 230 registered companies. In addition some 70 non-registered entrepreneurs have established themselves as "tanners" in mainly abandoned constructions of the "Old Cairo" - area.

In Alexandria: In the public sector there is one company, El Nasr, with four different production facilities.

In the private sector there are 18 companies, which all are registered.

In the public sector there is also a leather board factory with a production capacity of some 800 tons per year in Cairo. In Alexandria, another leather board factory is being planned with a production capacity of some 2000 tons per year.

The total annual production capacity of the tanneries in Egypt is estimated at:

	<u>Public sector</u> <u>tanneries</u> <u>(Cairo and Alexandria)</u>	<u>Private sector</u> <u>tanneries</u> <u>(Cairo and Alexandria)</u>	<u>All tanneries</u>
Upper and light leather (in mill. sq.ft.)	25	92	117
Sole leather (in tons)	1.600	12.400	14.000

The number of tannery employees is:

In public sector	2.140 persons
In private sector (estimated)	2.690 persons
Total	4.830 persons (i.e. approx. 5.000 persons)

Current production performance

The following production figures are given, by the Chamber of Leather Industry:

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Upper and light leather (in million sq.ft.)	90,3	93,0	92,2	66,4
Sole leather (in tons)	813	557	681	471

The percentage of the public and private sectors were as follows:

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Public sector	14 %	28 %	15 %	21 %
Private sector	86 %	72 %	85 %	79 %

It is to be noted that in 1981 the total leather production has decreased in comparison to previous years.

Industrial capacity in leather products

There are, in the whole of Egypt, a total of 6.470 registered footwear manufacturing units, employing a workforce estimated at more than 40.000 persons:

These units can be divided into:

- 10 fully mechanized units,
- 20 semi-mechanized,
- 40 with a rudimentary mechanization, and
- 6.400 non-mechanized workshops, with a family-based operation.

These units can also be divided according to the number of persons employed, whereby:

- 600 units are employing more than 9 workers each, and
- 5.870 units having less than 9 workers each.

In the public sector there are three mechanized shoe factories, which are manufacturing leather footwear as well as non-leather footwear.

The present capacity of the Egyptian shoe industry is estimated at approximately 100 million pairs per year.

According to an ITC-report (1978), the export potential for ladies' summer shoes, sandals in particular, is considered promising. For men's shoes, however, the situation is different. Influenced by previous experience with exports to Eastern European markets, the Egyptian production appears to consist of heavy, hardwearing, not well finished types of men's shoes which would not be acceptable on Western markets. Quality and fashion modifications are considered essential before this situation can be changed.

#### Current production performance

The following production data are given, for all types of footwear (Chamber of Leather Industry):

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
All types of footwear (million pairs)	47,8	53,5	56,1	56,7
Value, in million Egyptian pounds	238,6	347,1	392,9	413,0
Value increase (1978 = 100)	-	+ 45,5 %	+ 64,7 %	+ 73,1 %

The public sector shoe factories, in 1981, produced 12,2 million pairs of footwear, namely 4,1 million pairs of leather footwear and 8,1 million pairs of non-leather footwear, representing 21,5 % of the total output in quantity and valued at 27,3 million Egyptian pounds, which represents 6,6 % of the total production output, in value. The total footwear production consists of:

- 50 % men's shoes,
- 30 % ladies' shoes, and
- 20 % children's shoes.

The quantity of leather footwear produced is not clearly recorded, but is estimated to have been approximately 47 million pairs, in 1981.

#### Export of leather footwear

In 1981, the export of leather footwear amounted to a little more than 212.000 pairs, representing a total export value of approximately 1 million Egyptian pounds. Of the exports, calculated by value, some

- 83 % were exported to Arab States,
- 12 % were exported to other African countries,
- 5 % were exported to developed markets.



### Leather goods manufacturing industry

A considerable number of production units, some of which are having a workforce of 200 to 250 persons, are manufacturing women's leather handbags, belts, and other leather goods of various types, for the local market as well as for export, mainly to Eastern European markets. A few units also produce coats and leather jackets.

### Current production performance

The total production of this particular sector was as follows:

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Leather goods (quantity in tons)	12.400	13.640	14.322
Leather goods, in value (million Egyptian pounds)	11.160	16.368	22.506
Leather gloves, in pairs	52.00	52.000	84.600
Leather gloves, in value (million Egyptian pounds)	0,106	0,127	0,150 (estimated)

### Exports

The export of leather goods, in 1979, was valued at 4,87 million Egyptian pounds, and the export of furs was valued at 1.38 million Egyptian pounds, in the same year.

According to an ITC-report (1978), the leather products exported to Eastern European markets, could with minor quality improvements also be acceptable to Western European markets.

### Potentials for industrialization in the sector

In Alexandria a new modernly equipped tannery, within the public sector, is expected to be commissioned soon, to process upper leather as well as sole leather. The planned daily input will be 400 hides.

In connexion with the planned relocation of tanneries, in Cairo, as well as in Alexandria, it is expected that the number of industrial tanning units, particularly in the Cairo area, may be reduced. At the same time, when the

relocation has been carried out, a modernization of the tanneries relocated will result. Therefore, if required, a further increase in the production of leather may be effected by these relocated tanneries, most of which are expected to be in the private sector.

In the footwear and leather goods industry, during the last two-three years, several projects have obtained the necessary authorization, for the expansion of existing production units or for the establishment of new factories. The exact number and size of these new plants, is, however, not known.

If the export performance can be improved, the footwear and leather products manufacturing industry should have good potential for further development.

#### Main constraints on industrialization

One of the main constraints is the limited availability in Egypt of good quality raw hides. These raw materials, therefore, to a considerable extent, have to be imported, usually from other African countries, to satisfy the needs of the tanning industry.

There is, further, a felt need for expanding the facilities providing vocational and higher level practical training, not only for the public sector industry, but particularly for the private sector tanneries, and also for the shoe factories.

A high rate of duty is applied on supplies, accessories and products which are required for the manufacture of good quality export products, but which are not available on the domestic market in the higher quality level required for export purposes. This situation reflects negatively on the possibilities of increasing the exports of leather products.

#### Potential areas for international co-operation from both public and private sources

International assistance and co-operation, technical and financial, should be considered in connexion with the planned relocation of the tanneries in Cairo and in Alexandria to the new industrial sites being planned outside of these towns.

#### Identification of feasible projects for the development of the sector

The main projects forthcoming in Egypt in this sector are the planned relocations of the tanneries in Cairo and in Alexandria to industrial sites outside of these towns. However, it is still unclear when such relocations may be actually implemented. The main question of how these projects will be financed still has to be clarified and decided upon.

ETHIOPIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimates of livestock population for Ethiopia, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	26.100	16,20	2.010	7,7
Goats	17.200	11,98	6.000	34,9
Sheep	23.300	15,26	6.710	28,8

The actual quantity of hides and skins which were traded or industrially processed, in various years, were:

<u>Commodity</u>	<u>Year (million pieces)</u>				<u>Appr. % of total prod.</u>
	<u>1973</u>	<u>1976/77</u>	<u>1978/79</u>	<u>1981/82</u>	
Cattle hides	1.530	820	890	1.050	57
Goat skins	4.340	...	5.140	) 12.170 *	93
Sheep skins	3.230	...	4.960	)	

\* The 1981/82 breakdown between goat and sheep skins is not known to UNIDO.

Some of the discrepancy between the estimated total production and actually processed/traded hides and skins may be explained by the possible smuggling of live animals and hides and skins into neighbouring countries.

Quality of hides and skins

An FAO expert's study indicates that the recovery of hides and skins is adversely affected by incorrect flaying and curing practices. Recent governmental

efforts and a comprehensive FAO/UNIDO technical assistance programme have attempted to find ways of improving the basic collection, flaying, recovery and curing of hides, especially in rural areas. An indication of the trends in recovery may be gained from the following figures:

<u>Commodity</u>	<u>1973</u> <u>(mill. pieces)</u>	<u>%</u>	<u>1978/79</u> <u>(mill. pieces)</u>	<u>%</u>
<u>Cattle hides:</u>				
Butchery	0,28	18,1	0,31	34,3
Ordinary	1,25	81,9	0,59	65,7
<u>Goat skins:</u>				
Bati genuine	2,71	62,4	4,32	87,3
Bati type and ordinary	1,63	37,6	0,63	12,7
<u>Sheep skins:</u>				
Butchery	2,94	90,9	4,77	92,8
Ordinary	0,29	9,1	0,37	7,2

If it is assumed that the "Butchery" and "Bati" categories are those hides and skins recovered from slaughter in abattoirs, it can be concluded that the infrastructure for organized recovery of hides and skins is showing steady improvement.

Against this observation, it should be noted that deficiencies in the recovery system arise from conventional problems such as:

- a) Defective flaying practices;
- b) Insufficient attention being paid by hide and skin traders to hide preservation and storage;
- c) In some instances, it has been noted that an inavailability of curing salts and/or bactericidal agents result in hide putrefaction or infestation, and there seems to be no organized distribution system for these ingredients among hides and skins traders;

- d) Inadequate means of transportation of hides and skins, especially from outlying rural areas;
- e) A complex hides and skins trading network, which places five or six tiers of intermediaries between the primary producer and his final market. This results in the problems of artificially depressed prices for the primary product (with a resultant adverse effect on grading and sorting) and prolonged storage of untreated hides at various points in the recovery chain.

It is expected that the basic collection system will improve in the future, due to:

- a) Changes in the organizational and marketing practices of Farmer and Kebele Association and the reduction of the role of trading intermediaries;
- b) The implementation of a long-term livestock development plan, undertaken by the Ministry of Agriculture with assistance from the IBRD. This would include the installation of 82 slaughter houses and hide-sheds in municipal centres in 13 administrative regions of the country, and the introduction and use of proper flaying and curing. In addition, the Livestock and Agricultural Production Marketing Division (Ministry of Agriculture) is concentrating on a hides and skins improvement programme in rural areas. This entails the provision of extension services in the area of flaying/preservation of hides and skins. At present, the Ministry of Agriculture does not receive any technical assistance in hides and skins improvement.

#### Tanning Capacity

The country has eight mechanized tanneries of different capacities, ages specializations. The products vary from pickled sheep skins for the export market to wet-blue and crust leathers (again for export) and finished leather (mostly cattle hides for domestic consumption). Considerable rural tanning activity is carried out although it produces leather of low quality which meets local needs. In the absence of information on these rural tanneries, this survey concentrates on the mechanized units.

The total production and installed capacity is:

<u>Commodity</u>	<u>Year</u>	<u>Production</u> (mill. pieces)	<u>Installed capacity</u>	<u>Capacity utilization</u> %
Cattle hides	1976/77	0,24	0,60	40
	1978/79	0,32	0,63	51
	1981/82	0,48	0,63	76
Sheep and goat skins	1976/77	3,1	7,8	40
	1978/79	4,1	10,8	38
	1981/82	5,4	10,8	50

Despite the well recognized problems of evaluating the capacity of a tannery, it is noted by all observers that the country can improve its tanning output by improving the organization and productivity of existing tanneries.

A second aspect of expanding tanning capacity is the need for investment in new capacities. The current availability of cattle hides (1,05 million pieces) exceeds the installed capacity (0,63 million pieces) by 67 %. The equivalent shortfall in processing capacity for skins is at least 13 %.

The consequence of these two capacity shortfall factors is that by 1981/82 only about 46 % of the effective supply of cattle hides and 44 % of skins were industrially processed in the country, the rest being traded in the raw state.

As mentioned above, the output of the tanneries is at different levels of processing. An UNIDO estimate, using FAO conversion factors, presents the following breakdown for leather production:

<u>Total leather:</u>	37 mill. sq.ft.	(100 %)
of which		
- upper leather:	7,2 mill. sq.ft.	(19,5 %)
- lining leather:	1,95 mill. sq.ft.	( 5,3 %)
- Sole leather:	0,73 mill. sq.ft.	(1,97 %)
- Crust leather:	3,03 mill. sq.ft.	( 8,2 %)
- Wet-blue:	13,22 mill. sq.ft.	(35,7 %)
- Pickled:	10,88 mill. sq.ft.	(29,4 %)

It can be seen that about 75 % of leather output is in semi-finished forms, presumably all of it destined for the export markets. It can also be presumed that all of the remaining 25 % of production as finished leather is sold in the domestic market.

#### Conclusions on the tanning sector

There are three strategic directions in which the expansion of the tanning sector can be contemplated, as seems apparent from this brief survey of the industry.

- a) Improvement of utilization of existing tanning capacity, which is utilized at 40 - 50 % at present.
- b) Long-term expansion of the sector, whose existing capacity covers 35 % of potential cattle hides supply and 80 % of goat skins supply.
- c) Improvement of the composition of output towards higher level of semi-processed and processed leather, than those existing at present. At present, most tanneries are well equipped and produce good quality semi-finished leather. Finished leather quality levels are not, however, to international market standards and have to be directed to the domestic market.

#### Leather products manufacture

##### Installed capacity

There are a total of six footwear factories in the country, five of which produce leather and non-leather shoes, and one specializes in non-leather footwear. The realised production of these units in 1981 was as follows:

<u>Leather footwear:</u>	1,4 million pairs
Canvas footwear:	2,7 million pairs
Plastic footwear:	3,1 million pairs
Total:	<u>7,2 million pairs</u>

The footwear industry absorbs about 4 million sq.ft. of upper leather. It is estimated that the current installed capacity for upper leather is about 15 million sq.ft., so there seems to be an ample capacity for finished leather to support an expansion of footwear production.

### Capacity utilization

The major constraint on the development of footwear production seems to arise from the absence of trained manpower at both production management and shop floor levels. UNIDO's technical assistance has focussed on this area, and facilities for training both within and outside the country have been provided. A significant area for training has been in designing, pattern making and cutting. One of the conclusions of the technical assistance projects has been that the Ethiopian manpower trained has proven to be very industrious, and the training programme has had considerable effect on the quality of skills imparted to the country. A major problem encountered, though, has been that trained personnel, especially at the management level, have not been able to specialize in leather production due to the rapidity of their reassignment from this sector of industry to other areas of activity. Thus, perhaps is a result of the overall shortage of trained cadre in the country.

### GABON

#### Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Gabon, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	4	0,002	2	50
Goats	90	0,06	30	33,3
Sheep	100	0,07	37	37,0

There seems to exist no significant utilization of the hides and skins produced in the country. Only 12 % of the domestic market requirements for meat was (in 1974) covered by local productions, the rest had to be imported.



Industrial capacity in tanning

There is no mechanized tannery in the country. Due to the very limited quantities of hides and skins available there seems to be no potential for the development of a local leather production in Gabon.

Current production performance

No information available.

Industrial capacity in leather products

There is no mechanized shoe factory or leather goods manufacturing unit in the country. In 1974 it was reported that a project for the establishment in Gabon of a shoe factory having a production capacity of 300.000 pairs of different types of footwear was under consideration. However, no further information on this project is available to UNIDO.

Current production performance

No information available.

GAMBIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Gambia, for 1981:

	<u>Livestock production 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	333	0,21	35	10,5
Goats	177	0,12	50	28,2
Sheep	165	0,11	50	30,3

In 1980 a UNIDO consultant informed that the actual recovery per year would at least amount to 22.000 cattle hides and 22.000 skins (goat and sheep skins). The difference between potential recovery and the estimated actual recovery which is rather significant for skins could result from non-recovery, from unofficial export to Senegal or statistical errors due to transit shipments via Dakar not being recorded.

The Livestock Marketing Board, LMB, is controlling the hide and skin collection and marketing. The two major reasons for the low recovery reported, especially for skins, seem to be: a) the non-collection of the large number of skins of animals domestically slaughtered at the Eids, b) the low price paid by LMB to the primary producer, which gives no incentive to commercialize these skins.

#### Industrial capacity in tanning

In 1980 a UNIDO consultant elaborated a feasibility study for the establishment in Gambia of a small mechanized tannery, having a planned production capacity of some 25.000 hides and some 25.000 skins annually. Due to the very limited local actual supply of raw hides and skins, this small tannery would have the capacity, when established, of tanning most of the hides and skins available in Gambia. Further efforts to actually establish and put this tannery into operation have been undertaken during the last few years. The actual situation is, however, not known to UNIDO.

#### Current production performance

The planned tannery has not yet to UNIDO's knowledge started up its production. Information on possible production output is, therefore, not available.

There are some, but very few artisanal, so-called pot tanning units in the interior of the country, but their production consists of a few goat or sheep skins per week only, for supply to the local leather goods manufacturing units.

Leather is also imported from neighbouring Senegal.

#### Industrial capacity in leather products

##### Footwear industry

There is no mechanized shoe factory in the country. However, some artisanal units produce shoes, sandals, etc. for the domestic market. For instance, the sandals produced give an impression of being an attractive product, with a sawn effect neatly embossed around the sole edge. Normally sandals would have soles

prepared from bovine leather, but due to the non-availability of sole leather, the soles used are made from thin skin leather wrapped around and stuck to cardboard carton offcuts, employed as a "thickener". Unfortunately, the skins employed, being thin, have minimal durability and the adhesive utilized is not suitable for this usage. The bond is easily destroyed if in contact with salt water. Therefore, these sandals are not suitable for tourist beach usage.

Had suitable bovine sole leather been available, together with correct adhesives, it is considered that a first class product could be produced.

Plastic footwear is made (or assembled) in Gambia. However, virtually all leather footwear is imported. It is estimated that the domestic market demand in Gambia would be at least 50,000 pairs of leather footwear.

Information on current production output is not available.

#### Leather goods manufacturing industry

It is estimated that between 10 and 20 % of leather goods produced in Gambia are handled by The Gambia Artisans Marketing Co-operative, GAMCO, which is a direct subsidiary of the Ministry of Economic Planning and Industrial Development. GAMCO itself purchases from some 30 leather goods artisans. This would indicate that some 200 - 300 leather goods artisans exist in the country.

The majority of leather goods production is directed towards the tourist market, with only a limited, static domestic market for traditional leather products (knife and sword handles and scabbards). The products made are not up to acceptable international standards, and they are of limited durability. Considering the materials available it must, however, be admitted the leather goods manufactured show some flair and ingenuity. Some of the smaller articles produced, especially those with interwoven raffia ornamentation, would be considered of high quality workmanship, if fast dyestuffs were utilized.

The major problem seems to be the poor and limited quality of material available together with the non-availability of auxiliaries (suitable dyes, fittings, and adhesives). The leather used, mainly obtained from Senegalese sources, is only crude, pot tanned sheep or goat skins. Even these were reported to be in short supply and represented a major production constraint.

Information on current production output is not available.

### Potentials for industrialization in the sector

The value of hides and skins produced in Gambia is relatively insignificant when compared with the value of groundnuts and vegetable oils produced in the country. However, it is recognized that hides and skins represent one of the few domestically produced raw materials, which can be industrialized within Gambia with relatively low level capital requirements. It is also recognized that the spin-off from a tannery, when in operation, namely leather products and footwear production, could generate significant employment and economic advantage.

### Main constraints on industrialization

For the tannery: The limited amount of locally available raw hides and skins is a limiting factor to the feasibility of operating a mechanized tannery in the country. The use of second-hand machinery was considered a possible way of keeping the investment costs at an acceptable level, and ensure a feasible operation.

For the leather products industry the major constraint so far has been the lack of suitable leather for the production of good quality shoes and leather goods. The lack of accessoires and components is also a constraint on the development of these productions.

The lack of skilled labour and of technical/managerial experience is also a considerable constraint.

### Potential areas for industrial co-operation from both public and private sources

Industrial co-operation in the establishment of the planned small tannery has actually taken place, on a bilateral type of arrangement.

For the establishment of a small footwear manufacturing plant in Gambia, the co-operation of probably private sources might be considered.

### Identification of feasible projects for the development of the sector

When the planned tannery has actually been put into operation, the establishment of a footwear manufacturing factory should be seriously considered. The production capacity of such factory could be such as to cover most of the domestic market demand for leather footwear, estimated at some 50.000 pairs of leather footwear per year (which means some 200 pairs/day). This could be realized with a relatively low capital requirement by adapting a semi-mechanized technology, e.g. the co-called "Standard Graduate" style of plant.

A pre-feasibility study for such a plant is said to be under elaboration by the Gambia Commercial and Development Bank (report of 1980).

GHANA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Ghana, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	950	0,59	110	11,6
Goats	2.100	1,46	600	28,6
Sheep	1.700	1,11	430	25,3

The animal husbandry sector in Ghana, and consequently also hides and skins production, is reported to be developed to a limited extent only. However, up-to-date information on actual recovery of hides and skins as well as on their quality is lacking.

Industrial capacity in tanning

In 1979 the Government of Ghana decided to re-activate the Aveyine Leather Tannery which was abandoned after the 1966 coup d'état. The main constraint to the smooth operation of this tannery was said to be the question of ready availability of raw cattle hides and goat skins.

The potential recovery figures for hides and skins would indicate that this problem could be solved. However, it entirely depends on whether the actual recovery is sufficient enough, and of course on the quality of the raw materials actually collected.

Current production performance

No up-to-date information on leather production in Ghana is available to UNIDO, at present.

### Industrial capacity in leather products

The Kumasi Shoe Factory was established in 1966 as a Government-owned factory and was planned to produce some 2 million pairs of shoes per year, with a planned workforce of 1.200 people.

The main part of the equipment was of CSSR origin, and the factory was started up by Czech technicians under a bilateral arrangement. It is reported that several smaller, privately owned shoe factories exist in the country. Their production capacities and actual situation is, however, not known to UNIDO, at present.

### Current production performance

Up-to-date information on production figures for footwear and leather goods in Ghana is not available to UNIDO, at present.

## GUINEA

### Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Guinea, for 1981:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	1.800	1,12	180	10
Goats	415	0,29	85	20,5
Sheep	440	0,29	90	20,5

Up-to-date information on actual recovery of hides and skins and the quality of the raw materials actually available is not available to UNIDO, at present.

### Industrial capacity

Up-to-date information on industrial capacity and actual production, regarding leather production as well as regarding footwear and leather goods production, in Guinea, is not available to UNIDO (at present).

GUINEA-BISSAU

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Guinea-Bissau, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	210	0,13	30	14,3
Goats	130	0,09	40	30,8
Sheep	55	0,04	13	23,6

A census of livestock carried out in 1980 in Guinea-Bissau gave somewhat higher figures than the above FAO data, namely:

258.000 cattle,  
195.000 goats, and  
96.000 sheep.

The potential recovery figures, therefore, may be somewhat higher than those quoted above. The abattoir of the city of Bissau in 1980 recorded a little more than 5.000 slaughterings. Statistical data on slaughterings in other parts of the country is, however, not available. Only a small proportion of hides produced is treated for use by local artisanal units and some for export.

Industrial capacity in tanning

In 1976 a consultant under a Swedish bilateral assistance programme carried out a feasibility study for the possible establishment of a small tannery in Guinea-Bissau.

It was reported, in 1981, that the Government, in pursuit of its policy of import substitution, was actually planning to establish an industrial tannery.

However, whether the originally suggested production capacity would be retained or modified is not known. Information on the present status of this tannery project is lacking.

#### Current production performance

The planned industrial tannery has not yet started production. Production figures for existing artisanal tanning units are not available to UNIDO.

#### Industrial capacity in leather products

Several shoe-makers are engaged in the manufacture and repair of shoes and other leather products. There is as yet no mechanized factory specializing in the manufacture of footwear. In pursuit of its policy of import substitution, the Government in 1982 was, however, planning the establishment of a shoe factory in the country.

Whether this shoe factory is actually being established is, however, not known to UNIDO.

#### Current production performance

No up-to-date information on the actual production of footwear and other leather products in Guinea-Bissau is available to UNIDO.

### IVORY COAST

#### Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Ivory Coast, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	720	0,45	300	41,7
Goats	1.300	0,91	710	54,6
Sheep	1.250	0,82	690	55,2



The off-take rates calculated above very clearly indicate that significant imports take place from neighbouring countries to Ivory Coast. In fact the FAO Trade Yearbook 1981, Vol.35, gives the following figures for imports in 1981 of live animals into Ivory Coast:

240.000 cattle, and  
620.000 goats and sheep.

Adjusting the above figures accordingly, the actual off-take rates resulting would be:

for cattle: 12,5 %, a realistic figure,  
for goat and sheep: 40,4 %, a figure, which still is rather high.

Animal husbandry is, in fact, not very developed in Ivory Coast, and it is insufficient for the requirements of the local market. 60 % of the requirements for the meat from goats and sheep, and 85 % of the requirements for beef (bovine meat) are covered mainly by imports of live animals from Mali, Upper-Volta and Niger.

There are a few units which carry out arsenic treatment of hides, before raw and skins are exported.

#### Industrial capacity in tanning

There is no mechanized tannery in the country. Certain interest has been shown in the possible establishment of a tannery in Ivory Coast, but to UNIDO's knowledge, this has yet to materialize.

#### Current production performance

No information available.

#### Industrial capacity in leather products

The company BATA S.A. Côte d'Ivoire has a shoe factory at Abidjan, with an annual production capacity of 5 million pairs of footwear (leather footwear, rubber footwear and plastic footwear), (according to an EEC report in 1974). The total workforce was reported to be some 730 people.

The company, in 1974, had plans to expand footwear production to meet increased local demand and to diversify its production.

Current production performance

Up-to-date information on production outputs is not available to UNIDO (at present).

KENYA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Kenya, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>off-take rates in %</u> (calculated)
Cattle	11.500	7,14	1.600	13,9
Goats	4.580	3,19	2.100	45,9
Sheep	4.700	3,08	1.870	39,8

There appears to be, however, uncertainty as to the actual figures for livestock population and accordingly also for hides and skins production. Statistics of the Ministry of Livestock Development in Kenya, in 1980, give the following figures for livestock population (1000 heads):

Cattle	9.622
Goats	7.761
Sheep	5.375

This would also indicate that the figures which are based on FAO estimates for the production of skins might in fact be lower than actual production. The quantities "imported" from neighbouring countries through smuggling are probably not included, but appear to be significant. Also for this reason the actually available goat skins and sheep skins may be considerably higher than those referred to above.

As to actual recovery of hides and skins it appears that with the well established buying network in Kenya and the competitive nature of the commercial hides and skins network, it may be assumed that recovery normally, except for some remote areas, is very close to 100 %. This means that one animal slaughtered may be considered equal to one hide or skin produced.

The quality of raw hides and skins collected, however, apart from grain defects (brand marks, insect damages, thorns, etc.) suffers from post mortem damages, such as deeper cuts and even holes caused by bad flaying, and putrefaction due to insufficient or delayed preservation. These quality defects concern hides as well as skins, mainly those collected from private slaughter and from smaller local slaughterhouses, particularly those raw materials preserved by drying, to a lesser extent those which have been cured by salting. Downgrading of the value of raw hides and skins is estimated at up to 25 %.

#### Industrial capacity in tanning

In Kenya there are 10 tanneries of industrial scale in operation, which, together, have a yearly total installed production capacity of 1,1 million cattle hides and 5,6 million goat and sheep skins, according to information provided by the Ministry of Industry.

In addition there are three tanneries projected, and partly installed, but which are not yet operating, for various reasons.

Three small rural tanneries exist, but their production capacity is small. The total employment in the tanning sector is at approximately 1000 persons.

#### Current production performance

In 1976/1977 a UNIDO consultant estimated that the available cattle hides were utilized as follows:

		(%)
Total <u>cattle hides</u> domestically available	<u>1.350.000 hides</u>	
Export of raw hides (domestically produced, not including smuggled hides which were re-exported)	617.500 hides	45,7
Exported as wet-blue	75.000 hides	5,6
Exported as crust	282.000 hides	20,9
Processed to finished state and utilized domestically (mostly corrected grain upper leather)	293.000 hides	21,7
Vegetable tanned sole/insole material utilized domestically	82.500 hides	6,1

The corresponding figures for the utilization of goat and sheep skins, in 1976/1977, were as follows:

		(%)
Total amount domestically available	<u>4.000.000 skins</u>	
Exported as raw skins (not including the large volume of imported/smuggled skins entering Kenya and subsequently re-exported, amounting to 2.066.700 skins (recorded))	710.520 skins	17,8
Exported as wet-blue	3.165.980 skins	79,1
Exported as crust	0	0
Finished skins, utilized domestically	123.500 skins	3,1

According to a UNIDO consultant's report (Schubert), in 1980 the leather production of Kenya amounted to

780.000 cattle hides, and  
3.750.000 skins (goat and sheep),

which would represent a capacity utilization of 70,9 % for hides and 67 % for skins.

The production to various stages of processing was given to be as follows:

	<u>Wet-blue</u>	<u>Crust</u>	<u>Finished</u>
Cattle hides	25 %	37 %	38 %
Skins (goat and sheep)	79,3 %	20 %	0,7 %

Wet-blue and crust hides and skins were exported.

The production figures, in pieces and in square feet would accordingly be the following:

	<u>Cattle hides</u> (28 sq.ft./piece)		<u>Skins (goat and sheep)</u> (6,5 sq.ft./piece)	
	<u>in pieces</u>	<u>in million sq.ft.</u>	<u>in pieces</u>	<u>in million sq.ft.</u>
Wet-blue	195.000	5,46	2.973.750	19,33
Crust	288.600	8,08	750.000	4,88
Finished	296.400	8,30	26.250	0,17
<b>Total</b>	<b>780.000</b>	<b>21,84</b>	<b>3.750.000</b>	<b>24,38</b>

The total production of bovine leather and of skin leather, accordingly, amounts to 46,22 million square feet, at different stages of processing.

Added value considerations

In his report Dr. Schubert considers that the following average increase of the value of raw hides and skins through processing to various stages of semi-processed and finished leather is valid:

	<u>Value increase</u>
From raw to wet-blue stage	40 %
From raw to crust stage	80 %
From raw to finished stage	125 %

Early 1982 the average price of raw hides and skins in Kenya was estimated at (K.sh. = Kenya Shilling):

80 K.sh. per piece, for cattle hides  
18 K.sh. per piece, for goat skins, and  
10 K.sh. per piece, for sheep skins.

An estimation of added value figures give the following results:

	<u>Added value, in K.sh.</u> <u>per piece for:</u>		
	<u>Cattle hides</u>	<u>Goat skins</u>	<u>Sheep skins</u>
From raw to wet-blue	32	7.2	4
From raw to crust	64	14.4	8
From raw to finished	100	22.5	12.5

Conclusions

The greatest potential for obtaining added value earnings in foreign currency would obviously be to process the leather to the crust stage, and export it in that stage rather than as wet-blue, provided that production costs for such further processed leather are not too high.

Industrial capacity in leather products

Footwear industry

An UNIDO consultant (Winters) in 1978 reported that leather footwear production in Kenya was carried out in one large, two medium-sized and a number

of small footwear factories. The daily production at these factories was given as follows, for leather footwear

BATA	8.500 pairs per day
TIGER	1.200 pairs per day
JOY	400 pairs per day
Other smaller units	1.500 pairs per day
Total	<u>11.600 pairs per day</u> =====

which would mean a total production of approximately 3 million pairs of leather footwear per year.

The large BATA factory alone in 1982 was reported to produce about 10 million pairs of all kinds of footwear, of which some 2,5 million pairs were leather uppered footwear.

More detailed and up-to-date information on the current production performance of the Kenyan footwear manufacturing industry is, however, not available (at present).

The total work-force at the shoe factories in Kenya is reported to be some 1.100. In 1977 import of leather footwear amounted to 11,1 million K.sh. while exports amounted to 3,3 million K.sh.

#### Leather goods manufacturing industry

There are a few companies involved in the manufacture of different types of leather goods (travel goods, briefcases, handbags and a variety of small leather goods), but many of these products are made out of non-leather materials (plastic, P.V.C., etc.). No reliable data are available on the actually installed production capacities for these products, nor on the quantities produced of the different types of leather goods.

There are at least three companies interested in the production of leather garments (double-faced wocled sheepskins, particularly). In 1978 they did not yet have a regular production of these products. The present situation is not known.

#### Potentials for industrialization in the sector

In the short term it is considered that the best potential for further development of the leather industry sector is to improve the utilization of existing capacities and process considerably more hides and particularly more skins to the crust stage, for increased export, instead of mainly processing to the wet-blue stage, which is presently the case (for skins).

In the long term, however, processing into finished leather and at the same time further developing the leather footwear and leather goods (including leather garment) industries would be the logical approach to cover the needs of the domestic market, but also for export.

In order to be able to compete on export markets for leather products, it is, however, essential that the quality level of the products be substantially improved and also the price level of the products must be adjusted to the actual situation on export markets.

#### Main constraints on industrialization

One serious constraint is the non-competitive situation of the Kenyan producers in world markets, mainly due to high internal price of raw hides and skins and leather.

Another major constraint is considered to be the rather poor quality of the curing processes used combined with a multitude of inherent defects on hides and skins which yield leather of great heterogeneity and with limited utilization patterns.

For these reasons it is considered realistic to concentrate on low to medium quality products as the existing conditions are not favouring the production and export of higher quality luxury products.

#### Potential areas for international co-operation from both public and private sources

There are a number of foreign partners involved with existing factories, as joint-venture partners or otherwise, in the tanning industry as well as in the footwear and leather goods manufacturing industries. Good scope for further international co-operation exist, with individual tanneries and particularly when it comes to further developing the leather products industry for possible export, in order that right quality levels can be ensured and marketing channels established and consolidated.

Identification of feasible projects for the development of the sector

All factories are in the private sector and individual arrangements with possibly interested foreign firms have to be established on a case-by-case basis.

In the long term it would be very useful to further strengthening the newly established Leather Centre at KIRDI, Kenya Industrial Research and Development Institute, in Nairobi, which aims at assisting and advising particularly the medium-sized and smaller enterprises within the sector.

LESOTHO

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Lesotho, for 1981:

	<u>Livestock population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	600	0,37	74	12,3
Goats	780	0,54	225	28,8
Sheep	1.180	0,77	340	28,8

A new abattoir being built at Maseru was expected to be in operation by the end of the year 1982. Its production capacity and actual production performance are, however, not known to UNIDO, at present.

Industrial capacity in tanning

There is one industrial tannery in the country, the Maluti Skin Products (Pty.) Ltd., at Maseru, which is in operation since 1978. It is a subsidiary of LNDC, Lesotho National Development Corporation, which holds 50 % of the equity (LNDC is a parastatal organization of the government). Up until April 1982 the remaining 50 % of the equity was held by FRIDA, Fund for Research and Investment Development of Africa Ltd. In 1982 a good part of the equity of Maluti Skin Products (Pty.) Ltd. was sold to a private enterprise, registered outside of Lesotho. The company produces tanned sheep skins with wool-on for sueded shearlings or double face garment leather. It also makes skin products therefrom.



Current production performance

In 1982 the Maluti Skin Products (Pty.) Ltd. had a production of up to 10.000 sheep skins per month, but with some variations in the amounts processed from one month to another. Some 30 % of this production is based on locally produced sheep skins, the rest is imported from South Africa.

Industrial capacity in leather products

Footwear industry

According to Leather, May 1979, a shoe factory was being established in 1979, at Maputsoe in the Leriba district, which would produce some 1000 pairs/day, for export to the South African market. Further information on this factory is not available to UNIDO, at present.

There are some artisanal units in the country producing footwear, but their number and production capacity is not known to UNIDO.

Current production performance

Up-to-date information on actual production of footwear in Lesotho is lacking.

Leather goods manufacturing industry

The Maluti Skin Products (Pty.) Ltd., Maseru, produces car seat covers and various other products made of sueded shearlings, for export, mainly to South Africa. Information on quantities produced, of different types of products, is, however, not available to UNIDO, at present.

Leather goods are produced in different artisanal units, but further details are lacking.

Current production performance

Up-to-date information on production performance is not available to UNIDO, at present.

Potentials for industrialization in the sector

Potential availability of sheepskins is 340.000 skins, and of goat skins 225.000 pieces. However, the quality particularly of sheepskins produced in Lesotho is not good enough for use by the existing tannery, which for only some 30 % of its production uses locally available skins. If skins can be improved qualitatively, there is good potential for a further increase in local production of skin leather using domestic raw materials.

Potential areas for industrial co-operation from both public and private sources

To be considered on a case-by-case basis.

Identification of feasible projects for the development of the sector

a) The establishment of a small tannery is under active consideration, to be attached to BEDCO, Basotho Enterprises Development Corporation (Pty.) Ltd., Maseru. Details of its planned production capacity and type of leather to be produced are not known to UNIDO, at present.

b) The establishment of a "Pilot and Demonstration Centre for Leather Products", is suggested by a UNIDO consultant. The centre is proposed to cover the following specialized fields: leather garments, fur garments, leather goods, hand-made shoes, clothing garments, handicraft articles. Further details of such centre, including the cost involved in its establishment, if decided, would have to be elaborated.

LIBERIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Liberia, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	40	0,02	30	75,0
Goats	210	0,15	65	31,0
Sheep	210	0,14	75	35,7

The off-take rates calculated above indicate clearly that there is a significant import of live animals into Liberia, from surrounding countries, particularly of live cattle. Actual figures on such imports are, however, not available to UNIDO (at present).

Information on actual recovery of hides and skins, and on their quality, is not available.

Industrial capacity in tanning

There is no mechanized tannery existing in the country. Information on possible artisanal tanning units and their possible production capacity is not available to UNIDO.

Current production performance

Up-to-date information is not available to UNIDO.

Industrial capacity in leather products

There is no mechanized factory in the country producing footwear or leather goods. Information on possible artisanal units and their possible production capacity is not available to UNIDO.

Current production performance

Up-to-date information is not available to UNIDO.

Potential for industrialization in the sector

Based on the potential annual availability of some 30.000 cattle hides, some 65.000 goat skins and some 75.000 sheep skins, and assuming an actual recovery of these raw materials of some 60-70 %, which could be realistic, it might be feasible to consider the establishment in Liberia of a rather small tannery which could produce leather for a possible leather products manufacturing unit, and possibly also certain amounts as semi-processed leather for export. However, in view of the limited amount of raw materials produced in the country to be successful such project will have to be very carefully planned.

Main constraints on industrialization

Lack of industrial infrastructure, and lack of experienced and/or trained personnel at all levels in the leather and leather products industry sector.

Potential areas for industrial co-operation from both public and private sources

To be identified when the suggested pre-feasibility study for a tannery has been carried out.

Identification of feasible projects for the development of the sector

A prefeasibility study for the possible establishment of a small tannery in the country should be considered. Only when such study has been carried out it would be possible to assess the viability of a possible leather products manufacturing unit.

A possible co-operation with Sierra Leone on this matter may be worthwhile looking into.

LIBYA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Libya, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	185	0,11	240	129,8
Goats	1.500	1,04	250	16,7
Sheep	6.258	4,10	4.100	65,5

The very high off-take rates clearly show the magnitude of the import of live animals into the country. The FAO Yearbook 1981, Vol.35, informs that, in fact, in 1981 Libya imported some 200.000 cattle and 1.800.000 goat and sheep (apparently mainly sheep). If the above figures are corrected accordingly the real off-take rates will be as follows:

		=	<u>Off-take rates in %</u>
Cattle:	$\frac{40 \times 100}{185}$		<u>21,6</u>
Goat and sheep skins:	$\frac{2.550 \times 100}{7.758}$		<u>32,9</u>

These off-take rates appear realistic.

As can be seen from the aforementioned most of the cattle hides and part of the goat and sheep skins produced are derived from animals imported from Europe "on the hoof", and, therefore, a good part of the raw material for the local tanneries is not of North African origin. However, the existing tanneries in Libya are at present not able to process all the raw hides and skins available. Therefore, the surplus of the raw stock is exported.

The Leather Products and Manufacturers General Company (L.P.G.M.G.C.) is responsible for all activities related to raw hides and skins, tanning and leather products (footwear, leather goods, etc.). It supplies hides and skins to the existing tanneries, and exports the surplus.

#### Industrial capacity in tanning

The tannery at Tajoura, which has been in production for almost 10 years, processes some 80.000 hides per year. The total leather production is estimated at some 2,9 million square feet of leather annually. The production capacity, in 1980, was reported to be 3,2 million square feet. Thus the capacity utilization appears to be good if the capacity figure given is correct.

The company LPGMGC has a programme aiming at expanding the leather industry within the country, which includes the erection of a skin tannery at Benghazi, having a planned output of 6 million square feet annually (equivalent to 4.800 skins daily, of which 2.400 skins for crust and 2.400 skins for finished leather is envisaged).

#### Industrial capacity in leather products

In 1980 it was estimated that the footwear industry had an installed production capacity of 3,6 million pairs of footwear, with an actual production of about 3,0 million pairs. The balance of the requirements was imported, estimated at a quantity of more than 10 million pairs.

It was reported, in 1979, that the establishment of an additional shoe factory was being considered, having a production capacity of some 4.000 pairs/day, which would be equivalent to approximately 1 million pairs per year.

MADAGASCAR

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook, 1981, Vol.35, presents the following estimated data for Madagascar, for 1981:

<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and Skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle 10.150	6,30	1.005	9,9
Goats 1.400	0,97	200	14,3
Sheep 620	0,41	170	27,4

The cattle in Madagascar is of the Zebu type. The actual recovery of the hides produced is not known, but estimates are given which refer to a consideration loss of hides, figures between 100.000 and 300.000 lost hides are mentioned. The cattle hides produced come from:

- the meat factories,
- the municipal slaughterhouses, and
- from smaller slaughter slabs in the country side.

The hides produced at the meat factories and the municipal slaughterhouses are practically all collected and utilized. The loss, therefore, must occur with hides produced in the country-side, due to lack of care, long transportation and high transport costs, etc. The number of actually collected hides in the country-side is, however, not known with any certainty.

The Société Malgache de Gélatine, SOMAGEL, is a company producing gelatines for the food industry (including export) and for technical uses. In 1975 it was reported that a quantity equivalent to some 100.000 hides per year was processed into gelatine by this factory. The best parts of the hides, the croupions (backs), were kept apart, and sold to the Tannerie d'Anjeva for leather production. Mainly third and fourth or fifth grades were used for gelatine production. The higher grades were considered too expensive and more suitable for leather production in any case.

The actual situation of the SOMAGEL-factory is not known to UNIDO.

#### Quality of raw hides and skins

The collection of these raw materials is done based on three different types, namely:

- a) fresh hides and skins,
- b) dry hides, framed,
- c) dry hides and skins, not framed.

The grading for hides is done in 5 different categories, and additionally: in hides without brand marks, and hides with brand marks. Approximately 40 % of the hides were (in 1975) collected as fresh hides, the rest were dried hides.

The quantities of goat skins and sheep skins actually recovered is very low in most provinces of the country. The production of skin leather is, therefore, also not important.

#### Other types of hides and skins

a) Crocodile skins have been an export article from Madagascar for many years. In 1975, it was reported that a crocodile farm existed at Mahitsy, 30 km from Tananarive, having some 400 crocodiles in four basins. The annual kill was some 100 animals.

Up-to-date information on the actual production and possible utilization of crocodile skins in Madagascar is, however, not available to UNIDO (at present).

b) The utilization of shark skins for tanning and use in leather goods manufacture has been considered, as there is good possibility to have a regular supply of shark skins from the fishing trade along the coasts of Madagascar. However, up-to-date information on this possible source of raw material for tanning purposes is not available to UNIDO.

#### Industrial capacity in tanning

The only industrial tannery in Madagascar is the Tannerie d'Anjeva, 25 km outside of Tananarive. In 1975 it was reported that its annual production capacity would amount to up to 350.000 cattle hides (theoretical capacity).



A second tannery, to be located probably in the province of Fianarantsoa (or maybe in Tuléar), was planned in 1975, and the relevant prefeasibility study carried out by a UNIDO expert. This second tannery was planned to have a production capacity of some 92.000 hides per year.

A small tannery (at Tuléar) with a production capacity of 4.600 cattle hides and 46.000 skins (of goat and sheep) was also considered.

It is, however, not confirmed that these two plants have actually been established.

#### Current production performance

In 1975 the Tannerie d'Anjeva was reported to have an actual annual leather production output of 230.000 cattle hides (and practically no skin leather). The actual production at the relatively few rural tanneries existing is not known.

Up-to-date information on the actual production of leather in Madagascar now is not available to UNIDO.

#### Industrial capacity in leather products

##### Footwear industry

There are three mechanized shoe factories in the country, namely the following:

BATA shoe factory

Tannerie d'Anjeva, footwear department ("Aigle d'Or"),

EMIC, Entreprise Malgache de l'Industrie de Chaussure (which is supervised by the "Direction de l'Administration des Forces Armées").

There are also a number of artisanal units which are producing footwear and other leather products.

The total production capacity of these factories is, however, not reported on.

#### Current production performance

In 1975 it was reported (Report Djonovic) that the above factories had the following productions:

RAIA shoe factory	600.000 pairs of leather footwear per year
	1.900.000 pairs of non-leather footwear per year
Tannerie d'Anjeva (footwear department)	100.000 pairs per year
EMIC (planned production)	75.000 pairs per year (of which 30.000 pairs military footwear)
Artisanal units (estimated)	50.000 pairs per year
Total (estimated)	2.725.000 pairs per year (all types of footwear)

Up-to-date information on the actual production of the shoe industry in Madagascar is, however, not available to UNIDO (at present).

#### Leather goods industry

The Tannerie d'Anjeva also has a department for the production of industrial gloves. In 1975 they produced some 600 pairs of industrial gloves per day, partly destined for the domestic market.

There are several artisanal units producing various leather goods (handbags, travel goods, etc.) which are mainly sold as souvenirs to tourists. The quality and workmanship of these products is, however, of a rather low level.

In view of the rather expensive import of leather goods, it would be of interest to up-grade and increase the local production of these articles, including also of leather garments.

#### Potentials for industrialization in the sector

Madagascar has the sixth largest cattle population in developing Africa, with more than 10 million animals. The off-take rate is, however, rather low, only some 10 %. The potentially available goatskins, some 200.000 skins per year, and sheepskins, some 170.000 skins per year, are presently utilized to a relatively small extent only.

With future increase in the off-take rate for cattle hides and a much better actual recovery of both hides, goat and sheep skins, the potentials for an expansion of the leather industry, and consequently also of the leather products industry, in Madagascar are definitely good.

Main constraints on industrialization

a) Difficulties in the importation of chemicals, spare parts, etc. for the tanning industry, and of certain necessary components for the shoe industry, due to currency restrictions.

b) Considerable loss of raw hides and skins due to non-recovery of these valuable raw materials in rural districts, and due to the low quality of the non-frame dried hides. One factor is also the badly organized collection system in rural areas.

c) Lack of sufficiently trained personnel, especially at middle management and skilled labour levels.

Potential areas for industrial co-operation from both public and private sources

To be identified on a case-by-case basis, and dependent on the type of new projects to be implemented.

Identification of feasible projects for the development of the sector

a) The establishment of a second industrial tannery in the country. The pre-feasibility study prepared by a UNIDO expert in 1975 needs to be up-dated.

b) The establishment of a smaller tannery, probably at Tuléar, was also assessed in 1975. An up-dated pre-feasibility study needs to be carried out.

c) The establishment of a small leather goods producing unit, including the production of leather garments (in line with the pre-feasibility study prepared by a UNIDO expert in 1975).

MALAWI

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Malawi, for 1981:

	<u>Livestock population 1981 (in 1000 heads)</u>	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery) (in 1000 pieces)</u>	<u>Off-take rates in % (calculated)</u>
Cattle	850	0,53	81	9,5
Goats	650	0,45	200	30,8
Sheep	78	0,05	20	25,6

It is reported that the collection system for hides and skins in Malawi is not functioning very well, and that a considerable amount of valuable raw materials are actually wasted. With the establishment of a mechanized tannery as well as of smaller tanning units in the country it is expected that the demand for hides and skins will increase, and consequently that they will be better taken care of by the primary producers, and that actual recovery will improve.

Information on the quality of available hides and skins is limited, except that it is reported that the goat skins produced in Malawi are considered to be of high quality, when properly handled and cured.

Industrial capacity in tanning

The establishment of a mechanized tannery in Malawi has been considered since 1964. A feasibility study carried out by an FAO consultant in 1967, however, showed that a commercial tannery would not, at that time, be viable. In 1978, a FRG consultant prepared a feasibility study for a tannery, which gave a more favourable outcome. A World Bank team, in 1979, also assessed the potential for establishing a mechanized tannery in the country. The Government is interested in pursuing this project further, and has now requested a UNIDO leather industry expert to make an up-to-date assessment of the situation of the entire leather sector in the country, and present recommendations for further action to be taken, including for small-scale tanning units.

Current production performance

Up-to-date figures for production figures for existing rural tanneries are not available to UNIDO at present.

Industrial capacity in leather products

The BATA Shoe Company (Malawi) Ltd. has a shoe factory at Blantyre. Its production capacity is, however, not known to UNIDO, at present. In view of the non-existence of a tannery in the country, the company imports practically all its requirements of leather. It is indicated, however, by review of past years statistical data on imports/exports in Malawi, that the production of leather footwear at the BATA shoe factory is rather limited. The main production therefore is assumed to be rubber and plastic footwear.

Current production performance

Up-to-date production figures for footwear and leather goods in Malawi are not available to UNIDO, at present.

MALI

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Mali, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	5.134	3,19	310	6,0
Goats	7.000	4,87	1.650	23,6
Sheep	6.350	4,16	1,950	30,7

Some 75 % of the hides and skins produced in Mali come from animals killed for meat in urban centres, usually under the supervision of veterinary inspectors. Bamako, the capital, and Gao are responsible for the greater part, since they have modern refrigerated slaughterhouses with facilities for the treatment of the hides and skins. Two similar plants are under construction at Segou and Kayes (Leather, May 1977).

After flaying, the raw hides are washed, treated with an arsenic solution and stretched out or hung to dry in the shade, with suitable ventilation. Hides and skins from the countryside or bush are dried in the sun without previous preservative treatment and many of them are spoiled because of cuts and defective drying.

The Société Malienne du Bétail et des Cuirs et Peaux (SOMPEPEC), which is a government organization, has exclusive rights of collection and export of hides and skins from animals killed at the official slaughterhouses. Bush hides are collected jointly by SOMPEPEC and private companies.

Because of the large number of centres where slaughtering is not controlled, illegal exports to neighbouring countries and the large share of hides and skins kept for local craft and domestic use, the recorded production of hides and skins is considerably less than the true figure. Hides and skins are classified in three categories and a quality mark is to be introduced.

#### Industrial capacity in tanning

In 1977 it was reported that only one Government-owned industrial tannery exists in the country, the Société Malienne de Tannage, TAMALI. It produces finished leather for domestic use in the company's own shoe factory, and semi-processed skins for export.

A second tannery, Tannerie Providence Malienne, TAPROMA, with private investment only, was planned in 1975, to be located at Kayes, with an initial annual production capacity of 50.000 bovine hides and a total of 300.000 skins (200.000 goats and 100.000 sheep skins).

It is, however, not known to UNIDO whether this second tannery has actually been established. There are also a number of rural tanneries in the country, producing leather for various domestic uses.

#### Current production performance

Up-to-date information is not available to UNIDC as to the current production performance of TAMALI nor of the rural tanneries existing.

### Industrial capacity in leather products

The Société Malienne de Tannage, TAMALI, in 1977 was reported to have in addition to its industrial tannery, also a shoe factory, which was supplied with finished leather for their shoe production from their own tannery. As the TAMALI was established with bilateral assistance from the People's Republic of China, Chinese specialists had been assisting the company, in their tannery as well as in their shoe factory. The production capacity of the shoe factory was not reported on.

There are a number of artisanal units in the country producing footwear and other leather products for the domestic markets.

### Current production performance

Up-to-date information on the current production of the TAMALI shoe factory is not available to UNIDO. In previous years, however, it was reported that about one third of the leather produced at the TAMALI tannery was used by its own shoe factory. Another third of the leather produced was used by artisanal shoe and leather goods manufacturers, while the rest was exported, as semi-processed leather.

### Potentials for industrialization in the sector

Mali has a very important supply of raw hides and skins, and could certainly support a considerably larger tanning and leather products manufacturing industry than the actually existing leather industry. Improvements in the actual recovery of available hides and skins, as well as improved handling and curing of these valuable raw materials would, however, be required, to ensure the necessary supply to the local tanning industry of suitable raw hides and skins.

The leather products manufacturing industry has also good potential for further development.

### Main constraints on industrialization

These have to be identified, possibly through a visit to the country itself, in order to make an up-to-date assessment of the situation of the leather and allied industries in Mali.

Potential areas for industrial co-operation from both public and private sources

Will have to be considered on a case-by-case basis, depending on the projects which will be taken up for implementation.

Identification of feasible projects for the development of the sector

a) The TAPROMA tannery project, at Kayes. The pre-feasibility study which was carried out in 1975 should be up-dated.

b) A third tannery to be established at Ségou, was suggested in 1976. A hides and skins dealer in Mali was interested in considering such project. A pre-feasibility study would have to be carried out in case interest still exists in this project.

c) The establishment in Mali of a factory to produce vegetable tanning materials from the pods of Gonakier (or Gonakié) tree (Acacia Nilotica), especially suitable for the tanning of light leathers and skins. A pre-feasibility study would have to be conducted.

MAURITANIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Mauritania, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	1.200	0,74	130	10,8
Goats	2.600	1,81	470	18,1
Sheep	5.200	3,41	680	13,1

Mauritania is a country where animal husbandry is relatively well developed, and which, despite the recent series of droughts, has a large livestock population. A considerable part of the people living in the country are nomades and, therefore, the collection and handling of hides and skins is difficult to organize and to control. However, due to the population's high level of meat consumption, the number of animals slaughtered is actually relatively high. The hides and skins



are mainly used for craftwork (sandals, skin bottles, belts, cushions, traditional blankets, other craft items, etc.). There is, however, a significant part of the hides and skins which are wasted or under-exploited (through inadequate preservation, non-recovery, etc.).

A modern slaughterhouse is planned to be established at Nouakchott, the capital.

#### Industrial capacity in tanning

A small tannery exists at Kaedi, but no information is available as to its production capacity or actual situation.

A new industrial tannery is being planned, to be established near Nouakchott, and with the following planned annual production capacity:

65.000 cattle hides	= 1,65 million sq. feet,
80.000 goat skins	= 0,4 million sq. feet,
175.000 sheep skins	= 1,225 million sq. feet
Total	= 3,275 million sq. feet

50 % of this production will be destined for the local market (footwear and leather goods manufacturers) and 50 % for export market, semi-processed mainly. There exists a number of small rural units producing leather for domestic uses.

#### Current production performance

Up-to-date information on the actual production at the Kaedi tannery and at the artisanal units is not available to UNIDO (at present).

The new tannery being planned has not yet started operation.

#### Industrial capacity in leather products

Artisanal units producing footwear and leather goods exist in the country, but their number, actual situation and production capacity is not known. The domestic market's need for footwear is at present imported, through some 20 import firms, and in a quantity of approximately 470.000 pairs annually (all types of footwear).

A new sandal manufacturing plant is under establishment, with a planned production capacity of 184.000 pairs per year (sandals with and without buckles, thongs), to be established at the Nouakchott industrial zone.

#### Current production performance

Information is not available to UNIDO on the actual local production of footwear and other leather products in Mauritania.

#### Potentials for industrialization in the sector

Mauritania has the ninth largest sheep population in all developing Africa, and its goat and cattle population are also significant. The present low off-take rates for all animals indicate that the potential availability of raw hides and skins in the country are even considerably higher than what the present figures for hides and skins production show.

#### Main constraints on industrialization

Lack of infrastructure needed for the development of industrial enterprises.

Lack of suitable know-how and experience as well as technical/managerial management skills and technical skill and knowledge at all levels.

Supply of raw hides and skins is not yet properly organized. This also results in considerable loss of valuable raw materials.

The vastness of the country and difficulties with transportation of raw materials are other important constraints on a rapid industrialization in the country.

#### Potential areas for industrial co-operation from both public and private sources

Co-operation, through joint venture or other type of co-operative arrangement, is of interest in the case of the new tannery as well as in the case of the new sandal manufacturing factory, both planned to be established at Nouakchott.

#### Identification of feasible projects for the development of the sector

a) The establishment of a new industrial tannery at Nouakchott is under active consideration, having a planned total production capacity of 3,275 million square feet of semi-processed and finished leather (from cattle hides, goat skins and sheep skins), partly for the domestic market and partly for export. Pre-feasibility study has been prepared.

b) The establishment at Nouakchott of a sandal manufacturing plant, with a planned production capacity of 184,000 pairs per year. Pre-feasibility study is already available.

MOROCCO

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Morocco, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	3.240	2,01	930	28,7
Goats	6.200	4,32	1.960	31,6
Sheep	14.840	9,72	4.500	30,3

Up-to-date information on actual recovery of hides and skins, as well as on the quality of hides and skins collected is not available to UNIDO, at present.

Industrial capacity in tanning

There are twenty industrial tanneries in Morocco, with a total work-force of 3.500, and with an annual production capacity of 48 million square feet of leather.

There is in addition an important cottage tanning sector, which besides a considerable number of individual artisans involves also four co-operatives which employ about 2.700 workers in tanning, footwear and leather goods manufacture. This sector is, however, difficult to evaluate statistically, and detailed information is not easily available.

Current production performance

Heavy leather (bovine) produced was 1.100 tons (in 1980). In 1978 it was reported that 4,2 million m<sup>2</sup> of finished leather was produced, out of which 0,2 million m<sup>2</sup> was exported. In 1980 production of light leather from goat and sheep skins was reported to be 25 million square feet.

Up-to-date information on actual production performance, in the industrial as well as in the artisanal tanning sector is not available to UNIDO, at present.

Industrial capacity in leather products

Footwear industry

The footwear manufacturing industry in Morocco consists of 30 firms, employing a total work force of 2.500, and having a total production capacity estimated at 8 million pairs of leather footwear (?) per year. The Moroccan leather shoe industry, which has proved ability to produce at good quality and to competitive prices, has been able to export footwear, mainly to European and North American markets.

Current production performance

The total footwear production in 1979 was estimated at 13 million pairs of all types of footwear. Utilization of upper leather for footwear production was estimated at 1,3 million<sup>2</sup>. In 1980 production of footwear with leather uppers was reported to be 4,5 million pairs.

The development of leather footwear export was reported to be:

<u>Exports</u>	<u>1973</u>	<u>1977</u>
Pairs	392.000	736.000
Value, million dirhams (4 dirhams = 1 US\$)	13,7	44,4

Up-to-date production figures are however not available to UNIDO, at present.

Leather goods manufacturing industry

The industrial manufacture of fancy leather goods is carried out in 15 companies, which have a total workforce of some 500 persons. The high-quality articles produced consist mainly of handbags, luggage, saddlery and harness and travel goods. There is also an important production of leather goods in numerous artisanal units.

Current production performance

It was reported that, in 1978, the following quantities of leather were utilized by the leather goods industry:

1,2 million m<sup>2</sup> for handbags,  
0,8 million m<sup>2</sup> for travel goods, and  
0,6 million m<sup>2</sup> for other leather goods.

Exports of fancy leather goods have given satisfactory results.

<u>Exports</u>	<u>1973</u>	<u>1976</u>
Metric tons	624	726
Value, million dirhams	25,6	46,6

(These figures include export of products manufactured by cottage industry set-ups as well as fancy leather goods factories.)

Up-to-date production data for leather goods in Morocco are, however, not available to UNIDO, at present.

Leather clothing industry

There were, in 1979, 10 companies producing leather clothing in Morocco, with a total annual production capacity of some 100.000 items. This industrial brand has proved to be capable of producing articles at relatively low prices while meeting the standards of quality and fashion demanded by export markets.

Current production performance

In 1978, it was reported, 0,1 million m<sup>2</sup> of leather was used for garment manufacture. The exports of leather clothing and accessoires were reported as follows:

<u>Exports</u>	<u>1973</u>	<u>1976</u>
Metric tons	26	179
Value, million dirhams	2,3	11,1

Up-to-date data for the production of leather clothing are, however, not available to UNIDO, at present.

Potentials for industrialization in the sector

Morocco has the third largest sheep population of developing Africa, and the seventh largest goat population. Cattle population is also significant, the 15th largest in developing Africa.

MOZAMBIQUE

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Mozambique, for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	1.420	0,88	250	17,6
Goats	340	0,24	136	40,0
Sheep	108	0,07	54	50,0

The following information is taken from the report of Mr. Berei, UNIDO expert, who studied the situation of the leather sector in Mozambique end 1980.

In the People's Republic of Mozambique the collecting system for raw hides and skins is nationalized. The entity responsible for collecting and commercializing hides and skins is GAPECOM E.E. (National Enterprise for Live Animals and Leather Trading). GAPECOM, which was created in 1978, is located in Maputo, the capital, and has three regional deputies (centres):

- Regional Centre South, also in Maputo,
- Regional Centre in Beira, and
- Regional Centre North, in Melimane.

The subdivision of collecting centres follows the administrative structure, so that each of the 10 provinces of the State has a collecting centre (called delegation).

There are strict rules regulating the collection. Theoretically each piece of leather can only be sold to the GAPECOM. However, there is great deficiency in the transport network, mainly due to lack of sufficient vehicles for the transport. Dry and dry salted hides and skins, therefore, often are lying for a long time in the municipal abattoirs or in the small stores established. The National Centre in Maputo is responsible for transporting the hides and skins from the provincial centres to Maputo, where is also located the one and only industrial tannery in Mozambique. This centre also has transport limitations. In 1980 the central store at Maputo had considerable stocks of hides and skins, because the tannery was operating

at 45 % only of its production capacity, and could not absorb the total stock of hides and skins. It was estimated that, in 1980, the tannery only purchased some 58 % of the hides and skins stored at the central store at Maputo.

The collection of goat skins did not seem to function well, in 1980, due to the wide scattering of goats throughout the provinces.

About 30 % of cattle hides collected come from village slabs, local butchers or individual slaughterings, and on these hides flay cuts are numerous, curing is often long delayed and ground drying is also frequent.

Some 70 % of the hides produced come from municipal abattoirs, where the washing, fleshing, and salting of hides is usually carefully carried out, and flay cuts are also not so frequent. The hides coming to the tannery from the Maputo centre are wet-salted, the rest are dry-salted or dried.

The GAPECOM-centre, twice each year, organizes a regional course on flaying, curing and salting.

#### Industrial capacity in tanning

The only industrial tannery in the country is UNIÃO de CURTUMES de MOZAMBIQUE Ltd. at Maputo. The tannery produces chrome tanned upper leather as well as vegetable tanned sole leather. The production capacity was estimated (by Mr. Berei) to be more than 3,0 million square feet of upper leather (production capacity of vegetable tanned sole leather was not given). In 1980, for various reasons, the capacity utilization was estimated to be only 45 % (due to lack of chemicals), deficiencies in the maintenance of the machinery), weakness in the organizational structure of the factory, etc.)

#### Current production performance

In 1980 the production figures for the tannery "UNIÃO CURTUMES" were:

approximately 1,5 million square feet upper leather, and  
150 tons of vegetable tanned sole leather.

More up-to-date production figures are not available to UNIDO, at present.

## Industrial capacity in leather products

### Footwear industry

The shoe industry in Mozambique consists of 15 shoe factories. They produce leather footwear, canvas shoes and plastic shoes. The installed annual production capacity is approximately 4 million pairs of footwear, of which approximately 1 million pairs of leather footwear and some 3 million pairs of canvas and plastic shoes. In 1980, however, the shoe industry showed a capacity utilization of some 35-40 % only. The total work force in these shoe factories was some 2.300.

In addition there are a few enterprises producing various components for the shoe industry: rubber soles, heels and other rubber components, wooden heels, etc. The textile material for canvas shoes is also produced in the country, while almost all other auxiliary components have to be imported.

### Current production performance

In 1979 footwear production amounted to approximately:

350.000 pairs of leather footwear, and some  
500.000 pairs of canvas and plastic shoes.

More up-to-date information on footwear production in Mozambique is not available to UNIDO, at present.

### Leather goods manufacturing industry

There are four factories with a total workforce of 150 people producing different types of leather goods, bags, belts, suitcases, etc. The materials used are leather, synthetics, textiles and fibreboard. The belts are made of leather, mainly. Different fashion bags are produced in great variety and partly in good quality. Production capacity is estimated at some 10.000 bags and some 15.000 belts per month. Capacity utilization in 1980 was some 30 %.

The equipment used is generally rather old. Only the fibre case pressing machines and the textile cutting machines are modern.

### Current production performance

In 1980 the production of certain types of leather goods was as follows, all destined for the domestic market:

3.000 handbags per month, and  
5.000 belts per month.

More up-to-date production figures are, however, not available to UNIDO.



#### Potentials for industrialization in the sector

The domestic potential supply of raw hides and also of goat skins is sizeable, however, actual recovery of goat skins is low. The domestic market for footwear and leather goods is significant, and is considered to be able to absorb considerably more than the quantities produced in 1980. Provided quality of products are improved, a few of the shoe factories may even be able to produce footwear acceptable to selected export markets.

The potential for further development of the leather sector in Mozambique, therefore, is considered to be good.

#### Main constraints on industrialization

Due to lack of adequate incentives to the primary producers the collection of hides and skins is not functioning as required. Therefore, difficulties are experienced with respect to the supply of suitable raw materials to the tannery for it to operate at full capacity.

Lack of sufficient capacity for repair and maintenance of equipment and machinery for the entire sector is also a serious constraint.

Lack of sufficient number of suitably trained personnel for the leather and leather products industry is felt. One of the existing shoe factories has, however, a training department, which is planned to be used for the training of personnel for the entire shoe industry sector.

#### Potential areas for industrial co-operation from both public and private sources

Co-operation with foreign partners, particularly in Portuguese-speaking countries, would be of interest, in the footwear industry, first of all. Potential co-operation projects will have to be identified based on a more up-to-date assessment of the situation of the entire leather sector in the country.

#### Identification of feasible projects for the development of the sector

a) Expansion of the only existing tannery in the country, "UNIÃO CURTUMES", to increase its production capacity sufficiently to meet the increased demand from the local footwear and leather goods manufacturing industries.

b) Establishment of a new industrial tannery in the region of Quelimane, in the north of the country, specializing in the production of leather from goat skins and sheep skins.

NAMIBIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Namibia, for 1981:

	<u>Livestock</u> <u>population</u> 1981 (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	1.700	1,06	185	10,9
Goats	2.000	1,39	400	20,0
Sheep	4.500	2,95	1.200	26,7

The most important agricultural industries in Namibia are the karakul (Persian lamb) industry, the meat and livestock industry and dairy farming. Animal husbandry, some years ago at least, accounted for 98 per cent of the gross value of commercial agricultural output. Cattle alone contributed 60 per cent and sheep, mainly karakul, 34 per cent of the total.

The above FAO figures, particularly those for sheep skin production, are however doubtful. It is considered that they do not take sufficiently into account the slaughtering of very young karakul lamb, for Persian lamb productions. The off-take rates for sheep and consequently sheep skin production, in pieces, is probably considerably higher than those given above.

Industrial capacity in tanning

Information is lacking on the actual production of leather in the country.

NIGER

Raw material availability, in quantitative and qualitative terms

The following data for Niger are based on the figures presented in the FAO Production Yearbook 1981, Vol.35:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	3.300	2,05	330	10,0
Goats	7.200	5,01	2.460	34,2
Sheep	2.850	1,87	700	24,6

In 1977 it was reported in Leather that considerable efforts have been made in Niger to improve the quality of hides and skins and to develop the domestic leather industry. Some 25 % of available hides and skins are used within the country for the production of leather for shoes, saddlery and leather goods.

268 slaughterhouses and 247 drying sheds have been constructed, all with adequate water supply. Legislation has been introduced governing flaying, treatment and drying operations. A hides and skins school has also been opened.

The Société Nigérienne de Collecte des Cuirs et Peaux, SNCP, groups the major producers and is responsible for the collection, marketing and export of hides and skins. Control of these activities is carried out by trained inspectors.

Industrial capacity in tanning

In 1977 existing tanneries were: the SOTAPO plant at Zinder (established in 1968), with an installed annual production capacity of 150.000 skins, and the SONITAN (Société Nigérienne de Tannerie) at Maradi (established in 1969), having an installed annual production capacity of approximately 900.000 skins.

At Niamey a project for a national tannery producing bovine, goat and sheep skin leather for export, was being prepared (in 1977). A smaller tannery at Agadez, with the objective of supplying the local artisanal leather products units with tanned leather, was planned. However, whether these two projects have actually been realized is not known to UNIDO.

#### Current production performance

In 1977 the two existing tanneries were producing almost to full capacity, mainly up to the crust stage. Some 95 % of the production was exported to Italy and to France.

#### Industrial capacity in leather products

There exist some smaller units in Niger producing leather footwear as well as certain type of leather goods, for the domestic markets. Their number and installed production capacity is, however, not known to UNIDO.

#### Current production performance

No production data concerning leather footwear and leather goods are available (at present).

#### Potentials for industrialization in the sector

If the actual collection of raw hides and skins could be further increased and their quality improved there would be a good basis, from the raw material point of view, for expanding the production of leather, from cattle hides as well as from skins, particularly from goat skins, up to the crust stage.

The production of selected types of leather goods, for export, might also be a possibility, which could be considered, probably best in co-operation with partners in other developing or in developed countries.

#### Main constraints on industrialization

Transportation problems and costs are significant. Crust leather is exported to Europe either by sea or by air.

Because of the vastness of the country, in many locations the slaughter of animals is not controlled, and a considerable amount of hides and skins are exported illegally to neighbouring countries, thus are not available to the tanneries in Niger. A significant part of the hides and skins are used by artisanal units to cover the requirements of local markets, but considerable quantities of hides and skins remain unaccounted for.

NIGERIA

Raw material availability, in quantitative and qualitative terms

Based on the data presented in the FAO Production Yearbook 1981, Vol.35, the following estimated figures are given for Nigeria:

	<u>Livestock population</u> <u>1981</u> (in 1000 heads)	<u>% of total</u> <u>for developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>off-take rates</u> <u>in %</u> (calculated)
Cattle	12.500	7,76	2.000	16,0
Goats	25.000	17,40	10.200	40,8
Sheep	12.000	7,86	3.600	30,0

It should be noted that, traditionally, approximately 50 % of the cattle hides produced in Nigeria, are used for human consumption and are not available for the leather industry. Very few goat skins are used for food, however, it is informal that up to 25 % of the sheep skins are also used for human consumption.

Abattoirs and slaughterplaces

A complete picture of the slaughterhouses in all provinces of Nigeria is not available. However, it is reported (in Leather, March 1983, p.43) that large slaughterhouses are to be found in most of the northern towns and cities, many of which are long-established. The majority of slaughter takes place, however, at slaughter slabs which are simple concreted areas with a minimum of services, essentially a location for local trading and slaughter of livestock where only 10 to 40 animals per week may be involved. For example, within Plateau State there is a State abattoir in Jos which handles about 80 cattle, 50 goats and 20 sheep daily during the dry season, and up to 125 cattle, 100 goats and 60 sheep per day during the wet season, and some camels, four municipal slaughterhouses and approximately 350 registered slaughter slabs.

At the old slaughter house in Kano, built 1965, the daily throughput is reported to be 250 to 300 cattle, some 500 goats, 150 to 250 sheep and 150 camels.

At the Federal Government abattoir at Kaduna the throughput comprises some 160 cattle, 170 goats and 70 sheep and 10 camels per day.

These figures give information about the average throughput at various slaughterhouses and abattoirs.

Industrial capacity in tanning

In 1982 it was reported that 17 mechanized tanneries exist in Nigeria, most of which are located in the northern provinces of the country and only two in the southern part of the country. Four of these tanneries were actually producing bovine leather in volumes.

The estimated net availability and estimated surplus of hides and skins for tanning, from domestic supplies (1980, in million pieces) are as follows:

	<u>Estimated net availability</u>	<u>Actually processed by existing tanneries</u>	<u>Needed by new tanneries being constructed</u>	<u>Estimated surplus</u>
Cattle hides	1,0	0,5	0,07	0,43
Goat skins	11,7	)		
Sheep skins	2,0	) 7,2	2,1	4,4

Current production performance

In 1975 the leather production in Nigeria was estimated at the following (in million square feet):

	<u>Industrial tanneries</u>	<u>Rural tanneries</u>	<u>Total tanneries</u>
Bovine leather	14,20	2,25	16,45
Leather from goat and sheep skins	23,0	13,0	36,0
	37,20	15,25	52,45
<hr/>			
The equivalent in			
hides (pieces)	400.000	75.000	475.000
skins (pieces)	4.600.000	2.600.000	7.200.000

Industrial capacity in leather products

Footwear industry

This industrial branch, in Nigeria, 1980, consists of 24 mechanized factories and a cottage industry sector. The number of people employed by this industry is given as being 4.200.

Current production performance

The footwear production in Nigeria is as follows:

	<u>1970</u> (in million pairs) (SATRA-Leather)	<u>1980</u>	<u>Increase from</u> <u>1970 to 1980</u> in %
Overall footwear	21	27	28,6
Leather footwear	5	7	40,0
<hr/>			
Leather footwear/ overall footwear	23,8 %	25,9 %	

RWANDA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Rwanda, for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	650	0,40	100	15,4
Goats	920	0,64	320	34,8
Sheep	300	0,20	75	25,0

In 1978 the actual recovery of hides and skins was estimated at some 50.000 cattle hides, 30.000 goats skins and 10.000 sheep skins, which seem to be rather low figures, especially for skins.

The quality of the goat skins seems to be fair, but that of the cattle hides is rather poor. Most of the hides and skins are exported raw. Only a small part of them is processed in the country.

The slaughterhouse in Kigali, in 1978, had a daily production of some 50 hides.

#### Industrial capacity in tanning

The only tannery plant in Rwanda is the Centre du Cuir, SODEPARAL, in Kigali. It was formerly named "Centre d'Enseignements des Cuirs et Peaux", which had been established with the assistance of UNDP/FAO. In 1977, the Centre du Cuir was transformed into a small, commercial production plant and integrated into SODEPARAL, the holding company jointly owned by the governments of Rwanda and of Libya.

The tannery has a capacity, limited by the drums available, to only 70 hides and 300 skins per week. With new drums installed the capacity is estimated to reach some 200 hides and 900 skins per week, which would be equivalent to some 9.000 hides and some 40.000 skins per year, at maximum. This is a rather modest production capacity, and the centre's economic viability is questionable.

#### Current production performance

The production of the centre in 1978 was purposely kept low to allow for a sufficient training and running-in period. The leathers produced were not of a very good quality, partly because of low quality of the raw hides and skins and partly because of inconsistent processing.

Information on the actual production performance is not available to UNIDO (at present).

#### Industrial capacity in leather products

The Centre du Cuir, at Kigali, also has a department for the production of various leather products, including footwear. In 1978 this department was in need of new machinery and further training of its personnel.

New buildings had been erected, both for the tannery and for the leather products department, in anticipation of new production machinery already ordered or planned to be purchased.

No further information is available to UNIDO on the current production performance of the leather products department of the centre.

The future of the leather industry in Rwanda is dependent on the results obtained through the operations at the Centre du Cuir.



SENEGAL

Raw material availability, in quantitative and qualitative terms

The following data for Senegal are based on the figures presented in the FAO Production Yearbook 1981, Vol.35:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total for developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>off-take rates in % (calculated)</u>
Cattle	2.260	1,40	300	13,3
Goats	1.150	0,80	410	35,7
Sheep	2.075	1,36	625	30,1

The actual recovery of hides and skins is estimated to be approximately the following (per year) (UNIDO exper. Rosnoblet's report):

	<u>Actual recovery (1000 pieces)</u>	<u>Actual recovery as % of potential recovery</u>
Cattle hides	200	66,7
Goat skins	350	85,4
Sheep skins	300	48,0

The Abattoir de Dakar is the main slaughterhouse in Senegal. There are several other slaughterplaces in the country, but their number, production capacity and the conditions under which they operate are not reported on.

Since 1975 the company SERAS (Société d'Exploitation des Ressources Animaux du Sénégal) has the monopoly in the country on the collection, conservation and marketing of raw hides and skins.

The quality of hides and skins in Senegal has improved since SERAS took up its activities. However, there are still deficiencies noted in qualitative respects, particularly as to brand marks, insect damages, flay cuts, and partly caused by lack of proper conservation and handling during the storage of raw hides and skins. The hides are relatively thin; average area about 27 sq. ft..

In 1982 it was estimated that the raw hides and skins export amounted to:

100.000 cattle hides (dried) and some  
350.000 goat skins (dried), mainly to Italy.

#### Industrial capacity in tanning

The existing tannery of BATA, at Rufisque near Dakar, has an installed production capacity of approximately 115.000 cattle hides per year. Their production is shoe upper leather and vegetable tanned sole leather. Their workforce, in 1975, was some 80 persons.

This tannery could, it is reported, by installing the required additional machinery, be capable of processing the totality of cattle hides actually collected in the country (estimated at some 200.000 hides).

#### Current production performance

In 1982 the BATA tannery processed some 70.000 cattle hides, which would represent a capacity utilization of approximately 60 %. The leather produced is mainly destined for the company's own shoe factory, located near by. The rest of the leather is exported.

#### Industrial capacity and production in leather products

##### Footwear industry

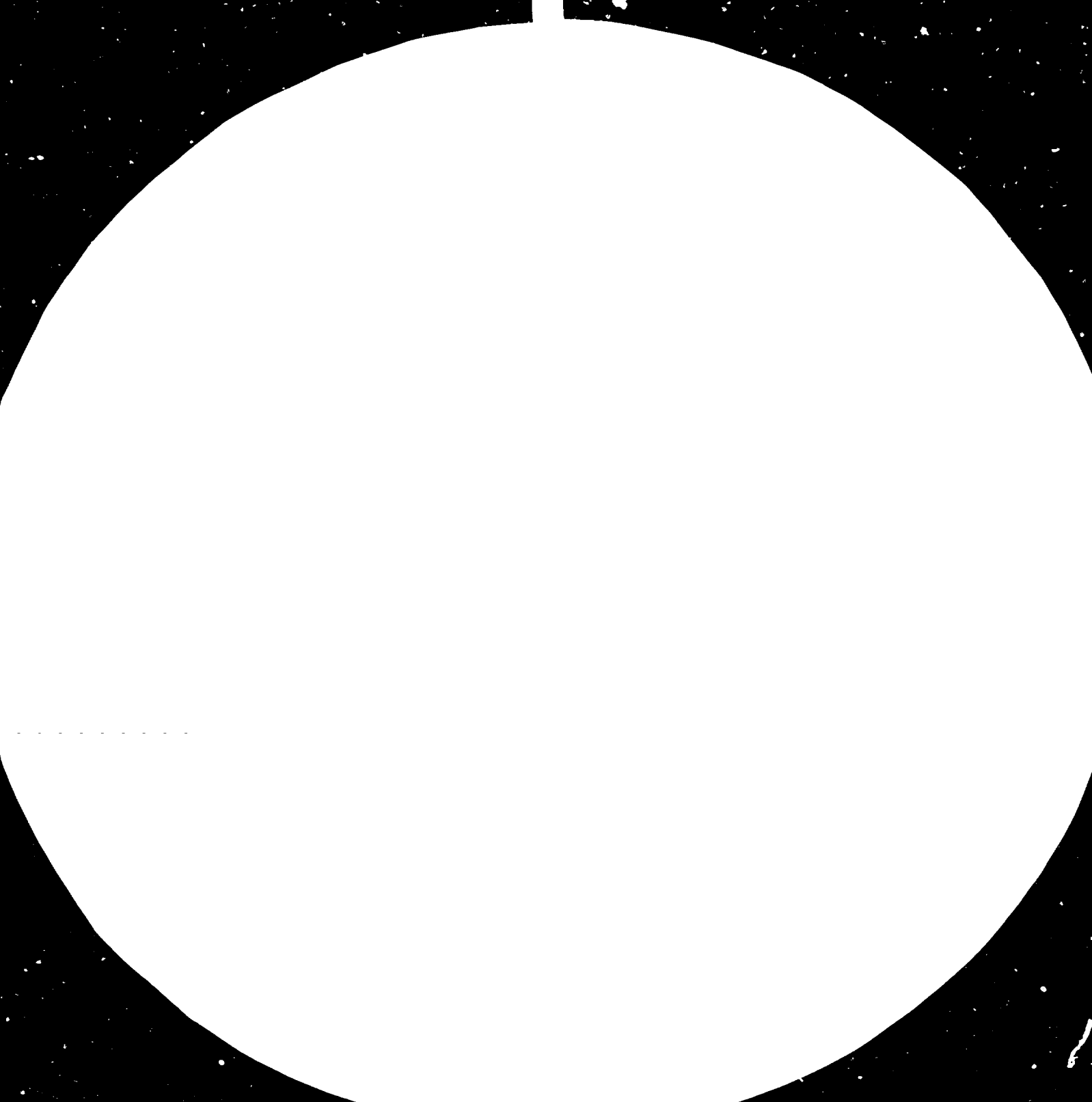
In 1975, a UNIDO expert's report informed that the BATA shoe factory produced some 1,5 million pairs of leather footwear, 80 % of which was destined for export to European countries. The total footwear production was not reported on.

The BATA company in 1982 employed some 900 persons in the shoe factory and the tannery. BATA is the only shoe factory manufacturing leather shoes. There are, however, six other industrial units which manufacture plastic footwear.

In 1982 it was estimated that the total footwear production in Senegal amounted to almost 7 million pairs, of which 900.000 pairs were leather footwear. 60 % of the leather footwear output was exported, to Europe.

##### Leather goods manufacturing industry

There are no data available on the leather goods production in Senegal.





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## MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A  
U.S. GOVERNMENT PRINTING OFFICE: 1963  
ANALYTICAL CHEMISTRY, VOL. 35, P. 1781

U.S. GOVERNMENT PRINTING OFFICE: 1963 O 564-084

For sale by the Superintendent of Documents, U.S. Government Printing Office

However, some of the artisanal tanners, who are tanning smaller quantities of sheep skins, goat skins and also reptile skins, are also manufacturing certain types of leather goods from the leathers they themselves have tanned. These products, which are partly sold to tourists are, however, not of a sufficiently consistent and high quality level to be traded for normal export.

#### Potential for industrialization in the sector

In view of the substantial availability of surplus raw hides and particularly skins in Senegal, at a reasonably good quality level, there is considerable scope for further developing the tanning industry in the country. A considerable part of the semi-processed and/or finished leathers thereby produced, especially leather from goat skins and from sheep skins, would be destined for export.

For the time being there does not appear to be much scope for a further increase in the production of leather footwear, mainly in view of the rather limited potential for increasing the local demand for this type of footwear.

There may, however, be a certain scope of increasing the production of selected leather goods, provided that the quality level of both the leathers utilized as well as of the articles manufactured are considerably improved. This matter should, therefore, be considered in more detail, through a pre-feasibility study on the establishment of a specialized leather goods manufacturing unit in Senegal.

#### Main constraints on industrialization

Actual local conditions are not sufficiently well known to permit an evaluation of the existing constraints on industrialization.

Potential areas for international co-operation from both public and private sources

There might be good scope for international involvement, technically and/or financially, in the establishment of two new tanneries being actively considered for establishment in Senegal, namely:

a) The TANISEN skin tannery, with a planned initial production capacity of some 230.000 skins per year, mainly for export, and

b) The small SONEPI skin tannery, with a planned production capacity of some 90.000 skins per year, for the domestic market.

More details on these two tanneries are given in the following.

Identification of feasible projects for the development of the sector

a) The company SERAS is actively considering the establishment in Senegal of a second mechanized tannery, TANISEN (Tanneries Industrielles du Sénégal), to process goat skins and sheep skins, chrome-tanned and vegetable tanned, to the semi-processed as well as to the finished stage.

In a first phase the production foreseen would amount to some 80.000 goatskins and some 150.000 sheep skins per year, of which approximately 50 % would be processed to the finished stage.

In a second phase, expected to be implemented 4 to 5 years after the starting up of the factory, it is envisaged to double this production. This would then mean that most of the sheep skins actually collected and some 50 to 60 % of the goat skins collected would be processed by TANISEN.

b) A second project (SONEPI/ONUUDI) for the establishment of a smaller skin tannery is also still being considered, which would produce skin leather for the domestic market only, and using locally available vegetable tanning materials (gonakié, or NEP-NEP). The total annual production capacity foreseen is some 90.000 skins (goat and sheep).

c) The possible establishment of a specialized leather goods manufacturing unit might be considered. It is suggested to carry out a pre-feasibility study for such possible factory.

SIERRA LEONE

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Sierra Leone, for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	348	0,22	60	17,2
Goats	150	0,10	45	30,0
Sheep	268	0,18	90	33,6

Information on actual recovery of hides and skins in the country and their quality is not available to UNIDO.

Industrial capacity

There is no mechanized tannery in the country. The BATA Shoe Co. (Sierra Leone) has a shoe factory, which, in 1979, expanded its footwear production, and planned to export shoes to Liberia. Sandal production, for instance, was increased to some 40.000 pairs per year (according to African Business, 1979).

In view of the lack of information on the actual situation in Sierra Leone concerning the leather sector, it is not possible to suggest even the establishment in the country of a small mechanized tannery, for which the potential raw material basis, theoretically, may be considered possibly sufficient.

A possible co-operation with Liberia on this matter may be worthwhile looking into.

SOMALIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Somalia, for 1981:

	<u>Livestock population</u> 1981 (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	3.950	2,45	400	10,1
Goats	16.500	11,49	4.050	24,5
Sheep	10.200	6,68	965	9,5

The low off-take rates for cattle and for sheep indicate that there is a considerable export of live animals, particularly of live sheep from Somalia. The FAO Trade Yearbook 1981, Vol.35, reports that Somalia in 1981 exported more than 1,6 million live animals, namely 97.000 cattle and 1.509.000 goats and sheep. In fact the export of livestock "on the hoof" is, by far, the largest foreign currency earner of Somalia, followed by the export of bananas and of hides and skins, as clearly shown in the following table, the source of which is the Ministry of Commerce:

	<u>1978</u>		<u>1979</u>		<u>1980</u>	
	Value million US\$	% of total export	Value million US\$	% of total export	Value million US\$	% of total export
Live animals	90,5	82	90,8	75	89,6	82
Bananas	9,4	9	15,9	13	7,4	7
Hides and skins	4,7	4	9,5	7	7,4	7

Collection of raw hides and skins

A Government Agency, the Hide and Skin Agency, HASA, which is incorporated into the newly established Somali Leather Agency, is entrusted with the collection and improvement of raw hides and skins, as well as the supply of raw hides and skins and semi-processed leather to local tanneries and for export.



The quantities of hides and skins actually collected by the HASA in recent years are given as follows (in 1000 pieces):

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Cattle hides	99	86	109	96
Goat and sheep	2.304	2.767	3.339	2.203

Note: In addition:

Camel hides	16	19	24	28
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(total livestock of camels in Somalia is estimated at 2,5 million heads)

The available hides and skins which are not collected by HASA are used directly by local rural tanneries or individual processors. Many hides and skins are, however, still wasted. They are either thrown away or treated in such a manner that they are not fit for making leather of them. HASA has, in later years, done much to improve the flaying and curing of hides as well as of skins, and in organizing a well-functioning, country-wide collection. However, much still remains to be done in these respects.

The actual recovery of hides and skins, which means those hides and skins which actually reach the market, is estimated differently by various sources. It seems, however, realistic to assume that in an average year the following quantities of hides and skins are effectively supplied for tanning purposes or for export in the raw state:

Actual recovery (average year) estimated at:

190.000 cattle hides  
3.500.000 goat and sheep skins  
50.000 camel hides.

#### Industrial capacity in tanning

The tanning industry in Somalia consists of about 25 tanneries. Four of these are Government owned, four are commercial privately owned mechanized tanneries and the rest are small rural tanneries.

The installed annual production capacities of the four Government owned tanneries, which are supervised by the newly established Somali Leather Agency, are estimated at the following:

	<u>Production capacities per year for</u>	
	<u>cattle hides</u>	<u>goat and sheep skins</u>
Km.7 tannery and shoe factory	75.000	625.000
Kismayo tannery	125.000	375.000
Hargeisa pickling plant	0	1.000.000
Burao pickling plant	0	375.000
Total for all four	200.000	2.375.000

The estimated production capacities of the mechanized private tanneries are some 175.000 hides per year, and of the rural tanneries jointly some 150.000 hides per year. Their production capacity for skin leather is not known.

#### Current production performance

For various reasons the actual production at the different tanneries has been very variable during the past few years. Up-to-date information on actual production outputs is not available.

#### Industrial capacity in leather products

There is one Government owned shoe factory, the Km.7 tannery and shoe factory, and two privately owned shoe factories (also belonging to integrated companies having a tannery as well as a shoe factory). In addition there are 17 other small shoe making units in the private sector. Their installed production capacities are, however, not known.

#### Current production performance

In 1978 it was estimated that the total production of footwear (all types of footwear) in Somalia amounted to 1,5 million pairs. However, more up-to-date and more detailed information on the actual production performance of existing shoe factories is not available to UNIDO (at present).

Potentials for industrialization in the sector

Hides and skins are one of the very few indigenous raw materials produced in Somalie. It is, therefore, considered to be of great importance that these raw materials are also processed within the country, to obtain as much added value as possible to these products before they are exported. During the years 1978-1980 the average yearly foreign exchange earnings through the export of raw or partly processed hides and skins have been 7,2 million US\$. It is estimated that, at a satisfactory production level in the four tanneries under the supervision of the Somali Leather Agency, the annual foreign exchange earnings would at least reach 20 million US\$. The present actual recovery of hides and skins would be sufficient for this production and also for a considerable finished leather production for the domestic market.

Deducting some 3 million US\$ needed for the importation of required tanning materials and other chemicals, approximately 10 million US\$ per year would be the estimated obtainable added value to these products. (After a period of some 3 to 5 years during which time the tanneries could be gradually expanded and their production performance improved.)

An industrial production of finished leather would greatly facilitate the development of the local leather footwear production, aiming at satisfying domestic market demands.

Main constraints on industrialization

a) Lack of trained personnel at all levels. The training needs at the technologist and engineers levels are identified at

10 leather technologists,

5 engineers (mechanical and electrical, for tannery machinery).

But also at foremen and middle management as well as at skilled and semi-skilled workers levels, the training needs are strongly felt, in the industrial plants and also in the Somali Leather Agency.

b) Although the Hide and Skin Agency up to now has done a creditable job in organizing the collection of hides and skins and also in improving the flaying and curing methods, there is still much to be done in these areas in order that an appropriate utilization of these potentially valuable raw materials is ensured.

c) Difficulties are encountered when it comes to ensuring the supply of tanning materials and other chemicals as well as machinery spare parts required by the tanneries, mainly caused by limitations in foreign currency for the import of these products.

Potential areas for international co-operation for both public and private sources

Several factories within the leather and leather products industry sector in Somalia are receiving or have received bilateral assistance, for instance from Yugoslavia (Km.7 factories) and from the German Democratic Republic (Hargeisa). The services of foreign private consulting companies from Italy and Switzerland have also been utilized (Kismayo tannery and planned shoe factory). Technical assistance from UN organizations, FAO, ITC and UNIDO, has also been received during the last years.

Further international co-operation through private, bilateral and multilateral organizations to the leather and allied industries will certainly continue to be taken into consideration, to enable a further sound development of this important industrial sector in Somalia.

Identification of feasible projects for the development of the sector

A large scale technical assistance project entitled Leather Industry Development concentrating on developing the tanning industry involving a total input of some 2,3 million US\$ in the form of international expertise, intensive training programmes and a substantial machinery and equipment component is being actively considered. This project has been approved in principle by UNIDO's Programming Committee, and sources for its early financing are now being sought, through UNIDF, through bilateral sources or otherwise. At a later stage technical assistance to the leather products manufacturing industry will also be considered.

SUDAN

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for the SUDAN, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	18.791	11,67	1.275	6,8
Goats	12.825	8,93	3.800	29,6
Sheep	18.125	11,87	4.900	27,0

There are about 150 slaughterhouses in the country, but only the one in Omdurman seems to be handling the hides and skins with some proficiency. The Hides and Skins Improvement Centre under the animal resources section of the Ministry of Agriculture has, unfortunately, due primarily to lack of funds, encountered considerable difficulties in improving the raw materials produced.

The quality of the hides and skins is generally bad because of existing animal husbandry practices, and of careless flaying and curing. Inherently fairly good in substance and quality with a fine grain, the raw hides and skins are substantially downgraded by defects caused by sheer neglect and carelessness. Brand marks, graindamages through tick bites, horn rakes, thorn scratches, etc. and flaying cuts are depreciating the quality beyond measure. Putrefaction through defective curing, preservation and storage, as well as damages caused by drying the hides and skins on the ground directly in the sun are also contributing considerably to the tremendous losses in the value of the raw hides and skins actually occurring.

Industrial capacity in tanning

There are three large Government-owned mechanized tanneries in the Sudan, namely the Khartoum Tannery (established 1962), the White Nile Tannery (started up in 1975), both located in Khartoum, and the Gezira Tannery (started up in 1976), located at Wad Medani, south of Khartoum.

The total annual production capacity of these three tanneries is estimated at some 20 million square feet of leather from cattle hides and some 12 million square feet of skin leather (goat and sheep skins), that is 32 million square

feet in total. The pattern of production in the three tanneries is in fact quite similar. However, present production capacity utilization is estimated at some 30-40 % only. Each of the tanneries has a total workforce of about 500 people, making 1.500 persons altogether.

In addition to these large factories there is a pickling plant at Port Sudan and a smaller, privately owned tannery at Omdurman, with an estimated production capacity of some 30.000 hides/year, about half of which is utilized. There are also about 300 smaller, rural type tanneries scattered throughout the country, about 40 of which are located in the tannery district of Omdurman.

In spite of the fact that the three existing large, mechanized public sector tanneries do work far below their production capacities, a substantial part of the available hides and skins is still exported in the raw stages, without any further processing in the country.

The following table, although only using round figures as approximations representing the years 1978-1980, gives a fairly true and illuminating picture of the situation as found in 1980 (figures are in 1000 pieces):

	<u>Cattle hides</u>	<u>Goat skins</u>	<u>Sheep skins</u>
Annually available	1.000	2.000	4.500
Exported in raw state	250	1.200	2.850
Processed by public sector tanneries	200	50	650
Processed by rural tanneries, or wasted	550	750	1.000

Installed production capacities of public sector tanneries, in pieces of hides and skins, was 800.000 hides and 2.000.000 skins (goat and sheep skins), which in 1980 represented a capacity utilization of 25 % for hides and 35 % for skins.

Since 1980 it is reported that some increase of the percentage of capacity utilization in the tanneries has been noted. However, there is still a long way to go before an acceptable level of capacity utilization has been reached.

### Current production performance

The actual production of the three large public sector tanneries is estimated at not more than 40 % of their installed production capacity. This means that approximately 8 million square feet/year of bovine leather and some 5 million square feet/year of skin leather (from goat and sheep skins) are actually produced by these tanneries. The actual production figures for the private sector, mainly rural units, are not known.

It is estimated that some 40 % of the production at the Khartoum and White Nile Tanneries is exported, in the form of pickled skins, wet-blue bovine leather and wet-blue sheep skin leather. About 75 % of the production at Gezira Tannery is exported as semi-processed, mainly wet-blue, tanned leather.

### Industrial capacity in leather products

#### Footwear industry

There are 29 officially registered shoe factories in the Sudan. The large and previously nationalized BATA shoe factory was a few years ago again turned into a joint venture, with the Government holding 49 % and BATA International holding the slight majority of the shares. With the exception of the Larco shoe factory all the others are rather small units which are operated by personnel which do not all have sufficient knowledge and experience in footwear manufacturing.

The total capacities of the footwear factories and their estimated production, in 1978, are given in the following table:

	<u>Annual production capacities</u> (in million pairs)	<u>Production figures for 1977/1978</u> (in million pairs)	<u>Capacity utilization</u> (in %)
Leather footwear	10,9	4,8	44
Plastic shoes	7,0	3,8	54
Canvas/rubber shoes	8,6	3,3	38
Beach sandals	30,0	10,0	33
Total	56,5	21,9	

It should be noted that only 60 % of the "leather footwear" produced have uppers of leather. Polymethane or PVC coated textiles, are commonly utilized when real leather is not available, or when its price is considered too high.

Besides the registered factories, there are also a great number of artisanal shoe makers and rural cobblers producing single shoes and sandals.

### Leather goods manufacturing industry

There are several units in the Sudan producing different kinds of leather goods, but no larger industrial unit is specializing in this particular line. No up-to-date information on production capacity and production output is, however, available to UNIDO (at present).

### Potentials for industrialization in the sector

The potential availability of cattle hides and especially of goat skins and sheep skins in the Sudan is very substantial. At present considerable quantities of these raw materials are exported in the raw state, but partly also in the pickled and wet-blue states.

The first priority should be to improve substantially the capacity utilization at the three large public sector tanneries, and also to improve their outputs qualitatively, before considering the establishment of new production units for tanning. Due to specific raw materials available in certain regions of the country, and for consideration regarding transport problems, the establishment of production units, for instance at Malakal, in the South of the country, to produce up to the semi-processed stage, would, however, be realistic.

To obtain added value to the available raw materials, further processing of the hides and especially of the skins, up to the crust stage, should be the target in the short term. Production to finished leather stage would be a long-term target, as well as the increased production of footwear and leather goods based on such finished leather production.

Due to lack of up-to-date information, it is, however, at present, not possible to elaborate a more quantified basis for existing potentials in this industrial sector.

### Main constraints on industrialization

In the tanning industry and especially in the public sector tanneries, the capacity utilization is consistently very low and the quality of the leather produced is not always the best and of varying consistency. Consequently the economic results obtained have been disappointing. The causes for this situation are many, and they are complex and usually interdependent.

The main constraints seem to be:

- Lack of suitable raw hides and skins of the quality level required;
- Inconsistency in the quality of the raw materials offered, and great variations as to weight distribution and to selections;



- Collecting system is not working efficiently, and due to lack of working capital purchases of raw materials at the proper time have been made very difficult;
- Lack of sufficiently trained personnel at all levels and in all areas of activities within the leather sector, and also lack of suitable training facilities;
- Frequent cuts in the supply of electric power to the factories;
- Lack of a suitable maintenance service at the public sector tanneries, and lack of spare-parts for their machinery;
- Internal transportation problems between Port Sudan and the respective factories.

Potential areas for industrial co-operation from both public and private sources

- a) Co-operation in the carrying out of suitable training programmes for the leather as well as for the leather products industry.
- b) Joint venture or other arrangements for the development of by-products utilizing industrial plants, to be established.
- c) Direct co-operation between Sudanese and foreign partners in the further development of finish leather and finished or semi-finished leather products (shoe uppers, for instance), including in the marketing of such products.

Identification of feasible projects for the development of the sector

- a) A large-scale technical assistance project, entitled "Development of the Leather Industry" has been elaborated by UNIDO, and is at present under active consideration. Financing is sought for this project, which involves a total input of 1,6 million US\$.
- b) Pre-feasibility studies for industrial plants utilizing by-products from the leather and allied industries should be carried out, for leather board production, glue and gelatine production, and other productions which might be taken up.
- c) In the long term proposals should be elaborated and appropriate action taken to facilitate the shifting towards a more developed production of finished leather and of finished leather products.

SWAZILAND

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Swaziland, for 1981:

	<u>Livestock</u> <u>population</u> <u>1981</u> (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	670	0,42	80	11,9
Goats	264	0,18	140	53,0
Sheep	50	0,03	20	40,0

The high off-take rates resulting for goat and sheep indicate that import of live animals (goats and sheep) are existing, and that they are rather significant for goats. Up-to-date information on live animal imports is, however, not available to UNIDO. Up-to-date information on actual recovery is rather vague.

There is one modern abattoir in the country, the Swaziland Meat Corporation, SMC, which is a joint venture between the Government of Swaziland and a private company. In 1977 SMC's total kill was reported to be some 30.000 cattle per year. There are also approximately 50 country butcheries, licensed by the Ministry of Commerce. Of these, 5 butcheries had a slaughter rate of 25 cattle per week, while the others were slaughtering only up to 6 cattle per week.

In addition to these country butcheries, cattle are also slaughtered in home steads for their own consumption. Most of the goats and sheep are also slaughtered at home steads.

The major producer of cattle hides is the SMC, supplying about 35 % of the total production. There is, according to Mr. Rao's report, a certain export of live cattle to neighbouring South Africa (some 8.000 heads in 1977). This may also explain the relatively low off-take rate for cattle recorded above.

Curing of hides is done by wet salting, dry salting or drying. Skins are all dried.

#### Quality of hides and skins

Hides from ranched cattle and those coming from the SMC abattoir are of satisfactory quality, free from flay cuts and most of the post mortem defects.

All the hides, including hides from SMC, have ante mortem defects, such as brand marks, horn marks, scratch marks and tick marks. The hides obtained from country butcheries and homesteads are not sufficiently cured, and they, therefore, show hair ship and flay cuts, in addition to post mortem defects. Goat and sheep skins have tick and scratch marks. The sheep skins are of the wooly type and are greasy and not cured properly.

Cattle hides are to a great extent collected for export to South Africa, to Italy and to other countries. In 1981 some 58.000 cattle hides were exported.

#### Industrial capacity in tanning

The Small Enterprises Development Company, Swaziland, SEDCO, has one rural tannery in its industrial estate, Hlatikulu, established with ILO assistance. According to a UNIDO expert's report, in 1977 (Mr. C.K. Rao), at that time there was no other organized tannery industry in the country. The SEDCO tannery is equipped with pits for liming and for vegetable tannage, one paddle, one glazing machine, two shaving wheels and two manual staking equipment. A further expansion of this rural tannery was planned.

In 1977 the National Industrial Development Corporation of Swaziland was planning to set up a mechanized tannery, to tan some 200-250 hides per day. Whether this tannery has actually been established is, however, not known to UNIDO, at present. A recent FAO expert's report (1982) seems to indicate that the planned tannery is not yet established.

#### Current production performance

Up-to-date information on the production of leather in Swaziland is not available to UNIDO, at present.

Industrial capacity in leather products

SEDCO has, according to Mr. Rao's 1977 report, a leather craft centre at Mbabane. However, no other organized leather products manufacturing industry is reported to exist in the country

Up-to-date information on the footwear and leather products manufacturing sector is not available to UNIDO, at present.

Current production performance

Up-to-date information is lacking.

Potentials for industrialization in the sector

There appears to be relatively good potential for the development of a leather and leather products industry in the country.

TANZANIA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Tanzania, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>off-take rates in % (calculated)</u>
Cattle	12.701	7,88	1.290	10,
Goats	5.784	4,03	1.470	25,4
Shaep	3.856	2,53	1.000	25,9

The 1980 report of Mr. Buit gives the following data regarding the quantities of raw hides and skins which actually reach the domestic market:

Actual recovery

(1000 pieces)

	<u>Cattle hides</u>	<u>Goat skins</u>	<u>Sheep skins</u>
1975	732	884	428
1976	847	732	342
1977	720	740	350
1978	550	360	160
1979	635	530	244

These data very clearly show that the actual collection of raw hides and skins vary considerably from one year to another, depending on a number of factors. The record of such data for one specific year, therefore, does not necessarily give the correct picture of the actual situation.

Recent estimates, for 1982, regarding the actually collected raw hides and skins in the country are:

Cattle hides: 600.000 pieces  
Goat skins: 600.000 pieces, and  
Sheep skins: 300.000 pieces.

Quality of hides and skins

Raw hides and skins collection and distribution is handled by Tanzania Hides and Skins Ltd. (THS), which is also entrusted with the task of supplying all the raw materials needed by the three large TLAI tanneries. In addition to THS there are collecting centres located in major towns. Improvement of raw hides and skins is carried out jointly by the Ministry of Livestock Development and Tanzania Hides and Skins Ltd., and assisted by an FAO expert.

A survey made showed that the infrastructure for development work and collection exist in the country, but it is not being used effectively. This results in poor quality and decreasing number of hides and skins collected, which mainly are available in the dried condition. The main reasons for downgrading hides and skins are flaying defects, animal diseases, improper preparation, putrefaction (especially during the rainy season), storage without proper insecticides and protection, and the indiscriminate branding of animals. Grading is carried out with respect to weights as well as quality.

Salting of the raw materials is considered economically feasible in Tanzania, and seems to be the only way to check the wastage of about 30 % of the total production in the country due to rains.

The Government has accepted salting as a technique to be adopted in all organized abattoirs and slaughterhouses, which will cover some 50 % of the national production. In the rural sector the goal will be to produce better quality frame dried hides and skins.

End 1981 the Government raised the price of cattle hides paid to the primary producer by about 60 %, which resulted in a temporary increase in the collection. It was, however, not sufficient to compete with the prices paid by the smugglers, and, therefore, did not result in the long-term improvement expected.

#### Export of raw hides and skins and semi-processed leather

In 1979 the Government banned the export of raw hides and skins. However, this is not strictly followed. According to Mr. Chambers' report also in 1982 both hides and skins continued to be exported in the raw state. This situation causes problems for the tanneries in their efforts to export semi-processed and eventually finished leather to obtain the value added in foreign currency.

#### Comparison of export prices of raw hides and skins, wet-blue and crust leather

The hides collected and available for export as raw, wet-blue and crust are of the light category, with an average dry weight of 3,44 kg per piece. The average area per hide is 15 square feet. The yield per kg thus is 4,36 sq.ft./kg.

Average area of goat skins is taken to be 4.7 sq.ft. per skin, and for sheep skins 3,5 sq.ft./skin.

The following table shows, for comparison, export prices of raw, wet-blue and crust (1982) (prices are in Tanzanian Shillings per square feet):

	<u>Raw state</u>	<u>Wet-blue</u>	<u>Crust</u>
Cattle hides	2,21	4,64	6,87
Goat skins	3,19	5,56	7,52
Sheep skins	1,99	5,30	6,80

The costs of production from raw hides (light hides only) and skins to semi-processed and finished leather are (not including administration and marketing costs) covering raw materials, chemicals, direct labour and overhead (in Tanzanian Shillings per square feet):

	<u>Wet-blue</u>	<u>Crust</u>	<u>Finished</u>
Cattle hides (light)	3,66	5,38	9,47
Skins (goat and sheep)	6,00	8,93	11,91

When comparing the export market prices with the cost of production it would appear that hides could be exported at wet-blue and crust state at a reasonable margin, skins, however, are selling below cost of production.

In 1982, the export of semi-processed leather from TLAI tanneries was estimated at:

280.000 wet-blue cattle hides  
1.700 crust cattle hides  
100.000 wet-blue goat skins, and  
60.000 wet-blue sheep skins.

#### Industrial capacity in tanning

In Tanzania there are three large mechanized tanneries, all under the supervision of the parastatal organization TLAI, Tanzania Leather Associated Industrial Corporation, and two fairly small privately owned tanneries.

The three large tanneries have the following installed production capacities:

	<u>Cattle hides</u> (in pieces)	<u>Goat and</u> <u>sheep skins</u> (in pieces)	<u>Total capacity</u> (in million sq.ft.)
Tanzania Tanneries, Moshi	280.000	900.000	10,6
Morogoro Tanneries	280.000	600.000	9,2
<u>Mwanza Tanneries</u>			
upper leather	360.000	-	8,6
sole leather	70.000	-	
Total	990.000	1.500.000	28,4

#### Current production performance

In 1979 the utilization of these capacities was approximately 84 % (Moshi), 34 % (Morogoro), and 42 % (Mwanza), respectively. In 1982 the overall capacity utilization was estimated at some 45 %. There is, therefore, a very substantial underutilization of production capacities.

There are considerable difficulties for the tanneries to keep their production programmes, for various reasons. Main problems are: 1) difficulties with the supply of hides and skin, 2) electricity cuts (especially at Moshi), 3) lack of packing polythene for wet-blue exports, 4) problems caused by delays in chemical imports.

### Industrial capacity in leather products

#### Footwear industry

There are two large mechanized shoe factories under TLAI supervision: Tanzania Shoe Company Ltd. (Bora), Dar-es-Salaam, and Morogoro Shoe Company Ltd., Morogoro. In addition, there are two fairly small privately owned shoe factories and a limited number of individual cobblers. The total installed production capacity of the two large shoe factories is estimated at 11 million pairs annually, composed of leather footwear, canvas shoes, sandals, plastic shoes and Hawai slippers.

#### Current production performance

In 1981 the Tanzania Shoe Co. (Bora) had the following production:

1,2 million pairs of canvas shoes  
1,0 million pairs of leather shoes, and  
0,2 million pairs of other footwear.

A comparison with the production figures for the same company in 1979 shows that there, in fact, has been a decrease in the production from 1979 to 1981.

(in million pairs)	<u>Production</u> <u>1979</u>	<u>Production</u> <u>1981</u>	<u>Difference</u> <u>(in %)</u>
Canvas shoes	1,40	1,20	- 14,3
Leather shoes	1,15	1,02	- 11,3
Sandals, plastic shoes	0,088	0,040	- 54,5
Hawai slippers	2,45	0,137	- 94,4

The actual production at the Morogoro Shoe Company, which became operational in 1980, in 1982 was very low, approximately 5,5 % only of the planned production output. The main products manufactured were jogging shoes, training shoes, clogs and safari boots and some moccasins. The factory is facing a number of difficulties, which have been assessed by a separate UNIDO study, which also presents recommendations for, at least partly, overcoming the difficulties identified.



The privately owned smaller production units have an estimated total annual production of two million pairs of leather footwear of different kinds.

#### Leather goods manufacturing industry

A new leather goods plant started operation in Morogoro at the end of 1981. A considerable number of small manufacturing units are producing various leather products. New leather goods manufacturing units are to be installed throughout the country.

Actual production data for the different types of leather goods manufactured are, however, not available (at present).

#### Potentials for industrialization in the sector

The first priority must obviously be to ensure a much better utilization of already existing installed production capacities, in the tanning industry as well as in the footwear and leather goods manufacturing industries.

In view of the strongly felt shortage of skilled labour and of sufficiently trained middle management staff as well as of specialized technical staff, the early starting up of the Tanzanian Institute of Leather Technology (TILT), at Mwanza should be supported, technically and possibly also financially. A well functioning, practically orientated, training and development institute of the type planned, will be a great asset for a further successful development of the leather industry sector in Tanzania. In the long-term TILT may also be functioning as a sub-regional centre, if neighbouring countries show interest in this matter.

To ensure further sound development of the leather industry sector it appears necessary to improve considerably the supply of electric power. Also, the supply of raw materials, of chemicals for the tanning industry and of other materials required by the footwear and leather goods industry, as well as of necessary spare parts has to be ensured.

#### Main constraints on industrialization

Problems exist with the supply of raw hides and skins of an acceptable quality level. A considerable quantity of raw hides and skins are also left un-collected, which represents a serious constraint to further development of this sector.

Problems with the import of chemicals, of spare parts and of materials required by the footwear and leather goods manufacturing industries are seriously hampering the production, at tanneries as well as at leather products manufacturing factories.

Further constraints are: the lack of know-how and of operational training and experiences, poor maintenance of machinery and lack of export marketing experience as well as the technical/production management methods used.

The high prices on the domestic market for leather and footwear are negatively influencing the profitability of export of these products, and thereby create considerable problems for the industry.

#### Potential areas for international co-operation from both public and private sources

a) Joint ventures are sought with respect to technical know-how related to the design and production of leather shoes and canvas shoes for export, with assured market outlets.

b) Technical and financial collaboration is desired in areas of production of sports goods, leather garments, and production of woven leather as joint venture with assured export outlets.

c) Technical joint venture is sought in setting up at the Morogoro Industrial Complex a centralized maintenance and spare part unit to cater for leather, leather products, canvas mill, leather board and other potential by-products industries under TLAI supervision.

d) Specific by-products industries (glue and gelatine, neatsfoot oil and other animal by-products) are identified as possible areas where technical and financial joint collaboration might be taken into consideration.

#### Identification of feasible projects for the development of the sector

Several projects have been identified for further developing the leather and allied industries in Tanzania.

a) One important project is the establishment and putting into operation of the Tanzanian Institute of Leather Technology, TILT, at Mwanza. The buildings for this institute, located close to the Mwanza Tanneries are expected to be ready during 1983. Machinery and equipment for the laboratories as well as for the tannery pilot plant and for the footwear and leather goods pilot plants have already been obtained through a UNIDO technical assistance project. There is, however, a need to provide specialized experts in teaching leather and leather products technology and management for a period of up to three years to assist the Tanzanian staff in ensuring that this training and applied research establishment will fulfill its objectives, which are to:

- provide the leather and leather products industry in Tanzania with the much needed well trained key-workers, middle management cadre technicians, technologists, quality controllers, maintenance staff etc.;
- carry out applied research and development work for the entire leather sector;
- establish a central information unit to provide specialized techno-economic information on this sector to the industry and to the authorities concerned.

b) The establishment of a factory for the production of glue and gelatine from animal by-products;

c) The establishment of a shoe polish and a varnish project.

These projects are already under study.

#### TOGO

#### Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Togo, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	240	0,15	32	13,3
Goats	750	0,52	180	24,0
Sheep	820	0,54	174	24,2

The supervised slaughterings were, in 1974, estimated at some 80 % for cattle, but only some 10 % for goats and sheep. The skins produced are dried. They are partly used by artisanal units, including for prayer mats, and partly probably also for human consumption. Only small quantities of hides and skins are exported.

#### Industrial capacity in tanning

There is no mechanized tannery in Togo. However, several artisanal tanning units exist in various parts of the country. The joint annual production capacity of these units is, however, not known to UNIDO.

Current production performance

Up-to-date information on leather production by the existing artisanal units is not available to UNIDO.

Industrial capacity in leather products

The company BATA-TOGO, established in 1968, at Lomé, in 1974 (according to an EEC report) was reported to have an installed production capacity of 600.000 pairs of footwear (leather footwear and plastic footwear). Main parts of the materials needed had to be imported.

There exist some artisanal units producing various types of leather goods, but more detailed information on their production capacity and type of products manufactured, is not available to UNIDO.

Current production performance

In 1973 BATA's footwear production was given as being 300.000 pairs (all types of footwear produced), absorbed by the domestic market.

Up-to-date production figures are, however, not available to UNIDO.

TUNISIA

Raw material availability

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	950	0,59	250	26,3
Goats	987	0,69	510	51,7
Sheep	4.967	3,25	2.370	47,7

The relatively high off-take rates of goat and sheep obtained indicate that there might be import of live animals (goats and sheep). Records of such imports are, however, not available (at present). Figures on actual recovery of hides and skins are not readily available, but appears to be close to the potential recovery figures.

Abattoirs: The slaughter facilities in Tunisia may be grouped into three categories:

First category: One modern slaughterhouse (Abattoir de Tunis), with refrigerated facilities.

Daily production: 100 cattle and 700 sheep.

Second category: Five slaughterhouses. They have no refrigerated rooms, only slaughter and flaying facilities.

Daily capacity: 30 to 50 cattle and 50 to 150 sheep and goats.

Third category: More than 80 units - only simple slaughterplaces.

Daily capacity: 5 to 10 cattle and 20 to 40 sheep and goats.

#### Quality of hides and skins

The main damage observed on cattle hides is caused by the attack on the live animals of parasitic insects, especially the warble fly (hypodermose bovine). There are few insect damages on skins from sheep and goats.

During the flaying there are important damages noted on cattle hides caused by flay cuts. However, less than 5 % of the hides is damaged by holes.

Sheep skins and goat skins are generally only slightly damaged during the flaying operations.

There are, however, damages caused to both hides and skins due to faulty conservation and incorrect handling during storage.

#### Future production and need for hides and skins

In the VI<sup>th</sup> developed plan, 1982-1986, it is expected that the situation in 1986 will be as follows (in 1000 pieces):

	<u>1</u> <u>Estimated production</u> <u>by 1986</u>	<u>2</u> <u>Expected need for</u> <u>raw material by 1986</u>	<u>3</u> <u>Differences</u> <u>(1-2)</u>
cattle hides	385	467	- 82
goat skins	671	900	-229
sheep skins	2.607	1.988	+619

#### Industrial capacity in tanning

In 1981 there was in Tunisia a total of 14 mechanized tanneries, producing shoe upper leather and sole leather from cattle hides and various types of leather from sheep and goat skins, with a total workforce of 880 persons.

In addition to these industrial units there are some artisanal units producing leathers from sheep and goat skins and utilized for leather goods manufacture, employing some 50 persons altogether.

No data on installed capacity of these tanneries are available. However, according to a Tunisian report on the VI<sup>th</sup> development plan for the leather sector 1982-1986, the following quantities of raw hides and skins were consumed by the tanning industry in 1981:

	<u>Local purchase</u>		<u>Import</u>	
	(in tons)	(in 1000 pieces) calculated	(in tons)	(in 1000 pieces) calculated
cattle hides (average weight: 20kg/hide)	5.500	275	1.000	50
goat skins (average weight: 0,7kg/skin)	420	600	-	-
sheep skins (average weight: 1,3kg/skin)	1.750	1.346	-	-

Current production performance of the tanning industry

The same Tunisian report gives the following production data:

	<u>1972</u> (in million square feet)	<u>1981</u> (in million square feet)	<u>Increase/decrease</u> <u>from 1972 to 1981</u> in %
Finished upper leather (from cattle hides)	5,0	6,8	+ 36
Finished leather from sheep and goat skins	2,0	7,15	+258
	(in tons)		
Sole leather	264	110	- 58

The very substantial production increase regarding finished leather from goat and sheep skins is mainly a result of the following factors:

a) The starting up of the production at one important tannery (Tannerie du Maghreb), and by production increase at another tannery (SOMETU = Société de Mégisserie Tunisienne).

b) Production increase at artisanal tanneries.

c) Increased demand for leather from goat and sheep skins, being increasingly utilized in the manufacture of quality footwear and of leather goods.

Sole leather has partly been replaced by prefabricated soles.

Some of the newly established tanneries, during the first years of their existence mainly produced wet-blue chrome tanned leather, for export. Now the export of this type of semi-processed leather has been prohibited, in order to ensure that the local market's demand for finished leather be satisfied.

#### Industrial capacity in leather products

##### Footwear manufacturing industry

There are about 50 industrial enterprises in Tunisia manufacturing footwear of different kinds, and involving a total workforce of 3.100 persons. Only 25 of these factories are involved in the production of leather footwear. 13 are well mechanized plants, while 12 of them are smaller units which have developed from artisanal production units.

There also exists an important sector of artisanal units manufacturing footwear, employing about 3.000 persons altogether.

The total installed production capacity is not known.

Footwear manufacturing enterprises established under law no. 72-38, based on foreign investments, have reached a number of 18, of which 4 only produce shoe uppers, and are employing some 1.700 persons. Due to their "off-shore" situation, their production output is not known. They are exporting the footwear manufactured and are importing almost all of their required leather, as local suppliers are said not to be able to satisfy their quality requirements.

##### Current footwear production performance

The Tunisian report referred to above, gives the following information about the footwear industry's production data (1 Tun. Dinar ≈ 2,5 US\$):

	<u>1972</u>		<u>1981</u>	
	quantity (1000 pairs)	value (Tun. Dinars)	quantity (1000 pairs)	value (Tun. Dinars)
All leather footwear	56	252	300	3.250
Leather uppered footwear	1.483	5.190	2.830	24.055
Other footwear	<u>3.318</u>	<u>1.659</u>	<u>6.100</u>	<u>7.320</u>
Total footwear	4.857	7.101	9.230	34.525

Increase in total production from 1972 to 1981:

4,373 million pairs, representing a 90 % increase in quantity.

Increase in leather footwear production from 1972 to 1981:

1,591 million pairs, representing a 103 % increase in quantity.

Average prices on the footwear produced in 1981:

All leather footwear: 10,5 Tun. Dinars/pair

Leather uppered footwear: 8,5 Tun. Dinars/pair

Other footwear: 1,2 Tun. Dinars/pair

#### Leather goods manufacturing industry

This particular industrial branch in Tunisia includes 15 medium-sized enterprises, of which 10 manufacture articles made of synthetic materials. Some 580 persons were employed by these plants in 1981. They are mainly located in Tunis and in Nabeul.

There are also approximately 350 artisanal units manufacturing leather goods for the tourist trade as well as other products in non-leather materials.

#### Current production performance

In 1980 it was estimated that a total number of 2,4 million pieces of different types of articles were produced. However, this figure does not give any information about the actual production of each of the various types of leather goods manufactured, which can vary greatly in size as well as in sophistication and value.



Potentials for industrialization in the sector

The VI<sup>th</sup> development plan, 1982-1986, foresees the following situation by the year 1986:

	<u>1</u> <u>Estimated production</u> <u>of the</u> <u>leather industry</u> <u>(mill. sq.ft.)</u>	<u>2</u> <u>Estimated leather</u> <u>requirements of the footwear</u> <u>and leather goods industry</u> <u>(mill. sq.ft.)</u>	<u>3</u> <u>Difference</u> <u>(2-1)</u> <u>(mill. sq.ft.)</u>
Bovine leather	10,9	16,8	5,9
Goat skins leather	3,2	3,6	0,4
Sheep skin leather	8,3	12,0	3,7
Leather total	22,4	32,4	10,0

Note: It is expected that during the period 1982-1986 the annual artisanal production of leather will be maintained at the 1981 level of approximately 1,5 million square feet.

To be able to satisfy the expected additional demand in 1986 of some 10 million square feet for various types of leather, it is envisaged to consider the establishment of two new tanneries, each having a production capacity of some 5 million square feet per year.

There will be a need to consider importing by 1986 the lacking quantity of raw hides and skins for such increased production, estimated at some 82.000 cattle hides, and some 229.000 goat skins. There is, however, expected to be a surplus of more than 600.000 sheep skins, which may be exported in the raw state.

Main constraints on industrialization

a) Not sufficiently developed willingness on the part of Tunisian promoters to take initiative in the establishment of new production enterprises.

b) Lack of backing and support by the authorities when it comes to establishing new factories and/or increasing the production for export, especially of footwear.

c) Administratively complicated procedures for export activities.

d) Not sufficiently trained and/or experienced middle management and supervisors in the different factories within the entire leather sector, which negatively influences the prospects for attaining the quality levels of leather and of products made of leather required by export markets.

Potential areas for international co-operation from both public and private sources

- a) Co-operation in the establishment of one new tannery is already being effected by a company in an industrialized country (Belgium).
- b) Co-operation in the establishment of a new shoe factory is sought.
- c) Partners interested in entering into export marketing agreements, especially in the field of footwear and leather goods are looked for.

Identification of feasible projects for the development of the sector

- a) Export marketing of footwear and of leather goods.
- b) Improvement of the quality of locally produced finished leather in order to aim at replacing hitherto imported leather used by the "off-shore" footwear factories.

UGANDA

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Uganda, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	5.000	3,10	550	11,0
Goats	2.160	1,50	756	35,0
Sheep	1.075	0,70	375	34,9

The collection of hides and skins was previously done by local collectors over the whole country. The situation during the past years has partly disrupted this system. The ban on raw hides and skins export in neighbouring countries has also resulted in a reduction and an almost stoppage of exports at certain times.

With the establishment of the ULATI tannery the possibility to process part of the hides and skins available exists. An improved collection of these raw materials has consequently to be expected. Export of hides and skins has also been taken up again, and available surplus has been exported, mainly to Western Europe.

When the tannery has come into a regular production, export of wet-blue and crust, both from hides and from skins, is expected to increase.

Industrial capacity in tanning

In 1979 the Uganda Leather and Tanning Industry Ltd., ULATI, was established at Jinja. The installed annual production capacity of ULATI tannery is as follows:

168.000 cattle hides, equivalent to 4,2 million sq.ft., and  
144.000 goat and sheep skins, equivalent to 0,65 million sq.ft.

Current production performance

Up to 1982 the tannery has had very little production due to the situation in the country. The tannery is well equipped, but is lacking technical and managerial know-how. It has also experienced serious difficulties as to imports of needed chemicals as well as to the export of semi-processed leather.

Note: The ULATI is entrusted with the co-ordination of the development of the entire leather and leather products industries in the country in line with the Government's policies and programme.

Industrial capacity in leather products

Footwear industry

The shoe industry in Uganda is quite well established. The existing installed production capacity for footwear with leather uppers is estimated at about 2,0 million pairs per year, distributed as follows between the various production units (Report of Mr. B. Svensson, Nov. 1981):

	<u>Capacity, leather footwear</u>
Bata shoe factory	1,300 million pairs/year
USCO	0,085 " " "
BR Pascal	0,115 " " "
Local cobblers	0,500 " " "
	<hr/>
Total	2,0 million pairs/year =====

The shoe production in Uganda, in the early 1970's, was more developed than in other East African countries. There is a possibility for further expansion of the production with up to 1 million pairs if the two factories Fitrite and Walkover, which both are closed now, would be reactivated and would take up footwear production again.

With a normal production in the existing shoe industry some 3 to 4 million square feet of upper leather will be required annually by the shoe industry. The installed capacity of the ULATI tannery for finished leather will certainly readily find its market in Uganda.

In the shoe trade in Uganda it is expected that an annual output of about 5 million pairs can be absorbed in the country, when life is back to normal.

In 1978 (Report of Mr. E. Lundén) it was estimated that the installed production capacity of Bata shoe factory, for all types of footwear, was approximately 4,5 million pairs per year. It was also stated that the Bata shoe factory had a production capacity of about double that of the other ten shoe factories existing at that time. The total production capacity of the shoe industry in 1978 could be estimated at up to 7 million pairs of footwear (all types).

#### Leather products manufacturing industry

There are a few units producing handbags and articles of the leather goods type. However, in the present situation, these articles are made in synthetic materials. It is expected that, at least partly, these productions will be made out of real leather, when such leather will be made available locally, and provided the prices are acceptable.

For the time being there does not seem to be much scope for expanding leather goods production facilities.

#### Potentials for industrialization in the sector

The potential availability of both bovine hides and skins from goats and sheep in considerable surplus to what is required by the ULATI tannery, indicates that there is very good scope for further expansion of the leather industry sector in Uganda.

(550.000 - 168.000) bovine hides = 362.000 hides (theoretically),  
(1.131.000 - 144.000) skins (goats and sheep) = 987.000 skins  
(theoretically).

If reasonably good improvement in actual recovery could be obtained, it would not be unrealistic to believe that in the future years an additional raw material stock of say some 200.000 bovine hides and some 500.000 skins (goats and sheep) could be available for further processing in the country itself.

Main constraints on industrialization

Most of the animals are currently slaughtered and flayed in the villages, and the flaying and curing is badly done, consequently the raw hides and skins frequently arrive in a bad condition at the tannery in Jinja.

The tannery, which is well equipped, lacks however the required foreign exchange to buy from abroad chemicals and other essential inputs needed for its successful operation.

Lack of managerial and technical skills is also a constraint, in the tannery as well as in some of the shoe factories.

The present difficult situation of the country is, in general, not favourable for further industrial development.

Potential areas for industrial co-operation from both public and private sources

Co-operation can be envisaged in the establishment of the planned new tannery as well as of the planned new shoe factory. Management contracts and participation in marketing arrangements may be preferred.

Identification of feasible projects for the development of the sector

a) A pre-feasibility for the establishment of a second mechanized tannery in the country is considered to be required. The location of such second tannery would be most important to determine, in order to obtain the best possible supply of raw materials to the factory.

b) A proposal for the establishment of a new shoe factory has also been put forward. This factory is estimated to produce 3 million pairs annually of various types of footwear: shoes and sandals (with leather upper), canvas shoes, etc.; 85 % for the local market and 15 % for export is foreseen.

UPPER VOLTA

Raw material availability, in quantitative and qualitative terms

The following data for Upper Volta for 1981 are based on the figures presented in the FAO Production Yearbook 1981, Vol.35:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	2.800	1,74	250	8,9
Goats	2.900	2,02	810	27,9
Sheep	1.900	1,24	365	19,2

The Office National de l'Exploitation des Ressources Animales (ONERA) in 1977 presented the following statistical data regarding export and domestic utilization of hides and skins produced in the country:

	<u>Raw hides and skins exported in 1976</u> (in pieces)
Bovine hides	102.000
Goat skins	806.000
Sheep skins	341.000

These figures seem to indicate that, either, the production of skins has decreased from 1976 to 1981 (due to reduction of livestock), or, the figures reported in the FAO Yearbook are lower than the actually available skins.

Utilization of raw hides and skins

It was estimated, in 1974, that only some 500 cattle hides were tanned at the Centre de Tannage, at Ouagadougou, some 22.000 hides were used for human consumption and the rest exported in the raw state, primarily to Ghana.

Some 170.000 goat skins were tanned (to wet-blue stage) at the Centre de Tannage, the rest was exported in raw state, mainly to Ghana. Almost all sheep skins were exported in raw state.

### Industrial capacity in tanning

In 1976 the industrial tanning capacity was very limited, in fact limited to the Centre de Tannage at Ouagadougou, with an installed production of approximately 200.000 skins (semi-tanned goat skins) per year. The Société "Volta-Cuir" intended to increase this production capacity of the Centre de Tannage up to 600.000 skins yearly.

The company SOVOLTA was considering an integrated production, which would include a tannery having an annual production capacity of 120.000 cattle hides and 600.000 skins (goat and sheep skins).

Rural tanneries are distributed throughout the country, processing mainly goat skins to vegetable tanned leather (Gonakié tanning material). The annual production was estimated at 150.000 goat skins per year (in 1977).

### Current production performance

Up-to-date information on the production of leather in Upper Volta is not available to UNIDO (at present). Nor is it known whether the new enterprises have been established as planned.

### Industrial capacity in leather products

There are a few units manufacturing footwear and leather goods for the domestic market. Plans were made in 1974 to establish a small leather goods manufacturing unit, with a production capacity of some 50.000 pieces/year (travel goods, handbags, belts, small leather goods, etc.).

Within the planned SOVOLTA-project preparations were made for the establishment of, in addition to the tannery referred to previously, also:

- i) A shoe factory with a production capacity of some 1,2 million pairs/year (type of footwear not specified);
- ii) A luggage factory (leather goods), production capacity of 100.000 pieces/year;
- iii) A factory for the production of technical articles (not specified which type), utilizing some 1,2 million square feet of leather per year.

No up-to-date information is available to UNIDO as to whether these planned factories have actually been established, and, if so, what is their actual production performance.

ZAIRE

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Zaïre, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	1.230	0,76	155	12,6
Goats	2.833	1,97	840	29,7
Sheep	735	0,48	250	34,0

Over 75 % of the cattle come from the Eastern part of the country and are concentrated in the highlands of Ituri-Kivu, mainly in Bukavu, Kivu and Goma regions. The absence of long dry seasons over vast areas of the country provides favourable conditions for livestock production. A relatively large and important modern sector of animal husbandry has come up in Zaïre. Modern ranches having up to 45.000 head of cattle have been established mostly in the private sector offering considerable scope for the development of the meat industry, and the resulting by-products, including the hides and skins produced.

Hides and skins in Zaïre, although quite good and substantial in their natural conditions, suffer considerable quality degradation due to sub-standard flaying and curing. The hides and skins derived from the livestock producing areas are mostly in dry form. Because of their handling and curing defects they get depreciated in value, some times up to 90 %.

Industrial capacity in tanning

The Société BATA Zaïroise, at Kinshasa, has a tannery as well as a shoe factory. The BATA tannery, in 1976, produced some 240 hides per day, which correspond to some 60.000 hides per year. About 75 % of the raw hides used were dry salted, some 10 % wet salted and the rest were dried. The leather produced is utilized in BATA's own shoe factory.



### Current production performance

Up-to-date information on the production output of the leather industry in Zaïre is not available to UNIDO (at present).

### Industrial capacity in leather products

The BATA shoe factory in Kinshasa is the main footwear manufacturing enterprise in the country. Its production capacity is, however, not known to UNIDO.

### Potentials for industrialization in the sector

There seems to exist considerable scope for expansion of the tanning industry in Zaïre, especially with respect to the better utilization of goat skins and sheep skins. A more thorough study of the subject would, however, be required, to enable realistic proposals for specific projects to be made.

Farming of crocodiles, and the processing of the resulting crocodile skins, at least up to semi-tanned or crust stage, would also be an area which seems to be promising.

### Main constraints on industrialization

Lack of suitably trained personnel, at all levels, appear to be the single major constraining factor impeding further development of the leather and allied industries sector in Zaïre.

Due to the vastness of the country, also transportation problems concerning supply of raw materials, chemicals, etc. and resulting costs are negative factors influencing the possibility of further industrial development in the sector.

## ZAMBIA

### Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Zambia, for 1981:

	<u>Livestock</u> <u>population</u> 1981 (in 1000 heads)	<u>%</u> <u>of total</u> <u>of developing</u> <u>Africa</u>	<u>Hides and skins</u> <u>production</u> (= potential recovery) (in 1000 pieces)	<u>Off-take rates</u> <u>in %</u> (calculated)
Cattle	2.225	1,38	180	8,1
Goats	320	0,22	100	31,3
Sheep	50	0,03	13	26,0

A new hide grading scheme introduced in Zambia with government backing is a significant starting point for raising leather quality (Leather, Jan. 1983). FAO and also the Dutch Government has provided assistance in hide and skins improvement. With respect to cattle hides there has been much improvement over the past few years, and wastage of hides has been considerably reduced. However, the quality of many of the dried hides is still very low, because without proper incentives, few butchers and farmers take the trouble necessary to produce good quality hides. In 1980 it was estimated that the actual recovery was some 50 % for cattle hides and only some 20 % for skins. It was calculated that the wastage of hides and skins amounted to approximately US\$ 3 million a year, which is an amount equal to the value of leathergoods imported into Zambia in one year.

Efforts have also been intensified with the aim of improving the collection of goat skins, which are produced mainly in the southern and eastern provinces.

The main slaughterhouse in the country is the Lusaka Abattoir at Lusaka.

#### Game skins available

A considerable amount of game hides and skins is available for collection, but only a small proportion of it is processed further. Through the implementation of proper wildlife management and measures to sustain a balanced game population, a continuous source of hides and skins is reasonably secured.

With respect to elephants, it is understood that the World Wildlife Fund estimates that in 1979 there was an elephant population of some 150.000 heads in Zambia. Assuming a very modest off-take rate of 1 % per year, approximately 1.500 elephant hides would be available annually. An average-sized elephant renders a hide of about 300 square feet. Some 450.000 square feet of elephant leather could, therefore, result, if properly taken care of. The world market price for elephant leather has been relatively high and stable. This specific sector, therefore, should have a good development potential.

#### Industrial capacity in tanning

BATA has an industrial tannery in Kafue. Tanners and taxidermists of Zambia operate a small tannery outside Lusaka, which tans game skins, mainly Zebra skins, for tourists, who come on hunting safaris. There are at least two more small tanneries located near Lusaka.

Industrial capacity in leather products

The BATA Shoe Company has a shoe factory in Zambia, producing leather footwear (some 50 %) and other types of footwear (also some 50 %).

There is one factory producing industrial gloves and leather aprons.

Current production performance

In 1980 the BATA shoe factory was reported to produce approximately 3 million pairs of footwear, all types included. In 1978, however, it was estimated that the total production of footwear in Zambia was some 4 million pairs. It is reported that, for the time being, there is no prospect for exporting shoes, because the demand of the domestic market is far from being met.

ZIMBABWE

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for Zimbabwe, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in % (calculated)</u>
Cattle	5.261	3,27	660	12,5
Goats	990	0,69	290	29,3
Sheep	370	0,24	85	23,0

Zimbabwe has the seventh largest cattle population of developing Africa, and the potential availability of cattle hides is significant. It could even be expected that, if in the future the internal demand for beef will augment, the off-take rate of 12,5 % now recorded may be increased, thus also increasing the production of hides.

Figures on actual recovery are, however, not available to UNIDO, at present. Information on the quality of actually collected hides and skins is also not available at present.

According to information available to UNIDO there are three large crocodile farms in Zimbabwe situated along the Zambasi valley. These farms are well managed by profit-oriented enterprises. The return on their operation is being made mainly through the sale of raw crocodile skins, exported mainly to Europe, in salted state. A well preserved average sized skin deriving from an animal of 3-4 years of age, has a length of 150 to 170 cm and a raw weight of 4-5 kg. Skins of this size are preferred by the handbag manufacturers, as they are providing a maximum yield.

The production in Zimbabwe of crocodile skins is estimated to be from 4.000 to 6.000 pieces per year. Consideration should be given to the processing of a major part of these skins into semi-finished state locally. This would reduce shipping costs, due to the much lower weight of semi-finished leather as compared to raw/salted skins, and would also create some additional employment. The possible establishment of a small tannery specialized in the production of crocodile skins should, therefore, be investigated.

In Zimbabwe there are also considerable herds of elephants, and in the game reservates the hides of elephants slaughtered are being collected and well taken care of. Their further processing within the country should, therefore, also be taken into serious consideration.

#### Industrial capacity in tanning

The tanning industry in the country consists of four tanneries. The largest, fully mechanized plant is owned by a large multi-national company. The three other tanneries are smaller, and one of them was destroyed during the recent war. The remainder of the machinery of this last mentioned tannery is reported to have been taken over by a shoe plant, which apparently is intending to use, at least part of the existing machinery for game skin tanning.

Total production capacity of existing tanneries is, however, not known to UNIDO, at present.

#### Current production performance

The largest tannery is reported to have a daily production of 500 cattle hides, of which 400 hides are for shoe upper leather and 100 hides for sole leather.

The production of the other tanneries is not known.

Industrial capacity in leather products

Footwear industry

The shoe industry in Zimbabwe consists of eleven footwear manufacturing plants, employing approximately 4.000 persons. The largest factory is the BATA Shoe Company, which employs some 2.600 people.

Current production performance

In 1980 it was estimated that the total production of footwear in Zimbabwe and footwear exports, therefore, were as follows:

	<u>Production, in pairs</u> <u>1980</u>	<u>Export, in pairs</u> <u>1980</u>
Leather footwear (incl. sandals)	4,4 million	0,5 million
Slippers	0,145 million	0
Canvas shoes (incl. Hawaii type)	7,0 million	3,0 million
Total	<u>11,545 million</u> =====	<u>3,5 million</u> =====

Apparent local consumption in 1980, therefore, amounted to approximately 8 million pairs of footwear.

Leather goods manufacturing industry

There is one mechanized plant, at Bulawayo, which is producing leather bags, belts and other leather goods. Its production capacity is, however, not known to UNIDO.

The activities and production capacities of smaller artisanal units are not reported on.

Current production performance

Up-to-date information is lacking.

#### Potentials for industrialization in the sector

There appears to be considerable scope for further expansion of the entire leather sector of the country. 660.000 cattle hides, and 375.000 skins (from goats and sheep) are the potentially available quantities of the traditional raw materials. In addition comes the possible further processing within the country of crocodile skins and of elephant hides, which both are at present exported in raw state only, without any further processing locally.

#### Main constraints on industrialization

It is reported that all the tanneries operating in the country have been experiencing difficulties for shortage of raw hides and skins. It is also considered that lack of technical know-how as well as lack of modern machinery are main constraints to an efficient functioning of the plants.

#### Identification of feasible projects for the development of the sector

a) The establishment in the country of a tannery designed to process some 6.000 crocodile skins per year up to the semi-finished stage (tanned but not yet dyed) would employ up to 25 people. Except for a fleshing and shaving machine, all other equipment required for the operation of the tannery could be obtained locally. The added value on a semi-finished crocodile skin is estimated to be about 30-40 %. A skin of 150-170 cm length weighs about 800 to 1.000 grams. This low weight would have a favourable impact on transport costs. Semi-finished skins can be stored for a long period of time, which would make their marketing more flexible than with raw skins.

Ten smaller African countries

(CAPE VERDE, COMOROS, EQUATORIAL GUINEA, MAURITIUS, REUNION,  
SAO TOME AND PRINCIPE, SEYCHELLES, SPANISH NORTH AFRICA, ST. HELENA, WESTERN SAHARA)

Raw material availability, in quantitative and qualitative terms

The FAO Production Yearbook 1981, Vol.35, presents the following estimated data for the above-mentioned ten smaller African countries, for 1981:

	<u>Livestock population 1981</u> (in 1000 heads)	<u>% of total of developing Africa</u>	<u>Hides and skins production, estimated (= potential recovery)</u> (in 1000 pieces)	<u>Off-take rates in %</u> (calculated)
Cattle	180	0,11	18	10
Goats	403	0,28	100	25
Sheep	75	0,05	19	25

The potentially available quantities of hides and skins in each of these ten countries are, however, too small to be considered as a realistic basis for the establishment of mechanized production units in the country concerned.

Industrial capacity

Except for some artisanal units in some of the countries mentioned, there exist no mechanized tannery or mechanized unit producing footwear or other leather products in these smaller countries.

<u>Livestock 1981</u>	<u>Cattle</u>	<u>Goats</u>	<u>Sheep</u>
Cape Verde	12	68	2
Comoros	79	87	9
Equ. Guinea	4	7	34
Mauritius	57	70	4
Réunion	22	37	2
Sao Tomé and Príncipe	3	4	2
Seychelles	2	4	0
Sp. N. Africa	0	4	0
St. Helena	1	2	2
W. Sahara	0	120	20
	<hr/> 180	<hr/> 403	<hr/> 75

10 % of 180 = 18  
25 % of 403 = 100  
25 % of 75 = 19

METHODS OF RECOVERY AND QUALITY OF RAW HIDES AND SKINS

Methods of Recovery

These are directly related to places of slaughter, and they may briefly be categorised:

- a) Mechanised abattoir associated with meat canning,
- b) Large City/Municipal abattoirs,
- c) Village slabs and butchers,
- d) Individual family/domestic slaughter.

a) The mechanised abattoir, usually associated with meat canning and processing works produce the best product. The hides and skins are usually flay free and the cure is usually wet salted. This, in some countries accounts for the majority of total production of hides and skins and yields maximum value raw material. In other countries such production may represent 10-20 % of production. Many of the countries have no such sophisticated plant, due to the high capital requirement, and the necessity for large refrigerated stores and transport.

The product from these units usually obtains a premium over other hides, partly due to good regular processing, but also due to the fact that they are discriminating in selection of animals for slaughter. Although this recovery source is ideal, yielding top grade hides, as well as getting full value from the carcass, it is unlikely to spread rapidly due to high capital requirement.

b) Large city/municipal abattoirs. This means of, usually well supervised slaughter, is being extended throughout the region - catalysed by the growth of urbanisation and the demand for inspected meat. The hides and skins when removed will not generally be as good as from a) as these abattoirs are not as mechanised - flay marks may be present to some degree. The hides and skins are usually sold direct to local hide and skin merchants, who cure them in their own yards, occasionally by salting, but usually by air drying/suspension methods. At least the hides and skins are received fresh and if air drying is well carried out, a good product can be obtained. Often tanneries buy direct from these sources.

c) Village slabs and local butchers produce a more variable product dependent to a large degree on the amount of supervision supplied, and also on whether sufficient training has been given by the hide and skins improvement services. Flay cuts from these sources are more common, often there is no washing or lifting tackle at the site and hides are used as a cushion on which the carcass is butchered. The hides and skins may be cured by local dealers, or they may go up to hundreds of miles to reach dealers, in the raw unwashed state, before curing takes place, thus scope for putrefaction exists. Curing may be by suspension or ground drying



methods. From such sources great variability exists, and it is at this level of slaughter that increased supervision must be given if hides and skin qualities are to be improved. Drying facilities (frames) and buying godowns with grade differentials at this stage can yield great increases in hide and skin value.

d) Individual family/domestic slaughter which in Africa may still account for the majority of hides and skins produced, is likely to do so until retail and transport facilities have been greatly extended. The hides and skins from such sources are usually poorly prepared, flay cuts are numerous - cure may be long delayed and often ground drying is carried out. Occasionally individuals frame dry hides and skins. In many cases the hides and skins are left for days in the raw state, they are then transported to the nearest local township, they may be dried (frame or ground) at this point, or may have yet again to be transported to a larger township for drying. In some countries the marketing channel may include six or more links from primary producer - agent - sub dealer - dealer - larger merchant - exporter. The products of this poorly organized system are obviously low grade, with a high risk of putrefaction having begun prior to drying. In the vast transactions no account is taken of quality/grades. This lack of direct incentive to the primary producer accounts for the poor treatment the hides and skins receive. In some areas it is assumed that primary producers only receive from 30-50 % of the hide or skin value.

Well over 50 % of African hides and skins come from individual slaughter sources.

#### Non-recovery of Hides and Skins Slaughtered

Statistics in this sector are obviously non-existent as "non-recovered" hides and skins are usually from animals which have not been officially slaughtered. Estimated vary as to non-recovery. In countries with good transport facilities the figure is perhaps of the order of less than 5 %. In countries with rural tanneries spread well geographically the rate of non-recovery may be even less, as rural tanners will buy direct from individuals on an individual skin basis, and will even process obvious rejects hoping to obtain a small percentage of the skin area involved.

The bulk of "non-recovery" is from the individual family slaughter, if the distance to the nearest township is too great, or the price paid not commensurate with the effort of transporting the hide or skin, it is quite possible that the material will be left to rot. However, when prices of hides and skins are sufficiently high, it is certain that even the primary producer should have seen some increase in prices paid, and this would ensure continued high recovery rates.

Another major cause of non-recovery is rain - during the "rainy season" in Central, East and West Africa large areas are temporarily cut off from normal transportation systems - at the same time it is difficult to dry hides and skins without proper facilities. However, the areas involved are small and the duration only usually a matter of a few weeks, and in most countries so affected the degree of non-recovery cannot exceed 10 % of total product.

Certain countries in West Africa are reported to have high rates of non-recovery and there must be special circumstances to account for such large losses, among other: heavy rain, poor transport or low level of hide and skin supplies not justifying a good commercial marketing network.

Suggested subjects for international co-operation

Training, at all levels, for the hides and skins, leather and leather products industry.

How best to train technical and managerial personnel and also middle management foremen and skilled workers.

Where best to train them? In-plant training, in the country or abroad - at existing specialized institutions abroad - possibly at sub-regional leather centres (to be created)?

Supply of specialized chemicals, tanning materials, fat-liquors, finishing materials etc. to the leather producing industry.

How can improvement in this supply be best ensured? Through imports (as hitherto), through production in the country of selected materials, for which raw materials would be available locally, or can a sub-regional or regional approach to the production of certain essential chemicals and materials be feasible?

Supply of necessary components (of various kinds) for the footwear and leather goods manufacturing industries.

Can presently imported components be substituted, at least to a significant extent, through local or sub-regional/regional production of such specialized items?

Can the required quality level of these components be ensured if produced locally or regionally?

How best to overcome existing transportation problems, which are particularly serious for land-locked countries?

How to reduce costs of transport of products manufactured, as well as of machinery, chemicals, specialized components, etc. which are essential for the industry and which have to be imported?

Can a sub-regional or regional approach be meaningful with respect to these matters?

Environmental considerations for the leather producing industry

How best to overcome existing environmental problems without causing too great a financial burden on the tanning industry in African countries?

This refers to the tannery effluent treatment as well as to solid waste disposal.

Are simpler and consequently less costly methods feasible within the context of developing African countries?

Is it possible to envisage a sub-regional and/or regional approach on how best to proceed further with these questions?

Improving the grading standards for raw hides and skins

It is generally considered that, for various reasons, the raw hides and skins grading standards have deteriorated in many developing countries over the past few years. One of the reasons is considered to be the existence of an over-capacity to produce leather, which has forced buyers of raw hides and skins to buy on an all-in price rather than on quality. Thus, many tanners in developing countries are obliged to buy mixed lots which are not properly graded or selected.

The result of this situation is that buyers (importers) of semi-processed and finished leather do not have the required confidence in the quality grading of these products.

How can these grading standards be improved, and the confidence of the customers in the quality grading of leathers made therefrom be restored?

Possible specialization of footwear production in selected countries of a sub-region

There exist a number of trade barriers between neighbouring developing countries of most sub-regions, which are not favourable to trading of footwear between them.

As a result, in smaller countries, each factory is obliged to produce practically all types of footwear for their own domestic market, even if the national market demand may be very limited for a specific footwear type. This, consequently, causes additional investment and tooling costs, which evidently make the shoes more expensive, particularly those which are produced in small quantities.

Is it therefore feasible to consider some kind of specialization of footwear production between selected countries of a sub-region, in order to obtain lower production costs and lower consumer prices for specific footwear types? This would also contribute to improving practical co-operation between developing countries of certain sub-regions, particularly between countries with limited domestic market demands.

#### Increased trade in leather and leather products between African countries

Some of the most industrialized of the African countries, particularly those in North Africa, are actually importing considerable quantities of semi-processed and finished leather, from Latin American or from Asian countries.

Would it be feasible to obtain an intensified trade, particularly in semi-processed leather, between selected countries in other regions of Africa, and those North African countries which have to import part of their leather requirements? The condition must evidently be that leather of acceptable quality and price levels would actually be available from these other African producers, and that deliveries are reliable in product quality and delivery time.

#### Energy requirements of the leather and leather products industry - and how best to secure a regular power supply to the factories

Many developing countries in Africa are facing serious problems due to power cuts, etc. The cost of energy is also high, and cost reductions would contribute considerably towards an improved economic picture of the operation of individual plants.

How can this situation be improved? Local energy resources have to be given priority, to reduce the need for import of oil, etc.

Is solar energy utilization a feasible proposition in some of the countries? How can its use be promoted, and practically taken into consideration?

What other energy resources could be practically utilized for the leather industry branch?

Is a sub-regional approach feasible to search for solutions which may benefit more than one country of the sub-region?

Cattle population in Africa

Total population of cattle (and buffaloes) in the developing countries of Africa in 1981 were (FAO): 161.078 million animals.

The following countries have the major live stock population (more than 1,0 million animals):

	<u>Cattle</u> (1000 heads)	<u>% of total of</u> <u>developing Africa</u>	
1. Ethiopia	26.100	16,20	)
2. Sudan	18.791	11,67	)
3. Tanzania	12.701	7,88	)
4. Nigeria	12.500	7,76	)
5. Kenya	11.500	7,14	)
6. Madagascar	10.150	6,30	)
<hr/>			
7. Zimbabwe	5.261	3,27	)
8. Mali	5.134	3,19	)
9. Uganda	5.000	3,10	)
10. Egypt	4.259	2,64	)
11. Somalia	3.950	2,45	)
12. Chad	3.800	2,36	)
<hr/>			
13. Niger	3.300	2,05	)
14. Cameroon	3.284	2,04	)
15. Morocco	3.240	2,01	)
16. Angol	3.200	1,99	)
17. Botswana	2.950	1,83	)
18. Upper Volta	2.800	1,74	)
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19. Senegal	2.260	1,40	)
20. Zambia	2.225	1,38	)
21. Guinea	1.800	1,12	)
22. Namibia	1.700	1,06	)
23. Mozambique	1.420	0,88	)
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24. Algeria	1.370	0,85	)
25. Central African Republic	1.272	0,79	)
26. Zaïre	1.230	0,76	)
27. Mauretania	1.200	0,74	)
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Rest of developing Africa	8.681	which represents	5,40 %

Goat population in Africa

Total population of goat in the developing countries in 1981 were (FAO):  
143.606 million animals.

The following countries have the major population of goat (more than 1,0 million animals):

	<u>Goats</u> (1000 heads)	<u>% of total of</u> <u>developing Africa</u>	
1. Nigeria	25.000	17,41	)
2. Ethiopia	17.200	11,98	)
3. Somalia	16.560	11,49	) 59,69 %
4. Sudan	12.825	8,93	)
<hr/>			
5. Niger	7.200	5,01	)
6. Mali	7.000	4,87	)
7. Morocco	6.200	4,32	)
8. Tanzania	5.784	4,03	)
<hr/>			
9. Kenya	4.580	3,19	) 17,43 %
10. Upper Volta	2.900	2,02	)
11. Zaïre	2.833	1,97	)
12. Algeria	2.723	1,90	)
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13. Mauretania	2.600	1,81	)
14. Cameroon	2.434	1,69	)
15. Chad	2.300	1,60	)
16. Uganda	2.160	1,50	)
17. Ghana	2.100	1,46	)
<hr/>			
18. Namibia	2.000	1,39	) 14,18 %
19. Libya	1.500	1,04	)
20. Egypt	1.451	1,01	)
21. Madagascar	1.400	0,97	)
22. Ivory Coast	1.300	0,91	)
23. Senegal	1.150	0,80	)
<hr/>			
Sub-total	131.140 which represents 91,30 %		
Rest of developing Africa	12.466 which represents 8,70 %		

Sheep population in Africa

Total population of sheep in the developing countries of Africa in 1981 were (FAO): 152.665 million animals.

The following countries have the major population of sheep (more than 1,0 million animals):

	<u>Sheep</u> (1000 heads)	<u>% of total of</u> <u>developing Africa</u>	
1. Ethiopia	23.300	15,26	)
2. Sudan	18.125	11,87	)
3. Morocco	14.840	9,72	) 60,30 %
4. Algeria	13.600	8,91	)
5. Nigeria	12.000	7,86	)
6. Somalia	10.200	6,68	)
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7. Mali	6.350	4,16	)
8. Libya	6.258	4,10	)
9. Mauretania	5.200	3,41	) 20,95 %
10. Tunisia	4.967	3,25	)
11. Kenya	4.700	3,08	)
<hr/>			
12. Namibia	4.500	2,95	)
13. Tanzania	3.856	2,53	)
14. Niger	2.850	1,87	)
15. Chad	2.300	1,51	)
16. Cameroon	2.174	1,42	)
17. Senegal	2.075	1,36	) 14,38 %
18. Upper Volta	1.900	1,24	)
19. Ghana	1.700	1,11	)
20. Egypt	1.599	1,05	)
21. Ivory Coast	1.250	0,82	)
22. Lesotho	1.180	0,77	)
23. Uganda	1.075	0,70	)
<hr/>			
Rest of developing Africa	6.666 which represents	4,37 %	



Potential leather production (theoretical)

Leather from cattle hides (incl. buffaloes).

<u>Country</u>	<u>Livestock (mill. heads)</u>	<u>Hides potentially available (= slaughterings) (mill. pieces)</u>	<u>Area of tanned leather, per hide (in sq. ft.)</u>	<u>Total area of bovine leather, if all hides were tanned (in mill. sq. ft.)</u>
Algeria	1,370	0,275	31,30	8,60
Egypt	4,259	1,780	34,30	61,05
Libya	0,185	0,240	36,00	8,64
Mauritania	1,200	0,130	29,30	3,81
Morocco	3,240	0,930	29,30	27,25
Tunisia	0,950	0,250	33,00	8,25
Benin	0,770	0,095	29,30	2,78
Burundi	0,872	0,120	27,40	3,29
Cameroon	3,284	0,370	33,80	12,51
Central African Republic	1,272	0,170	34,20	5,81
Chad	3,800	0,225	33,00	7,43
Congo (Brazzaville)	0,075	0,014	29,30	0,41
Gabon	0,004	0,002	29,30	0,06
Gambia	0,333	0,035	29,30	1,03
Ghana	0,950	0,110	24,40	2,68
Guinea	1,800	0,180	19,60	3,53
Guinea-Bissau	0,210	0,030	19,60	0,59
Ivory Coast	0,720	0,300	29,30	8,79
Liberia	0,040	0,030	20,50	0,62
Mali	5,134	0,310	30,30	9,39
Niger	3,300	0,330	30,00	9,90
Nigeria	12,500	2,000	25,00	50,00
Rwanda	0,650	0,100	26,90	2,69
Senegal	2,260	0,300	30,30	9,09
Sierra Leone	0,348	0,060	18,60	1,12
Togo	0,240	0,032	29,30	0,94
Upper Volta	2,800	0,250	27,40	6,85

Africa regional

Potential leather production (theoretical)

Leather from cattle hides

<u>Country</u>	<u>Livestock (mill. heads)</u>	<u>Hides potentially available (= slaughterings) (mill. pieces)</u>	<u>Area of tanned leather, per hide (in sq. ft.)</u>	<u>Total area of bovine leather, if all hides were tanned (in mill. sq. ft.)</u>
Djibouti	0,034	0,003	25,00	0,08
Ethiopia	26,100	2,000	25,00	50,00
Kenya	11,500	1,600	27,40	43,84
Somalia	3,950	0,400	30,00	12,00
Sudan	18,791	1,275	32,00	40,80
Tanzania	12,701	1,290	25,00	32,25
Uganda	5,000	0,550	30,00	16,50
Angola	3,200	0,320	32,30	10,34
Botswana	2,950	0,240	32,30	7,75
Lesotho	0,600	0,074	29,30	2,17
Madagascar	10,150	1,005	29,30	29,45
Malawi	0,850	0,081	29,30	2,37
Mozambique	1,420	0,250	33,00	8,25
Namibia	1,700	0,185	32,30	5,89
Swaziland	0,670	0,080	41,10	3,29
Zaire	1,230	0,155	26,40	4,09
Zimbia	2,225	0,180	29,30	5,27
Zimbabwe	5,261	0,660	28,40	18,74
10 smaller countries	0,180	0,020	25,00	0,50

Africa regional

Potential leather production (theoretical)

Leather from goat skins

<u>Country</u>	<u>Livestock</u> <u>(mill. heads)</u>	<u>Skins potentially</u> <u>available</u> <u>(= slaughterings)</u> <u>(mill. pieces)</u>	<u>Area of</u> <u>tanned leather,</u> <u>per skin</u> <u>(in sq. ft.)</u>	<u>Total area of goat skin</u> <u>leather, if all skins</u> <u>were tanned</u> <u>(in mill. sq. ft.)</u>
Algeria	2,723	0,980	5,0	4,90
Egypt	1,451	1,320	3,5	4,62
Libya	1,500	0,250	5,5	1,38
Mauritania	2,600	0,470	5,0	2,35
Morocco	6,200	1,960	5,5	10,78
Tunisia	0,987	0,510	4,1	2,09
Benin	0,930	0,285	6,0	1,71
Burundi	0,686	0,250	5,0	1,25
Cameroon	2,434	0,720	4,0	2,88
Central African Republic	0,951	0,200	8,0	1,60
Chad	2,300	0,690	7,0	4,83
Congo (Brazzaville)	0,133	0,023	6,0	0,14
Gabon	0,090	0,030	6,0	0,18
Gambia	0,177	0,050	7,0	0,35
Ghana	2,100	0,600	6,0	3,60
Guinea	0,415	0,085	6,0	0,51
Guinea-Bissau	0,130	0,040	6,0	0,24
Ivory Coast	1,300	0,710	6,0	4,26
Liberia	0,210	0,065	6,0	0,39
Mali	7,000	1,650	6,0	9,90
Niger	7,200	2,460	5,0	12,30
Nigeria	25,000	10,200	5,0	51,00
Rwanda	0,920	0,320	4,0	1,28
Senegal	1,150	0,410	5,0	2,05
Sierra Leone	0,150	0,045	6,0	0,27
Togo	0,750	0,180	5,0	0,90
Upper Volta	2,900	0,810	5,0	4,05

Africa regional

Potential leather production (theoretical)

Leather from goat skins

<u>Country</u>	<u>Livestock (mill. heads)</u>	<u>Skins potentially available (= slaughterings) (mill. pieces)</u>	<u>Area of tanned leather, per skin (in sq. ft.)</u>	<u>Total area of goat skin leather, if all skins were tanned (in mill. sq. ft.)</u>
Djibouti	0,530	0,220	6,0	1,32
Ethiopia	17,200	6,000	5,0	30,00
Kenya	4,580	2,100	6,0	12,60
Somalia	16,500	4,050	7,5	30,38
Sudan	12,825	3,800	3,5	13,30
Tanzania	5,784	1,470	3,6	5,29
Uganda	2,160	0,756	6,0	4,54
Angola	0,940	0,340	5,0	1,70
Botswana	0,680	0,235	6,0	1,41
Lesotho	0,780	0,225	5,0	1,13
Madagascar	1,400	0,200	5,0	1,00
Malawi	0,650	0,200	6,0	1,20
Mozambique	0,340	0,136	5,5	0,75
Namibia	2,000	0,400	6,0	2,40
Swaziland	0,264	0,140	9,0	1,26
Zaire	2,833	0,840	4,5	3,78
Zambia	0,320	0,100	7,0	0,70
Zimbabwe	0,990	0,290	7,0	2,03
10 smaller countries	0,443	0,111	5,0	0,56

Africa regional

Potential leather production (theoretical)

Leather from sheep skins

<u>Country</u>	<u>Livestock (mill. heads)</u>	<u>Skins potentially available (= slaughterings) (mill. pieces)</u>	<u>Area of tanned leather, per skin (in sq. ft.)</u>	<u>Total area of sheep skin leather, if all skins were tanned (in mill. sq. ft.)</u>
Algeria	13,600	4,170	8,5	35,45
Egypt	1,599	1,150	6,5	7,48
Libya	6,258	4,100	6,0	24,60
Mauritania	5,200	0,680	7,0	4,76
Morocco	14,840	4,500	5,5	24,75
Tunisia	4,967	2,370	5,0	11,85
Benin	0,965	0,250	6,5	1,63
Burundi	0,332	0,125	6,5	0,81
Cameroon	2,174	0,650	5,1	3,32
Central African Republic	0,086	0,045	8,0	0,36
Chad	2,300	0,800	8,0	6,40
Congo (Brazzaville)	0,069	0,013	5,5	0,07
Gabon	0,100	0,037	8,0	0,30
Gambia	0,165	0,050	8,0	0,40
Ghana	1,700	0,430	7,0	3,01
Guinea	0,440	0,090	8,0	0,72
Guinea-Bissau	0,055	0,013	8,0	0,10
Ivory Coast	1,250	0,690	7,0	4,83
Liberia	0,210	0,075	6,0	0,45
Mali	6,350	1,950	8,0	15,60
Niger	2,850	0,700	8,0	5,60
Nigeria	12,000	3,600	6,0	21,60
Rwanda	0,300	0,075	5,0	0,38
Senegal	2,075	0,625	8,0	5,00
Sierra Leone	0,268	0,090	5,5	0,50
Togo	0,820	0,174	5,0	0,87
Upper Volta	1,900	0,365	6,0	2,19

Africa regional

Potential leather production (theoretical)

Leather from sheep skins

<u>Country</u>	<u>Livestock (mill. heads)</u>	<u>Skins potentially available (= slaughterings) (mill. pieces)</u>	<u>Area of tanned leather, per skin (in sq. ft.)</u>	<u>Total area of sheep skin leather, if all skins were tanned (in mili. sq. ft.)</u>
Djibouti	0,330	0,100	7,0	0,70
Ethiopia	23,300	6,700	8,0	53,60
Kenya	4,700	1,870	7,5	14,03
Somalia	10,200	0,965	6,5	6,27
Sudan	18,125	4,900	6,0	29,40
Tanzania	3,856	1,000	4,95	4,95
Uganda	1,075	0,375	6,0	2,25
Angola	0,230	0,060	7,0	0,42
Botswana	0,180	0,050	8,5	0,43
Lesotho	1,180	0,340	6,0	2,04
Madagascar	0,620	0,170	5,0	0,85
Malawi	0,078	0,020	8,0	0,16
Mozambique	0,108	0,054	6,5	0,35
Namibia	4,500	1,200	9,0	10,80
Swaziland	0,050	0,020	9,0	0,18
Zaire	0,735	0,250	5,0	1,25
Zambia	0,050	0,013	8,0	0,10
Zimbabwe	0,370	0,085	8,0	0,68
10 smaller countries	0,075	0,023	6,0	0,14

Africa: Trends in production of leather \*

<u>Commodity</u>	<u>Region</u>	<u>Unit</u>	<u>Production</u>		<u>Average Annual</u>
			<u>1970</u>	<u>1979 (est.)</u>	<u>Growth Rate (%)</u>
Heavy leather	Africa	thousand tons	7,0	11,2	6,67
	N.W. Africa		5,7	8,8	6,04
	East Africa		1,3	2,4	9,4
	(World)		530,6	566,7	0,76)
Light leather (cattle and calf)	Africa	mill. sq.ft.	7,6	18,3	15,64
	N.W. Africa		3,4	4,6	3,9
	W. Africa		3,6	7,0	10,49
	East Africa		0,6	6,7	112,96
	(World)		6.128,9	7.785,6	3,0)
Light leather (sheep and goat)	Africa	mill. sq.ft.	77,9	119,4	5,92
	N.W. Africa		40,4	53,5	3,6
	W. Africa		33,5	60,0	8,80
	East Africa		3,5	5,9	7,6
	(World)		2.584,5	3.129,5	2,3)

\* Source: FAO Statistical Compendium.

