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15912-E

Distr.
LIMITED

IPCT.5
20 October 1986

ORIGINAL: ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Regional Meeting on the Leather and
Leather Products Industry in Africa

Alexandria, Egypt, 12-15 January 1987

INTEGRATED DEVELOPMENT PROGRAMME OF THE LEATHER AND LEATHER PRODUCTS INDUSTRY IN AFRICA

XA/RAF/85/610

Terminal Report *

prepared by

the UNIDO Secretariat

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V.86-61130

PREFACE

The information contained in this document is based on surveys conducted in a number of African countries, and desk studies at UNIDO Headquarters.

The experts who were involved in preparation and compilation of data for this document are:

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ITS CURRENT SITUATION, PROBLEMS AND PROSPECTS

I. SUMMARY

A. Background

The Third Consultation on the Leather and Leather Products Industry (Innsbruck, 16-19 April 1984) recommended that:

> "Given the objectives of the Industrial Development Decade for Africa and the situation of the leather and leather products industry in that region, the Industrial Development Board should consider the convening of regional consultation in Africa preceded by the meeting of a group of experts that would identify areas of international co-operation."

Following an informal meeting of experts from the African region, UNIDO prepared and has implemented a project incorporating field visits to twelve African countries and desk studies of the majority of other countries in the region in order to

> "assess the potential of the leather and leather products industry in developing countries in Africa and outline a strategy to accelerate the integrated development of this sector in each of these countries as well as modes of co-operation among them to benefit the development of this industrial sector in Africa as a whole."

During the course of this survey project due regard has been paid to a further major recommendation of the Third Consultation, viz.: "To monitor progress with regard to the integrated programme approach as implemented in individual developing countries".

At the mid-term project stage an interim draft report dealing with eight countries visited was presented to the "Leather Panel" and suggestions sought regarding requirements for working papers which could usefully be presented to a regional meeting. This summarized report reflects the suggestions of the panel in this respect. Detailed country reports are produced for 27 countries which also contain project outlines in those countries where international assistance was deemed appropriate by the consultants.

B. Global Scenario

Following the political and structural changes which occurred in the 40's and 50's with a large number of newly freed independent nations anxious to develop viable industries, especially those based on domestic raw materials, the leather sector appeared ripe for relocation.

Prima facie, the sector was felt to be most suitable for relocation from the developed to developing countries, the following factors being of prime importance:

(i) The leather and leather products sector did not necessitate unduly high levels of technology or capital.

(ii) The industries in the developed countries were facing problems due to the imposition of environmental legislation.

(iii) High cost and unwillingness of labour in developed countries to accept employment in such noxious industry.

(iv) The majority of developing countries had, potentially available, abundant quantities of raw material - hides and skins.

In the 60's and 70's in a large number of developing countries, capacity was installed in both tanning and leather products (mainly footwear) sectors and the growth of the sectors is seen quite clearly in the relevant statistics. Thus in one area of tanning[1] the developing countries' share of global production rose from 33 per cent (1961/5) to 43 per cent (1982) exhibiting growth of some 3.7 per cent per annum.[2]

Due to their byproduct nature hide and skins production is not responsive to fluctuations in demand and only historically expands at 1.5 to 1.8 per cent p.a. In these circumstances sectoral expansion in developing countries induces concomitant decline in industrialized countries. Thus in recent years leather production has declined in North America at some 1.4 per cent p.a. and the North American share of global leather production fell from some 17 per cent in the 1960's to only 9 per cent of the world production by 1982.

(1) Light leather-bovine. The major category of leather production.

(2) World Statistical Compendium for raw hides and skins, leather and leather footwear 1961-1982, FAO, Rome, 1983.

In the leather footwear sector developing countries have similarly increased their share of global production from 22 per cent in 1961/5 to almost 36 per cent by 1982 reflecting an annual growth of 4.4 per cent.

However, although globally developing countries have made significant advances in the sector, it is known that in the African continent where a large potential existed by virtue of signifcant volumes of hides and skins exported in the raw state, sector development has been abysmally poor.

In Africa with the exception of the five Mediterranean North African Arab States (Morocco across to Egypt) the sector is poorly developed as may be seen in the majority of sub-Saharian countries, viz:

(i) Typically 30-50 per cent of potential raw material for a leather sector is not recovered [hides and skins from slaughtered animals may be consumed as human foodstuff or not collected due to lack of incentives].

(ii) The amount of leather tanned is usually less than 33 per cent of the potential offered by the raw material and even this low level is often processed only to intermediate process stage. The majority of tanneries are operating at less than 50 per cent of capacity utilization.

(iii) With a few notable exceptions the amount of leather products produced is well below 30 per cent of the potential.

The significance of this poor sectoral activity may be seen from calculations of economic loss. Thus it is conservatively calculated that losses due to non-recovery of potential raw material in Africa may be of the order of some $US 425 million annually. Downgrading of raw hides and skins due to employment of incorrect techniques during flaying and curing may incur annual losses of the order of $US 400 million. In additon, some further $US 2.9 billion value added could be yielded if all hides and skins produced within the continent were processed to leather products.

This report attempts to analyse the existing problems and constraints and suggests, where possible, what measures should be undertaken to allow full sectoral development.

C. Problems of the African Leather Sector[1]

Full details of the problems affecting the development of leather subsectors may be found in the country studies, separately produced, or in the Summaries and Profiles in Chapter II of this report.

An analysis of the major hindrances shows the following:

1. Low quality of hides and skins

The vast majority of hides and skins produced in Africa are seriously cowngraded and devalued due to a wide range of avoidable defects.

The greatest economic losses may be attributed to flay cuts, branding and poor curing which in the majority of African hides and skins may account for downgrading of leather produced by some US¢ 30-40/ft^2. Thus the potential 1.1 billion ft^2[2] of African hides and skins may incur annual losses of approx. $US 400 million.

This shows the urgent need for the concerned United Nations agencies to seek funding for the large scale "International Hide and Skin Development Scheme" recommended by the Second Consultation on the Leather and Leather Products Industry (Cologne, FRG, 23-26 June 1980).

2. Low levels of recovery of hides and skins

In the majority of countries surveyed where firm data was available, the numberof hides and skins actually recorded and recovered for the leather sector [exported raw or tanned] was only some 65 per cent of the potential volume (number of animals slaughtered). This would suggest an annual loss in Africa of some 385 million ft^2 of leather which at some $US 1.10/ft^2 would represent an annual loss of approaching $US 425 million. Some degree of reserve should be attached to these "losses" as in many countries significant volumes of hides and skins are subject of clandestine exportation.

There would appear two major reasons accounting for non-recovery of hides for a tanning industry: (see overleaf)

(1) This paper evaluates the situation in 44 African countries only. The ten small African countries found to hold such low levels of livestock that their potential raw material could not justify the development of a leather industry sector are: Cape Verde, Comoros, Equatorial Guinea, Mauritius, Reunion, Sao Tome and Principe, Seychelles, Spanish North Africa, St. Helena, and Western Sahara. These, together with Namibia (for which no details are available) are excluded from this report.

(2) Regional Survey on Africa (ID/WG.411/12, 6 April 1984)

(a) Hides and skins - consumed as foodstuff

In a large number of West African countries a high percentage of hides and skins are consumed by humans, either in a grilled form or as the base for soups and stews. It is reported that the taste of hide is now an accepted part of the local cuisine and people are willing to pay as much for hides as for prime meat cuts (e.g. Sierra Leone).

Individual countries must evaluate themselves whether they wish a material to be available for industrial development or whether they are content to satisfy local culinary tastes.

(b) Incorrect hide and skins purchasing policy

In a number of the countries visited the parastatal body given the monopoly of raw hides and skins buying was offering producers abysmally low prices for their products, 10-20 per cent of prevailing world prices, as a consequence the volume of hides and skins being commercialized or collected was well below 50 per cent of expected "available" hides and skins. In addition, the low price offered, usually on an ungraded basis, contained no incentive for the primary producer to improve or even maintain standards of flay and cure.

A similar pattern was noted in other countries where exports of raw hides and skins were prohibited and the only significant purchaser, a major tannery and footwear producer, has an effective monopoly and purchased hides at some 30-50 per cent below world levels. Thus, hides and skins available to tanneries were greatly reduced in volume and quality.

Payment of even 100 per cent of nominal world prices for hides and skins in local currency is not in itself a guarantee of complete collection of available raw hides and skins as often, it appears, purchasing power in adjacant countries may be at a higher level and promote "unrecorded exports".

Realistic hide and skins purchasing policies to ensure high levels of recovery and incentives for improving quality must be the cornerstone of any sectoral development strategy.

3. Low capacity utilization in leather and leather products sectors

The low levels of capacity utilization noted in the majority of sub-Saharian African countries may be due to one of more of the following:

(a) Foreign exchange, chemicals, auxiliaries, spare parts

Much of the underutilization of capacity at both tannery and footwear factories is often attributed to non-availability of chemicals, auxiliaries and spare parts for machines. The findings of the consultants' visits suggest quite strongly that such apparent "shortages" are in reality a reflection of lack of foreign currency within the country concerned and should be recognized as a symptom of the countries' economic malaise rather than a sectoral problem. In certain countries the situation is compounded by bureaucratic licensing procedures and centralized buying systems.

In a number of the countries surveyed, lack of foreign exchange and thus inability to purchase chemicals and other supplies was the major factor causing tanneries to cease production for periods varying from months to years and other tanneries attempting to operate without essential chemicals, e.g. attempting one day drum liming without supplies of Sodium Sulphide.

In certain countries where the leather sector is geared towards satisfying domestic demand there may be no easy solution. In other countries, where most of the leather is for subsequent exportation, such lack of chemicals may be deemed to be due to poor management as it is relatively simple to contract for the importer of any leather produced and exported to supply the necessary chemicals.

(b) Incorrect management/governmental sectoral strategy

The problems attributed to raw pricing policies and lack of foreign exchange are often compounded by poorly derived or non-existent sectoral strategies within the concerned countries.

In some areas the responsibility for sectoral strategy is the responsibility of a parastatal umbrella sectoral organization which may find it moreprofitable and trouble-free to continue exportation of raw material rather than accept the challenge of operating tanneries with possibilities to enhance added value and increase employment.

In several countries the raw hides and skins sector is in private hands and traders, in the absence of governmental regulations, would prefer to export their commodity rather than supply the local manufacturing sector. In many situations this trend is accelerated as the export of even raw material yields foreign currency which may be traded at significant premium; in such situations the domestic tanner may be forced to pay above world price levels to obtain the necessary raw material and thus find his end product non-competitive.

In one major leather producing country, in order to keep domestic footwear prices at a constant low price level, the government banned the exportation of leather with the result that the tanning sector, the capacity of which exceeds domestic demand now, operates at 35-50 per cent of installed capacity and several tanneries were forced to cease production.

(c) Unsound feasibility studies/inappropriate technology and scale

In several countries the problems of the sector may be attributed to the selection and siting of the manufacturing installation, in some situations this may be due to overzealous salesmanship, but in other areas inappropriate projects have resulted from bilateral assistance or aid from international funding sources.

A tannery located in an area with limited water supplies was obviously doomed for closure. A virtually similar fate befell a tannery which was installed as part of an integrated sectoral strategy adjacent to an abattoir/canning factory when later the abattoir/canning factory ceased production, reportedly due to lack of demand for its products, the tannery was left without a raw material base.

The scale of a number of production plants installed in Africa has been too large to be operated, given the lack of managerial experience and trained workforce. Thus tanneries have been installed in countries with minimal expertise with capacities of approximately 10 million ft^2/annum. Such units have taken 5-10 years to reach the break-even point, by which time their accumulated losses of the early years have stripped them of their working capital and yielded insolvency, whereas if more manageable tanneries of some 2.5 million ft^2/annum capacity had been installed they could have been operated more effectively and expanded when proven efficient. Similarily, experience has shown that footwear factories with capacities of 10-15 thousand pairs/day have proved beyond the managerial capacity in most African countries whereas units with capacities of up to 2000 pairs/day have been more successful.

Tanneries have been located in certain landlocked countries and transportation and other infrastructural problems have proven unsurmountable.

4. Poor sectoral viability

In a major leather producing African country surveyed capacity utilization is currently being built up to 70 per cent or so, however, the individual tanneries report poor financial returns and imminent insolvency, and even the national economic advantages may be of a marginal character (see later section)

Such situation is due to a variety of factors of which the following may be the most significant:

(a) Purchase of raw hides and skins at the same price as exported raw hides and skins, however, the exported hides and skins are graded and do not include rejects whereas the domestic tannery purchases, via a central organization, include low grade materials in their "run".

(b) Planned sales programme specifies product mix (% wet blue, crust, etc.) and ignores day-to-day trading margins at varying stages.

(c) Social policy maximizing employment yielding high wages bills and an unmanageable number of workers on the factory floor.

5. Inability of the leather and leather products sectors to reap the potential benefits available.

Due to the problems outlined earlier, the sector in Africa earns only a fraction of the potential benefits in value added which could be obtained if all the hides and skins produced were processed to finished products.

Of the approximately 1,100 million ft^2 of leather potentially available from the continent's production of raw hides and skins only the 250 million ft^2 held by the five North African countries is processed to finished product state. The sub-Saharian countries' leather potential of some 850 million ft^2 per annum is only processed into finished leather products to the extent of some 25 per cent. Accordingly one may calculate that if all raw material potential was converted into finished leather products $US 2,869 million could be obtained in added value.(1)

(1) Note: See Chapter IV. Typical leather shoe at $US 10 ex factory contains 2 ft^2 leather, i.e. 1 ft^2 leather = $US 5.0 when fabricated into product. Initial raw material value is approx. $US 0.50/sq.ft. Total value added from raw to finished product is effectively $US 4.50/$ft^2$; 75 per cent of 850 million ft^2 @ $US 4.50 = $US 2,869 million.

6. Total sectoral losses

The combined effect of poor quality hides and skins and low sectoral development may account for material losses and unearned value added of some $US 3,694 million per annum.

D. Recommendations

Recognizing the crippling effect of the above problems in the tanning sector which have prohibited the majority of the concerned countries from adopting full sectoral development strategies and developing the more labour-intensive leather products sectors, it appears essential to find means to surmount these hurdles and the UNIDO consultants, mindful of the need to adopt an integrated programme approach, attempted to propose development strategies to overcome the hurdles.

1. Regional approach

(a) Sectoral development

The consultants' visits highlighted the situation in a number of countries wherein it appeared there was individually insufficiency of raw material to support the installation of a national tannery or footwear factory of economic scale. Accordingly, it was proposed that a project outline be prepared in the "Southern African Development Co-operation Committee" (SADCC) to assess whether in this subregion where several countries had, according to statistics, only sufficient domestic raw material for 25 to 75 per cent of an economic tannery, a subregional integrated strategy could be feasible. Possibly four or five countries co-operating in this field, supplying their raw materials to more two or three agreed regional tanneries. Leathers so produced being, in some cases, directed to footwear factories in other countries.

See project outline proposal at Annex I. A similar approach could also be employed in the West African subregion e.g. Guinea, Sierra Leone, and Liberia et al.

(b) Training

Lack of trained personnel at all levels was found to be a major factor accounting for poor sectoral development. In this field, scope exists for an integrated approach to satisfy the felt needs in this area in all the countries visited. A project outline has been prepared (see Annex II) encompassing the production of a series of videos on all sectors of the industry, to cater for several comprehension levels.

Such videos in English could subsequently be translated into other UN and local languages by competent centres. It was proposed that such videos should complement existing films available within the sector. UNIDO has approached sources of existant films in the sector in order to collate their content and availability. A series of correspondence courses on the topic should also be incorporated in the project. It is envisaged that such project output would be implemented employing a number of existing regional and subregional centres in the leather and leather products sector.

(c) Chemicals, acquisition and production

The project had hoped to find the seeds of an integrated regional project covering the acquisition and/or production of tannery chemicals within the African continent. The country visits confirmed that in general the problem of "non-availability" of chemicals was due to lack of foreign exchange of local infrastructural problems (import licenses, transport, etc.). Giving due regard to possible downgrading of leather quality and irregularity of end product that could occur due to "low technology production of chemicals" coupled with the fact that only few chemicals, e.g. Chrome salts and Sodium Sulphide, were procured on a regional basis in sufficient quantity to attain the necessary economies of scale, the mid-term meeting of African consultants could not identify possible products or base for such project.

It should be noted that several countries within the continent already produce a large number of general chemicals employed in tanneries e.g. Egypt, Kenya, Zimbabwe, et al. Some dyestuffs and finishes are also produced in Egypt. In general, however, other African countries prefer to import their requirements from old established European producers suggesting such supplies were cheaper and of proven quality. A regional sectoral meeting may wish to discuss how intra-African trade may be made more attractive to other African countries.

2. National approach

Project outlines where assistance was felt necessary are appended to the individual country studies reproduced separately. Some typical examples may be seen:

In Burkina Faso the integrated approach would suggest the need to

(i) supply assistance in leather finishing to an existing tannery which currently only produces semi-processed leather and thus make available finished leather to a domestic footwear plant currently importing leather;

(ii) evaluate the possibilities of a new tannery.

In Egypt where there is a large well-developed leather and leather products sector, an integrated programme approach showed the need for assistance to the sector in five major areas in order to maximize the sector's operational efficiency and viability:

(i) A programme to improve flaying and other slaughterhouse techniques to reduce the estimated losses in this area of some $US 8 million.

(ii) A detailed costed feasibility study/action program for the relocation of Cairo tanneries which for 30 years have been threatened with relocation and been unable to modernize plants.

(iii) Reappraisal of the leather export ban to allow the tanning sector to fully utilize its existing capacities and earn foreign exchange.

(iv) Pre-feasibility study on manufacture of footwear components and auxiliaries to avoid current reliance on imported products and possibly supply needs of neighbouring countries.

(v) Study existing training facilities and determine as to how they may be upgraded to satisfy national and regional needs.

In Mozambique where the leather and leather products sector has suffered greatly due to the "security" situation, an integrated strategy would suggest assistance in two subjectors:

(i) A programme of assistance in the field of hides and skins improvement - transferring improved flaying and curing techniques - especially directed towards rural areas where hides and skins are not currently being recovered.

(ii) A project comprising a team of footwear machinery technicians, with a limited budget for spare parts for each footwear factory ($US 20,000?) could raise the capacity levels of most plants to their original levels and thus make them more attractive to potential joint venture partners.

In Somalia it is recommended that two urgent prerequisites of an integrated strategy should be:

(i) The introduction of a realistic hide-and-skin buying price structure based on graded skins with incentives for quality to maximize the collection of hides and skins.

(ii) The acceptance of a new management strategy with main feature "A programme to maximze utilization of existing tannery capacity, obtain maximum value added and phase out raw hide and skins exports".

With regard to Zambia where surplus/available hides may be insufficient for an economic-sized tannery, it is felt more expedient to await the findings of a proposed subregional integrated strategy (SADCC), for which a project outline has been prepared (see Annex II). A similar subregional strategy may later be examined to see whether it would overcome the problem in Sierra Leone and some neighbouring countries which individually have low volumes of hides and skins.

E. Possible economic and financial benefits to be expected from leather sector development

A brief outline is given in Chapter IV of the possible economic, financial and social advantages which could be attained by development of the leather and leather products sectors. It is suggested that the tanning sector is not labour-intensive, but relatively capital-intensive: job opportunities requiring total capital of approximately $US 50,000 each. The added value increment on the raw material cost varies somewhat according to current raw hide and skin prices; a typical level may show value added to raw material varying from 59 per cent at wet-blue state to 103 per cent at finished leather state (based on domestic price for skins). However, in many African countries a high proportion of such added value is itself based on imported material (chemicals, machinery, fuel, etc.) and employing data from an actual tannery operation where all machines and chemicals were imported, processing skins and basing the added value on the raw export value of similar skins the added domestic value falls to only 6 per cent for wet-blue and 23 per cent at finished state. Thus it may be suggested that the added value advantages in the tanning sector are possibly less significant than the possibilities to promote and expand leather products sectors which are appreciably more labour-intensive and subject to technologies and construction method employed, yield high levels of local added value.

In the footwear sector the capital requirements per job opportunity may vary from some $US 500 (artisanal) to $US 14,000 (fully mechanized). Domestic value added to leather processed to footwear can be shown to vary from 54 to 174 per cent.

F. Infrastructural requirements for leather sector development

Chapter V outlines the general infrastructural development requirements for leather and leather products sectoral development. Superficially the leather sector requirements may appear daunting, however, it is felt desirable to stress the many areas which must be considered so that problems may be eliminated prior to installing production capacity. It may be further suggested that the majority of African countries could provide the necessary infrastructure, in many cases this may necessitate an integrated approach with all involved Ministries and Government departments co-operating to ensure ultimate efficiency of operation.

II. COUNTRIES' SECTORAL SITUATION
SUMMARIES AND PROFILES (1)

A L G E R I A

SUMMARY

The livestock population in Algeria was estimated by FAO in 1983 at 1.4 million cattle, 13.8 million sheep and 2.8 million goats, as well as 154,000 camels. The slaughter estimated by FAO in the same year amounted to 380,000 cattle hides, 4.3 million sheepskins and 1.3 million goatskins. The actual level of recovery of these raw materials and their quality are not reported but, given the high level of sectoral development and appreciation of the sector's potential, it may be assumed that recovery levels are high.

In the late '70s SONIPEC, a parastatal body, was operating five tanneries, two bovine tanneries producing some 7-10 million ft^2 per annum of upper leather, a sole leather unit and two skin tanneries jointly processing some 2.5-3.0 million skins per annum. Plans were reported for a further major upper leather tannery. In order to efficiently operate the tanneries significant imports of hides are necessary (raw or semi-processed) reaching $US 8.7 million in 1983 (S.I.T.C. 211).

Footwear production is carried out by governmental and private companies (industrial and artisanal) and although current footwear production data is not available it was reported that SONIPEC produced some 7 million pairs of footwear per annum which was said to represent some 25 per cent of the country's total production. Since that time, however, at least two new shoe factories each with an annual capacity of 1.35 million pairs have been installed under a bilateral agreement with Yugoslavia.

Leather goods manufacture, including leather garment manufacture, is also fairly well developed.

In view of the advanced stage of development of the leather industry sector in Algeria no recommendations are necessary concerning possible international technical assistance to this industrial sector.

(1) For the majority of countries covered a detailed sectoral report is produced separately

COUNTRY PROFILE & ELEMENTS

ALGERIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 1,400 / 380 Sheep 13,750 / 4,300 Goats 2,780 / 1,300 Camels 154 / n.a.	Significant imports of raw hides and skins are necessary to the requirements of the leather industry: wet-blue and crust leathers are also imported in sizeable quantities.
Tanning Capacity/Production In 1978 the public company SONIPEC was reported to have three large cattle hide tanneries and two skin tanneries, with an installed production capacity of some 17,500 tons of raw hide input and some 4000 tons of raw skins per year, respectively. Additional tanneries may have been established since then. In 1982 total leather production was reported to be more than 44 million square feet.	
Footwear Capacity/Production The footwear manufacturing industry in Algeria is well developed and consists of a considerable number of shoe factories, both public and private enterprises. In 1980 the total footwear production in public shoe factories was more than 13 million pairs. More up-to-date information on installed capacity and on production output is, however, not available.	
Footwear Components Information on the extent of local production of components for the footwear industry is not available. It is assumed, however, that a major part of such components is imported.	
Leather Products There are several leather goods factories operating in Algeria. SONIPEC among others has a leather garment factory as well as a relatively large factory for the production of luggage and protective clothing. Up-to-date information on the capacities and actual production output of these factories is, however, not available.	
Chemicals Basic chemicals used in tanneries are probably produced locally, while most of the tanning chemicals and more sophisticated chemicals (for finishing, etc.) are assumed to be imported.	
Technology - (Tanning and Footwear) Tanning technology as well as footwear technology are available at all levels.	
Training In-plant training facilities available, in tanneries as well as in footwear and leather goods factories.	
Institutional Information on this particular subject is lacking.	
Tariff / Non-Tariff Barriers Up-to-date information is not available.	
Export Know-How Export know-how is available with respect to all subsectors of the leather industry sector.	

A N G O L A

SUMMARY

The cattle population in Angola is significant, however, sheep and goat populations are less important. In 1983 the FAO estimates of livestock were: 3.3 million cattle, 240,000 sheep and 320,000 goats. The quantities of hides and skins actually recovered are not known, but they are reported to be considerably lower than those quoted as potentially available. The quality of hides and skins available is also reported to be much below the desired level.

The tanning industry consists of one relatively large industrial tannery, one medium-sized and two smaller plants. However, at the end of 1981 it was reported that due to lack of spare parts for machines, transport and water shortages and lack of know-how, capacity utilization was at a low ebb with the major tannery's production having declined from 1 million ft^2 per annum (1974) to approximately 40 thousand ft^2 p.a. suggesting the need for a sectoral rehabilitation programme.

Five industrial footwear factories were operational in late 1981 but due to a number of infrastructural problems, notably lack of domestic finished leather and non-availability, due to shortage of foreign currency, of imported materials and spare parts and maintenance, these units were said to be operating at only some 30 per cent of capacity.

It thus appears that all the subsectors are in need of assistance. Accordingly, a project outline for a technical assistance project aiming at rehabilitating the largest tannery and footwear factory is formulated.

COUNTRY PROFILE & ELEMENTS

ANGOLA

CTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
des/Skins (in thousands) 1983 FAO Estimate Live Animals / Slaughter vine 3,300 / 340 eep 240 / 53 ats 950 / 320 Some 10,000 head of cattle imported 1983.	Only a small part of the potentially available hides and skins are, however, actually reccvered. Flaying and curing methods used are not up to the standard desired.
naing Capacity/Production There are, according to a 81 UNIDO report, a relatively large industrial tannery URBOL, 70-80 workers) in Luanda, another tannery (some workers) in Huambo, and two smaller tanneries (partly erating) in other parts of the country. No information ailable on rural tanneries. Production at CURBOL more than million sq. feet (1973), only 40,000 sq. feet in 1981.	In 1981 the capacity utilization of existing tanneries was reported to be very low. Machinery and equipment were available to a considerable extent and were in relatively good order but were lacking spare parts, proper maintenance etc. Lack of know-how, transport problems, water shortage, etc. are present main problems of tanneries
otwear Capacity/Production 1981 it was reported that five footwear factories were erating. The total annual production of all types of otwear together was estimated in 1981 at some 800,000 irs. Total installed production capacity is not reported.	The local footwear manufacturers were using (in 1981) some 30 per cen of leather and other materials from locally produced leather etc. while the rest, some 70 per cent, had to be imported. Machinery neede repair and proper maintenance. Significant import of footwear.
otwear Components sume most components imported.	
ather Products products made of leather were known to be produced Angola (in 1981) except possibly by artisanal units; eather goods" manufactured from non-leather materials re produced in a factory in Huambo; production data t given.	The demand for leather to make leather products other than footwear appears to be very low. Non-leather materials are used for most of the so-called "leather goods".
·emicals sume all supplies for industrial tanneries imported.	
·chnology - (Tanning and Footwear) ow-how in traditional tanning technology is available in nneries, however, industrial tannery experience is limited. ow-how exists in footwear technology including utilition of available equipment and machinery. Lack of knowdge and experience in repair and proper maintenance of isting equipment evident in tanneries and footwear factories.	There is an evident need for training, especially in-plant training, at all levels both in the leather and footwear industry. A machinery and equipment repair, replacement, and revitalization programme is considered important.
raining facility other than in-plant training.	Need for training at all levels is obvious in tanneries as well as in footwear factories. Machinery repair and improved maintenance seem to be of prime importance.
nstitutional l .	
ariff / Non-Tariff Barriers ot known.	
xport Know-How ppears limited to the export of raw hides and skins.	

B E N I N

SUMMARY

The livestock population of the country in 1983 was estimated at 880,000 cattle, 1,080,000 sheep and 1,000,000 goats, which would indicate that the potential availability of hides and skins would be relatively significant. However, a considerable part of the hides and skins produced are utilized for human consumption. The actual availability of hides and skins for tanning purposes is reported to be very low. There is, however, a sizeable export of cattle hides and reptile skins through the Cotonou harbour, in transit from neighbouring countries.

There is no mechanized tannery in Benin, and the artisanal tanning units are not numerous.

The existing BATA shoe factory is mainly manufacturing different kinds of footwear using non-leather materials. They have a limited production of leather footwear based on imports of finished leathers from Senegal and from France. Leather goods production is insignificant.

Taking due account of the low actual and potential availability of hides and skins there seems to be very little scope for developing the leather industry sector in Benin.

COUNTRY PROFILE & ELEMENTS

BENIN

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 880 / 116 Sheep 1,080 / 325 Goats 1,000 / 304 (1983) 10,000 head of cattle imported, 5,500 head exported and 12,000 sheep and goats were imported.	A considerable part of the hides and skins produced in the are utilized for human consumption. Exports of reptile ski cattle hides through the harbour of Cotonou represent thos quantities which are coming in transit from neighbouring c. The actual recovery of hides and skins is reported to be v.
Tanning Capacity/Production There is no industrial tannery in Benin, however, a few artisanal tanning units exist. Their number and production output is not known.	The raw material base appears to be too limited to justify establishment even of a rather small tannery.
Footwear Capacity/Production The BATA shoe factory in Benin manufactures non-leather footwear, the annual production capacity is reported to be 800,000 pairs. In 1980 the production of leather footwear was limited to the footwear manufactured using imported leather, of which 1400 bovine leathers were imported annually from each France and Senegal.	Finished leather used for leather footwear manufacture is in small quantities.
Footwear Components Assume all imported	
Leather Products There is no production of leather goods, except for small quantities manufactured by artisanal units.	
Chemicals Rural tanneries probably employ domestic materials only.	
Technology - (Tanning and Footwear) Know-how and experience in industrial tannery operations are not available. Footwear technology knowledge is available in the existing BATA shoe factory, including leather footwear manufacture.	
Training No facility other than in-plant training (for footwear only).	
Institutional Nil.	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not known.	

BOTSWANA

SUMMARY

Until recent developments in the mining sector, livestock was the most important resource of Botswana, its numbers representing the highest per capita holdings within the African continent. Annual off-take is reported at 300,000 bovine hides and 47,000 sheep and 230,000 goat skins.

Some 70 - 75 per cent of the bovine slaughter is carried out at abattoirs operated by the Botswana Meat Commission (BMC), the majority being handled by the Lobatse abattoir with a capacity of 1,800 head/day. This well mechanized and controlled abattoir whose meat products satisfy standards for EEC entry produces top quality salted hides whose freedom from flay marks and near perfect cure yields them premium prices in world markets. BMC operate a further abattoir at Maun and expect to develop another at Francistown in 1988.

Until the early '70's the only tanning activity was at Pilano where some 50 bovine hides/day and small quantities of sheep and goat skins were finished. A wide variety of game skins were processed at a Francistown plant.

In the mid-'70's BMC decided to enter the leather sector and established a wet-blue plant as an integrated unit of the Lobatse abattoir. Although the initial project was at a lower throughput level the operation proved viable and it has been expanded to some 1,200 hides/day to the wet-blue stage. The integrated operation removed the need to cure the hides and the concomitant saving in this respect (labour and salt) ensure that the wet-blue operation is successful financially and economically.

It is understood that BMC will consider proceeding to the crust stage when market conditions justify such development.

There is no modern shoe factory in Botswana and it seems that the domestic demand for leather footwear does not justify any initiative in this direction at this time. There is a small production of sandals using vegetable-tanned leather imported from South Africa.

COUNTRY PROFILE & ELEMENTS

BOTSWANA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) Live animals/Reported Off-take Bovine 3,000 300 Sheep 160 47 Goat 670 230 Quality of hides very good as majority from abattoirs. Average hides - some 36 sq.ft.	Until the Lobatse Tannery was operational virtually all hide skins exported raw. Over 70 per cent of hides derived from abattoir at Lobatse, prime cure and freedom from flay cuts s premium returns in comparison with other African hides. Cur small volume raw exports.
Tanning Capacity & Production Major tannery integrated project with abattoir, capacity 1,200 hides/day to wet-blue for export. Pilano tannery produces some 50 hides/day finished (capacity 75). Gameskin tannery at Francistown processes wide variety of game: Elephant, Lion, etc.	New abattoir proposed for Francistown 1988 may generate demand for further tannery in North of country.
Footwear Capacity & Production No major industrial plant. Few semi-mechanized units producing sandals employing imported leather.	Domestic demand for closed footwear thought to be too low for fully industrialized footwear plant.
Footwear Components Not applicable.	
Leather Products Artisanal production of small volume of handbags, etc.	
Chemicals Imported.	
Technology (Tanning & Footwear) Initially purchased tanning technology from external partners	
Training In-plant training supplied by expatriate staff at Lobatse Tannery.	
Institutional Nil.	
Tariff / Non-Tariff Barriers Member of SADCC and SACU.	
Import Know-How Established meat export channels to Europe provide firm communication and intelligence network to ensure efficient raw and wet-blue marketing.	

BURKINA FASO

SUMMARY

The livestock population of Burkina Faso should provide a solid basis for a successful development of its leather sector. The potential availability of hides and, particularly, of skins, from sheep as well as from goat, is considerable. However, the recovery of hides and skins is not complete with only some 33 per cent of hides being commercialized. At present, most of these raw materials are exported in the raw state, while in 1984 only some 200,ooo goat skins were tanned and exported in the wet-blue state (some 20 per cent by area of the collected hides and skins).

There is only one industrial tannery in the country, Société Burkinabé de Manufacture de Cuirs (Centre du Tannage), producing mainly semi-processed goat skins for export and partly for the company's own leather goods workshop, in sueded form. No significant volume of finished leather is produced currently. However, the equipping of a leather finishing department is under execution.

There are two shoe factories in the country, one mainly producing non-leather footwear, the other, established in 1982, equipped to produce leather footwear (capacity 800 pairs/day). For lack of working capital and of locally produced finished leather this new factory has recently been operating at a low level of production.

It is recommended to consider reducing gradually the present export of raw hides and skins and, instead, promote the increased production of semi-processed and crust skin leather and of finished bovine leathers in the country.

Technical assistance from UNIDO in leather finishing techniques, as well as in elaborating a feasibility study for a possible new tannery in Burkina Faso is suggested.

The possibility of furthering the export of "pyro-gravure" treated leather articles is also indicated.

COUNTRY PROFILE AND ELEMENTS

BURKINA FASO

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) All raw hides and skins dried. 1983 FAO Estimate Live Animals / 1983 Govt. Est. Slaughter / Exported Raw / Average Wt.Kg / US$ Piece Raw Bovine 3,000 / 215 / 64 / 4.2 / 6.5 Sheep 2,000 / 909 / 518 / 0.55 / 2.25 Goat 2,500 / 1,750 / 1230 / 0.37 / 1.46	Large proportions of live exports directed towards neighbouring country. (Declining volumes of live animal exports a 40,000 head bovine per annum and 100,000 h petty ruminants.)
Tanning Capacity/Production Only one industrial tannery processing to wet blue - average exports last few years = 250,000 W/B goats (US$ 2.24/skin). Small volume finished suede type for local leather products. Finishing equipment to be installed 1986. Number of rural tanneries employing Acacia nilotica pods.	UNIDO suggestion to supply finishing exper Possible need for further tannery. Study pared by FRIDA 1980. Possible scope for E TCDC in implementing such project.
Footwear Capacity/Production Two industrial footwear factories: Bata - mainly non-leather SINAC - capacity 800 pairs/day leather footwear but low level utilization. Artisanal units produce simple leather footwear for domestic needs.	Need to import leather for footwear produc Bata - Senegal supplies SINAC - France supplies SINAC reported to be short of working capi
Footwear Components Assume all imported.	
Leather Products Unique type of leather product employing "Pyro-Gravure". (Patterns produced on leather with heated pins.) Employed for bags, belts, wall paintings, etc.	Possible limited scope for export of Pyro-Gravure products.
Chemicals Assume all supplies for industrial tannery imported. Rural tanneries employ domestic materials	
Technology - (Tanning and Footwear) Tanning : experience to wet-blue stage Footwear : 3 years operating with expatriate assistance (SINAC).	Need for crust/finishing expertise.
Training No facility other than in-plant training	Need for crust/finishing expertise
Institutional Nil	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Appears limited to wet blue.	

B U R U N D I

SUMMARY

In Burundi the livestock population was estimated by FAO to be, in 1983, 560,000 cattle, 310,000 sheep and 760,000 goats. The estimated slaughter was given as 83,000 cattle hides, 94,000 sheepskins and 260,000 goat skins. Due to poor transport facilities and lack of incentive a significant portion of the hide and skins produced were not recovered.

Although hides produced at the capital's abattoir have the advantage of being machine-flayed, the quality of cattle hides from other sources is reported to be rather poor and the need for improving them is evident. The skins are generally of better quality, but increased recovery of hides and skins has to be promoted to ensure that these raw materials are utilized in a much better way than hitherto.

A newly established industrial tannery with capacity almost equal to the country's production of skins has recently taken up the production of wet-blue skin leather in limiced quantities. This may provide the necessary incentives for the improved recovery of hides and skins. It is reported that the authorities are considering the imposition of a ban on the export of raw hides and skins to ensure that the tannery is able to obtain necessary supplies.

A project to establish a mechanized leather footwear factory in Burundi is under consideration. However, in view of the present lack of locally produced finished leather this project may still take some years to materialize.

It is suggested that a joint venture type of arrangement with a suitable foreign partner would be the most appropriate way of ensuring the further successful development of the tannery which, in fact, appears to be the decisive factor in the entire sector's development.

COUNTRY PROFILE & ELEMENTS

BURUNDI

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) 1983 FAO estimate Livestock / Slaughter Bovine 560 / 83 Sheep 310 / 94 Goats 760 / 260 In 1983 some 7000 head of cattle were exported.	Further improvement of the quality of available cattle hide should be promoted. Improved recovery of hides as well as skins would need to be given higher priority to ensure that these raw materials actually reach the market.
Tanning Capacity/Production There is one industrial tannery in Burundi which started up production of wet-blue skin leather in limited amounts only a few months ago. It is expected to go into the production of crust skin leather and finished bovine leather at a later stage when sufficient experience in operating an industrial tannery has been acquired, and conditions permit.	At a later stage the production of crust skin leather and finished bovine leather should be taken up.
Footwear Capacity/Production Some Footwear production on artisanal level. No industrial footwear manufacture in the country. Plans for establishing a leather footwear factory exist but present lack of finished leather locally produced will probably delay its establishment for some more years.	The possible establishment of the planned footwear factory be based on a realistic assessment of the future capability the tannery to produce suitable finished leather.
Footwear Components Not applicable.	
Leather Products There is a limited production of leather goods for the domestic market and for the tourist trade.	
Chemicals Assume all imported.	
Technology - (Tanning and Footwear) Limited experience in operating an industrial tannery exists. Footwear technology knowledge available only at artisanal level.	Further training of tannery personnel at various levels would be required.
Training In-plant training, in existing tannery only.	
Institutional Nil.	
Tariff / Non-Tariff Barriers Up-to-date information is not available.	
Export Know-How Know-how on export of raw hides and skins available. Limited know-how on export of wet-blue skin leather which has been initiated recently.	

CAMEROON

SUMMARY

The estimated 4.5 million live bovines and 5.7 million petty ruminants could be expected to provide sufficient hides and skins to sustain a thriving leather sector. However, to date leather processing in Cameroon has been at a low level due to several factors:

(i) The quality of hides and skins is said to be poor with regard to flay and preservation, possibly due to imposition of a "slaughter tax" which discourages official slaughter under controlled conditions.

(ii) The majority of hides appear to be unofficially exported to neighbouring countries where three-fold financial returns are available.

(iii) The only industrial tannery was installed in a remote uninhabited area, 20 km from Ngaoundere, and suffered transport and other logistical problems prior to going bankrupt in 1983.

However, in 1985 the tannery was taken over by a major French raw skin trading and tanning group who expect initially to operate the plant at 40 per cent of capacity (skins to wet-blue for export, hides simply finished for local market). To assist the tannery rehabilitation the operators have been granted an export monopoly of raw hides and skins.

In response to the imposition of a raw hide and skin export monopoly, the major exporter in past years is reportedly preparing to install a mainly wet-blue tannery with capacity exceeding 50 per cent of the estimated available raw material.

Due to the low level of disposable income on the local market the majority of footwear and "leather goods" are produced from synthetic materials. In addition to some artisanal workers, mainly in the north, there are at least 10 mechanized shoe factories producing a total of 16 million pairs per annum, Bata is the largest producer and of its 8 million pairs produced annually only 0.2 million are leather footwear. Official and unofficial imports compete heavily with domestic production.

To develop the sector the following measures are recommended:

(i) To take measure to overcome the tanneries' isolation at Ngaoundere [install production facilities for downstream processing].

(ii) to progressively move from raw to semi-processed to finished leather and manufactured products [shoe uppers, etc.].

(iii) To constantly review the operation of the monopoly given to TANICAM.

COUNTRY PROFILE & ELEMENTS

CAMEROON

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMME"
Hides & Skins Estimates suggest (in thousands) - 1984/5: Live animals / Animal Slaughter / Hide/Skin Exports Bovine cattle 4,500 / 495 / 72 *) Sheep 2,600 / 860 / 648 Goat 3,133 / 1034 / 818 *[Calculated from reported exported weights, hides @ 8 kg, sheepskins @ 0.5 kg, Goatskins @ 0.35 kg]	The numbers slaughtered at official, controlled abattoirs is [e.g. less than 50 per cent of bovine and less th... 10 per ... of petty ruminants]. As a consequence flaying and curing i... significant product downgrading. The "slaughter tax" may b... responsible for such situation. The situation should be ev... in the new "monopoly situation" and means found to offer in... payments for well prepared skins.
Tanning Capacity & Production The existing tannery TANICAM is said to have capacity for processing 300 hides/day to finished suede and 3,000 skins/day to wet blue. Has been dormant but now said to be operating at 30-40 per cent of capacity. Rural tanners in the north of the country process vegetable leather (Pods of Acacia nilotica) for local artisanal products.	A feasiblity study is under revie... for a further tannery of 1000 hides/day + 3,000 skins/day [Wet blue and crust]. Poss... joint venture with Cameroon/French and Italian partners.
Footwear Capacity & Production In addition to unknown volume of artisanal production some 10 mechanized footwear factories produce approximately 16 million pairs of footwear per annum. Bata with capacity of 12 million pairs p.a. produces 5-8 million pairs p.a. of which only some 0.2 million pairs are "leather footwear".	Due to "lack of demand" the sector is operating at low leve... capacity utilization. Situation reportedly compounded by significant import of leather footwear.
Footwear Components Rubber, PVC, EVA and adhesives produced locally. Some basic leather available [suede hide, etc.], most other material imported.	In order to promote increased domestic production of leathe... a variety of finishes, the current "duty and tax free" impo... of raw materials and components for footwear could be revie...
Leather Products A number of rural leather products units are reported in the north, associated with rural tanneries. Three or four mechanized "leather goods" factories are said to mainly utilize synthetic materials.	The assistance needs of the rural/artisanal producers could evaluated and assistance given to upgrade their real leathe... products.
Chemicals Salt, Lime, Sulphuric acid and Ammonium Sulphate produced locally. Vegetable tannin (Pods of Acacia nilotica) available in the north of the country. All other chemicals imported.	
Technology (Tanning & Footwear) Existing tannery - installed/supplied by foreign partners possible new tannery - aid by two foreign partners. footwear - modern injection and moulding techniques available.	There may be a need for more advanced technology when/if the transition from wet-blue production to full range of finishe... leathers is pursued.
Training Five engineers trained in tannery in France for TANICAM. Bata utilizes "inplant" training and facilities at associated companies, SATRA system employed in closing room.	Training in tanning sector may be required if volume product... crust and finished leathers is undertaken. Training facilities exist in neighbouring country (Nigeria...
Institutional Nil.	
Tariff / Non-Tariff Barriers Duty and tax free import for footwear components. Imports of footwear nominally banned if local producer is able to supply.	
Export Know-How Expertise in raw hide and skin, and wet-blue exports. Bata has expertise in footwear exportation.	Foreign partners will have to supply export know-how for more advanced leather products.

CENTRAL AFRICAN REPUBLIC

SUMMARY

The livestock population in the Central African Republic, in 1983, was estimated at 1,500,000 cattle, 80,000 sheep and 960,000 goats. In the same year, there were sizeable imports of live animals into the country, 50,000 cattle and some 30,000 sheep and goats. The quantities of hides and skins actually recovered are not known but the potential availability of cattle hides and of goat skins would indicate that the operation of a small industrial tannery might be feasible. At present, however, there is no mechanized tannery in the country.

There is one mechanized shoe factory, BATA, at Bangui, with an installed production capacity of 1.3 million pairs annually, for all types of footwear. The actual production of leather footwear is not known.

The possible establishment of an industrial tannery, for hides as well as for skins, should be looked into. The actual availability of raw hides and skins of an acceptable quality would have to be ascertained before a detailed tannery feasibility study can be elaborated, accordingly, a project outline for such raw material study has been prepared.

COUNTRY PROFILE & ELEMENTS

CENTRAL AFRICAN REPUBLIC

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 1,500 / 175 Sheep 80 / 50 Goats 960 / 185 Live animal imports of some 50,000 cattle and 30,000 sheep and goats; some 4,000 cattle were exported (1983).	The quantity of actually recovered hides and skins in the c are not reported on but potential availability of cattle hi and goat skins would indicate that the operation of a small tannery might be feasible.
Tanning Capacity & Production No mechanized tannery exists. Number of rural tanning units is not known.	The possible establishment of an industrial tannery in the country should be looked into, taking duly into account present trading conditions within the leather sector.
Footwear Capacity & Production There is one mechanized shoe factory at Bangui, belonging to SATA. Installed annual production capacity was reported to be 1.3 million pairs (all types of footwear) in 1972. No specific record of leather footwear production. Up-to-date production data not available.	It is assumed that the existing shoe factory could easily a additional production of leather footwear in case local dema exists and locally produced finished leather will be made available.
Footwear Components Assumed all imported.	
Leather Products Information is lacking.	
Chemicals Not applicable.	
Technology (Tanning & Footwear) Tanning at artisanal level only. Footwear technology experience available.	
Training Only in-plant, for footwear.	
Institutional Nil.	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not known.	

C H A D

SUMMARY

The livestock population is a major natural resource in Chad and was estimated, in 1983, at some 3.6 million cattle, 2.3 million sheep, 2.1 million goats and more than 400,000 camels. The export of live animals from the country is of importance, estimated at some 150,000 cattle and some 140,000 sheep and goats in 1983. Export of raw hides and skins is reported to be sizeable but in view of the instable security situation in the country reliable data are difficult to obtain on slaughter, recovery, export, and on local utilization of these raw materials.

In Sarh a mechanized tannery, established in the 1960's, exists but has been operating only spasmodically for a number of years. Industrial footwear production capacity exists, too, but one mechanized shoe factory at Sarh was reported to be non-operational, some smaller shoe factories, however, are productive. Leather goods manufacture appears to be relatively well developed at artisanal type level.

The actual situation, however, is not known and realistic recommendations for further developing the entire leather sector in Chad cannot be formulated due to this lack of up-to-date information on the sector's present situation.

COUNTRY PROFILE & ELEMENTS

CHAD

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Sizeable exports of live animals (in 1983): Bovine 3,600 / 220; Camels 421 / n/a; Sheep 2,300 / 615; Goats 2,100 / 560 Some 150,000 cattle and some 138,000 sheep and goats	Livestock and also hides and skins are important resources Chad. Export of raw hides and skins is said to be sizeable up-to-date information is lacking. The leather seccor is c to be an important sector for the country. Present instabl situation does, however, not permit a more detailed assessme development prospects.
Tanning Capacity/Production In Sarh a mechanized tannery exists, established in the 1960's with an installed production capacity of 30,000 bovine hides and some 150,000 skins. For various reasons this tannery has never come into proper operation for longer periods of time. Some artisanal tanning units produce mainly vegetable tanned leather for local use (footwear and leather goods)	The present situation of the tannery in Sarh is not known.
Footwear Capacity/Production In 1978 the company SADI had a production of sandals of some 150,000 pairs annually with leather upper straps and leather or synthetic soles. A relatively large artisanal unit with some machinery had a production capacity of some 10,000 pairs of shoes/year, relatively good quality production. In addition, several artisanal units with a mixed footwear/leather goods production existed, with limited equipment. In Sarh a mechanized shoe factory was set up in 1969 but has evidently not been put into actual operation.	The present situation of existing shoe factories and their duction output is not known.
Footwear Components Assume all imported if industrial shoe factory operating.	
Leather Products There are a number of artisanal units producing different leather articles, the main leather goods manufacturing unit being the artisanal centre at N'Djamena, established in 1968 and having a relatively sizeable production of various leather goods, saddlery, etc., reported to be of medium quality but probably not competitive on export markets	Actual production output and quality is not known.
Chemicals Assume all imported if industrial tannery operating.	
Technology - (Tanning and Footwear) Expertise in industrial tannery operations is probably not available at present. Footwear technology expertise is available in existing footwear factories.	
Training Only in-plant training possibility.	
Institutional Nil.	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not known.	

C O N G O

SUMMARY

The livestock population in the Congo is limited. In 1983 it was estimated that there were 68,000 cattle, 60,000 sheep and 160,000 goats. The potential availability of hides and skins is low, and the quantities of hides and skins actually recovered are in fact very limited. The potential availability of hides and skins suggests a total potential leather output of only some 0.7 million ft^2 per annum and would appear far below the minimum throughput required for an industrial tannery.

There is no mechanized tannery in the country, and only a few artisanal tanning units exist. BATA has a well established shoe factory, which, however, mainly manufactures footwear using non-leather materials. The present production of leather footwear in the Congo is not known. Some artisanal units operate producing simple footwear and certain leather articles using leather produced in the artisanal tanning units.

Based on the above-mentioned background it is considered not justified to recommend the development of leather production on an industrial scale in the Congo. There may, however, be a limited scope for developing the sector at the artisanal level, for the production of leather as well as for the manufacture of certain leather products.

COUNTRY PROFILE AND ELEMENTS

CONGO

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 68 / 16 Sheep 60 / 18 Goats 160 / 48 In 1983, some 7,000 head of cattle were imported.	Crocodile hides of selected species are also available in limited amounts, to be exported (in raw state).
Tanning Capacity/Production There is no mechanized tannery in the country. Information on artisanal tanning units is incomplete.	Plans have been reported on in a 1985 UNIDO expert's report that the establishment of a small skin tannery is being contemplated, at Brazzaville, but the raw material basis for such plant appears to be very limited.
Footwear Capacity/Production BATA has a footwear factory at Pointe-Noire, installed production capacity reported to be 1.4 million pairs of different kinds of footwear, based on the use of imported materials. Information on present production of leather footwear is not available.	
Footwear components Assume all imported.	
Leather goods Probably limited to a few artisanal units.	
Chemicals Not applicable.	
Technology (Tanning and Footwear) Industrial tannery technology not available. Footwear technology available in existing BATA shoe factory.	
Training facilities Only in-plant training in footwear.	
Institutional Nil.	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Not known.	

D J I B O U T I

SUMMARY

The bovine livestock was estimated in 1983 at some 43,000 head while petty ruminants were estimated at 380 and 540 thousand respectively for sheep and goats.

Data regarding production of hides and skins is a little imprecise. In recent years the "official" slaughter of bovines has ranged from 10 to 15 thousand head p.a. Trade estimates of sheep and goatskin production suggests 25,000 skins monthly from Djibouti Town and 30,000 skins from other areas of the Republic, i.e. 660,000 skins p.a. (Reported to be 70 per cent sheep and 30 per cent goats). However, the average export of skins over the last four years has been some 261 mt p.a. which at 0.7 kg per skin could represent some 373,000 skins.

Quality of hides and skins is poor as even in the aboattoir skins are knife flayed rather than pulled, with significant cuts. Subsequently the skins are dried in full sun possibly leading to degradation.

A significant volume of hides and skins in transit from neighbouring countries reportedly pass through Djibouti harbour.

The Government is actively promoting an integrated development of the sector, including the improvement of animal health, the establishment of a foodstuff plant, modernizing of the abattoir, the establishment of a drying unit for hides and skins as well as the possible establishment of an industrial tannery. In the event that the tannery project is implemented. the drying unit will not be needed as the tannery could process the fresh skins. The tannery is planned to produce skin leather up to the wet-blue stage, wtih a proposed production capacity of 500,000 skins (sheep and goat) annually. Such project may entail utilization of imported raw material. Interested joint venture partners for such project have been identified, and this matter is at present being actively pursued.

COUNTRY PRO : AND ELEMENTS

DJ _ OUTI

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO estimate Livestock / Slaughter Bovine 43 / 15 Sheep 380 / 100 Goats 540 / 180 However, exports of sheep and goat skins in recent years have averaged 20: mt p.a. which could represent some 370,000 skins. No reliable data is available on live animal imports, however, a significant import of live sheep and goats from neighbouring countries is reported to take place.	An integrated development of this sector is promoted in Djibouti, including improvement of animal health, establishment of a plant to manufacture animal feedstuffs, modernizing the abattoir and establishing a drying unit for hides and skins. Quality of skins poor, even from abattoir due to excessive knife cuts and subsequent drying in full s
Tanning Capacity/Production At present there is no mechanized tannery in Djibouti. However, the establishment of a skin tannery, for production of wet-blue skin leather, is under very active consideration, and possible joint venture partners have been identified. (Planned capacity approximately 500,000 skins annually).	If a wet-blue skin leather tannery is established, with direct purchasing from producers it will allow grading and incentive payments to aid uplifting raw material quality.
Footwear Capacity/Production There is apparently no industrial footwear production in the country.	
Footwear Components Not applicable.	
Leather Goods Probably limited to artisanal units.	In 1981, it was reported that the establishment of a workshop to manufacture leather goods was being contemplated, however, the implementation of such project has not been confirmed.
Chemicals All tannery chemicals will need to be imported.	
Technology (Tanning and Footwear) At present there appears to be non-availability of specialists in the country having industrial experience in tannery operations or in footwear manufacture.	Technology will be transferred from joint venture partners' existing operations.
Training facilities Nil.	If a tannery will be established in the country, the proper training of tannery personnel at all levels w have to be undertaken by the joint venture partners.
Institutional Nil.	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Appears to be limited to the export of raw hides and skins.	Joint venture tannery proposed.

E G Y P T

SUMMARY

The collection of hides and skins is well ordered and the vast majority of hides and skins are commercialized. Flay cuts are, however, sometimes present on abattoir prepared hides and more frequently found on "country" hides, and may account for an annual loss of up to US$ 8 million. Action to improve the quality of hides and skins is of vital importance to the sector.

The Egyptian leather sector may be considered well developed. Today its capacity is so large (approaching 120 million sq.ft/per annum) that even utilizing all domestic raw material, and with significant imports of raw hides and skins, the sector is only able to operate at approximately 50 per cent capacity (upper leather production os 60/70 million sq.ft/ per annum). Thus the industry today is not in a healthy situation.

A serious impediment to the introduction of more modern technology in the leather sector is the 30 year-old threat of relocation hanging over the heads of the majority of tanners. It may be suggested that the time is opportune to prepare a pre-feasibility study and action programme as a means to promote this relocation over a realistic period.

The footwear sector suffers from the lack of domestic components and a pre-feasibility study in this vital area is being commissioned by UNIDO. Currently footwear exports are minimal and, merely satisfying domestic demand, only some 50 per cent of installed capacity are utilized.

In order to raise capacity utilization levels and achieve financial and economic viability it appears necessary to promote exports and it is suggested that the current ban on leather exports be re-appraised. It may be suggested that if leather exports are permitted, better leathers could be available, at economic prices, opening the door to an associated programme of leather footwear exports.

Egypt operates two training centres for tannery technicians (run by the parastatal tanneries). It is suggested that the facilities be reviewed and upgraded to meet the industry's needs. It is also suggested that the possibility of extending training facilities for the footwear sector be explored.

Egypt produces most of the necessary general chemicals for the leather sector and is now pioneering the manufacture of pigments and binders.

COUNTRY PROFILE & ELEMENTS

EGYPT

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins Good collection system (100 per cent efficient) - all hides and skins domestically produced processed to leather (1.2 million bovine hides 0.6 million buffalo hides Much material suitable aniline is finished 0.1 million camel hides heavily pigmented - due market demand 1.3 million sheep/goat - low price.	Augments domestic supply by importing up to 8,000 tons dry hides p.a. (E. Africa).
Tanning Capacity/Production Reports: Capacity 117 million ft.^{2} upper leather but production at 60/70 million ft.^{2}. Some 200 tanneries - mostly capacity 50 to 200 hides/day two parastatals with capacity up to 1000 hides/day.each.	Has surplus tanning capacity circa 50 million ft.^{2}/ per annum.
Footwear Capacity/Production Produces up to 58 million leather footwear p.a., with capacity utilization less than 50 per cent. Over 6,000 footwear manufacturers; only 60 and 10 semi and fully mechanized.	Has surplus leather footwear capacity of over 50 million pairs/p.a.
Footwear Components Currently majority imported with high duty payable (lasts plus 100 per cent, counters plus 50 per cent); has two leather board factories (each 1000 mt./per annum).	Invest[illegible]ing possibility to install ponent factory - could require joint partner; discussing possible 3rd l/b
Leather Products "Traditional" products well established (tourist/local market), "western" products produced - exports from both sectors.	Some expertise available.
Chemicals Produces most general chemicals - imports Chrome/Sulphide/Syntan/Special Finish/L. Produces also dyes and pigments. Soon will produce binders in joint venture.	Can offer wide range of general chem: dyes and some pigments for export. Possibly imports 3000 mt Chrome Salt: 2000 mt Na_2S p.a.
Technology - (Tanning and Footwear) Apparently good technology/know-how available; has some experience in technical assistance to L.D.Cs. (Somalia, Uganda).	Technical assistance available - Arab countries.
Training Has good training facilities only for Tannery Technicians (semi-commercial pilot plant). Wishes to expand training facility to footwear section to meet that sector's demand.	Can offer tannery technician trainin Arabic-speaking countries.
Institutional Has leather sector research institute.	Could offer laboratory support servic
Tariff / Non-Tariff Barriers (Allowed to buy foreign currency on open market at premium 30 - 40 per cent). Imports fairly free, subject to obtain foreign currency. High duty on chemicals (15-20%), Counters (50%), Lasts (100%), Wet Blue (25%) - Raw Hides (5%). Export of leather prohibited.	
Export Know-How Leather sector proved export know-how in year 1978/80. Wish export ban removed. Leather footwear sector in past able to make significant exports under bilateral trade agreements - appears non-competitive on open market.	

ETHIOPIA

SUMMARY

Ethiopia with the highest livestock population in Africa, prima facie should have a substantial basis for a leather and leather products sector. Exact livestock numbers are uncertain as there has been no recent census and the extent of herd decimation during the recent drought years is unquantified. Utilizing conservative off-take rates against the estimated live animal numbers an annual potential of over 2 million hides and some 13.2 million skins could be expected, however, actual numbers of hides and skins recovered have in recent years been of some 1 million hides and 12.5 million skins, i.e. some 1 million hides per annum are unaccounted for. Until recently there was heavy competition for raw hides from private traders (export-oriented), Export Corporation of Ministry of Foreign Trade and the domestic tanners who experienced problems obtaining sufficient supplies at acceptable prices. Recently the Government has taken a monopoly in the raw hide market and is thought to be discussing similar measures for sheepskins.

In the early '70's the tanning sector consisted of three medium-sized tanneries (5/800 hides/day to finished) and four smaller units (approximately 4000 skins/day to wet blue). This capacity was augmented in the early '70's with the erection of a major tannery with a capacity of 1200 hides/day and 4500 skins/day to the finished state. Following the revolution of 1975 these tanneries were nationalized and put under control of the National Leather & Shoe Corp (NLSC). Due to a variety of factors production was initially very low but has gradually been built up, in most cases to exceed 70 per cent of capacity to the crust and wet-blue state for export. However, even at that production level some 55 per cent of total hides and skins are exported in the raw state and the tanneries have, until recently, had financial problems as they were forced to buy their raw material at virtual export prices due to the competition and their exported semi-processed leathers were often sold below cost.

The new large tannery proved itself beyond the managemental resources for some years and built up accumulated losses which are only now being recovered. In general, due to lack of technology and materials the quantity and quality of finished leather has been low and a large surplus in finishing capacity exists.

The six NLSC footwear factories produce some 1.5 million pairs of leather footwear per annum and, together with some private sector units, concentrate on the domestic market and are said to be restrained by lack of finished leather of suitable quality.

There appears need for further major external assistance in hide and skin improvement and recovery, leather finishing and leather products technology.

COUNTRY PROFILE & ELEMENTS

ETHIOPIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMME"
Hides & Skins (in thousands) Live Animals FAO Estimates 1983 / Possible Off-take rates / Expected Hides/Skins / Actual Recovery Average 1977/84 Bovine 26,300 / 9 % / 2,104 / 1,000 Sheep 23,400 / 35 % / 8,190) / 12,500 Goat 17,240 / 29 % / 5,000) Number of live animals uncertain as no recent census and no account of ravages due to recent drought.	In 1984 55 per cent of recovered hides and skins exported r
Tanning Capacity & Production Widespread rural tanning. Eight industrial tanneries (one ultra-large 1200 hides/day and 4500 skins finished, 3 medium-size wide product mix, 4 small approx. 4000 skins/day wet blue). Reported 1981/2 Capacity (Hides 0.63 million pcs.p.a./ 0.48 million production (Skins10.80 million pcs.p.a./ 5.40 million production	There appears scope for further tanning development in part for hide tanning but also to advance from wet blue to furth processed stages, e.g. the largest tannery only utilizes 1 cent capacity in the finishing sector.
Footwear Capacity & Production Six nationalized footwear plants with production of some 1.5 million pairs leather footwear per annum (70 per cent capacity utilization); number of private plants produce similar volume; all for domestic market. Exports attempted but leather quality and price not yet acceptable to potential markets.	Major constraints - shortage of trained manpower (manageme and shop floor).
Footwear Components Some components imported, some produced locally from imported materials. Pilot plant for lasts, unit soles and heels being installed with UNIDO assistance.	
Leather Products Rural artisans and two small organized leather products units to satisfy local demand. Recent joint venture for high capacity leather goods, based on a buy-back contract having teething problems with equipment and staff training.	
Chemicals Virtually all imported.	
Technology (Tanning & Footwear) Existant at all levels in tanning and leather products.	
Training National Productivity Centre(NPC) provides training at middle management levels (tanning technology). Significant number of tannery technologists trained overseas.	UNIDO provided a multi-disciplined team over a number of ye assisting with technical and training activities. Appears need for major fellowship programmes to form the ne cadre of footwear technologists and managers.
Institutional All parastatal tanning and footwear activities under the umbrella of the National Leather and Shoe Corporation.	
Tariff / Non-Tariff Barriers Exports of raw hides now Government monopoly. [Sheepskins in raw state expected to be subject to governmental control].	
Export Know-How Private sector raw hide merchants-long experience in exportation. NLSC slowly acquiring know-how in the field of leather exports - mostly in wet-blue and crust conditions.	

GABON

SUMMARY

The livestock population in Gabon is very limited, estimated in 1983 at only 7,000 cattle, 80,000 sheep and 60,000 goats. The domestic requirements for meat are met to a considerable extent by imports of meat. There does not seem to be any incentive for a significant increase in livestock in the near future.

Currently there is no tannery or industrial shoe factory in Gabon, the requirements for footwear are evidently met by imports.

Due to this situation and to the very limited quantities of hides and skins locally available which are far below the requirements for an industrialized tannery, there seems to be no potential for the development of a domestic resource based leather industry sector.

COUNTRY PROFILE AND ELEMENTS

GABON

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 7 / 3 Sheep 80 / 24 Goats 60 / 18 In 1983, some 2,000 head of cattle imported.	There seems to exist no significant utilization of hides and skins produced in the country. In 1974 only 12 per cent of domestic requirements for meat were covered by local supply, the rest were imported.
Tanning Capacity/Production There is no mechanized tannery in Gabon.	Due to the very limited quantities of hides and skins locally available, there seems to be no potential for the development of local leather production.
Footwear Capacity /Production There is no mechanized shoe factory in the country.	In 1974 it was reported that a project was being considered for the establishment of a shoe factory with a planned annual production capacity of 300,000 pairs of different kinds of footwear. This project does not seem to have materialized.
Footwear Components Not applicable.	
Leather Goods Local leather goods manufacture appears to be practically non-existent.	
Chemicals Not applicable.	
Technology (Tanning and Footwear) Tanning technology as well as footwear technology are evidently not available in Gabon.	
Training facilities Nil	
Institutional Nil	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Not known.	

GAMBIA

SUMMARY

Until recently virtually all of the Gambian raw hides and skins were exported. The live herd of 300,000 Ndama cattle (non-humped) yield some 30.000 to 36.000 hides per annum and the combined petty ruminant flock of almost 400,000 could be expected to produce over 100,000 skins p.a. The hides and skins commercial sector is the preserve of the Livestock and Meat Board (L.M.B.) who also operate the modern abattoir near the capital. Recorded exports, however, were at a lesser level and may reflect low prices paid by L.M.B. and consequential unrecorded exports to the adjacent country.

Quality of Gambian hides varies greatly - hides and skins produced in the neighbourhood of the capital are well cured at L.M.B. run drying sheds, up-country collected hides and skins may be poorly cured with possible putrefaction.

Although superficially the volume of hides and skins is below economic level for a fully mechanized tannery - a feasibility study by a UNIDO expert in 1980 suggested a tannery could be viable if low cost, reconditioned plant was installed. The Centre for Industrial Development (C.I.D.) later gave assistance in finding a joint venture partner and as a result, a Belgium tannery which was about to close made a joint venture with the L.M.B. to relocate some of its equipment. In December 1984 it was announced that the joint-venture tannery (60 per cent Belgium, 40 per cent L.M.B.) was being commissioned and was expected to process all available Gambian hides to at least pickled/wet-blue state [no details as yet available regarding actual operation of this tannery].

Due to lack of leather supplies the leather products sector is mainly engaged in production of tourist-type souvenirs employing pot-tanned vegetable leathers. This leather products sector is relatively well ordered and assisted in its marketing and design operations by a parastatal body - GAMCO. The operation of the mechanized tannery may provide a base for this sector to develop.

COUNTRY PROFILE & ELEMENTS

GAMBIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) Live animals FAO - 1983 / Possible off-take / Recorded raw exports 1979 Bovine 300 / 36 / 22 Sheep 185 / 55 } / 22 Goat 194 / 58 } Majority of hides from municipal abattoir. Ndama cattle - no humps.	Until 1984 virtually all hides and skins exported in raw . via Livestock and Meat Board [L.M.B.].
Tanning Capacity & Production Joint venture tannery being commissioned late 1984, said to have capacity for: 24,000 cattle hides per annum - pickled 24,000 skins per annum - wet blue. [L.M.B. and Belgium tannery partership].	Should absorb all domestic hides and skins. Joint venture, a result of a UNIDO feasibility study and assistance with Belgium joint venture partner who transfe the equipment from his European plant which was being clo:
Footwear Capacity & Production Some plastic footwear produced - assembled. Simplistic leather sandals (vegetable) produced by artisans.	Some 50,000 pairs closed footwear thought to be imported . (mostly from Senegal). Existence of new tannery may allow future development of . semi-mechanized footwear sector.
Footwear Components All imported except for leather components employed in sandal manufacture.	
Leather Products Artisanal products (tourist orientated) available. Possible 200 to 300 artisans active in the sector. Market and design assistance provided by parastatal company (GAMCO).	Originally based on local pot-tanned vegetable leather - leather imported from Senegal. New tannery may allow seccoral expansion.
Chemicals Salt and local vegetable tannins available.	
Technology (Tanning & Footwear) Tradition of crude pot tanning. Joint venture tannery will bring updated Chrome tanning technology.	
Training The tannery joint venture should augment the knowledge in the sector by in-plant training [one Government official qualified leather technologist].	UNIDO expert mission 1980 felt great need for study tour /training needed to uprate leather products seccor.
Institutional Nil.	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Will be available from the external joint-venture partner.	

GHANA

SUMMARY

The relatively small livestock holdings of Ghana, some 1 million bovine head and 3.5 million petty ruminants, given normal off-take rates could be expected to provide sufficient raw material for the viable operation of two moderate-sized tanneries. However, due to a longstanding West African tradition the bulk of hides and skins produced are consumed as human foodstuff, e.g. only some 20 per cent of bovine hides apparently being available for a tanning operation. There are indications that this practice is due to the liking for the taste of the culinary end-product rather than a cheap substitute for normal meats and as such may not easily be reversed.

The only existing mechanized tannery at Kumasi which has capacity for 300 hides/day for upper leather, only operates at some 20-30 per cent of capacity when raw material is able to be imported.

The complete equipment for a mixed sole and upper leather tannery was purchased (used) in 1965/6. However, the buildings were never completed and the equipment stored since that time. For some years a committee has been discussing the restoration of this Aveyime tannery which could perhaps process 300 hides for upper leather or 1200 skins/day. The question of sufficiency of raw material needs to be carefully evaluated to ensure financial and economic viability of the project.

Ghana has some 26 mechanized footwear factories with an installed capacity of 5 million pairs per annum, however, due to the shortage of raw material, leather and other, most of the factories only operate at 10-30 per cent of capacity utilization.

The shortage of leather and other raw materials greatly affects the productivity of the 20 or more travel goods manufacturers who consequently only produce goods in synthetic materials with low capacity utilization.

To alleviate the situation it is recommended that incentives be given to dealers to upgrade quality of available hides and skins in addition to assistance being provided for the existing artisanal tanners in the Northern region.

COUNTRY PROFILE & ELEMENTS

GHANA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins 1984 Estimates suggest (in thousands): Live Animals / Slaughter / Human Consumption / Skins available for tanning Bovine 1,078 / 109 / 87 / 22 Sheep 1,977 / 494 / 247 / 247 Goat 1,678 / 419 / ? / ?	Although no exports of hides or skins are recorded there is thought to be some unofficial export of raw hides and skins from border areas in addition to exports of processed (smok hides and skins destined for foodstuff.
Tanning Capacity & Production Operational tannery at Kumasi is said to have capacity of 300 hides/day for upper leather and small capacity for sole leather. Normally operates at only 10 per cent capacity and occasionally ceases production due to lack of raw material. Imports of hides have allowed capacity utilization of up to 30 per cent. Obsolete, used plant available and partly completed buildings exist for another tannery of similar size. Rural tanners in Ashanti and northern region tan quantities of sheep/goat skins.	Unutilized production capacity exists mainly due to lack c material. Aveyime tannery project needs detailed re-evaluation of pla machinery and proposed products in addition to raw material availability survey prior to reactivation. Rural tanners' needs may justify assistance programme.
Footwear Capacity & Production The 26 mechanized footwear factories - half of whom have capacities of over 100,000 pairs p.a. - have total capacity of 5 million pairs p.a. but average less than 20 per cent capacity utilization due to lack of domestic raw material and shortage of foreign currency for import. - Significant artisanal production but no available data.	Seccoral demand for leather unable to be satisfied. Theref high usage of synthetic materials. Said to require moderniz of plant but low capacity utilization provides no incentive.
Footwear Components Limited amounts of rubber, unit soles, adhesives and coated fabrics available locally but reported to be of low quality [4 coated fabric manufacturing plants]. All other items imported subject to licenses and foreign currency availability.	Low level of footwear production does not provide incentive to develop this sector.
Leather Products Some 15 travel goods and 12 suitcase manufacturers are reported. Production is virtually 100 per cent in synthetic materials. Capacity utilization low due to lack of foreign currency etc.	
Chemicals Salt, Lime, Sulphuric Acid and Ammonium Sulphate available locally. All other items imported - difficulties due to lack of foreign currency.	
Technology (Tanning & Footwear) Tanning - existing tannery sufficient modern technology available. Aveyime plant said to be mostly outdated and would need modernization before becoming operational Footwear sector needs updating [injection shoes and plastic footwear].	
Training Only in-plant facilities exist [21 technicians underwent a one-year tannery training programme in Czechoslovakia in 1965/5].	Facilities for leather sector training available in Nigeria (LERIN). If Aveyime tannery project reactivated some of previous tra may require refresher courses.
Institutional Footwear manufacturers group in the Association of Ghana Industries.	
Tariff / Non-Tariff Barriers Import licenses controlled by Ministry of Industry, required for raw material and components. Lack of foreign currency major problem accounting for non-availability of materials.	
Export Know-How Nil.	

G U I N E A

SUMMARY

Precise livestock figures are not known in Guinea due to previous agricultural policies. However, it is known that 25,000 head of cattle cross the border to Sierra Leone annually. The Second Republic has abolished the "Norme" (a regulation obliging farmers to sell at a low price, ten per cent of their production, to the Government) and farmers are increasingly returning to Guinea with their cattle, mainly in the Foutah region.

Human consumption of hides (boucanage) remains a source of tremendous losses of hides for the leather industry and the volume of hides which would be available to the tanning sector is unknown. However, if all hides and skins could be collected, i.e. 200,000 cattle and 400,000 sheep and goat per annum, there would be scope for two tanneries to replace the Usines Modernes de Conakry (UMC), which has been inoperational since 1970. Currently only cobblers produce leather for their own use in extremely poor technical condition.

In the medium term only the rehabilitation of abattoirs and a co-ordinated policy for collecting and preserving hides and skins, could revitalize a leather and leather products sector with real prospects for development possibly based on small and medium-scale enterprises.

The Government of Guinea has shown keen interest in a strategy that would lead to such revitalization based upon total recovery of hides and skins and the development of small and medium-scale enterprises (S.M.Es).

Basically initially this could be achieved through the collection and export of high quality raw material. Later, in establishing SMEs, and lastly in establishing a new tannery that would operate on a regional basis. Operation plans to carry out such actions are divided into four phases:

1. Re-instalment of a collecting scheme for hides and skins;
2. Rehabilitation of the footwear machinery at UMC;
3. Establishment of a leather products small-scale industrial sector, mainly employing imported leather; and
4. Establishment of a new tannery under joint-venture arrangement.

COUNTRY PROFILE & ELEMENTS

GUINEA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands/heads) FAO Statistics (1983, Vol. 37) 1974/76 — 1981 — 1982 — 1983 — 1984 Bovine 1,493 — 1,800 — 1,850 — 1,900 — 2,000 Sheep 400 — 440 — 450 — 450 — 600 Goat 373 — 415 — 425 — 440 — 600 The 1984 figures are estimates after consultations with the Service de l'Elevage and the Ministry of Rural Development. Since 1985, hides and skins were recorded at 17,000 for Conakry and Kindia.	Urgent action required on following levels: - Organization of a hides and skins collectio scheme; - Organization of selection/grading; - Organization of improved skin exports
Tanning capacity/production Marginal, at artisanal level.	Tanning on small-scale industry level could be envisaged to promote improved production of finished leather.
Footwear capacity/production Leather footwear: marginal production by artisanal units. Non-leather products: Soguiplast, installed capacity: 700,000 pairs per annum, production - nil. There are no import statistics but estimations suggest that all requirements are imported except for approximately 120,000 pairs produced by artisanal units.	Recommendations: - Improvement and assistance to artisanal uni - Meeting demand by creating small-scale foot wear industries with plant of UMC; - Making operational Soguiplast with international know-how.
Footwear components Nil.	Soguiplast could produce soles.
Leather products Little artisanal activity; mainly using reptile skins.	
Chemicals Employ locally available tannins: mimosa, mangrove.	
Technology - (tanning and footwear) Very basic due to lack of tools.	Know-how of UMC staff should be transferred to small-scale industries and enterprises via an Assistance-Production-Training Centre.
Training Nil	
Institutional Nil	Project BIRD/IDA/1234 assistance to small and mediu enterprises could serve the sector.
Tariff/non-tariff barriers Nil	
Export know-how Nil.	

GUINEA-BISSAU

SUMMARY

A census of livestock carried out in Guinea-Bissau in 1980 estimated the livestock population to be 258,000 cattle, 96,000 sheep and 195,000 goats. These figures are higher than those estimated by FAO, and would indicate that the potential availability of hides and skins would amount to some 37,000 cattle hides, some 20,000 sheep skins and some 56,000 goat skins. However, the actual recovery of hides and skins is not reported.

The possibility of establishing an industrial tannery in the country has been considered, however, so far this project has apparently not materialized. Even if all potential hides and skins were available they would only represent some 1.3 million ft^2 per annum of leather, far below normal input requirements for a viable industrial tannery.

There is no mechanized footwear factory, and leather goods manufacture is limited to artisanal units using leather tanned by artisans.

It is suggested that the matter of establishing an industrial tannery be given careful consideration before a decision on this project is taken. The actual availability of raw materials of an acceptable quality would have to be ascertained. The possible co-operation with certain neighbouring countries on this project, on a sub-regional basis, should also be investigated.

COUNTRY PROFILE AND ELEMENTS

GUINEA-BISSAU

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides/Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 225 / 28 Sheep 65 / 14 Goats 145 / 42	A census of livestock carried out in 1980 gave somewhat higher figures than those estimated by FAO, namely, 258,000 cattle, 96,000 sheep, and 195,000 goats. The potential availability figures, therefore, would seem to be higher than those estimated by FAO. Available raw hides and skins are partly exported, and partly used by artisanal tanning units.
Tanning Capacity/Production In 1976 a pre-feasibility study for a small tannery was prepared under a bilateral programme from Sweden. It was reported, in 1981, that the establishment of such tannery was being planned. However, no information is available which would confirm that this has actually materialized.	It is suggested that the matter of establishing an industrial tannery be given due consideration, may be some co-operation with other countries in that sub-region could be developed on this specific project.
Footwear Capacity/Production There is no mechanized footwear factory in the country.	
Footwear Components Not applicable.	
Leather Goods Probably limited to artisanal leather goods manufacture.	
Chemicals Not applicable.	
Technology (Tanning and Footwear) Tannery technology at artisanal level available. Probably some experience in footwear manufacture in artisanal units.	In case a tannery is to be established, the proper training of necessary personnel for such tannery should be ascertained.
Training facilities Nil	
Institutional Nil	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Not known.	

IVORY COAST

SUMMARY

According to FAO estimations, in 1983 the livestock population in Ivory Coast consisted of 780,000 cattle, 1.38 million sheep and 1.38 million goats. In addition, there was a significant import of live animals, in 1983 estimated at 200,000 cattle and some 400,000 sheep and goats.

The slaughter was estimated by FAO at 335,000 cattle, 724,000 sheep and 790,000 goats. The actual recovery of skins is not known. Most of actually available skins are exported in the raw state. Some 80 per cent of available cattle hides are used for food.

The authorities have decided not to promote the establishment of an industrial tannery in the country. They consider that it would be better to promote the development of the tanning industry in those neighbouring countries where raw materials are abundantly available. The establishment of a finishing plant in Ivory Coast would, however, appear to be advantageous to the relatively numerous footwear factories and the existing leather goods manufacturing units to facilitate their production of leather footwear and of real leather articles. This project, should, therefore, be pursued. There are sizeable imports of footwear (all types) but also considerable exports of certain kinds of footwear.

In view of the existing structure of the leather industry sector and the relatively well developed footwear and leather goods industries, it is considered inappropriate to formulate any recommendations for possible technical assistance to the leather sector in Ivory Coast.

COUNTRY PROFILE AND ELEMENTS

IVORY COAST

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 780 / 335 Sheep 1,380 / 724 Goats 1,180 / 790 Imports of live animals, in 1983, amounted to some 200,000 cattle and approximately 400,000 sheep and goats.	There are very significant imports of live animals into the country. It is further reported that some 80 per cent of the cattle hides are used for human consumption. The recovery of skins is reported to be rather low.
Tanning Capacity/Production There is no industrial tannery in the Ivory Coast. Artisanal tanning units exist, but their number and production output is not known. A few years back the establishment of a finishing plant was being considered, however, it is not known whether or not this plant has actually been put into operation.	The authorities have decided against establishing an industrial tannery in the country Instead they support the establishment of tanneries in other countries of the region where raw materials are abundantly available
Footwear Capacity /Production There are several shoe factories in the Ivory Coast, the largest one belonging to the BATA company, which has an installed production capacity of some 5 million pairs (all types of footwear). Leather footwear production is low. Registered import of footwear in 1983, was valued at US$ 10 million, while footwear export in the same year amounted to some US$ 5 million.	
Footwear components Assume that some components are made locally, but that the majority of them have to be imported.	
Leather Goods There are several leather goods manufacturing units in the Ivory Coast, most of them, however, producing articles using non-leather materials. Information on real leather goods production is not available.	
Chemicals Artisanal tanning units assumedly mainly use locally available chemicals.	
Technology (Tanning and Footwear) Information concerning tanning technology availability is lacking. Footwear technology available in existing footwear manufacturing plants	
Training Facilities No training in tannery operations available. In-plant training available for the footwear industry as well as for the leather goods industry.	
Institutional Nil.	
Tariff/Non-Tariff Barriers Up-to-date information is not available.	
Export Know-how Export know-how is available for raw hides and skins for footwear as well as for leather goods.	

KENYA

SUMMARY

Kenya with its competitive hide and skin collection network has high recovery levels for hides and skins and has available some 1 million bovine domestic hides and 3.1 million skins per annum, this is currently augmented by unofficial imports of some 0.5 million hides and 1.5 million skins per annum from neighbouring countries.

Until recently there was little incentive for domestic tanners to process hides and skins for export with the consequence that export-oriented tannery capacity utilization was low and raw exports significant.

The Kenyan tanning sector in the past was dominated by two major tanneries, Bata with a capacity of 200,00 hides p.a. for its subsidiary footwear plant and Bulleys Tannery with a capacity for some 300,000 hides p.a. (approx. 66% crust and 33 per cent finished) and nearly 3 million skins per annum (mostly wet blue). These were augmented by smaller tanneries with combined capacities of some 2.5 million skins for wet blue. With the exception of the Bata Tannery the majority of activity was export-oriented: Hides in wet blue and crust, skins in wet blue.

Currently tanning capacity exists for 60 per cent of Kenya's domestic hides (35 per cent finished, 25 per cent wet blue/crust) and 177 per cent of domestic skins (majority wet blue) and the Kenyan leather sector is highly dependent on the unofficial import of skins.

The increased export tax on raw hides and skins due to operate from mid July 1983 (40 per cent of F.O.B.) is expected to catalyse higher levels of capacity utilization and processing to more advanced stages. In this climate the prospects for a new tannery due to open at the end of 1985 to process some 200,000 hides p.a. to finished leather seem bright.

Bata with a leather footwear capacity of 10,000 pairs/day dominates the footwear sector and, having its own tannery, does not suffer the problem of most other shoe factories which is reported to be the non-availability of good-quality finished leather. Increased processing to crust and finished products for export may yield improved quantities and quality of finished leather for footwear factories allowing them to expand production.

The recent installation of a leather quality control laboratory at KIRDI, UNIDO assisted, may be expected to assist with the orderly development of the sector towards the production of finished leathers and products.

COUNTRY PROFILE & ELEMENTS

KENYA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) Domestic production 1982 / Estimated unrecorded imports / Total availability Hides: 1,080 / 500 / 1,580 Skins: 3,070 / 1,500 / 4,570 Recent reports (LEATHER, July 1985) suggest recent drought may have reduced live animals by up to 50 per cent.	Currently majority of hides exported raw - disincentives f export (differential export tax, introduced 1983) may reduce raw exports significantly.
Tanning Capacity & Production Major tanneries: Bulleys - capacity: 300,000 hides p.a.(crust/finished) and 3 million skins (mostly wet blue) Bata - capacity: 200,000 hides p.a.(mostly finished for their shoe factories). Others bring total capacity to 0.6 million hides and 5.5. million skins p.a. New tannery 2/300,000 hides p.a.,all finished, due to commission 1986.	Skin tanning sector highly dependent on imports from neigh countries as tanning capacity far exceeds domestic raw mat.
Footwear Capacity & Production Bata has capacity for 10,000 pairs leather footwear /day; Tiger (100 per cent Kenyan company) has capacity for 2,000 prs and other smaller units a total of some 1,500 prs. leather footwear per day. Total leather footwear capacity approximately 3.3 million pairs p.a. - production 1982: 1.6 million pairs.	With the exception of Bata all footwear factories complain difficulty to obtain regular supplied of leather.
Footwear Components Bata produce most of own requirement, others import majority of components.	
Leather Products A number of artisanal units satisfy basic local and tourist demands. Larger more industrialized unit recently installed.	
Chemicals General chemicals and Wattle domestically produced. Other chemcials and auxiliaries imported (difficult import due to license problems, etc.).	
Technology (Tanning & Footwear) All current technologies in tanning and footwear production employed and available.	Several major producers, tanning and footwear, have external partners who ensure updated technology available.
Training Long established training centre within Veterinary Dept.,FAO aid in past, training courses in hide and skin improvement and basic tanning technology and leather goods production. Quality control laboratory for leather set up at KIRDI with UNIDO assistance, pilot plant being installed.	
Institutional AHITI - Training Institute [see above]. KIRDI - Research and development, quality control, extension services to tanning industry. KBS - Bureau of Standards.	
Tariff / Non-Tariff Barriers Export tax from July 1983 (based on F.O.B. values): Raw hides and skins - 40 % Pickled hides and skins - 15 % Wet-blue hides and skins- 5 % Crust hides and skins - 3 %	New export tax tarriff expected to rapidly direct the industr to further stages of processing and diminish raw exports.
Export Know-How Major companies have acquired good expertise from foreign partners. Few 100 per cent Kenyan operations still have limited know-how.	

LESOTHO

SUMMARY

The livestock population of Lesotho is relatively high:- 6-700,000 bovines, 1.2 million sheep and 0.9 million goats. However, although the Lesotho National Development Corporation (LNDC) estimate slaughter at 120,000 bovine, 310,000 sheep and 184,000 goats, the actual recovery is reported at only 50,000 hides and 200,000 skins annually. Curing is reported as poor and market channels are weak and the majority of hides and skins are exported directly by local butchers and traders in small batches yielding low returns. A new abattoir was due to be fully operational by mid 1985 and was expected to yield some extra 23,000 hides and 46,000 skins annually.

A well established shearling tannery has been operating for some years producing some 600 suede or doubleface skins daily which it converts to leather products, e.g. car seat covers and garments, the majority of which are exported to the Republic of South Africa. It is reported that this activity has over recent years suffered from lack of maintenance and the facilities are now said to be in need of rehabilitation.

The L.N.D.C. is seeking sponsors to establish an industrial tannery to process to finished leather 2-500 hides/day, an alternate parastatal agency is attempting to promote a number of dispersed small rural tanneries to semi process hides and skins and direct them towards a central finishing tannery. Whether the available raw material could support both of these proposals, may be questioned.

At least two industrial footwear factories are reported as operating. The longer established unit, which is reported to have a capacity for up to 2,000 pairs/day is said to be mainly producing prepared uppers for export. This may reflect the relatively small internal market for footwear and Duty Free Trading arrangements applicable in the Southern African Customs Union.

There appears a priority need for external assistance to improve flaying and curing practises and establish functional market channels for hides and skins to ensure improved quality and increased recovery of hides and skins to guarantee a firm basis for a future tannery.

COUNTRY PROFILE AND ELEMENTS

LESOTHO

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) Statistics in the sector are poor and show: Herds 1983/4 — FAO Estimated Offtake 1981 — Min. of Agriculture Official Slaughter — L.N.D.C. Report Hides & Skins Recovery Bovine 6-700 — 74 — 5 — 50 Sheep 1,200 — 340 — 34 — 200 Goats 900 — 225 Majority of hides and skins collected in wet-salte dry-salted or dry condition and exported in small batches by butchers and others to neighbouring countries. New abattoir due to commence mid 1985 should yield larger, more regular supplies of hides.
Tanning Capacity/Production The only significant tanning capacity is the Maluti Tannery which processes up to 600 shearlings a day into suede and doubleface for conversion into products at its associated factory.	Majority of shearlings employed at tannery imported from Republic of South Africa. L.N.D.C. seeking partners for a tannery of capacity 2-500 hides/day.
Footwear Capacity/Production One footwear manufacturing Co. at Maputsoe, said to have capacity for 2,000 pairs/day. Reported mainly to be producing only prepared uppers for Republic of South Africa. Further industrial footwear factory reportedly under construction in 1985.	Current annual needs of the footwear sector of 0.5 millior ft.^{2} grain upper and 0.9 million ft.^{2} suede and split leathers imported.
Footwear Components The newly installed second footwear factory is reported to have a mechanized component unit to produce insoles, outsoles, randing and welting etc.	
Leather Products Car seat covers/leather jackets/slippers/rugs etc. produced from shearlings by Maluti Skin Products, majority for export.	UNIDO has supplied assistance in upgrading shearli quality and design and pattern cutting. Possible need for further assistance to uprate management and financial control.
Chemicals All imported.	
Technology - (Tanning and Footwear) Available for shearling processing. Footwear technology obtained via joint venture partners.	
Training	New tannery would create need for training in leather technology.
Institutional Nil	
Tariff/Non-Tariff Barriers Not known. Member of SADCC and SACU.	
Export Know-How Experience in shearling products and leather uppers and footwear. Majority of exports to Republic of South Africa.	

L I B E R I A

SUMMARY

There are no reported industrial tanneries or leather products units in Liberia. The availability of raw hides and skins is equally not known to UNIDO and thus no firm statement regarding sectoral potential may be given.

If all hides and skins from the recorded slaughterings were available to a leather industry (approximate potential 1.5 million sq. ft.), the volume would, by some authorities, be considered sub-economic for a fully mechanized tannery. But possibilities could be evaluated for a "low cost" minimal mechanized unit.

However, it must be noted that in the two neighbouring countries some 60 per cent of hides produced are destined for human consumption; if such situation prevailed in Liberia, the volume of hides and skins remaining would not prove sufficient basis for a tannery.

There appears need for a short survey mission to determine how many hides and skins are available, and whether a Liberian tannery was feasible; a project outline for such activity is prepared.

Alternatively, the possibility of establishing a regional tannery with neighbouring countries which also have low level availability of hides and skins (Sierra Leone, et al) should be investigated.

COUNTRY PROFILE & ELEMENTS

LIBERIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins 1983 FAO report: (in thousands) Live Animals: Bovine 42; Sheep 232; Goat 233 Live Import: 25; 8 Slaughter: 31; 63; 73 Domestic Off-take Rate Calculated: 14 %; 28 %	Whether the slaughter figure represents hides and skins ava is unknown as in neighbouring countries the majority of hid skins are consumed as human foodstuffs.
Tanning Capacity & Production No industrial tanning capacity thought to exist.	Even if all the slaughtered animals represented hides and sk able the volume would be sub-economic for a fully industrial tannery. However, possibilities to install a tannery joint neighbouring countries in similar position could be evaluat
Footwear Capacity & Production No industrial production/ capacity thought to exist.	Similar possibilities could be available for a joint footwe with neighbouring countries.
Footwear Components Not applicable.	
Leather Products Not known.	
Chemicals Not applicable.	
Technology (Tanning & Footwear) Non-existent at industrial level.	
Training Not relative.	
Institutional Nil	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not applicable.	

L I B Y A

SUMMARY

Libya is a major importer of live animals for slaughter - some 200,000 bovines and approximately 2-3 million sheep in 1983. The hides and skins so derived exceed the supplies from domestic animal slaughter. In past years hides and skins available were in excess of tanning capacity and the surplus was exported raw. The quality of Libyan hides is variable, those derived from imported European beasts being relatively large and defect-free, whereas those yielded by slaughter of indigenous herds are of smaller size and often downgraded due to grain defects.

The major bovine leather tannery at Tajoura is well established and processes to finished leather some 80,000 hides per annum (3.2 million sq.ft.). It is believed that a new skin tannery has been erected at Benghazi to process some 1.2 million skins per annum (5.0 million sq.ft. per annum), half to crust condition and the balance fully finished. There would still appear to be further hides and skins available to allow the sector to expand.

In the early 1980s the capacity of footwear factories was 3-4 million pairs per annum; up to 10 million pairs of footwear were imported annually to satisfy domestic demand. However, it is understood that development programmes were foreseen to greatly expand installed capacity in this sector and lessen the need for such high volume importation.

It is thought that the Government is proposing to establish a leather and footwear quality control laboratory and the possibility of seeking external assistance (UNIDO) for this project is under consideration.

COUNTRY PROFILE & ELEMENTS

LIBYA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) 1983 Live Animals / Estimated Off-take / Live Animals imported for Slaughter / Total Production Bovine 200 / 40 / 200 / 240 Sheep 4800 / 1440 / 2300 / 3740 Goats 1500 / 450 / -- / 450	In the early 1980's hide availability outstripped tanning c and exports (mainly of domestic-type hides) of surplus hide promoted. The larger damage-free hides from imported Euro cattle were retained for tanning.
Tanning Capacity & Production The major hide tannery at Tajoura had a capacity of some 80,000 hides = 3.2 million sq.ft per annum: production approximately 2.8 million sq.ft. It is understood a new skin tannery was erected at Benghazi to process some 1.2 million skins = 6 million sq.ft p.a. [50-50 - Crust : Finished]	
Footwear Capacity & Production In 1980 reported capacity for leather footwear was some 3.5 million pairs p.a. Production 2.5 - 3.0 million pairs p.a. Projects may have been implemented for several new shoe factories of 4,000 pairs/day (1 million pairs per annum).	Imports of up to 10 million pairs of footwear annually have been reported.
Footwear Components Mostly imported except items which can be produced from leatherboard. A leatherboard plant operates in association with the Tajoura Tannery.	
Leather Products Position not known.	
Chemicals Mostly imported.	
Technology (Tanning & Footwear) All standard tannery and footwear technologies exist.	
Training No facilities reported.	
Institutional Nil existing.	The possibility of establishing a leather and footwear quali control laboratory with UNIDO assistance is being considere Libyan authorities.
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not relevant except for raw hides and skins.	

MADAGASCAR

SUMMARY

Madagascar has the sixth largest cattle population in Africa. The number of sheep and goats, however, is not so important. The livestock population in 1983, was estimated by FAO to be : 10,322,000 cattle, 630,000 sheep and 1,750,000 goats. The potentially available hides and skins (= slaughter figures) were estimated at 1,063,000 cattle hides, 157,000 sheep skins and 578,000 goat skins. The number of actually recovered hides and skins is, however, considerably lower. Reliable data on actually collected hides and skins are not available. Crocodile hides and other special types of skins are also available in sizeable quantities.

There are three mechanized tanneries in Madagascar, but none of them is near to full capacity utilization. Actual production output is, however, not reported. A number of artisanal tanning units also operate. Lack of sufficient raw material supply, of tanning chemicals and of spare parts seem to be slowing down the production output of the tanneries.

The footwear industry consists of three mechanized factories, and a number of smaller units manufacturing leather goods without having suitable equipment and machinery. In 1984 total footwear production was reported to be some 1.7 million pairs, of which approximately 0.5 million pairs was leather footwear.

Further improvement and better utilization, particularly of the potentially available cattle hides, seem to be of prime importance. Training programmes, with emphasis on the footwear industry sector, are under active preparation.

COUNTRY PROFILE AND ELEMENTS

MADAGASCAR

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 10,322 / 1,063 Sheep 630 / 157 Goats 1,750 / 578	The recovery of cattle hides is reported to be considerably less than what the rather sizeable potential availability should suggest. In any case, Madagascar has a solid raw material basis which would allow a significant expansion of its leather industry sector, provided optimum utilization of potentially available hides and skins be ensured.
Tanning Capacity/Production There are three mechanized tanneries in Madagascar, and also a number of artisanal tanning units. The oldest, and largest tannery has an installed production capacity of 375,000 cattle hides per year, but the actual capacity utilization is low. Two newly established tanneries have not yet reached the production output aimed at.	
Footwear Capacity/Production There are three mechanized footwear factories in Madagascar and a number of smaller units manufacturing footwear under artisanal level conditions. Total footwear production in 1984 was reported to be some 1.7 million pairs, of which some 0.5 million pairs of leather footwear. Capacity utilization was estimated at some 50 per cent.	
Footwear Components Some components are manufactured by the two largest shoe factories for their own requirements. The other factories have to import practically all components and auxiliaries needed. This import is, however, restricted through a quota system.	
Leather Goods One large tannery also has a department manufacturing industrial gloves. Most of the other leather goods manufacturing units are, however, of the artisanal level type. Production is mainly for domestic and tourist markets.	
Chemicals Assume that most of the chemicals used in the tanneries are imported.	
Technology (Tanning and Footwear) Tanning technology experience is available in existing tanneries. Footwear technology experience and knowledge is available in the shoe factories.	
Training Facilities In-plant training facilities are available in the leather industry as well as in the footwear manufacturing industry.	
Institutional At present there is no institution specialized in the leather industry sector. The UNIDO-assistance foreseen to the footwear industry will aim at creating a nucleus for a footwear development and training centre.	
Tariff/Non-Tariff Barriers Up-to-date information is not available.	
Export Know-How Not known.	

MALAWI

SUMMARY

The Malawi bovine livestock has expanded rapidly over the last two decades, from 350,000 head in the early 60's to over 870,000 head by 1981 [4.3 per cent p.a.], reflecting an off-take rate well below reproductive levels.

The recovery rates for hides and skins [9.9 per cent bovine, 3.5 per cent ovine and 6.3 per cent caprine] are well below yields obtained in countries with similar levels of animal husbandry.

Such a low recovery level of hides and skins may also reflect the low prices paid to primary producers by the Cold Storage Company (C.S.C.) who have a monopoly in this activity but mainly collect from major centres. The country has no tanning activity and the possibility of developing a tanning sector has been studied regularly over the last two decades but a major impediment has been the low level of domestic raw material - current domestic supply of hides and skins would appear to have a potential as leather of some 2.3 million square feet p.a. which barely approaches the minimum input level of a fully mechanized tannery. The viability of a tannery project would be greatly enhanced if higher off-take/recovery rates for hides and skins could be assured and/or arrangements made with neighbouring countries with apparent surplus of hides and skins. It is understood that currently the possibility of installing a wet-blue tannery is being evaluated - such proposal appears realistic as the limited demand for finished leathers [some 14,000 hides per annum - Bata Shoe Co.] would not justify a fully mechanized finishing section.

The Bata Shoe Company producing over one million pairs of shoes p.a. (over 200,000 pairs of leather footwear) satisfies the major demand in the sector and aided by protective tariffs, has expanded production by over 5 per cent p.a. in recent years. Bata import virtually all of their necessary inputs.

COUNTRY PROFILE & ELEMENTS

MALAWI

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins A recent UNIDO study suggests the following pattern: (in thousands) Live animals — Recorded slaughter — Apparent recovery rate Bovine 870 — 85 — 9.9 per cent Sheep 85 — 3 — 3.5 per cent Goat 718 — 45 — 6.3 per cent Hide and skin purchase monopoly given to C.S.C.: Price paid to primary Producer — Export Value Hides K 1.8/hide — K 8.2/hide Skins K 0.3/skin — K 2.8/skin	Currently exported raw - in salted state from major abattoi dried from country collections. Prima facie raw material insufficient for fully mechanized unit.
Tanning Capacity & Production No tanning activity reported except a few skins cured "hair-on" with Alum. No rural tanning tradition.	Import of some 350,000 sq. feet (p.a.) of finished leather by Bata [equivalent to some 14,000 hides per annum]. Possibility to establish a tannery under active discussion.
Footwear Capacity & Production The production of the Bata Shoe Co. is reported at some one million pairs p.a. of which some 220,000 pairs are leather shoes.	During past years import of leather footwear have been from 60 to 110 thousand pairs per annum [average 1976-80 - 82,000 pairs p.a.].
Footwear Components No data available - assume majority imported.	
Leather Products Few handicraft items reported to be manufactured out of raw sheep and goat skins. Leather Luggage Manufacturing Ltd. of Blantyre produce mainly products employing synthetic material.	
Chemicals Vegetable tanning material said to be available [Acacia nilotica (pods) and wattle bark]. Not exploited as no tanning activity.	Would need to import majority of chemicals if a tannery pro is implemented.
Technology (Tanning & Footwear) Tanning - nil. Footwear - existant at Bata Shoe Co.	
Training Tanning - no facilities. Footwear - Bata carry out extensive training programmes for staff.	If tannery project implemented there will be a need for tra in leather technology.
Institutional Nil.	
Tariff / Non-Tariff Barriers Import duty on machinery/spare parts/chemicals: 20.6 % Import duty on footwear and leather goods: 66 % Variable export cess payable on raw exports. Member of SADCC and PTA.	
Export Know-How Only export of raw hides and skins.	

M A L I

SUMMARY

Mali has one of the highest live animal populations in Africa, with over 5 million bovines and some 13 million petty ruminants. It could be expected that raw hides and skins could be the basis for a significant leather sector. However, the volume of hides and skins commercialized is only some 25 per cent of the expected quantity. Whether the hides and skins unaccounted for are lost, utilized by rural tanners or unrecorded exports, is unknown.

There are two industrial tanneries in Mali. One is Government-owned (TAMALI) and has at present a limited production of wet-blue tanned cattle hides for export to China under a bilateral agreement with that country. The other tannery(TAPROMA),which is privately owned, is not operating at all for the time being. The volume of hides and skins tanned and exported may be seen overleaf and is shown to be only 1-2 per cent of expected hides and skins availability. The number of artisanal units existing is not known.

Presently there is no industrial production of leather footwear in the country. There are, however, no restrictions on import of footwear. Only artisanal units, located in various parts of the country, are manufacturing simple leather footwear for local consumption. Other artisanal units manufacture various leather products for the local market and for the tourist trade.

To facilitate a successful further development of the entire leather sector in the country, it would be of great importance to upgrade the quality of hides and skins as well as to aim at obtaining a much higher degree of recovery of these raw materials. This might be promoted through an international technical assistance programme for this specific field.

It is, however, not felt appropriate to recommend, for the time being, any international technical assistance programme for the leather industry sector, in view of the fact that the Government-owned tannery is presently receiving bilateral technical assistance and that the other tannery is in private ownership.

Instead, it is suggested that an intensification of the bilateral assistance provided to TAMALI, as well as a constructive joint venture arrangement with a foreign partner, in the case of TAPROMA, could lead to a rehabilitation and a strengthening of the operation of the existing tanneries.

COUNTRY PROFILE AND ELEMENTS

MALI

SECTORAL PROFILE

Hides/Skins

Significant animal husbandry and hide sector.

In thousands, average 1981/3.

	Live Animals	Slaughter	Exported Raw & W/B	(W/B)	Unaccounted H & S	% H & S Recovery
Bovine	5,300	324	164	6	160	51 %
Sheep	6,400	1,783	145	9	1,638	8 %
Goat	7,250	1,762	326	3	1,436	19 %

Live animal exports of 200,000 bovine and over 300,000 petty ruminants per annum are recorded.

Tanning Capacity/Production

Two industrial tanners.

TAMALI - Government-assisted bilaterally by P.R. China. Implanted 1970; ceased production 1974; resumed production of W/B bovine in 1984 with P.R. China assistance.

TAPROMA - private, well equipped but not operating at this moment.

Rural tanneries supply bulk of domestic demand.

Footwear Capacity/Production

One mechanized unit attached to TAMALI Tannery, not currently operating due to lack of finished leather and/or lack of demand for its type of footwear. DOMESTIC FOOTWEAR DEMAND MET BY RURAL CRAFTSMEN.

Footwear Components

Nil utilized at industrial level.

Leather Products

Small volume for local demand produced by artisans.

Chemicals

Assume all imported for industrial tanneries. Rural tanners employ domestic materials.

Technology - (Tanning and Footwear)

Training

In-plant only.

Institutional

Nil

Tariff / Non-Tariff Barriers

Free importation of closed, western style footwear.

Export Know-How

Limited to bilateral export of wet-blue hides and little unsuccessful export of wet-blue skins to North Africa.

ELEMENTS FOR "INTEGRATED PROGRAMMES"

The low level of hide and skin recovery ma reflect some usage for human consumption a or a considerable volume of unrecorded exp in the raw state which may benefit neighbouring countries.

Raw hides and skins suggest great scope f existing tanneries when economic/financia conditions provide an incentive for their operation.

Installed capacity for W/B currently virtu untilized:

TAMALI	700,000 skins/p.a.	50,000 hid
TAPROMA	500,000 skins/p.a.	50,000 hid

Western style closed footwear imported fr

Supplied by P.R. China to state tannery u bilateral agreement.

Possible scope for joint venture to aid T

Supplied by P.R. China to state tannery u bilateral agreement.

Possible scope for joint venture to aid T

Acts as disincentive for local production

MAURITANIA

SUMMARY

Mauritania has an important livestock population. In 1983, it was estimated to consist of 1.5 million cattle, 5.0 million sheep, 3.0 million goats and 0.75 million camels. The potential availability of hides and skins is given as 140,000 cattle hides, 700,000 sheep skins and 520,000 goat skins. It should be noted that there are very large exports of live animals from Mauritania, which, in 1983, were reported to amount to 80,000 cattle and 650,000 sheep and goats. The nomadic conditions make the collection of hides and skins difficult, a lot of them are certainly utilized without further treatment, but considerable quantities are also wasted.

A small tannery is said to exist in Kaedi, and rural tanning units produce leather needed for various domestic purposes. The establishment of a new industrial tannery near Nouakchott is presently under active consideration, with a planned production capacity of 65,000 cattle hides and a total of 250,000 skins p.a. This would certainly contribute considerably towards supplying the local leather products manufacturing units with leather of an improved quality, and would allow exportation of part of the planned production in semi-processed state (wet-blue or crust).

There is presently no industrial footwear manufacturing plant in the country, but plans to establish a sandal factory (capacity 184,000 pairs annually) are already in an advanced stage of development.

To be able to operate these new factories satisfactorily there will evidently be need for a massive training programme for local staff, in-plant as well as more long-term training of key personnel. It is recommended that this could be done through the implementation of a large-scale international technical assistance project aiming at assisting the integrated leather industry sector, to ensure that the sector will develop in a well-balanced and sound way.

In order that a realistic project proposal can be elaborated it is strongly recommended to carry out an up-to-date survey of the entire leather sector in Mauritania, through the services of a short-term consultant specialized in this particular field. A project outline is attached.

COUNTRY PROFILE AND ELEMENTS

MAURITANIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 1,500 / 140 Sheep 5,000 / 700 Goats 3,000 / 520 Camels 750 / n.a.	Very large exports of live animals are reported - in 1983, some 80,000 head of cattle and a total of 650,000 sheep and goats. Animal husbandry is reported to be relatively well developed. Collection of hides and skins is difficult to organize, due to existing nomadic conditions. A planned abattoir near the capital has not yet been established, as funding has still to be obtained.
Tanning Capacity/Production A small, old tannery is said to exist in Kaedi, but its actual situation and production output is not known. A new industrial tannery is being planned to be established near Nouakchott, with a production capacity of 65,000 cattle hides, 80,000 goat skins and 175,000 sheep skins. So far this project has not materialized. Rural tanning units exist.	The establishment of a new industrial tannery would certainly be justified.
Footwear Capacity/Production Artisanal units producing simple leather footwear exist, but a considerable part of the domestic need for footwear is imported. In 1982 this import was reported to be 470,000 pairs annually (all kinds of footwear). The establishment of a new sandal manufacturing plant with a production capacity of 184,000 pairs annually, is under active consideration.	To reduce present imports of footwear it is considered realistic to establish a local plant manufacturing sandals and other simple types of footwear.
Footwear components No information available.	
Leather goods Artisanal units are manufacturing a number of leather articles needed by the domestic market. Their number and production output is not known.	
Chemicals Probably imported if Kaedi tannery in operation. Rural tanneries presumably employ domestic tanning materials.	
Technology (Tanning and Footwear) Tanning technology available, but mainly at an artisanal level. Footwear technology also available only at artisanal level.	There is a need for training in tannery operations as well as in industrial manufacture of footwear, to staff the planned new factories. It is recommended that this could be included in a possible UNIDO technical assistance project, which would aim at assisting the entire leather industry sector in obtaining a well-balanced and sound development.
Training Facilities Not available.	
Institutional Nil.	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Not known.	

MOROCCO

SUMMARY

Morocco has a very important livestock population, particularly the sheep population. According to FAO estimates for 1983, the livestock consisted of 3 million cattle, 15 million sheep and 6.3 million goats. The number of animals slaughtered in the same year was estimated at 0.8 million cattle, 4.9 million sheep and 2.2 million goats.

The well developed tanning sector consists of some 20 industrialized tanneries with an annual production capacity of 48 million ft^2 in addition to a significant cottage tanning sector. To sustain its tanning activity Morocco imports large volumes of raw hides and skins, e.g. raw imports 1982 - $US 11.3 million. The sector is so well developed that exports of leather are banned to ensure that they are processed into leather products and thus maximize value added.

The footwear sector consists of some 60 industrialized units augmented by an artisanal sector. Total footwear production was reported at 24 million pairs p.a. in 1981 of which five million were leather footwear.

Leather goods and leather garment manufacture are well developed with 15 industrial units operating in each subsector.

The development status is reflected in the current high value of its exports in the sector, e.g.

Exports 1983 -	leather footwear	$US 35.7 million
	leather garments	$US 17.7 million
	other leather products	$US 4.7 million

Given the well established operating nature of the sector, the need for external assistance appears marginal.

However, it may be suggested that strengthening of the Fès Leather and Textile Institute as well as expanding the local production of certain components for the footwear and leather products industries would yield good results. It is considered that this would be most adequately accomplished through possible bilateral assistance and joint ventures, respectively.

COUNTRY PROFILE & ELEMENTS

MOROCCO

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 3,000 / 810 Sheep 15,000 / 4,950 Goats 6,270 / 2,200 Camels 240 / n.a. Some 15,000 live cattle were imported in 1983.	Imports of cattle hides, in particular, is needed to satisfy the requirements of the leather industry, and such imports are allowed free of tax and duty when these raw materials ar used for export items.
Tanning Capacity & Production The leather industry in Morocco is well developed, with twenty industrial tanneries operating (total production capacity estimated at 48 million square feet of leather per year). In addition, there exists an important cottage tanning sector, the production capacity of which is, however, difficult to establish.	Import of finished leather is allowed, free of tax and duty, when they are used for export products.
Footwear Capacity & Production More than 60 industrial footwear manufacturing factories exist, and a considerable number of small-scale units and cottage level operations. In 1981 the total footwear production was reported to be 24 million pairs, of which some 5 million pairs of leather footwear.	
Footwear Components Up-to-date information is not available. However, it is assumed that part of these components are manufactured locally, while the more sophisticated components are imported.	Production of additional components may be taken up.
Leather Products There are several plants manufacturing various leather articles, some of which are of high quality, for export markets. Artisanal type of manufacture cater for domestic and tourist trade markets. The manufacture of leather garments has grown in importance in recent years, at least 15 firms specialized in leather garment manufacture exist.	
Chemicals It is assumed that most of the basic chemicals needed by the tanning industry are available locally, and that special tanning and finishing chemicals are imported.	
Technology (Tanning & Footwear) Experience and knowledge in tanning technology, in footwear technology and also in leather garment and leather goods technology is available at all levels.	
Training In addition to in-plant training facilities in all subsectors of the leather industry sector, there are also well established training courses, at different levels, and in the different specialized fields of the sector at the Fès institute.	
Institutional At Fès, there exists a Leather and Textile Institute for some 20 years, with pilot plants and well established training courses, particularly aiming at satisfying the artisanal sector's needs for suitably trained personnel.	Further strengthening and modernizing of this institute ma considered.
Tariff / Non-Tariff Barriers In Morocco the import of raw hides and skins, and also the import of finished leathers, is allowed free of tax or duty, provided they will be used for the manufacture of export items. Morocco has a "closed" leather sector in the meaning that only finished products may be exported.	
Export Know-How Available for all subsectors of the leather industry sector.	

MOZAMBIQUE

SUMMARY

(a) Special considerations: Development strategies in Mozambique are unduly conditioned by two factors:

(i) At independence in 1975, a major exodus of entrepreneurs and senior management occurred, creating an acute shortage of skilled manpower and management cadre.

(ii) Guerilla activity severely hampers communication and transport between rural and urban areas.

(b) The survey of the Mozambique leather sector found that, due to the special considerations above, the sector was in retarded condition: bovine hide production had declined from over 100,000 pieces per annum to less than 40,000 pieces per annum.

Tanneries and shoe factories were operating at less than 25 per cent of original installed capacities due to lack of foreign currency for machinery spares, chemicals and components.

It may be found that there exists sufficient skilled operational manpower so that when normal conditions prevail the basis for the necessary rehabilitation programme is available.

It is not felt that international assistance is viable in this sector at this time, but when stability is attained the sector's needs could best be served by international assistance in the following areas:

(i) A programme of assistance in the field of hides and skins improvement - transferring improved flaying and curing techniques - especially directed towards rural areas where hides and skins are not currently being recovered.

(ii) A project comprising a team of footwear machinery technicians, with a limited budget for spare parts for each footwear factory (US$ 20,000?) could raise the capacity levels of most plants to their original levels and thus make them more attractive to potential joint venture partners.

COUNTRY PROFILE & ELEMENTS

MOZAMBIQUE

SECTORAL PROFILE		ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins FAO data suggests production should be some 250,000 Bovine hides p.a. However, due to present security problems only 30/40,000 collected. Poor cure - numerous flay cuts.		Assistance in uplifting flaying a curing in rural areas needed when situation normalized.
Tannery Capacity/Production One tannery only (statal) - capacity 400 bovines/day. Production only 40/50 per cent of capacity due lack of raw materials and foreign currency for chemicals. Given absence of essential tanning chemicals eg. Sulphide, unable to evaluate seriously.		
Footwear Capacity/Production 13 factories (state/private/mixed), capacities in range 300 to 1000 pairs/day. Mostly producing 100 to 200 pairs/ day due to lack raw material/components/spares for machines (reduced effective capacity).		Minimal spare parts inputs could capacities of many factories to levels. Joint venture partners s to rehabilitate footwear factori
Footwear components Most imported - currently not available due to constraints of foreign exchange. Shortage acute - producing footwear with paper board insoles.		
Leather Products Low level production currently as priority given to footwear.		
Chemicals Virtually all imported - due lack of currency extreme shortage. Tannery attempting, when visited, to operate unhairing without Sodium Sulphide.		
Technology Tannery - unable to evaluate due lack of chemicals. Footwear - although lack of materials - style and general make-up of footwear suggest basic technology exists.		
Training No formal centres.		
Institutional Nil.		
Tariff/Non-tariff Barriers Member of SADCC.		
Export Know-How In present situation import substitution major objective.		Seeking joint venture partners fo manufacture and export of leathe

It must be noted that the country survey by the UNIDO consultants concluded that due to the effect of bandit activity which severely hampers transportation between rural and urban areas, the current "profile" of the country is somewhat unrealistic and does not reflect the situation which will prevail when security conditions are normalized. Thus it is not feasible to assess in what respect any integrated program could function.

N I G E R

SUMMARY

The livestock population of Niger is significant with some 3.4 million bovine head and over 10 million petty ruminents. The recovery of hides and skins is of a low order with less than 50 per cent of potential hides and skins actually entering the commercial sector. The majority of recovered hides and skins are exported in the raw condition with only some 750,000 goatskins processed to the wet-blue state for export in the only industrial tannery operating in Niger, the SONITAN tannery in Maradi. A small tannery attached to the Centre des Métiers d'Art in Niamey is in operation, as well as a number of traditional artisanal tanning units throughout the country.

There is no industrial footwear production in Niger following the closure of the Bata shoe factory in Niamey. The manufacture of leather goods of different types is, however, rather well developed but is hampered by the lack of suitably tanned leather for such products.

To overcome this shortage of available finished leathers it is recommended to consider implementing a technical assistance project through UNIDO, aiming at upgrading the existing small tannery attached to the Centre des Métiers d'Art in Niamey by supplying the necessary finishing equipment and making available expertise in this area. The expansion of the SONITAN tannery in Maradi is supported, and the project proposal for a new tannery in Niamey should be given due attention.

It is further recommended to take appropriate action to put into operation the existing but non-operational leather goods centre in Maradi.

The systematic and co-ordinated evaluation of available data and documentation dealing with the various aspects of the leather sector would contribute significantly towards promoting a sound development of the entire sector.

COUNTRY PROFILES AND ELEMENTS

NIGER

SECTORAL PROFILE

Hides/Skins

Average data for years 1981/4 is reported in thousands:

Live Animals		Slaughter	Raw Export	W/B Export	Difference	% H & S Recovery
Bovine	3,400	252	44	-	- 208	17 %
Camel	400	n/a	-	-	-	-
Sheep	3,300	730	265	-	- 462	37 %
Goat	7,300	1,630	971	742	- 83	105 %

Tanning Capacity/Production

One industrial tannery - SONITAN at Maradi, capacity approx. 600,000 skins crust plus 300,000 W/B; little finishing equipment. Expansion plans not yet implemented. Small tannery at Centre des Metiers d'Art in Niamey with minimal equipment. Number of rural tanners also operate.

Footwear Capacity/Production

Bata footwear factory closed (high cost/limited market). They supply from their other factories (Nigeria and Ivory Coast). Imports of leather footwear approx. US$ 0.5 million per annum. Artisanal industry provides leather sandals.

Footwear Components

Not applicable.

Leather Products

Well developed sector, supported by a "Centre" with some 20 co-operating entrepreneurs. A new centre, funded by Canadian bilateral aid, is a fully equipped leather goods workshop. Awaiting governmental decision regarding status before allowed to operate.

Chemicals

All imported for industrial tannery. Rural tanneries self-sufficient.

Technology - Tanning and Footwear

Wet blue and crust technologies proven.

Training

Small tanning centre and leather products centres.
Hide and skins school existant.

Institutional

Tariff/Non-Tariff Barriers

Relatively free import of leather footwear.

Export Know-How

Exports of crust and wet blue under control of SONITAN's main owner (French company).

ELEMENTS FOR "INTEGRATED PROGRAMMES"

Apparent loss of raw material may be partially due to unrecorded exports to neighbouring countries.

Project for new tannery at Niamey elabora by FRIDA - 0.4 million goat and 0.4 milli sheep and 0.05 million bovine (W/B and cr being evaluated by Government and possibl funding sources. Possibility to uplift t tannery at the Centre to be a "Pilot Demo tion Tannery" with improved finishing fac

Could expand if further improved supplie of finished leather available.

Possibility to install demonstration tanne (see above), including finished leather. New (Canadian) leather goods workshop expe to function.

N I G E R I A

SUMMARY

The large livestock holdings in the country should yield a sizeable base for a leather and products sector, however, a significant volume of potential leather-making material is lost to the sector. A 1983 report suggests that the 12.5 million live bovines should yield some 1.25 million hides, but some 60 per cent are utilized as human foodstuff effectively leaving only 0.5 million hides for the tanning sector. 10 - 20 per cent of skins are also consumed as food. It appears that the domestic supply is augmented by unrecorded imports from northern neighbouring countries partially offsetting these losses.

During the 70's, a large number of bovine leather tanneries were installed in Nigeria. It appears that the total capacity for processing upper leather now far exceeds the supply of hides so that capacity utilization in this sector is only some 55 per cent. With respect to skins, it is reported that over 7 million, a significant volume, are now processed only to the crust state, for export. In addition to the shortage of hides, the leather sector suffers from an acute shortage of foreign exchange for machinery spare parts and chemicals. The Leather Research Institute of Nigeria (LERIN) is currently working to find domestic substitutes for a number of chemicals in an effort to overcome this problem. It is understood that the Federal Government may promulgate a series of gradually declining import quotas for chemicals to further promote the import substitution programme.

The leather footwear sector, 20 per cent of which is at artisanal level, is reported to have an annual capacity for some 21 million pairs, but production is only some 12 million pairs due to lack of local leather and inadequate foreign exchange to import leather.

COUNTRY PROGRAMME AND ELEMENTS

NIGERIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins From slaughter figures and utilization pattern, annual production estimates are as follows: Cattle hides 1.27 million Camel hides 0.15 million Goatskins 10.75 million Sheepskins 2.51 million The hides are generally poorly flayed, and cured and about 60 per cent of them, including all the camel-derived, are at present being utilized for human consumption.	Some of the hides available for tanning are derived from the country's northern neighbours while some skins are still being exported in the raw state, under licence.
Tanning Capacity/Production Upper leather capacity stands at 45.7 million ft.^{2} per annum while present production level is at 25.4 million ft.^{2}. Bovine leather is handled by only half of the 18 mechanized tanneries. The traditional tanners from some 924 units are responsible for 4.5 million ft.^{2} of the total production, made up mainly of skin-based crust leathers. About 40 per cent of the total production is in form of semi-finished products.	Under-utilized capacity of about 20 million ft.^{2} per annum is due mainly to inadequate supply of chemicals and spare parts. Expansion of existin capacity or the establishment of additional capa ities, preferably for finished leather, could still be accommodated to the tune of another 20 million ft.^{2} per annum, if total production of hides and skins is available for tanning!
Footwear Capacity/Production Present leather footwear capacity is approximately 21 million pairs p.a. while current production level is about 12 million pairs. There are about 500 units, 10 fully mechanized, 25 semi-mechanized and the rest operate at cottage level. About 20 per cent of total production is carried out at cottage level.	Under-utilized capacity is over 40 per cent, due largely to inability of local tanneries in meeting demands and inadequate foreign exchange to purchase finished leathers.
Footwear components BATA (Nigeria) Ltd. produces some, but the majority are being imported.	Requirements are being studied so as to formulate plans to produce them locally.
Leather Products Variety of leather goods are produced by widely scattered units for both tourist and local markets, consuming each year, about 6 million ft.^{2} of leather which are mainly locally vegetable-tanned. Only two of the units are semi-mechanized, utilizing about 2 million ft.^{2} of leather per annum.	Need exists for the establishment of modern leather goods factories and the training of technologists artisans, especially in modern design development and pattern-making.
Chemicals Virtually all requirements are met thorugh imports except most of vegetable tanning materials and salt and some quantities of hydrated lime, sulphuric acid, fatliquors and calcium carbonate (for plastic shoes filler). Rural tanneries utilize domestic Bagaruwa (A.nilotica pods).	The development of a number of indigenous alternative chemicals by LERIN is in the pipeline wit particular reference to vegetable tanning, unhairing and bating agents, fatliquor, dyestuffs and syntans.
Technology Adequate leather and footwear technology available but less so in leather goods manufacture. Plans are underway for local fabrication of implements and simple machi ery.	Except for a few tanneries with one or two expatriates on their staff, most technical and managerial jobs are being performed by Nigerians
Training Has a training school offering courses in hides and skins improvement and leather technology [initially FAO assisted]. A certificate course in footwear manufacture is also in the process of being established.	Some technical assistance has been made availabl to some countries in the sub-region, such as Cameroon, Ghana and the Gambia. An Intra-Africa training programme in leather industry has also been jointly organized with the Training Branch of UNIDO.
Institutional Has a leather sector research and development institute: L.E.R.I.N., Zaria.	Could offer investigational, control and analyti services and possesses competence for carrying o feasibility studies.
Tariff/Non-Tariff Barriers Free importation of raw hides and skins, hig import duties on leather and leathergoods, importation of footwear banned. Export duties on finished leathers are negligible while exportation of raw and semi-processed hides and skins is placed under licence.	
Export Know-how Well established for raw and semi-processed hides and skins. In the case of finished leather and footwear, internal demand exceeds supply, so no export required.	

R W A N D A

SUMMARY

Estimates as to livestock population and animals slaughtered in Rwanda differ slightly between those presented by FAC and those given by local sources. It is assumed that for the year 1983 the actual figures would be close to the following: For livestock population 650,000 cattle, 312,000 sheep, and at least 1 million goats (according to local sources), and for slaughter some 130,000 cattle, 75,000 sheep and 675,000 goats. It is particularly in the case of goats that the estimates differ noticeably.

There is one small tannery in Kigali which belongs to the SODEPARAL company. A footwear and leather products department is attached to the same enterprise. The production capacity of the tannery is given as some 9,000 cattle hides and some 40,000 skins per year, and the actual output is probably even lower than that. No data are available on footwear production in the country.

The potential availability, particularly of goat skins, is relatively large and the expansion of the leather industry in Rwanda seems possible, provided that suitable conditions for such expansion are ensured.

The recommendation previously proposed by UNIDO that a detailed survey be carried out to assess the actual situation of the entire leather industry sector in the country and its potential for further development is strongly supported. It is expected that resulting from this survey concrete recommendations will emanate on how best to strengthen the technical and economic capability of the leather sector in Rwanda.

COUNTRY PROFILE & ELEMENTS

RWANDA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 650 / 130 Sheep 312 / 70 Goats 810 / 300	According to local sources, however, the goat population a number of goats slaughtered are considerably higher than t estimated figure. According to these sources, the potenti available goat skins would be some 675,000 skins (in 1980). actual recovery, especially of skins, however, is very low.
Tanning Capacity & Production There exists one small tannery in the country, belonging to the SODEPARAL company. The production capacity is reported to be only some 9,000 cattle hides and some 40,000 skins annually, and actual production even lower.	The raw material basis, particularly of cattle hides and of goat skins, if recovery is substantially increased, would appear to justify the possible expansion of leather product in Rwanda.
Footwear Capacity & Production The SODEPARAL company also has a footwear department attached to the tannery but no up-to-date information is available as to actual production output of leather footwear.	Increased production of leather footwear would depend on domestic demand for such footwear and on local availability of finished leather.
Footwear Components Assume all necessary components are imported.	
Leather Products The SODEPARAL company also has a department for the manufacture of leather goods but production output is not known.	
Chemicals Assume that practically all chemicals needed for the tannery are imported.	
Technology (Tanning & Footwear) Experience in tanning and footwear technology are available in the existing tannery/footwear enterprise but only for limited productions.	
Training In-plant training facilities available in the existing tannery/footwear enterprise.	
Institutional Nil.	
Tariff / Non-Tariff Barriers Not known.	
Export Know-How Not known.	

SENEGAL

SUMMARY

The Senegalese livestock is relatively important and consists of 3.3 million sheep/goats and 2.3 million cattle. The legal monopoly held by SERAS in the field of abattoirs and hide production and the de facto purchasing monopoly position of Bata, allows tremendous losses of raw materials and only 50 per cent of possible hides and skins are recovered and their quality is very poor.

Two tanneries exist, BATA whose production is stabilized at circa 66,000 hides p.a. and another recently installed tannery for sheep and goatskins which is at the preproduction/trial stage with an anticipated production of 1,000 skins per day to the wet-blue stage. An extension of this tannery is foreseen in the near future. In both tanneries production, qualitively and quantitatively, is hampered by the very poor quality of the available raw materials.

During the last five years, some 500 employees, semi and fully qualified, have left BATA's employ, however, it appears none of these persons have established artisanal workshops in this sector, and currently artisanal activity is virtually non-existant.

Footwear production has stabilized around 50 per cent of the installed capacities (BATA 1.2 million p.a.). The non-leather footwear production is important but also stagnates at 50 per cent of the installed capacities of 14 million pairs per annum. Although import taxes are very high (75 per cent), the local market is inundated with declared and clandestine imports, estimated by BATA at 1 million pairs per annum. Officially 270,000 pairs of footwear are imported of which about 10,000 pairs are of the luxury high-fashion type, BATA exports 150,000 pairs."Thong" production is 4.5 million pairs per annum (BATA).

In order to develop the sector in an orderly manner, and maximise recovery and utilization of domestic raw materials, it is recommended that international assistance be sought to carry out a programme in the following areas:

1. Hide and skin improvement with special emphasis on flaying, curing and collection;
2. Thorough audit of the leather industry sector with immediate assistance for quality standards establishment and quality improvement;
3. Develop TANISEN potential:
4. Promotion of small business and establishment of a common facility-cum-training centre.
5. Establishment of a leather industry monitoring service at the Ministry of Industry.

COUNTRY PROFILE & ELEMENTS

SENEGAL

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins Since 1983 the livestock, slaughter, and skins production figures have stabilized. Sources: F.O Vol.17 (1985), Ministry of Agriculture, Service de l'Elevage, SERAS (in thousands): Livestock: Local, Imported, Loss; Slaughter*): Official, Unofficial; Hides/Skins: Tanned, Export, Diff.; Slaughter **): Coll. Bovins 2300 40 170 160 80 66 100 50 9.8 67 Sheep 2200 250 70 213 400 — 213 400 25.75 35 Goat 1100 — 35 143 200 — 143 100 32.20 42 *) skin balance may be: 40% loss, unrecorded exportation: 55%, artisanal processing: 5%. **) Compared with total livestock	Enormous losses due to very inefficient collection, no selection, insufficient conservation. Assistance to this sector very desirable, PME has capacity for collection.
Tanning Capacity & Production One industrial hide/skin tannery (Bata): Capacity: Finished: 400 skins/day Wet blue: 500 hides/day Production: Finished: 280 hides/day Sole leather: 34,500 kg/annum One industrial skin tannery (TANISEN): Capacity: Wet blue: 1000 sheep/goat skins/day No industrial production: various trial stages: tests with chamois leather. Very limited artisanal production of sheep/goat/reptile skins.	TANISEN as only local enterprise has good potential. Need for assistance regarding improvement of quality and collection of raw skins. To improve technology used by artisanal units they should be guided towards small scale industry operation
Footwear Capacity & Production One production unit for leather footwear (Bata): Capacity: 1,200,000 prs.p.a. Production: 800,000 prs.p.a. Seven production units for non-leather footwear (Bata and SSPA): Capacity: 14,700,000 prs.p.a. Production: 6,352,000 prs.p.a. One production unit for thongs (Bata): Capacity/Production: 4,500,000 prs.p.a. All articles for local market, except Bata: exports 25% of production Total production of all articles by artisanal units estimated 100,000 prs.p.a. Importation estimated at 270,000 pairs per annum/	Assistance to be concentrated on artisans: only they can fill gap causing unrecorded imports.
Footwear Components SIAP manufactures compounds for soles and synthetic materials for uppers. Their production amounts to 50 tons/annum against installed capacity of 260 tons/annum. No details available on a recently started enterprise of same type.	
Leather products Very limited artisanal production.	
Chemicals All imported: artisanal tanneries employ local vegetable tannin	
Technology (Tanning & Footwear) Installed units are well equipped: artisans work primitively	TANISEN urgently needs upgrading by appropriate technologies.
Training Except in industrial enterprises: non-existant.	TANISEN could be utilized as training centre
Institutional Nil	
Tariff / Non-Tariff Barriers Numerous, but inoperational	Offical and de facto monopoly of SERAS/Bata hamper development of sector
Export Know-How Unrecorded exportation flourishing	TANISEN in search for assistance

SIERRA LEONE

SUMMARY

The actual livestock population of Sierra Leone is not known, it is, however, known that some 50 per cent of livestock and meat products consumed are imported, mainly from the Republic of Guinea. Such imports, value approaching $US 20 million per annum, account for over 10 per cent of the country's balance of payment deficit. If self-sufficiency is to be achieved in this area a major development programme directed toward increased herd growth, offtake rates and yield would be necessitated within an effective integrated planning approach.

Currently, if all hides and skins produced were available there would be marginally sufficient raw material for an industrial tannery. However, some 85 per cent of the bovine hides are utilized for human consumption and the hides and skins currently available to a potential tannery are less than 50 per cent of the volume normally assumed necessary for viable operation. Currently only a few cottage/rural tanneries exist producing mangrove tanned leathers.

Five footwear factories produce shoes from man-made materials, and they and the leather craftsmen who currently work with the leathers from the rural tanneries all express the need for domestic supplies of finished leathers, as, due to problems of non-availability of foreign exchange, imports of leather are constrained. It is recommended that a detailed national resource and utilization survey of the sector be undertaken before further sectoral development strategies may be prepared.

In the long term any programme for self-sufficiency in meat production may make directly available increased volumes of hides and skins, and indirectly, by lowering meat prices, may lessen the well established local custom of consuming bovine hides allowing sufficient hides and skins to operate a viable tannery. When a current programme to install a number of new abbatoirs is finalized, the possibility of associating a tannery under the same management could be investigated as such new abattoirs would allow hides and skins to be supplied to a tannery.

Given the current insufficiency of raw materials for a viable industrial tannery at national level it is recommended that a survey of neighbouring countries of the subregion be undertaken to establish whether others are in a similar position and if a mutually advantageous, subregional, integrated project for tanning and leather products would be feasible and viable.

A training programme is currently needed in the footwear and leather products sectors to reduce reliance on expatriates. If a tannery project is prepared fellowships in leather technology will be necessary as no nationals are known to be trained in this discipline.

COUNTRY PROFILE & ELEMENTS

SIERRA LEONE

SECTORAL PROFILE

Hides and Skins (in thousands)

	1983 FAO Estimates are:			Consultants' survey and local interviews suggest:		
	Live Animals	Live Imports	Slaughter	Slaughter	Human Consumption	Available Hides & Skins
Bovine	351	25	63.5	66	57	9
Sheep	320	49	113.0	114	-	114
Goat	168	10	42.0	50	-	50

Tanning Capacity/Production

No industrial tannery.

Several cottage/rural tanneries producing up to 600 mangrove tanned skins each per annum.

Footwear Capacity/Production

Five operating footwear plants - almost all output synthetic materials. Total capacity over 10,000 pairs/day.

Production circa 1,800 pairs PVC/day plus 2,500 pairs injected plastic.

Further plant to operate in near future.

Footwear Components

Imported.

Leather Products

Two major producers:

Sierra Leone Suitcase Works - Sixty employees. Capacity for 5,000 suitcases and 2,000 school bags/week. Capacity utilized at 60 per cent due to lack of foreign exchange for PVC and accessory imports.

Panorafrica Arts Centre - Real leather products procures 5,000 skins and 2,000 hide leathers per annum.

Also numerous small leathercrafts workshops.

Chemicals

Mangrove and crude alum salts available for rural tannery.

Salt is only other leather sector chemical produced over 10,000 mt. per annum.

Technology - (Tanning and Footwear)

Rural tanning technology only exists - no industrial technology.

Technology for PVC and injected footwear available. In the past, leather footwear was produced and some residual plant exists.

Training

Nil available.

Institutional

Nil

Tariff/Non-Tariff Barriers

Not known.

Export Know-How

Not known.

ELEMENTS FOR "INTEGRATED PROGRAMMES"

Dependent on imports of live animals and meat products for almost 50 per cent of requirements. Sheep and goat (air dried) available for export at this time. Insufficient raw material for industrial tannery could form basis for sub-regional project.

Footwear manufacturers wish to produce leather footwear but no finished material available locally and imports constrained due to lack of foreign currency.

Demand for leather not able to be met (as above).

Would need to import virtually all chemicals if tannery installed.

Need currently for training for footwear and leather products technology to replace expatriates holding senior positions.
If tannery installed would require fellowships / [illegible] training.

S O M A L I A

SUMMARY

Somalia, with a high livestock population, is prima facie a country with high potential for a leather sector. However, although the country invested heavily in the 1970's in capacity for leather production, such capacity operates today at minimal production levels.

A wide variety of factors account for this low level utilization of tanning capacity. Possibly of prime importance is the financial strategy adopted by the Somali Leather Agency, known as "Agency" (umbrella organization charged with operating the hide and skins commercial sector as well the statal leather and leather products production units). This body appears to offer very low prices for raw hides and skins, with the result that incentive to commercialize these products is low and only some 50 per cent of available" hides and skins are actually collected. Also significant is the non-operative canned meat plant, which was installed to process to meat up to 100,000 bovines per annum. Initially this plant was expected to yield higher financial returns as well as yielding hides for processing in the adjacent tannery. Due to a variety of reasons, exports of large volumes of live animals "on the hoof" still continue with loss of hides to Somalia.

The "Agency" has had problems in obtaining the necessary foreign currency to purchase chemicals and spares for the tanneries; as a consequence, its four tanneries have been operated at low capacity utilization levels. The majority of recovered hides are tanned for domestic manufacture of footwear but virtually all the sheep and goat skins collected (2-3 million p.a.) are exported in the raw state with overall tanning capacity utilization at only 15-20 per cent.

The foreign currency situation is due to ease as under new Government regulations exporters will receive 65 per cent of export value as a foreign currency allocation.

In addition to the above structural problems the Somali leather sector displays a shortage of skills at all levels, including technology, maintenance, marketing and management, and is in dire need of technical assistance. However, given the nature of the problems to be overcome, it could be suggested that technical assistance could only be effected if the Agency's hide buying policy and management strategy were overhauled and under the guidance of the assisting technical assistance body. The most effective manner to obtain the necessary technical inputs may be via a "joint-venture" project where the external partner injects some of the required foreign currency and is given complete management-control of the enterprises.

COUNTRY PROFILE & ELEMENTS

SOMALIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins From the reported live animals in the country annual hide and skin availability could be expected: Bovine 0.245 million Sheep/Goats 6.490 million: however, actual collection is only Bovine 0.090 million Sheep/Goats 2.5 million This low collection level may be due to low price offered to primary producer Flay and cure of "country" hides and skins of very low standard.	Most skins exported in raw state; need for realistic hide-and-skin buying policy. Need for drastic uplift in technique of flaying and curing especially in rural areas.
Tanning Capacity/Production Firm data not available but it appears tanneries are working at low level utilisation: Production (pcs.) — Capacity (pcs.) KM 7: Hides: 30,000 Skins: 25,000 — Hides: 75,000 Skins: 625,000 Kismayo: 12,500 — 12,500 — 125,000 — 375,000 Hargeisa: — — Nil — — 1,000,000 Burao: — — Nil — — 350,000	Sufficient capacity exists to process the hides and skins now exported. Require firm management decision and input of foreign exchange for machinery/equipment spares & chemicals, also technical management.
Footwear Capacity/Production 2 major factories exist: KM 7 (parastatal) cap. 700 prs./day, prod. 2-300 prs./d. Missioni cap. 2-300 prs./day, prod. N/A Most production seen was low quality D.M.S. military boots and sandals. Current production does not fulfil domestic demand.	Possibility to link export of semi-processed leather with import/supply of footwear to satisfy domestic market.
Footwear Components All imported; lack of foreign currency for such items partially accounts for low production.	
Leather Products Small volume for local/ tourist use; products seen not suitable vol./export.	
Chemicals Except salt and some local veg. tans all imported. Lack of foreign currency may be significant cause for non-operating skin tanneries (pickle/wet blue).	Need for chemical input - possibly as partial payment for semi-processed leathers.
Technology Plant seen - leather and footwear - originally well mechanised and installed. Even though all units less than 10 years old obvious signs of plant run-down, partly due lack of foreign currency. Compounded by poor maintenance.	Requires injection of foreign capital for spares; need for assistance with maintenance.
Training No facilities exist today. KM7 tannery originally set up as development/ training centre (later converted to production unit). Apparent need for in-plant and fellowship training for leather and leather footwear industries.	In need of training - in-plant and fellowship. Possible need to co-ordinate with an arabic leather centre.
Institutional "Agency" controls all activities re: hides/skins/statal leather/l.f/wear plants.	
Tariff/Non-tariff Barrier Reported shortage of foreign currency, reflected in importation problems, major hurdle to operating tanneries and footwear plants, due to be eased in future as exporters will receive 65 per cent of FOB value in foreign currency.	Chemicals, etc., could be obtained by long-term arrangement with leather importers.
Export Know-How Only currently exporting raw hides and skins. Officials of the "Agency" state "no demand" for their leather. Possibly due poor quality or high price sought.	Joint venture operation of the tanneries could supply the necessary inputs.

SUDAN

SUMMARY

Given the large reported livestock holdings, Sudan could be expected to have available annually almost 1.5 million hides and over 8.5 million skins. Currently, however, the hides and skins recovered are at only some 60 per cent of these levels, such shortfall may be partially due to unrecorded exports of hides and skins to neighbouring countries and may also reflect live animal decimation due to recent droughts. Hide and skin collection and marketing is carried out by the private sector. Notwithstanding the widespread governmental hide and skins improvement extension service, the quality of hides and skins is reported to be poor with flay marks and poor curing being major defects.

In 1962, with Yugoslav assistance, an industrial tannery was commissioned (Khartoum) augmenting the few small pickling plants and 3-500 rural tanneries. In the 1970s two further large Government tanneries were installed. Unfortunately, the technical and financial results of these investments have been disappointing as overall the tanneries only utilize less than 40 per cent of their capacity [with the vast majority of hides and skins exported raw] - and the majority of such utilization is only to semi-processed stages (wet-blue, etc.) - in addition, the leathers produced are reported to be of mediocre and variable quality. Such low capacity utilization may be due to shortage of raw materials (traders prefer to export raw hides and skins), difficulties due to fixed internal finished leather prices, high overheads and lack of management and technical skills, frequent power cuts, et al.

The leather shoe industry is not very well developed with capacity utilization of only some 50 per cent. The few shoe factories that exist suffer from shortage of good finished leather. The leather goods industry is in the same situation and both sectors have virtually no chance to develop unless improvements are made in the tanning industry.

Endorsement is given to previous recommendations to intensify efforts to improve recovery and quality of raw hides and skins, and the need is recognized for a reformulation of Government policies and strategies for the development of the sector and the strengthening and rehabilitation of existing tanneries, either through a UNIDO itnegrated technical assistance programme or through joint venture agreements.

COUNTRY PROFILE & ELEMENTS

SUDAN

SECTORAL PROFILE

Hides & Skins (in thousands)

	FAO suggests for 1983 Live Animal	Expected hides & skins	Known recovery of hides/skins	Recovery as % of expected volume
Bovine	19,550	1,447	950	66 %
Sheep	19,500	4.992	3,000	60 %
Goat	12.900	3,993	1,500	40 %

Tanning Capacity & Production - Three governmental tanneries:

	Capacity (1000 pcs.p.a.) hides	skins	Capacity utilization % hides	skins
Khartoum	90	450	66	22
White Nile	180	600	25	9
El Gezira	300	750	20-30	15-20

Widespread rural tanning activity employing Acacia nilotica Pods

Footwear Capacity & Production

Major footwear factory is Bata, one medium-sized locally owned factory (LARCO) and 20 small registered shoe factories plus many hundreds of footwear artisans.
Total leather footwear capacity: 10.9 million pairs p.a.
Actual leather footwear production: 5-6 million pairs p.a.

Footwear Components

Position not known.

Leather Products

No large industrial production.

Widespread artisanal production - sandals - bags- water carriers "Harness", etc.

Chemicals

Local salt and lime available.
Most other chemicals for industrial tanning imported.
Rural tanneries utilise domestic Acacia nilotica (Sunt or Garad).

Technology (Tanning & Footwear)

Internationally acceptable technology available for tannery and footwear production.

Training

In early 1960s FAO assisted the installation of a "Hide, Skin and Leather Centre" to carry out training for hide and skin improvement and improved rural tanning technology. High level tanning technology needs met by overseas training.

Institutional

Hide, Skin and Leather Centre (see above).

Tariff / Non-Tariff Barriers

Not known.

Export Know-How

Know-how existant for raw and pickled products, limited success for further processed materials.

ELEMENTS FOR "INTEGRATED PROGRAMMES"

Note I: The FAO estimates may not give sufficient regard to live-stock losses due to prolonged recent draught.

Note II: Some part of the unrecovered hides and skins may be due to unrecorded exports to neighbouring countries.

Private hide/skin traders export most hides/skins raw without control.

Constraints to production in tanneries said to be due to:
(i) Shortage of raw material
(ii) Poor shop floor management (low quality output)
(iii) Poor machine maintenance
(iv) Unhealthy financial position
(v) Lack of export know-how.

Major constraint said to be lack of suitable finished leathers; substitute upper material imported to satisfy domestic demand.

Possibility exists to export "Garadtan" - a high tannin content material obtained by physical processing of Acacia nilotica Pods.

Activities currently restrained due to lack of sufficient funding.

SWAZILAND

SUMMARY

The livestock herds and flocks of Swaziland which are reported at 670,000 bovine and some 300,000 petty ruminants should provide a good base for a leather industry. Estimates of off-take and hide-and-skin production vary greatly, a FAO report of an intensive hide-and-skin improvement programme suggests an annual availability of 90,000 hides and 60,000 skins of which some 35 per cent are produced by the Swazi Meat Corporation in a well organized abattoir. Official exports of raw hides and skins are well below these levels; in 1979/80 only some 36,000 pieces being recorded (based on an average weight of 20 kg).

In past years a rural tannery was established with ILO assistance to produce vegetable tanned leather - possibly as a basis for a leather handicrafts sector within the orbit of the Small Enterprises Development Corporation (SEDCO) who have undertaken training in "leatherwork". It is reported, however, that the rural tannery is now moribund and thus currently no tanning activity exists.

Swazi development authorities are currently seeking assistance to develop a wet-blue tannery to process some 60,000 hides per annum (1.8 million sq.ft per annum) and in order to achieve their objective it may be opportune for UNIDO assistance to be sought to finalize location/layout/capital requirements, etc. of such venture (Project Outline prepared).

Currently no industrial production of footwear is reported but in late 1985 it was announced that BATA was installing a footwear factory to produce some 3,000 pairs of footwear/week "mainly for the local market". What proportion of such capacity will be of leather is not known.

COUNTRY PROFILE A ELEMENTS

SWAZILAND

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) Livestock / Estimated hides/skins produced Bovine 670 — 90 Sheep 30 } Goat 280 } — 60 Actual volume exported appears less than 50% of estimates.	High proportion of hides and skins not recovered (especially dried material) - would appear great need for assistance in hides and skins improvement and marketing.
Tanning Capacity & Production Only tanning capacity is a rural unit now said to be moribund due to plant deterioration and lack of work capital.	Assistance sought to develop a wet-blue tannery to process some 60,000 bovine hides p. a. [possible demand for finished leather also - see below].
Footwear Capacity & Production Until 1985 no industrial capacity reported - Bata 11/85 announced they are installing a footwear plant with capacity for 3000 pairs/week. No indication of product mix.	If capacity for leather footwear installed by Bata may justify finished section to proposed tannery.
Footwear Components All imported.	
Leather Products Small artisan production to satisfy local demand - Harness, etc.	
Chemicals Wattle bark available.	
Technology (Tanning & Footwear) Rural tanning technology available. Bata will provide footwear technology.	Proposed new tannery will supply.
Training SEDCO was in the past reported to have trained personnel for "leatherwork".	If tannery proposal being implemented fellowships, etc., in leather technology will be required.
Institutional Nil.	
Tariff / Non-Tariff Barriers Member of Southern Africa Customs Union (SACU) and SADCC.	
Export Know-How Only known expertise in raw hide and skin exportation.	

TANZANIA

SUMMARY

The large livestock holding of Tanzania could, with normal off-take rates, yield some 1.4 million hides and 2.5 million skins p.a. In the early '70's a fully mechanized tannery was installed at Moshi, originally a joint venture but later 100 per cent state-owned, its output of some 800 hides/day (0.2 million p.a.) was mainly wet blue for export plus some finished leather for the domestic market. Initially overcoming a number of problems in developing a new industry the Moshi tannery functioned efficiently. This example spurred the Government to include in its five-year plan 1977-81 a major programme for sectoral development which included two tanneries with capacities of approx. 8 million sq.ft p.a. each (equivalent to some 1200/1400 hides/day) and expansion of the existing tannery in addition to a new footwear factory with capacity of 4 million prs.p.a. (2 million pairs leather footwear).

It was envisaged that such developments would process virtually all of potential hides and skins and obtain significantly increased volume of foreign exchange. To aid the programme the Government banned raw hide-and-skin exports.

The programme has met a number of obstacles: (1) The number of hides and skins recovered in Tanzania has declined, the parastatal given monopoly in this sector apparently purchased from primary producers at low prices and significant volumes of unrecorded exports seemed to have incurred so that only some 56 per cent of expected volume of hides and 30 to 35 per cent of volume of skins were available within Tanzania. (2) General unfavourable trade balance within the country with severe foreign currency shortage precluded the purchase of essential chemicals, etc.

As a consequence the total tanning capacity of the three major tanneries was utilized in recent years at a level of only some 40 per cent.

Due to a variety of reasons including poor project concept, lack of management, operational skills and procurement problems, the newly developed footwear factory is only operating at 4 per cent capacity utilization producing less than 0.2 million pairs p.a. against a capacity of four million pairs p.a. Possibly for similar reasons another older established shoe factory with initial capacity of 4 million prs p.a. (leather and canvas) was producing 3.1 million pairs in 1978 but this had declined to some 1.5. million prs.p.a. by 1982.

Major reappraisal of policies and practices by the Government seems essential if this major investment is to be operated viably. Detailed proposals have been included in UNIDO and World Bank studies. In the footwear sector technical and financial assistance to the new plant could possibly be harnessed to a management contract with a specialized foreign partner.

COUNTRY PROFILE & ELEMENTS

TANZANIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) FAO estimates suggest hide/skin production 1983: Bovine 1,420; Sheep 1,000; Goat 1,500 But actual recovery was: 800; 320; 520 Parastatal THS has monopoly, pays low price to primary producers, thus unrecorded exports possibly encouraged	Nominally exports of raw hides and skins banned but in reality appreciable volumes exported to neighbouring countries whose currency has higher purchasing power.
Tanning Capacity & Production Three major governmentally operated tanneries: Moshi: Annual capacity (million sq.ft) 10.7; Annual prod. (mill.sq.ft.1982) 5.1; Capacity utilization 48 % Morogoro: 8.3; 4.1; 50 % Mwanza: 7.5; 1.5; 19 %	Low capacity utilization said to be due to lack of raw materials and chemicals (foreign exchange!). Position may be eased in future as tanneries may now retain a portion of foreign exchange yielded by exports.
Footwear Capacity & Production Two major units: Old established "Bora Shoe" with capacity approx. 4 million prs.p.a. (leather/canvas) produced some 1.5 million pairs in 1982. Recently installed Morogoro Factory - capacity 4 million prs.p.a. (50:50 leather:canvas) - after several years operation only producing 0.15 million prs.p.a., i.e. 4 per cent capacity utilization.	Problems accounting for low capacity utilization at Morogoro have been: Poor infrastructure/managemental deficiencies/procurement problems/unsound basic project concept. It has been suggested that the Morogoro unit could best be assisted by way of a management contract with major external partner.
Footwear Components Mostly imported.	
Leather Products Several small semi-mechanized units as well as artisanal units satisfy local demand.	Possibly UNIDO will assist this sector in future.
Chemicals Wattle available domestically. Virtually all other chemicals imported - difficulties due to lack of foreign exchange.	
Technology (Tanning & Footwear) All updated technologies implanted. All tanneries and footwear plants had expatriate assistance in formative years.	
Training No formal facilities available. Significant in-plant training input, fellowships from UNIDO and other external assistance programmes.	
Institutional Tanzanian Institute for Leather Technology. Project partially implemented - not all equipment supplied /installed.	Possibly scope for external sponsor to complete and operate this institute.
Tariff / Non-Tariff Barriers Ban on export of raw hides and skins.	
Export Know-How Raw hides and skins expertise. Wet-blue and further processed products - limited experience.	

T O G O

SUMMARY

The livestock population in Togo, in 1983, was estimated at 260,000 cattle, 840,000 sheep and 760,000 goats. Limited quantities of live animals were imported. The potential availability of sheep skins and goat skins is estimated at some 180,000 skins for each category, but actual recovery of these skins is reported to be low. Hides and skins are partly used for human consumption, and limited quantities are exported raw.

There are a number of artisanal tanning units, but no mechanized tannery. The existing BATA shoe factory, with an installed production capacity of 600,000 pairs annually, mainly manufactures footwear using non-leather materials. Limited amounts of leather footwear are produced using finished leather imported from France and from Senegal.

In addition to real leather goods manufacture, in artisanal type units, there is also some non-artisanal production of "leather goods" using materials other than leather.

Unless the recovery of sheep skins and goat skins is significantly improved, there does not seem to be much scope for further development in Togo of the production of leather and leather products on an industrial scale.

COUNTRY PROFILE AND ELEMENTS

TOGO

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 260 / 36 Sheep 840 / 179 Goats 760 / 182 Imports of live animals, amounted in 1983, to 5,000 head of cattle, and 11,000 sheep and goats.	Controlled slaughter was, in 1974, estimated at some 80 per cent for cattle, but only some 10 per cent for sheep and goats. Hides and skins are partly used for human consumption. Only limited quantities of raw hides and skins are exported.
Tanning Capacity/Production There exists no mechanized tannery in Togo. However, there are a number of artisanal tanning units spread throughout the country. Data on their number and production output are not available.	
Footwear Capacity/Production The BATA shoe factory in Togo manufactures mainly non-leather footwear, and only very limited quantities of leather footwear. In 1980, BATA (Togo) imported 500 bovine leathers from France and 2,500 from Senegal (annually). Its installed production capacity is reported to be 600,000 pairs (all types).	Finished leather used for leather footwear manufacture imported from France and Senegal.
Footwear Components Assume all imported.	
Leather Goods In addition to artisanal leather goods production there is some non-artisanal production of "leather goods" in Togo, using non-leather materials. In 1980, two small projects were being considered for real leather goods manufacture, one planned to use 2,200 skin leathers (sheep and goat) and 50 bovine leathers, the other 6,800 skin leathers and 150 bovine leathers, annually.	
Chemicals Rural tanneries probably employ domestic materials mainly.	
Technology (Tanning and Footwear) Tannery technology is apparently only available at artisanal level. Footwear technology knowledge is available in the existing BATA shoe factory, including for leather footwear manufacture.	
Training Facilities No facility other than in-plant training (footwear)	
Institutional Probably none.	
Tariff/Non-Tariff Barriers Not known.	
Export Know-How Not known.	

TUNISIA

SUMMARY

The livestock population in Tunisia, according to Tunisian authorities was, in 1984, as follows: 613,000 cattle, 5,561,000 sheep, and 1,069,000 goats. The number of animals slaughtered was estimated at 230,000 cattle, 2,101,000 sheep and 663,000 goats. The available cattle hides are not sufficient to meet the requirements of local tanneries. Therefore, significant quantities of cattle hides have to be imported. On the other hand, sheepskins are in surplus and are exported in the raw state, some 1000 tons annually. Goatskins also are in slight surplus.

There are 15 mechanized tanneries operating in Tunisia and a considerable number of artisanal units exist. Total requirements of existing tanneries for raw materials are estimated to be: 8,700 tons cattle hides, 2,000 tons sheepskins, and 450 tons goatskins.

The footwear industry is well developed. More than mechanized footwear factories operate on the domestic market and, in addition to that, 18 so-called "off-shore" shoe factories are geared to production for export only. Some 10 million pairs of all types of footwear were produced in 1983, of which some 2.2 million were leather footwear. The artisanal sector also is rather important in the field of footwear manufacture. Some 15 industrial units are involved in leather goods manufacture, and several plants specialize in the production of components and auxiliaries for the footwear and leather goods industries.

The well developed nature of the sector may be gauged by the level of exports from Tunisia, e.g. 1981:

Exports prepared parts of footwear (SITC 6123)	$US	16.6 million
Exports leather footwear (SITC 85102)	$US	8.6 million

Further expansion of the sector could be yielded by increased utilization of surplus sheepskins for the production of special leathers (for leather garments, gloves, etc.). Further strengthening of the domestic market footwear manufacturing enterprises would enhance the possibility to increase the supply of good quality footwear for export markets.

The well established sectoral Centre SNCC contributes greatly to the sector's success and its regular publications ensure the widespread dissemination of updated technology.

COUNTRY PROFILE & ELEMENTS

TUNISIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 560 / 230 Sheep 5,100 / 2,200 Goats 520 / 430 Some 54,000 live cattle were imported in 1983 while live sheep and goats were exported (some 30,000 in 1983).	Data on livestock and slaughter published by the Office de l'Elevage in Tunis for 1984 give figures which are slightly higher than those given by FAO for 1983, and it seems that the potentially available goat skins are approximately 50% higher than estimated by FAO, the other figures do not differ significantly.
Tanning Capacity & Production The leather industry in Tunisia is well developed comprising 15 mechanized tanneries of which one public-owned tannery started operating during 1985 only. Several artisanal tanning units also exist. The total estimated needs for raw materials of existing tanneries are evaluated at 8,700 tons of cattle hides, 2,000 tons of sheep skins and 450 tons of goat skins.	Cattle hides have to be imported to a considerable extent to allow full capacity utilization of tanneries while sheep skins are available for export, in the raw state. Expansion of skin tanning locally might be possible if right products are aimed at (for instance, leather garments, gloves, etc.).
Footwear Capacity & Production There are more than fifty footwear manufacturing factories in Tunisia of which some 25 are involved with leather footwear manufacture. In addition to this, the so-called "off-shore" companies, based on foreign investment and manufacturing footwear for export, number 18. Total local 1983 production reported at 10 million pairs of all types of footwear. Artisanal production is sizeable.	
Footwear Components There exist several plants manufacturing different components (heels, lasts, soles, etc.) for the footwear industry. Their present number, exact specialization and production output is not known. Certain components and auxiliaries are also imported.	
Leather Products There exist 15 medium-sized enterprises manufacturing leather goods and similar articles made of non-leather materials. Some 400 artisanal units also manufacture different leather goods using leather or non-leather materials. Production output is not known.	
Chemicals Basic chemicals used in the leather industry are locally produced. Most of the special tanning chemicals and also finished products, etc., are, however, imported.	
Technology (Tanning & Footwear) Tanning and footwear technology is available at all levels both in industrial enterprises and in the leather and shoe centre.	
Training In-plant training is available in existing tanneries, footwear factories and leather goods plants. The leather centre, CNCC, provides training courses in different fields. Other institutions exist which give training courses for footwear industry workers.	
Institutional The Centre National du Cuir et de la Chaussure (CNCC) in Tunis has well established facilities and trained staff (some 45 persons) for laboratory controls, development work, and for running training courses, seminars, round-table discussions, etc. A newly established pilot tannery is expected to be operational by early 1986 (established through a bi-lateral agreement with Belgium).	
Tariff / Non-Tariff Barriers "Off-shore" footwear factories specialised in manufacturing footwear for export, are allowed to import the material they need free of duties (including leather). Rules and regulations governing the domestic market's import requirements are kept under steady observation and modifications introduced when considered necessary. Up-to-date information, however, is not available on this subject.	
Export Know-How Export know-how is available covering all subsectors of the leather industry sector.	

U G A N D A

SUMMARY

Animal husbandry in Uganda was in the past well developed and over 0.5 million hides and 1 million skins reportedly produced annually. Recent instability in the country has disrupted the pre-existing collection network for hides and skins and currently the volume of hides and skins available within the country has diminished.

A modern industrial tannery was installed for the Government at Jinja in 1978/9 as a result of a turnkey agreement with a major reputable machinery supplier. Although the tannery capacity is reported variously at from 4.8 to 7.0 million ft^2 per annum, actual production has for long periods been only some 10 per cent of capacity and several times the tannery has virtually ceased production. This low capacity utilization parcially reflects the recent political situation and is said to have been compounded by general lack of know-how and inexperienced management coupled with transport and foreign currency problems.

The leather footwear sector was quite well established with total annual capacity exceeding two million pairs, however, production has in recent years been low due to the general economic malaise within the country and the shortage of finished leather on the domestic market with the result that two medium-sized units have ceased production.

Realistically, plans for sectoral rehabilitation should await stabilization within the country.

COUNTRY PROFILE AND ELEMENTS

UGANDA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Raw Material Base (1983 FAO Estimate) **Livestock Population ('000s)** Bovine 5,100 · Sheep 1,080 · Goat 2,170 **Raw Hides and Skins Production ('000s)** Bovine 560 · Sheep 378 · Goat 760	Re-organization of collection network - improvement in grading and quality of raw stock. Most raw hides and skins are exported in raw state.
Tanning Capacity/Production There is one Government-owned tannery - Uganda Leather and Tannery Industry (ULATI) which was established in 1979 with an installed capacity of 4.2 million sq.ft. hides and 650,000 sq.ft. skins. Other reports suggest total tanning capacity of 5-7 million ft^2 p.a. Its capacity utilization is reported to be low, mainly due to lack of know-how.	UNIDO has proposed a technical assistance programme. Joint-venture agreement is also seen as a possible solution.
Footwear Capacity/Production BATA has a shoe factory with a capacity of 1.3 million pairs per year. There are two other shoe factories with a combined capacity of 190,000 pairs per annum. It is reported that two other medium-size factories are closed down. Capacity utilization in the operating plants is reported to be low. Finished leather shortage is given as the reason.	Finished leather supply has to be improved.
Footwear Components Imported.	
Leather Products There are few small units producing a variety of goods from synthetic material.	
Chemicals Virtually all imported.	
Technology Tannery - there is a gap in know how. Shoe - mechanized - a multi-national operates the largest plant.	Technical assistance for tannery required.
Training No training facilities	
Institutions ULATI is supposed to be responsible for the development of the sector.	
Tariff-Non-Tariff Barriers No tariff for raw exports.	
Export Know-How Some experience in wet-blue and raw.	

Z A I R E

SUMMARY

The livestock population in Zaire is relatively large, estimated by FAO in 1983, to consist of 1.3 million cattle; almost 0.8 million sheep and some 2.9 million goats.

The potential availability of hides and skins is estimated at 150,000 cattle hides, 230,000 sheep skins and some 750,000 goat skins per annum. The quality of the hides and skins is, however, reported to be seriously degraded through inappropriate flaying and curing methods applied.

The BATA tannery, which mainly processes cattle hides, has an installed annual production capacity of 120,000 hides, but the actual production has been reported to be considerably lower (in 1979 reported to be approximately 33 per cent of this capacity). The number, and production output, of artisanal tanning units is not known.

The BATA company has two large shoe factories, one in Kinshasa, and one in Lubumbashi, with a total production capacity of more than 7.5 million pairs of footwear (all types) per year. Actual production output is not known. A small, mechanized shoe factory also operates (production capacity some 50,000 pairs per year) as well as artisanal units manufacturing footwear. Semi-artisanal production of other leather products is reported.

The further processing of sheep skins and goat skins within the country appears not to take place to any important extent. It is suggested that this particular aspect should be given due attention to investigate the possibility of obtaining increased added-value to these raw materials. A project outline for a survey of the entire leather sector aiming at maximizing the utilization of available raw materials is prepared.

COUNTRY PROFILE AND ELEMENTS

ZAIRE

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins (in thousands) 1983 FAO Estimate Livestock / Slaughter Bovine 1,300 / 151 Sheep 760 / 230 Goats 2,900 / 756 There is some import of sheep and goats, of approximately 5,000 heads in 1983.	Over 75 per cent of the cattle come from the Eastern part of the country, where the highlands and climatic conditions are favourable. Hides and skins, although considered to be potentially of good quality, suffer considerable quality down-grading due to sub-standard flaying and curing.
Tanning Capacity/Production There is one industrial tannery, belonging to BATA, located in Kinshasa, with a production capacity of 120,000 cattle hides per year. The leather produced is utilized in BATA's own shoe factories in Zaire. In 1979, the tannery's capacity utilization was reported to be some 33 per cent. The number and production output of artisanal tanning units are not known.	The existing tannery mainly processes cattle hides. In view of the sizeable amounts of sheep skins and goat skins potentially available in Zaire, their further processing within the country, to obtain added value, should be given due attention.
Footwear Capacity/Production The BATA company has two large footwear factories in Zaire, one in Kinshasa and one in Lubumbashi, with a total installed annual production capacity of more than 7.5 million pairs of all kinds of footwear. Present production output is not known. A small industrial shoe factory in Lubumbashi has a production capacity of some 50,000 pairs annually.	Existing footwear production capacity appears to be well developed, and would possibly be able to absorb additional leather footwear production if an increased demand arises.
Footwear Components It is assumed that certain components for footwear manufacture are produced locally by the large footwear factories, and that the other components required are imported.	
Leather Goods Leather goods manufacture in Zaire is mainly at semi-artisanal level. The BATA company also produces certain kinds of leather goods. Production output is, however, not known.	This sector seems to be relatively well developed, but could probably be qualitatively improved, provided better quality leather be supplied.
Chemicals Assume that most of the chemicals needed by the existing tannery are imported.	
Technology (Tanning and Footwear) Both tanning technology and footwear technology knowledge is available in existing industrial factories.	
Training Facilities Probably limited to in-plant training facilities in existing factories (tannery and shoe factories).	
Institutional Not known.	
Tariff/Non-Tariff Barriers Up-to-date information is not available.	
Export Know-How Up-to-date information is not available.	

Z A M B I A

SUMMARY

The Zambian leather sector is virtually the preserve of a major multinational company (Bata) which operates an integrated tannery and footwear production organization; the tannery consuming some two thirds of the country's available raw hides and skins. This situation has not led to full sectoral development.

The Government, in the past, banned the export of raw hides and skins, thus leaving the only tannery in a monopolistic position, purchasing raw hides at some 30 per cent of world price level. A consequence of this low purchase price is that some 40 per cent of potential raw material did not reach the commercial sector and the quality of flay and cure has declined as a further result of low incentive to primary producers. Recently, in order to obtain foreign exchange, the Government authorized the export of raw hides and skins, prices paid have leapt to world levels and, given time, improved volumes and quality of raw material may be forthcoming.

However, with exports of raw material occurring, the tannery and footwear factory may be starved of raw material and even greater volume of foreign exchange may be utilized in importation of footwear to satisfy domestic demand.

From the viewpoint of long-term sectoral development, the export of unprocessed domestic raw material is to be deprecated. It would appear that the government needs to refine a strategy in this area. Options available could be:

(a) Encourage the development of a new tannery, medium-sized (400 hides/day), this would generate the necessary competition to ensure that realistic raw material prices are offered to maximize collection of raw material even if export of raw hides and skins is prohibited. An independent tannery could also allow development of further independent footwear production.

Or: (b) Allow controlled volume of raw exports (gradually reducing volume), to sustain realistic prices for raw material.

Or: (c) Given the possible shortage of raw material which only if it were 100 per cent recovered could ensure successful operation of a second national tannery, it is suggested that UNIDO undertake a special study of neighbouring countries to evaluate the possibilities of a subregional integrated sectoral approach which could satisfy the needs of all concerned countries (SADCC area), many of which do not have sufficient raw material for an economic-sized tanning sector. This may assist the Government in determining its long-term sectoral strategy.

COUNTRY PROFILE & ELEMENTS

ZAMBIA

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides and Skins From a bovine slaughter estimated at 250,000 p.a. only some 150/180,000 hides commercialized. Poor actual yield due low prices offered in previous years (now partially remedied) and poor transport infrastructure. Country hides exhibit flay cuts/poor cure.	About ten thousand wet/salted bovine hides exported; possible expanding as increase in commercialization of hides and skins. Hides/skins from "country" and small butcheries need upgraded flay/cure techniques.
Tanning Capacity/Production One major tannery (BATA) has capacity for up to 200,00 hides p.a. Operating at lower levels (150,000 p.a.) due to lack of available hides. S.I.D.O. seeks to establish 10 non-mechanized units each to handle up to 10 hides/day. Project proposals for further tanning/gameskin processing not yet implemented.	Possible scope for a medium-sized tannery (300 to 400 hides/day) to remove current monopoly in sector.
Footwear Capacity / Production Bata only significant producer of leather footwear. Produces ca.5,000 pairs/day. Several small units assembling components (few hundred/day). Several artisanal and co-operative units producing 10 to 20 pairs per day.	In absence of alternate leather producer little prospect to develop further footwear units.
Footwear Components Bata produce some, others imported. Data suggest imported components of their leather footwear: 30 per cent of total cost. Others import most components - see chemicals, below.	
Leather Products No significant production/demand.	
Chemicals Virtually all imported. Major general problem to obtain necessary FOREX. Even purchases from neighbouring countries require hard currency. PTA which was to overcome this problem still requires settlement of 80 per cent in hard currency. Bata forced to export Wet Blue to obtain FOREX but would prefer to finish and utilize such leathers.	Need for modification of PTA arrangement to allow import from neighbouring countries (some of which produce most general chemicals) in soft currency or Barter system.
Technology Bata (leather and footwear),as a multinational, has access to all available technologies. Bilateral assistance (India) currencly attempting transfer technology at rural level (Mazabuka - see below).	If second tannery or gameskin processing implemented, would require external assistance.
Training Bata has in-group training system, in-plant and fellows. Facilities for training at rural level, proposed at Mazabuka Centre ($US 269,100; ref.: 10 tanneries of 10 hides/day).	If Mazabuka Centre project is felt likely to assist industrial development, the proposal needs funding.
Institutionel Nil - except for proposed centre at Mazabuka.	
Tariff and Non-tariff Barriers (Member of SADCC and PTA) Raw hide export allowed under license - exporter retains 50 per cent of FOB as foreign currency. Heavy duty on imports. Near impossibility to obtain FOREX, as a result high costs - eg. bag salt, imported @ K 3-4, sells @ K 35!!	
Export Know-How Internal demand exceeds supply in leather and footwear, i.e. no export required.	

ZIMBABWE

SUMMARY

Some 40 per cent of Zimbabwe's cattle herd which provide the majority of hides produced are from the commercial feed lot sector which utilizes highly developed crossbred animals, yielding hides of 37 - 40 ft^2. The majority of the 600,000 hides produced annually are processed at the five modern abattoirs controlled by the Cold Storage Commission (CSC). Slaughter numbers have been reduced in recent years due to recent droughts). SCS green flesh the hides and cure in brine pits yielding a top quality product. The small volume of hides derived from other slaughterhosues, however, have flay cuts and other defects significantly downgrading them.

The four industrial tanneries have a capacity well exceeding domestic availability of hides, such situation is exacerbated by the CSC which exports some 25 per cents of its production, consequently there is extreme competition for raw material and agreed quotas have been arranged to alleviate the situation. The tanneries are well developed, generally producing some 70 per cent leather in finished form for domestic footwear production or export with the balance being processed for wet blue export.

The leather footwear sector is well developed and integrated, three of the tanneries having their own footwear production plants. Production of leather footwear is approx.3.2 million pairs per annum which is some 60 per cent of installed capacity. Some 0.5 million pairs of leather footwear are exported per annum. Generally the footwear factories produce the majority of the necessary components. In addition, a component company produces unit soles, etc.

The sector in enhanced by the availability of significant volumes of gameskins culled from national parks (elephant, kudu, impala, zebra, buffalo).

In 1985 the CSC and the tanners have established a Leather Institute which they believe will assist with uplifting the quality of raw hides and skins and improve the technological standards within the manufacturing sectors.

COUNTRY PROFILE & ELEMENTS

ZIMBABWE

SECTORAL PROFILE	ELEMENTS FOR "INTEGRATED PROGRAMMES"
Hides & Skins (Estimates; in thousands) Live Animals/Slaughter Cattle - Commercial Sector 2310 } 509 (1984) Traditional Sector 2900 } Sheep 370 115 Goat 990 350 Majority of hides derived from feedlot operation. Size 37/40 ft² Significant volume of cureskins also available	The Cold Storage Commission (C.S.C.) operates five modern abattoirs, produces the majority of hides, exports some 25 per cent of its production, well-brined, in order to gauge world price levels which are employed as basis for local sales. Hides improvement scheme being developed by L.I.Z. aimed at improving animal husbandry, flaying, and curing.
Tanning Capacity & Production (Workforce - 660 workers) 4 industrial tanneries: Reported Capacity / Reported 1984 Production Bata 700 hides/day 450 hides/day) 127,000 pcs. Eagle 900 hides/day 550 hides/day) processed Imponente 500 hides/day 300 hides/day) only to wet Untale 1,000 hides/day 750 hides/day) blue in 198	Major constraint: Lack of raw material. Possible development scope by advancing from wet-blue exports to crust/finished exports could be aided by external partners.
Footwear Capacity & Production The aggregated capacity of the 12 major companies is said to be approximately 5 million prs.of leather footwear p.a. 1984 production was 3.2 million pairs of which almost 0.5 million were exported.	Possibility to expand exports over the current level of 0.5 million pairs p.a. could be by co-operative action with external companies.
Footwear Components One specialist component company [Resin rubber and leather soles, insoles, injected heels and platforms]. Other footwear manufacturers have their own component manufacturing departments, majority of inputs imported.	
Leather Products Several units manufacturing full range of leather products. Specialities include high-value products fabricated from elephant and other exotic leathers.	Scope for expansion particularly in exotic products. One of the few countries able to market and document elephant products in accord with CITES.
Chemicals Majority of general chemicals available from domestic production. Able to produce chrome tanning liquor 14 per cent $Cr_2/33$ per cent basic from domestic chromite but this pilot plant no longer operating due to lack of economies of scale.	Chrome exports/development only feasible if improved economy of scale - would require greatly expanded market in neighbouring countries [possibly through P.T.A.?].
Technology (Tanning & Footwear) Mostly mechanized but plant now rather old. Some replacement plant imported recently, particularly for export products.	
Training Senior technical staff trained overseas. Implant training for other levels. Institute (see below) initiating correspondence courses to upgrade skills in sector.	Could efficiently utilize any internationally supplied/prepared correspondence courses/videos, etc., in its ongoing programme.
Institutional The "Leather Institute of Zimbabwe" (L.I.Z.) formed in 1985. Funded jointly by the tanners and C.S.C. Major areas of activity proposed: Uplift technology/research/arbitration,etc.	L.I.Z. receiving bilateral assistance with supply of some testing equipment. Possibility exists for international assistance to further develop into a Regional Centre for Southern Africa.
Tariff / Non-Tariff Barriers Imports controlled by licenses, eased when items utilized for exportable products. Import duties and surtax (up to 20 per cent of F.O.B.). Export incentive for manufactured products (9 per cent ex-factory value tax free).	
Export Know-How Leather sector export experience good. Leather footwear sector more limited experience.	

III. OVERALL SECTORAL SITUATION IN AFRICA

A. An Assessment

In virtually all the countries in Africa the quality of hides and skins is seriously downgraded due to poor conditions of animal husbandry and improper flaying and curing. This must be one of the major constraints on sectoral development, however, to avoid over-repetition the subject is not included in the sectoral assessment following.

As may be seen in the preceding section there are wide divergences between the leather sector situation in the 44 countries studied, consequently it is difficult to briefly summarize. Overleaf may be seen a tabular assessment of the countries' leather sectors' salient characteristics from which it may be noted:

1. Raw Material

a) Significant non-recovery of hides and skins[1].

25 countries would appear to have low levels of hide and skin recovery, of these in six countries there is firm evidence to suggest that non-recovery is due to local traditions of utilizing hides and, sometimes, skins as a foodstuff for human consumption, grilled, or as a base for soups and stews.

Other reasons for apparent low recovery (see pages 6 and 7 earlier) may be:

(i) Incorrect hide and skin purchasing policies, with abysmally low prices being offered to primary producers, containing no incentive for the commercialization of these potential materials.

(ii) Unrecorded exports to neighbouring countries where more realistic prices are paid for hides and skins and/or where the money received from the sale of hides and skins has greater purchasing power for other commodities required by primary producers.

Overall, within the continent, where data is available it appears that recovery of hides and skins is only some 65 per cent of the potential volume.

(1) Significant non-recovery = 25 per cent of more of expected materials not accounted for.

AN ASSESSMENT OF SOME SALIENT SECTORAL CHARACTERISTICS

	RAW MATERIAL				TANNING SECTOR						LEATHER PRODUCTS SECTOR			
	Significant loss of raw material due to human consumption	Significant domestic non-recovery of hides and skins for various reasons.	Domestic raw material insufficient for economic industrial tanneries	Significant volume of raw imports	Artisanal production only	Scope for installation/augmentation industrial capacity	Surplus industrial tanning capacity	Low capacity utilisation	Tanning sector mainly semi-processed	Well developed and operating sector	Artisanal production only	Low capacity utilisation	Surplus capacity	Well developed and operating sector
ALGERIA				X						X				X
ANGOLA		X						X				X		
BENIN	X				X	?								
BOTSWANA									X	X	X			
BURKINA FASO		X				X			X			X		
BURUNDI		X							X		X			
CAMEROON		X				?		X	X			X		
CENTRAL AFRICAN REP.					X	?								
CHAD						?		X						
CONGO			X		X									
DJIBOUTI			?		X	?					X			
EGYPT				X			X	X		X		X	X	X
ETHIOPIA		X						X	X					
GABON			X											
GAMBIA		X						NEW			X			
GHANA	X	X						X				X		
GUINEA	X	X			X	X		DEF X			X			
GUINEA BISSAU			X		X						X			
IVORY COAST	X	X			X	X								
KENYA				X		X			X					X
LESOTHO		X	?			?								
LIBERIA			X											
LIBYA						X								
MADAGASCAR		X						X				X		
MALAWI		X				?								
MALI		X						X	X			X		
MAURITANIA						X					X			
MOROCCO				X						X				X
MOZAMBIQUE		X						X				X		
NIGER		X				X			X		X			
NIGERIA	X						X	X				X		
RWANDA		X				X								
SENEGAL		X				X								
SIERRA LEONE	X		X		X						X			
SOMALIA		X						X				X		
SUDAN								X	X			X		
SWAZILAND		X	X											
TANZANIA		X						X	X			X		
TOGO	X	X	X		X						X			
TUNISIA										X				X
UGANDA		X						X	X			X		
ZAIRE		X						X						
ZAMBIA		X				?								
ZIMBABWE							X			X				X

NEW: New tannery being installed, not yet operational

DEF: Only industrial tannery now defunct

b) Domestic raw material insufficient for economic industrial tannery.

Seven countries would appear to have insufficient raw material to individually support industrial tanneries. Although rural/artisanal industry may be developed it may be noted that such activity seldom maximizes the attainment of the raw materials' potential, and in general is not able to provide the high quality end product demanded by the market. Accordingly, it may be suggested that the concerned countries should explore the possibility of regional integrated policies which could yield economic industrial tanneries.

(See Regional Project Proposal: SADCC at Annex II).

2. Tanning Sector

a) Low capacity utilization

Of the 35 African countries which have installed industrial tanning capacity, some 14 countries have significant low capacity utilization (i.e. less than 66 per cent) with seven of these countries apparently utilizing their capacity at less than 33 per cent. Reasons for such low level of tanning capacity utilization were outlined earlier (Pages 8 and 9).

The situation may be seen in more detail at Fig. I (overleaf). It may be noted that in many cases the actual situation is far worse than the map suggests, as the capacity utilization factors have been simply calculated on the number of leathers tanned to some degree against nominal capacity. In a number of cases leather is only processed to wet-blue or crust states whereas capacity exists for fully finished leather.

b) Poor subsectoral development

The low level of development in the African tanning sector may best be seen by comparing actual tanned leather production with potential raw material (assuming animals slaughtered = hides/skins). As may be seen at Fig. II on Page 109, only in ten countries within Africa does tanned leather production exceed two thirds of potential raw material.

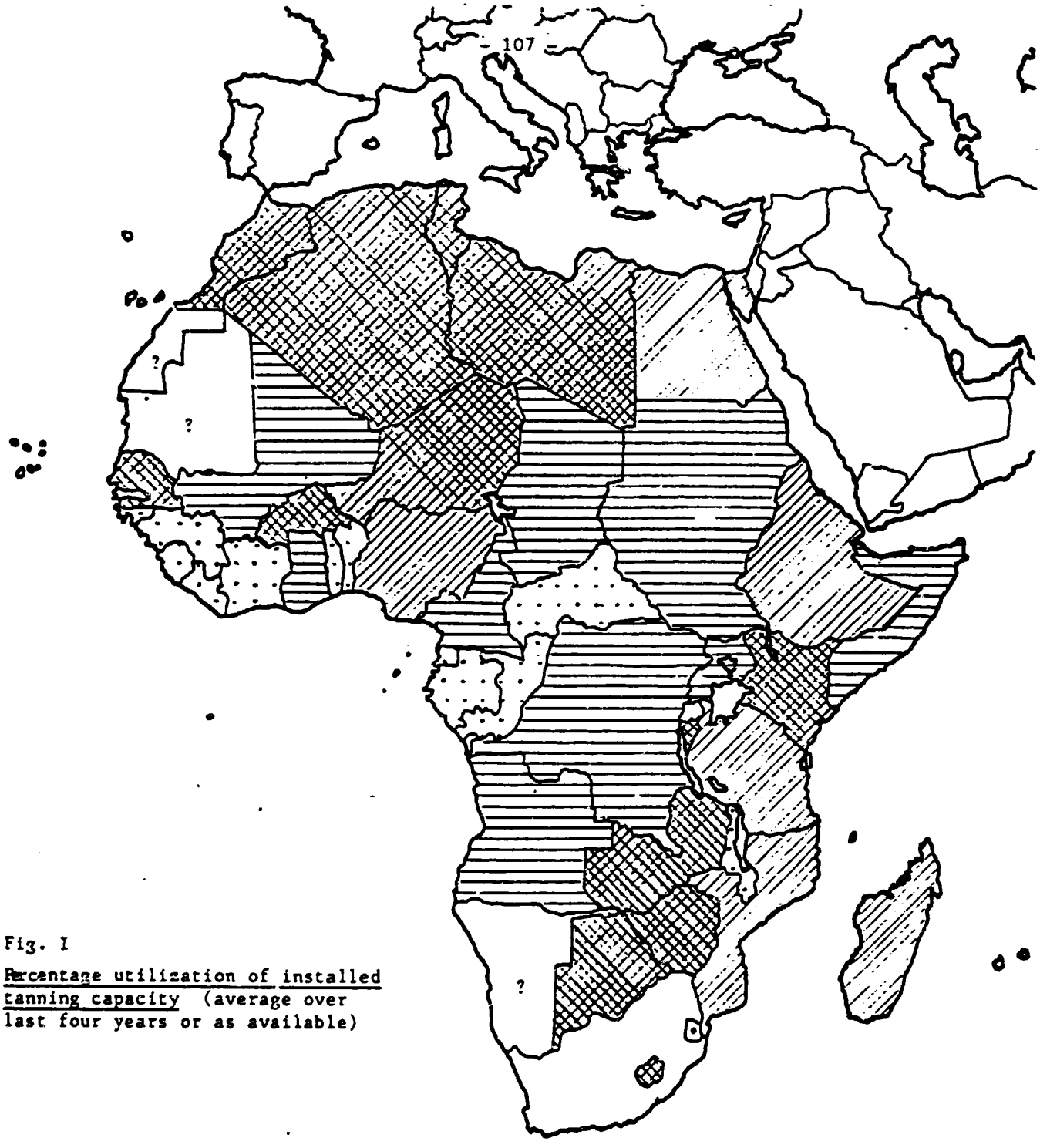


Fig. I

Percentage utilization of installed tanning capacity (average over last four years or as available)

No industrial capacity

0 - 33 % capacity utilization

34 - 66 % capacity utilization

67 -100 % capacity utilization

? No data available

The five North African Arab countries have well developed leather producing sectors, utilizing virtually all of their domestic hides and skins, and in some cases requiring also significant imports of raw hides and skins.

However, of the 39 "Sub-Saharan" African countries the leather production of only five countries exceeds 66 per cent of their potential hides and skins and much of even this production is only to a semi-processed state (e.g. wet blue/rough vegetable crust/ready to finish chrome crust). Ten African countries have only rural/artisanal tanneries, possibly processing some five to 10 per cent of potential raw material. Another 13 countries apparently have industrial tanning capacity but process less than 33 per cent of these potentially valuable agro-based domestic resources.

Based on the country survey data and employing some estimates, it has been calculated that of the potential availability of 1.1 billion ft^2 of leather within the continent only some 380 million ft^2 per annum of leather is processed. i.e. 35 per cent of potential.

If one views the situation in the 39 "sub-Saharan" countries the reality is far worse, as of the 850 million ft^2 potential raw material less than 200 million ft^2 per annum is processed, i.e. 23 per cent. It must again be noted that possibly the majority of leather in these countries is processed only to an intermediate state, and thus overall only 15 per cent of the potential value added is actually obtained.

3. Leather Products

The vast majority of leather products activity in Africa relates to leather footwear. Small volumes of leather garments are produced in the North African countries with the majority of African countries producing some leather bags and other small leather goods. However, the volumes appear minute compared to the potential offered by the raw material base. In general firm data is available only for leather footwear production which may well represent over 80 per cent of leather utilization within the African continent.

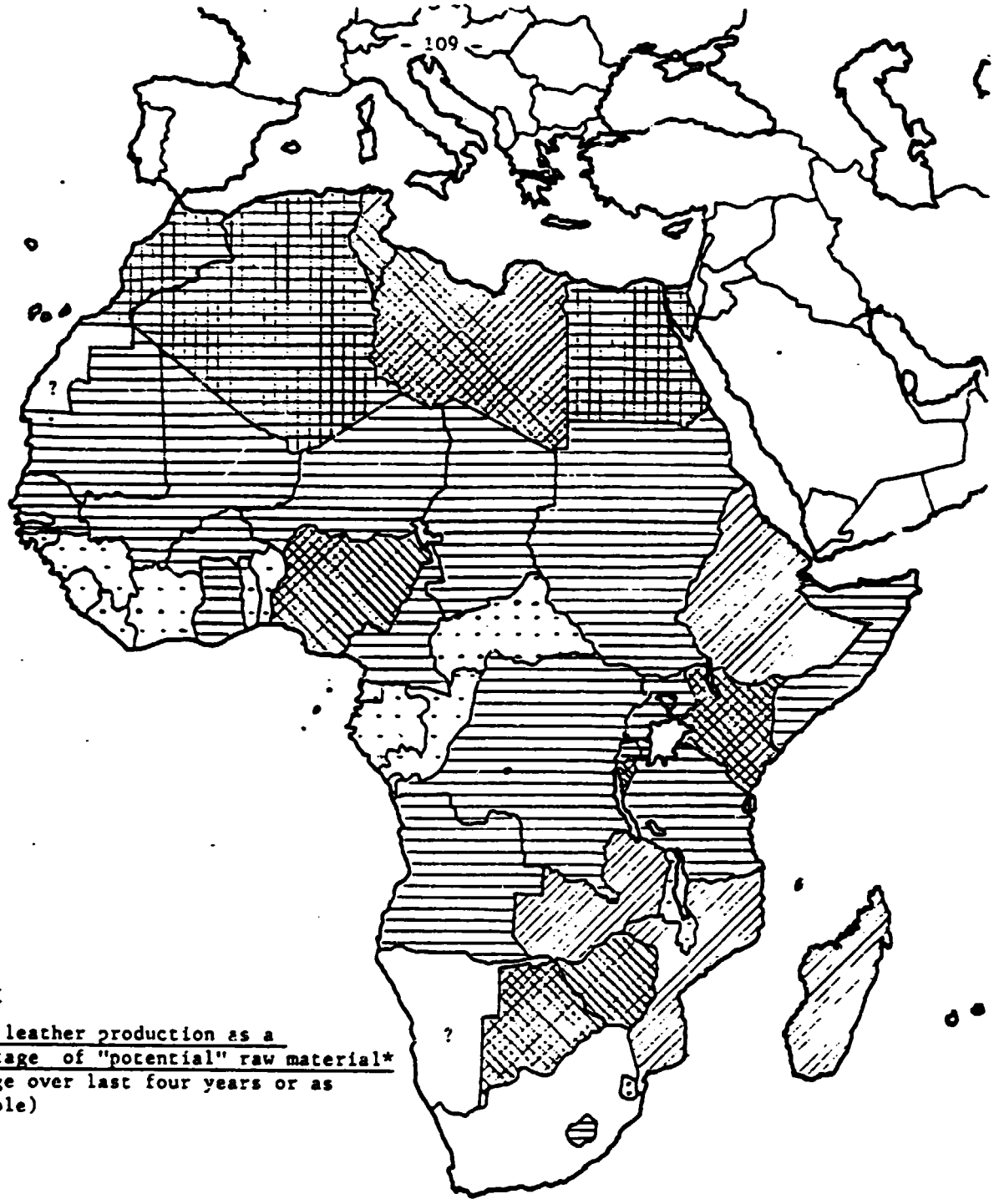


Fig. II

Tanned leather production as a percentage of "potential" raw material* (average over last four years or as available)

Artisanal tanning only

0 - 33 % of raw material tanned

34 - 66 % of raw material tanned

67 -100 % of raw material tanned

over 100 %

? No data available

*) Potential raw material - calculated employing reported slaughter or typical off-take rates (e.g. 10 per cent bovine, 33 per cent petty ruminants).

It may be noted from Fig. III overleaf which shows "Leather Processed into Leather Products as a percentage of Potential Domestic Raw Material" on a country-by-country basis, that within Africa 37 countries process less than 33 per cent of their raw material potential into finished leather products.

Calculations suggest that in the 44 concerned countries leather footwear production represents only some 15 per cent utilization of potential raw materials. Dissaggregating the five sectorally well developed North African countries, the low level of sectoral development is revealed in the sub-Saharan countries whose leather footwear production represents less than 10 per cent of their potential raw hides and skins.

As may be seen from the country reports a variety of factors account for the low developmental level of the African leather products sector. However, without doubt the most common constraint would appear to be the inability of the tanning subsectors to provide sufficient leather of acceptable quality. Thus in most African countries the raw hide and skin and tanning subsectors need to be significantly further developed before viable leather product activity may be attained.

B. Economic Losses within the Sector

There is little doubt that given the poor recovery levels of hides and skins, the low level capacity utilization within the tanning sector, the relatively high percentage of "semi-processed" leathers produced and the poor development of leather products sectors, the African countries suffer massive economic losses and earn only a fraction of the potential value added which should be available from their large livestock holdings.

Possibly reflecting the relatively low esteem accorded to hides, skins, leather, and derived products, the statistics in the sector are somewhat fragile. However, based on the country studies carried out by UNIDO and employing estimates where necessary, some gross estimates of losses may be prepared.

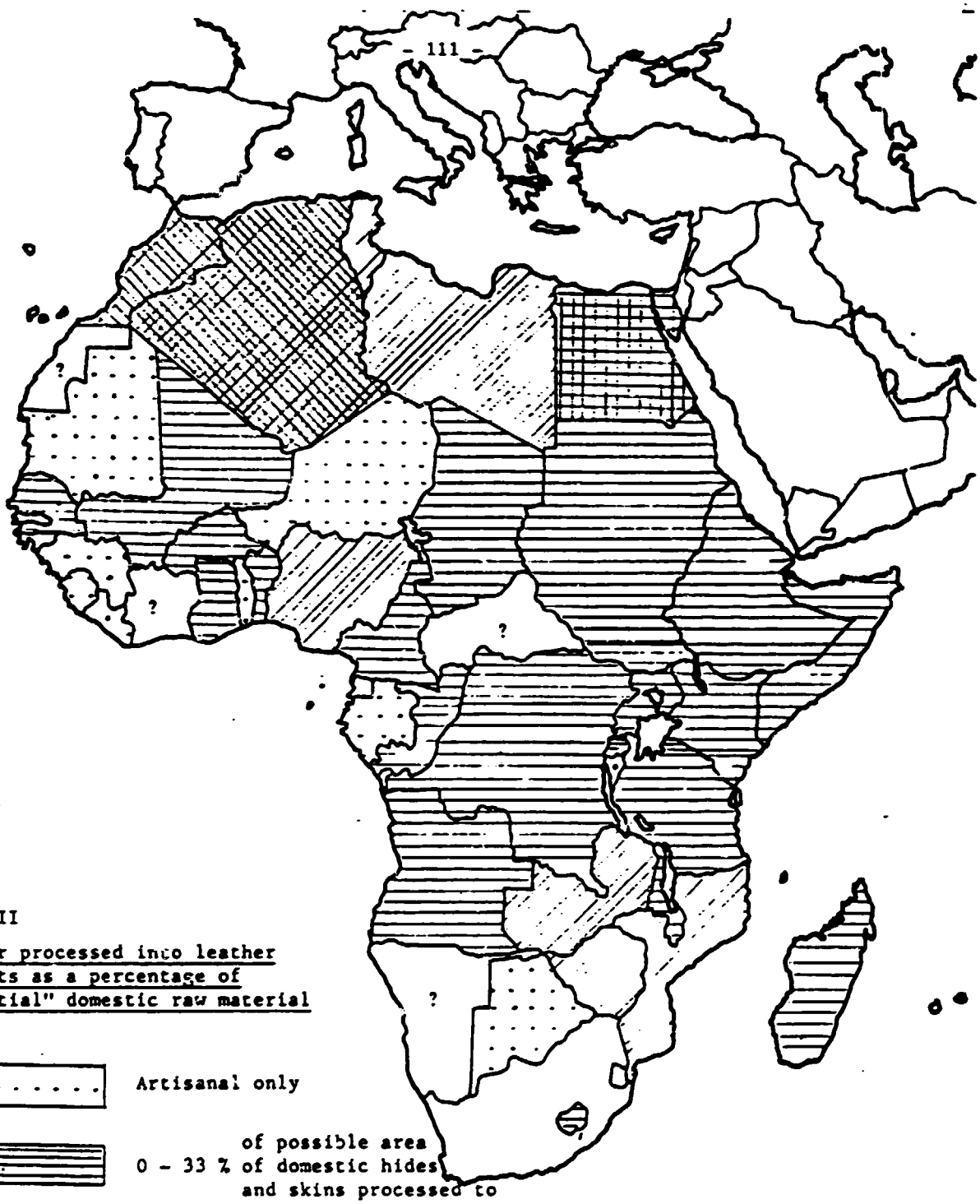


Fig. III

Leather processed into leather products as a percentage of "potential" domestic raw material

Artisanal only

0 - 33 % of possible area of domestic hides and skins processed to leather products

34 - 66 %

67 -100 %

over 100 %

? No data available

1. Losses due to Quality of Hides and Skins

The vast majority of hides and skins produced in Africa are seriously downgraded and devalued due to a wide range of avoidable defects.

The great economic losses may be attributed to branding, scars, scratches, goad marks, etc., due to poor animal husbandry, flay cuts and poor curing which together in the majori y of African hides and skins may account for downgrading of leather produced by some ¢US 30-40/ft^2. Thus the potential 1.1 billion ft^2 of African hides and skins may incur annual losses of approx. $US 400 million.

This shows the urgent need for the concerned United Nations agencies to seek funding for the large scale "International Hide and Skin Development Scheme" recommended by the Second Consultation on the Leather and Leather Products Industry (Cologne, FRG, 23 - 26 June 1980).

2. Losses due to low Levels of Recovery of Hides and Skins

As discussed earlier, in the majority of countries surveyed where firm data was available, the number of hides and skins actually recorded and recovered for the leather sector (exported raw or tanned) was only some 65 per cent of the potential volume (number of animals slaughtered). This would suggest an annual loss in Africa of some 385 million ft^2 of leather which with a value of some $US 1.10/$ft^2$ for finished leather would represent an annual loss of approaching $US 425 million.

Some degree of reserve should be attached to these "losses" as in many countries significant volumes of hides and skins are subject to clandestine exportation and although the producing country loses the potential benefit, adjacent countries reap the benefit.

The effect on some typical individual countries where data is available and significant losses occur may be seen in the following Table (see overleaf):

Losses due to poor Recovery of Hides and Skins (Table)

Country	Total Potential Hides and Skins in million ft^2 (1)	Hides and Skins actually recovered for leather sector (2)	Recovery (%)	Losses in Million $US
Burkina Faso	18.5	10.3	56	9.0
Ethiopia	116.5	87.5	75	31.9
Gambia	1.5	0.6	40	1.0
Lesotho	4.6	2.2	48	2.6
Malawi	3.3	2.3	70	1.1
Mali	25.5	6.3	25	21.1
Mozambique	2.9	1.0	34	2.1
Niger	21.6	9.3	43	13.5
Rwanda	6.9	4.5	65	2.6
Senegal	10.7	5.8	54	5.4
Sierra Leone	2.4	1.0	42	1.5
Somalia	38.3	13.3	35	27.5
Sudan	79.6	45.3	57	37.7
Swaziland	2.5	1.4	56	1.2
Tanzania	46.0	23.4	51	24.9
Zaire	8.5	4.9	58	4.0
Zambia	6.6	4.0	61	2.9

Notes: (1) Potential raw material - calculated employing reported slaughter or typical off-take rates (e.g. 10% bovine, 33% petty ruminants).

(2) Recovery data based on findings of UNIDO consultant missions or governmental/industry statistics.

3. Losses due to only partial Processing of Potential Hides and Skins

Earlier, at III.A.2.b) it was calculated that only some 35 per cent of the continent's potential hides and skins were processed in Africa to some form of leather. With regard to processing through to finished leather products with maximized added value, it was calculated at III.A.3. that only some 15 per cent of potential added value was realized.

However, in the five North African Arab countries virtually all raw hides and skins are processed to finished product. With regard to the sub-Saharan countries it was suggested earlier that in the tanning and leather products sectors only 15 per cent, and 10 per cent respectively, of potential value added is obtained. This data mainly relates to industrial activity and if one allows for rural and artisanal production which is not documented, one may assume that in the sub-Saharan countries leather potential of some 850 million ft^2 per annum is only processed into finished leather products to the extent of some 25 per cent. Accordingly, one may calculate

that if all raw material potential was converted into finished leather products a further $US 2,869 million could be obtained annually in added value.(1)

4. Total sectoral Losses in Africa

From the foregoing it may be noted that total sectoral losses in Africa may be:

		$ US
a)	Losses due to downgrading of raw material	400 million
b)	Losses due to low recovery of hides and skins	425 million
c)	Loss of added value due to only partial processing of hides and skins into leather products	2,869 million
	Total sectoral losses per annum	$US 3,694 million

C. Conclusion

The low sectoral development highlights the need for prompt action if the concerned countries wish to avail themselves of the inherent potential of their raw materials.

It may be suggested that the concerned countries evaluate and implement the development strategies proposed in this report or alternatively prepare and implement alternative sectoral strategies to attain the desired objectives.

(1) See Chapter IV. Typical leather shoe at $US 10 ex factory contains 2 ft^2 leather, i.e. one ft^2 leather = $US 5.0 when fabricated into product. Initial raw material value is approx. $US 0.50/$ft^2$. Total value added from raw to finished product is effectively $US 4.50/$ft^2$; 75 percent of 850 million ft^2 @ $US 4.50 = $US 2,869 million.

IV. BENEFITS AVAILABLE FROM LEATHER SECTOR DEVELOPMENT

A. Tanning Sector

(1) General

Most countries or entrepreneurs entering the leather sectors in Africa have found that their expectations have not been realized, their returns viewed from economic or financial viewpoints, have not been commensurate with their investments, the expected "added value" has not been obtained.

It is unfortunate that the majority of published data concerning cost build-up in leather production and added value accruing from processing to differing stages has been based on the situation in the developed countries.

Of critical importance to the majority of export-orientated African tanning industries is the export sales price which is governed by external factors. In general, the price an importer is prepared to pay for semi- or fully processed leathers is:

(i) The cost of imported raw material of similar character and quality; plus

(ii) the cost of conversion, under efficient conditions, in importing or other country.

Thus the market is little interested in actual cost of production in an African producing country. The importer, while raw hides and skins are still available on world markets, has the choice, either to import the tanned material or import raw and process the material himself and thus effectively operates a "buyer's market". In effect, an African leather producer attempting to export, may be competing against himself with overseas tanners processing raw material from his own or adjacent countries. Accepting that for a variety of reasons the cost of tannery processing under African conditions may be appreciably higher than in the developed countries, it is self-evident that trading margins will be eroded to cover this oncost unless some means of local protection is given whereby the African tanner may purchase his hides and skins at lower cost than others.

(2) Incremental value added

Value added varies appreciably in percentage terms according to prevailing raw material prices and it may therefore be dangerous to assume that current levels of value added will prevail over the lifespan of a tannery operation.

It may be more realistic to view value-added increments yielded by different material and at different periods in time:

(a) Value added - hides late 1972

A Unido study (1) of 1973 gave detailed data regarding the production of hides, processed to various stages for an African tannery operating at 100 per cent of capacity (9 million sq.ft per annum) employing domestic dried hides.

At that time the raw cost, export values and added value over the raw cost at differing process stages were:

		Added value increment as % of raw price
Domestic raw price - US¢/ft^2	18.7	
Ex factory, wet blue-US¢/ft^2	31.0	+ 66%
Ex factory, crust - US¢/ft^2	41.0	+119%
Ex factory, finished-US¢/ft^2	46.0	+146%

However, in reality, the prospect was not so rosy as relatively large amounts of recurring foreign currency were needed for production. Foreign currency requirement were reported:

(i) Foreign currency - US¢/ft^2 to wet blue - 4.8
Foreign currency - US¢/ft^2 to crust - 8.8
Foreign currency - US¢/ft^2 to finished - 13.1

Thus one may calculate "net value added" [= total value added minus foreign currency input]:

(ii)

		Ex factory value	Foreign curr. cost element	Ex factory minus foreign element	Net value added as % of dom.raw price
Domestic raw price	US¢/ft^2 18.7				
Wet blue	US¢/ft^2	31.0	4.8	26.2	+ 40 %
Crust	US¢/ft^2	41.0	8.8	32.2	+ 72 %
Finished	US¢/ft^2	46.0	13.1	32.9	+ 76 %

This shows that processing to various stages of leather could yield from 40 to 76 percent domestic value added employing as base the domestic raw material price.

(1) Some economic aspects concerning the Establishment of Tanneries in developing Countries (ID/WG.157/11, 20 August 1973)

(b) Value added - Skins 1984

A simplistic alternative view of added value for African sheep could be obtained from the following relevant export values:

	Average $US/dozen(1)	Value added as percentage over raw material
Domestic price of material	32	—
Wet blue, C + F Europe	51	+ 59 %
Crust, C + F Europe	59	+ 84 %
Finished, C + F Europe	65	+103 %

Such simplistic overview does not, however, give a true picture for several reasons:

(i) The above ignores the real value of the raw material on export markets. Thus. African sheep 150/170 lbs./100 (40/50/10) were being offered C + F Europe @ approximately $US 42.5/dozen in August/September 1984. If one discounts the transport, freight and clearance costs of some $US 3.6/dozen, it may be seen that the net export price amounts to $US 38.9/dozen in raw condition, i.e. value added increment on domestic price of nearly 22 per cent (to cover grading, packing and selling expenses - virtually all local costs).

(ii) The conversion from raw hides or skins to leather requires varying foreign currency inputs. In certain circumstance where all production machines, chemicals, fuel, spares, vehicles and even roof sheeting, joists and window frames are imported, the imported component of the added value becomes significant. The following cost build-up was prepared in a country with high import dependence: (see overleaf)

(1) Prices prevailing Autumn 1984

African Sheep

Possible build-up of production costs by process stage *

($US/dozen [size average 50 feet./dozen])

	WET BLUE			CRUST			FINISHED (1)		
	Total	Domestic	Imported Element	Total	Domestic	Imported Element	Total	Domestic	Imported Element
Skin + Salt (2)	31.54			31.54			31.54		
Direct Labour	1.11	1.11		1.73	1.73		2.03	2.03	
Chemicals	2.70	0.20	2.50	3.98	0.25	3.73	4.85	0.25	4.70
Factory O/Heads (3)	4.99	1.50	3.49	9.15	2.74	6.41	12.58	3.77	8.81
General Admin.	4.59	3.44	1.15	4.59	3.44	1.15	4.59	3.44	1.15
Sales, Distribution, Transport (4)	5.50	2.75	2.75	5.50	2.75	2.75	5.50	2.75	2.75
Total "Added value"	18.89	9.00	9.89	24.95	10.91	14.04	29.55	12.24	17.31
Total Cost	50.43			56.49			61.09		

*) The cost build-up bears little resemblance to similar data in developed countries and reflects social policy as well as the high import component and subsequent oncosts.

Notes:

(1) Pastel shades, non-pigmented.

(2) Tannery purchased raw skins and salted skins itself for transport/storage.

(3) Includes depreciation, amortization and machinery maintenance/service (fuel, etc.).

(4) Includes finance costs for export sales and freight.

To correctly reflect the effect of the tanning activity, the net domestic added value should be obtained by comparison with the net export value of the raw skin ($US 38.9/doz):

	Base	Export value	Foreign currency input	Net Export Value	Net value added as percentage of raw export value
Net export value raw $US/dozen	38.9				
Wet blue C+F $US/doz.		51	9.89	41.11	5.7 %
Crust C+F $US/doz.		59	14.04	44.96	15.6 %
Finished C+F $US/doz.		65	17.31	47.69	22.6 %

As may be seen these net value added increments are appreciably lower than the suggestions often made by machinery suppliers and project promoters.

Note: Value added increments for skins are generally lower than for hides due to the higher unit value of raw skins and its lesser substance which requires less chemicals (in general) when expressed on an area basis.

Thus in this extreme case, highly import dependent, the net value added when viewed against the possible raw export value is of a low order considering the heavy capital investment and risk, and authorities should perhaps view the tanning sector as an opening to the field of leather products manufacture where domestic value added and employment opportunities are of a much higher order. Certainly when the "spin-off" effects are evaluated the leather sector may be seen to be a worthwhile area justifying development.

(3) Employment Opportunities

These are covered in chapter IV.A.(5) a) from where it may be seen that with high productivity one could process 10.000 ft^2 of leather (400 hides)/day employing some 80 persons, under more normal African conditions one may employ 150 people for such throughput [compare with leather footwear where the same area of leather could generate employment varying from 1.500 (artisan) - 500 (mechanized)] .

B. Leather Footwear and Products

(1) Incremental value added

There are wide variations in "value added" and domestic "value added" obtained in the leather products sector depending on mode of manufacture. One may envisage:

(a) Artisan operation

Employing virtually 100 per cent domestic materials where from an input of:

Domestic materials	$US
2 ft^2 upper leather	4.00
1 ft^2 lining leather	1.20
450 gm sole leather 450 gm heel/insole	2.00
+ thread and eyelets	0.10
$US	7.30

with only labour inputs a finished pair of shoes may be obtained with a sales value of $US 12.00 - 20.00 (dependent on level of skill), i.e. domestic value added of 64 to 174 per cent on leather input.

(b) Mechanized production

At the other extreme may be the mechanized production of footwear where material inputs may be:

Material	Local ($US)	Imported	Total
2 ft^2 Upper leather	4.00		
Imported Unit Sole/Components		2.50	
Total Material:	4.00	2.50	6.50

The ex-factory value of such output may be approximately $US 10.00.

In such case added value onto material inputs may be some 54 per cent or 87.5 per cent expressed against the domestic leather input.

However, if one allows for imported components ($US 2.50) and the depreciation and servicing of imported production equipment (7% of ex-factory value = $US 0.70), the domestic added value expressed against the domestic leather input is found to be only 70 per cent.

V. CHECKLIST OF BASIC INFRASTRUCTURAL REQUIREMENTS FOR LEATHER SECTOR DEVELOPMENT

The leather and leather products sectors have been foremost amongst industries which developing countries have attempted to install and develop. The simplistic concept has been: most developing countries have the raw materials, the technology involved is not unduly sophisticated, thus the sector is suitable for most developing countries. The problems in this sector in the African countries surveyed suggest this approach may be an over-simplification and some consideration should be given to the following major areas and projects only implemented if all suggested basic requirements may be satisfied:

A. Tanning sector

1. Raw material

(a) Availability. Without doubt the existence of a supply of raw hides and skins is essential; the mere existence of apparently surplus hides and skins within a concerned country is not sufficient basis on which to develop a leather sector. It is necessary to have asurance that such hides and skins will actually be made available to any proposed tannery. It is necessary to avoid the situation existing in a number of African countries where domestic hides and skins exist but are in the hands of traders, or governmental agricultural departments, who would wish to export the raw material and are unwilling to supply local tanners. One should examine the possibility to make joint venture with hide traders to guarantee supplies. In alternative situations governmental directives or export controls may be needed.

Some words of caution may be extended to those who wish to install tanneries in situations where the necessary raw material is imported (officially or otherwise). The long term advisability of such practice may be questioned as the raw materials supplies may not be guaranteed. Several countries in Africa have tanning capacity equal to almost double their domestic raw material base; today they are able to attract supplies from neighbouring countries (unrecorded exports) but in the future the neighbouring countries may wish to process the material and enforce legislation banning export of such materials.

(b) Price. If the leather sector development is to be export oriented it is essential that the hides and skins are available at a price equal to, or less than, world market price. In certain circumstances local traders selling to domestic tanners may ask a premium to compensate for

the loss of valuable foreign exchange. If local price exceeds world market price, there must be some form of export incentive from the government concerned for leather exports. Of critical importance is the need for a purchasing policy based on grades; the purchase of "run" hides and skins may remove incentives for improved preparation of hides and skins. In some countries the sale of ungraded material to domestic tanners is practised allowing unscrupulous merchants to cream off top quality material for export at premium, selling only lower grades locally as a "run".

(c) Quality/regularity. The available hides and skins character and quality must be evaluated to ensure that the product mix of any tannery installed is marketable. It must be remembered that an optimum product mix may require a specific selection of hides and skins. Selection by weight/size/character/flesh and grain defects may not be unduly critical if proceeding to wet blue state, but if ultimately finishing is to be undertaken keen selection of raw material is imperative if the number of end-products is to be manageable and marketable. One country, in its sectoral development plan, assumed that all bovine hides could be processed for leather uppers. In reality, due to the existence of ultra-light hides too thin for uppers, only some 70 per cent of hides were suitable for such purpose. Information regarding quality and character of raw material from specific locations is usually available via trade sources from enterprises elsewhere who have previously imported and processed such raw material.

2. Scale of tannery.

Most authorities would consider that a minimum input for a new, fully industrialized tannery, should be 300-400 hides/day (2 million ft^2/p.a.), or 2,000-3,000 skins/day.

Slightly smaller input may be possible if reconditioned plant is employed or the end-product is to be marketed in a country with significant protection for domestic producers.

From an academic economist's viewpoint to obtain full advantage of economies of scale a through-put of 1,000-1,200 hides a day (6-8 million ft^2 p.a.) is sometimes proposed. However, unless there is an experienced management and technical cadre pre-existing, the installation of tanneries of such scale is fraught with danger. Experience in a number of African countries, who installed tanneries of such scale without a pre-existing

management cadre has shown that a period of up to 10 years may elapse before break even point in reached, during which time massive losses may be incurred servicing the large capital investment.

Analysis of developments in African countries with minimal experience in the leather sector clearly highlights the success of units of circa 2 million ft^2/p.a., which after some experience may be expanded horizontally and vertically; the unit is usually designed to allow relatively simple expansion to double the through-put, and/or proceed to more advanced stage of processing.

Note: The remarks above refer to fully industrialized tanneries able to produce leathers up to internationally accepted quality standards. The possibility does exist for tanneries with through-puts of from one to several hundred pieces per day employing "cottage" or rural tanning techniques with minimal levels of mechanization. However, it is widely accepted that the implementation and operation of such rural tanning units is usually only successful where traditional expertise in this field is pre-existing. It may also be noted that the products of such rural processing do not usually obtain significant added value and have an end-product value far below their potential. The output of such processing is not usually suitable for the international market but may satisfy non-sophisticated domestic demand.

3. Product-mix of tannery.

It is universally accepted that unless there are compelling local factors or existent managerial and technical skills, it is unwise to attempt processing in one tannery both hides and skins due to the differing size of machines required.

The prime factor to be evaluated before finalizing a product mix must be the potential market, i.e., domestic demand for finished leather or an export oriented project.

(a) Domestic market. Only a limited number of African countries today have sufficient domestic demand for the full output of a finished leather tannery. It may be noted that an output of 2 million ft^2/p.a. is sufficient for some 0.8-1.2 million pairs of leather footwear p.a. (4,000 pairs/day) which could supply 4 relatively large footwear factories of 1,000 pairs/day capacity. Such footwear production capacity exists in few African countries at this time.

Thus in the majority of African countries, south of the Sahara, the domestic demand may suggest a product mix of semi-processed leather for export coupled with a certain volume of finished leather, e.g., 300 hides/day wet blue plus 100 hides/day finished. The equipping of a retan/finishing section for 100 hides/day will necessitate relatively high capital input with low utilization factor and may not yield finished leather which could be considered competitive on world markets but may be a viable proposition where "protection" is given to local manufacturers.

(b) Export orientation. The legitimate aspiration of most countries entering the leather sector is to obtain maximum added value from their domestic raw hides and skins. Ultimately they seek to produce fully finished leather which may be transformed into a variety of leather products to satisfy both domestic demand and export markets.

The most successful development strategies implemented over the last decade are those which employed a "step by step" approach and initially installed "wet blue" tanneries. Following several years obtaining market acceptance, and consolidating the operation, a tannery was expanded to include plant for crust production; only when this second phase was proven was finishing plant installed.

The alternate strategy involving the initial installation of a complete tannery for finishing in many cases has proven disastrous. During the early years, when only wet blue was being produced the capital servicing burden of the unutilized crust and finishing equipment yielded financial non-viability. Problems also were found with the non-utilized plant which after some years' inactivity had deteriorated and was found virtually unusable.

4. Locational and infrastructural requirements

(a) Raw material must be available locally, or facilities exist to transport regularly and economically. (I.e., minimum tannery of 400 hides/day, if African dried hides @ 5 kg each = 2 mt/day. If green @ circa 15 kg each = 6 mt/day.

(b) Land requirements must be sufficient for the necessary buildings and effluent treatment but otherwise have no specific constraints. Possibly land requirement will be 4 or 5 times the area of buildings.

(c) Buildings. An earlier UNIDO* study by Villa suggested that the relationship of floor space and production of finished leather could be expressed:

$$\frac{\text{Area of tanned leather p.a.}}{\text{floor space in } m^2} = \frac{ft^2}{m^2 \text{ floor space}} = \text{between 500 and 1,000}$$

with "medium sized hides" (15 - 20 ft^2) yielding a factor of 800.

He suggests the breakdown in a balanced finished leather tannery was:

	% of total buildings
Production	68
Stores	14
Office/laboratories	8
General services	10

The study suggested a further breakdown of the production area:

	% of total production area
Raw to wet blue	34
Wet blue to crust	40
Finishing	26

From this data, if one assumes that services are pro-rated as stage of processing calculations may be made: e.g. tannery of 2.5 million ft^2 p.a. will require total buildings of:

	Floor space m^2
If finished leather	3,125 m^2
If crust leather	2,313 m^2
If wet blue	1,063 m^2

*The interrelationship between parameters of the leather industry, ID/WG 79/6/Rev.1, New York 1973.

These figures are in close agreement with medium-sized, non-prestige projects, prepared and implemented in African countries.

Construction of buildings for tanneries will depend on prevailing weather conditions and in general a light steel structure, aluminium or asbestos clad, is sufficient. For wet areas a minimum height to eaves of 5 m may allow easy servicing of drums. For other areas a height to eaves of 3-4 m could be acceptable.

(d) Water requirement may be affected by the plant technology employed. In general, employing traditional drums for all processes after soaking, and employing 1 or 2 floats in pits or paddles for soaking, water consumption is normally some 40-50 litres (l) per kg fresh hide.

The 5 kg African dried hide would, in fresh condition, weigh circa 15 kg, employing 45 l/kg water. It would require some 675 l/hide (0.675 m^3), thus 400 hides/day would require some 270 m^3/d to the finished condition.

Water usages to wet blue and crust, etc., vary greatly according to technological choice but may typically be:

	Total finished leather % of water usage
Raw to wet blue	75
Wet blue to crust	20
Crust to finish	5

Employing hide processors in place of drums, and coupled with recycling of unhairing and tan baths, the above water consumption may be halved.

Traditionalists in the sector may suggest that hard and brackish waters may not be employed. However, a number of tanneries do employ such waters for many processes. Softening and adjustment of technology may be needed for chrome tanning, dyeing, fat liquoring and boiler operations.

(e) Effluent treatment. The process of tanning results in relatively high levels of pollution in the waters employed, both organic and inorganic. The indiscriminate discharge may occasion a variety of

environmental degradation. Thus, in most circumstances, some treatment must be given to mitigate this environmental degradation.

The required level of effluent treatment is much dependent on local regulations. In Africa, however, a more pragmatic good neighbourly policy should be adopted to ensure that recipient waters are protected to ensure that their various normal beneficial uses may be continued.

A UNIDO/UNEP study* suggested water quality criteria for the normal uses to which rivers in developing countries may be utilized:

Water quality criteria for various uses of water (mg/l)

		Domestic water	Irrigation	Fish/aquatic life
1.	Chlorides	250.0	100	170.0
2.	Dissolved solids	1,000.0	700	2,000.0
3.	Nitrogen (ammonia)	0.4	-	1.5
4.	Sulphates	500.0	200	90.0
5.	Sulphides	-	-	0.3

The above-mentioned study calculated, assuming a typical tannery effluent:

> "that to meet the water quality standard to support normal fish life a receiving stream should have at least a flow of 6 m^3/day stream flow per kg of hide processed/day. At a lower flow of 4 m^3/day/kg of hide processed/day the stream will not be able to support fish life in some of its reaches. At a still lower flow of 2 m^3/day/kg of hide processed/day, the stream will be completely devoid of oxygen downstream of the waste outfall and the consequential anaerobic conditions may lead to the formation of floating sludge rafts, noxious gases, high turbidity, etc., lowering the aesthetic value of the receiving waters".

*Environmental considerations in the leather producing industry, Vols. I & II, UNIDO/ITD.337, June 1975.

Thus a minimal economic tannery of 400/15 kg/hides/day throughput (6,000 kg) would need a recipient with minimum daily flow 36,000 m^3 = 400 litres/sec to ensure normal beneficial usages of river water may continue.

N.B. This assumes no other polluting effluents being discharged into the recipient (up or downstream).

If the above dilution is not available it would be essential to treat the effluents. The available choices of treatment are legion (some outlines may be found in a recent UNIDO study*) but in general there are 2 levels of treatment:

Physio-chemical primary treatment which may remove up to 95 per cent of suspended solids from the effluent, and from 40 - 75 per cent of organic materials and thus need lesser dilution. Such treatment can be relatively low cost ($US 40,000 - 100,000 for a tannery of 400 hides/day) occupying minimal land area ($\pm$ 0.5 m^2 land per m^3 effluent day).

To be followed by:-

Biological treatment which may remove up to 95 per cent of organic pollution may be carried out in a variety of differing ways: Example:

(i) Compact activated sludge - difficult to control - relatively heavy power and air inputs. Requires only some 0.25 m^2 land area per m^3 effluent day.

(ii) Lagoon system - minimal mechanical or energy requirement. May require large land area 3.0 m^2 land per m^3 effluent day.

The majority of alternate biological treatments have land area requirements between the two extreme examples given.

Recipients employed for agricultural irrigation

N.B. Treatment systems, primary and secondary, do not generally remove neutral salts, especially chlorides which are present at high concentration levels. Chlorides have serious adverse effects if present in water subsequently employed for irrigation.

*Techno-economic study on measures to mitigate the environmental impact of the leather industry, particularly in developing countries, ID/WG.411/10, 22 March 1984.

Thus, even if treatment is carried out, tannery effluents must still be diluted to bring the chlorides to an acceptable level. The UNIDO/UNEP study suggests such dilution should be approximately 1.5 m^3 diluent/day per kg hide processed/day. In the case of a 400 African hide/day tannery this would imply that minimum daily river flow should be some 9,000 m^3 water/day = 100 litres/sec.

(f) Energy requirements.

(i) Electricity. Regularity of electricity supply must be considered a prime essential for tannery operations in order to allow the continuous operation of wet processing. If external supply is erratic, provision must be made for a standby generator - at least able to run drums and paddles and time-crucial machines, e.g., fleshing.

Horsepower installed (HPI). Villa* shows the normal range of relationships between HPI and finished leather production:

$$\frac{ft^2 \text{ leather p.a.}}{\text{HPI}} = \frac{2,500 - 5,000}{}$$

Employing a median factor, the HPI of a 400 finished hides/day tannery (2.5 million ft^2/p.a.) would suggest:

$$\frac{2,500,000}{3,750} = \frac{667 \text{ HPI}}{}$$

The HPI at differing stages of processing is reported:

	%	HPI calculated for 400 hides/day tannery
To wet blue	32	213
To dry crust	79	527
To finished	100	667

*The interrelationship between parameters of the leather industry, ID/WG 79/6/Rev.1, New York 1973.

KWh consumed. From the HPI the KWh may be calculated (HPI x 0.736 = KW installed). In general actual consumption is only some 50 per cent of installed plant as not all plant is operating simultaneously.

Thus KWh consumption of a 400 hide/day tannery for finished leather could be circa:

667 x 0.736 x 0.5 factor x 9 hrs/day = 2.209 KWh/day

(ii) Boiler fuel. Consumption varies greatly according to ambient weather and level of technology, with retan, dyeing and drying accounting for the majority of fuel consumed.

$$\frac{\text{kg fuel p.a.}}{\text{ft}^2 \text{ leather p.a.}} = \underline{0.2}$$

Thus the exampled tannery would require annually:

0.2 x 2,500,000 = 500,000 kg fuel oil = 500 mt light fuel oil

To the wet blue state may only require some 10 per cent of the above boiler fuel; to dry crust state may require some 50 - 60 per cent.

(g) Chemical supplies have proven one of the major problems for tanneries in Africa. In the majority of countries virtually all chemicals have to be imported; in a few African countries general chemicals are produced and only specialized "leather chemicals" need importation. It must be clearly stated that there has been no shortage of chemicals on world markets during the last decade yet many tanneries have been unable to obtain timely supplies.

The requirements of chemicals vary greatly according to the end product; one may example the requirements of a 400 hide/day tannery, producing a relatively standard leather and find:

To produce wet blue leather would require some 15 different chemicals and ancillaries, with a total annual requirement of some 450 mt.

To produce undyed crust could require a further 10 chemicals, with further annual requirement of 100 mt.

To produce finished leathers could require a further 20 - 40 chemicals, dyes and finishes with further annual requirement of up to 200 mt.

The following questions require positive answers before tanning sector development may be undertaken:

Will the necessary foreign exchange be available to purchase regularly the necessary chemicals? Or will chemicals be obtained by other means?

Can the timely issuance of necessary import licences be assured?

(h) Spare parts. The provision of spare parts may amount annually to between 4 - 8 per cent of installed machinery cost. Their timely provision is critical for tannery operation and positive assurances regarding foreign exchange, import licences and transport for provision of spares must be prerequisites for any proposed development.

(i) Transport. The guaranteed regular availability of transport for inputs of raw material, chemicals, spares, fuel oil and outputs of leather is essential.

5. Human resource requirement

(a) Number of personnel required. The number of personnel employed in leather production varies according to a number of factors, chief amongst which may be:

(i) Existing levels of industrial discipline
(ii) Efficiency of training schemes
(iii) Government/social policy
(iv) Efficiency of installed plant
(v) Quality consciousness/objective of the project

In well ordered finished leather tannery projects in industrialized countries manpower requirements may be deduced from the productivity data:

	Productivity Manual workers	Total manhours Manual + management
Hides (15 - 30 ft^2)	20 - 22 ft^2/hr	14 - 17 ft^2/hr
Skins (2 - 6 ft^2)	13 ft^2/hr	10 ft^2/hr

Villa* suggests that at less advanced stages of processing, appropriate factors may be employed to calculate manpower requirements, e.g.:

To dry crust, factor = 1.38. Therefore total manhours hide productivity = 21 ft^2/hr

To wet blue, factor = 4.3. Therefore total manhours hide productivity = 67 ft^2/hr

i.e., a tannery of 400 hides/day (10,000 ft^2/day, 15.5 ft^2/hr productivity) would require total work force of 81, 58, 19, persons (8 hrs/day) respectively to finished, dry crust and wet blue states.

	Possible distribution of manpower in tannery of 400 hides/day		
	Total to wet blue	Total to crust	Total to finished
Management staff			
Manager/assistants	1	1 + 2	1 + 4
Technologist	1	1	2
Clerk/stores	1	3	6
Technical supervisor (Foreman)	-	2	4
	3	9	17
Production and ancillary			
Skilled workers	2	12	16
Semi- and unskilled workers	9	30	38
Maintenance workers	2	4	6
Drivers/security	3	3	4
	16	49	64
TOTAL employees	19	58	81

*The interrelationship between parameters of the leather industry, ID/WG 79/6/Rev.1, New York 1973.

N.B. Few African countries may achieve the productivity levels suggested above for a variety of reasons. Possibly foremost amongst the major reasons for low productivity are:

(i) Poorly trained management
(ii) Poorly trained work force
(iii) Plant and machinery breakdown
(iv) Social policy implemented to enhance labour utilization.

To overcome the oft found situation in Africa where productivity is often less than 50 per cent of above levels found in industrialized countries massive sectoral training programmes are necessitated.

(b) Training requirements

(i) Managers must be professional qualified managers, accountants or technologists with managerial experience.
(ii) Technologist - should receive a 2 - 3 year "diploma" type course.
(iii) Technical supervisors - require a minimum of completed secondary education in addition to a 6 - 9 month' tannery technicial training course.
(iv) Ideally skilled workers should have received basic education in tannery technology (2 - 3 months' course). Alternatively they should receive high level "inplant training".
(v) Semi-skilled and unskilled workers should undergo a systematic inplant training to aid productivity and ensure safety precautions are complied with.
(vi) Senior maintenance personnel should, where possible, undergo inplant training in a tanning machinery producing plant in addition to having basic engineering skills.

B. Leather Footwear Sector

The infrastructural and basic requirements for potential leather footwear production are not unduly demanding as leather footwear may be produced over a wide range of scales of production and levels of mechanization. Thus given the basic raw materials, leather and other components, coupled with a market and the necessary human expertise, some form of leather footwear may be produced.

In comparison with the tanning industry, entry into the leather footwear sector at the small/medium scale in African countries, poses fewer problems. In general in Africa, South of the Sahara, due to the necessary scale of tannery operations, the majority of tanning operations are directed towards export markets, with their high technical standards and prices fixed by external factors. Leather footwear, on the other hand is generally produced for domestic markets, where technical standards may be less onerous and local "protection" can ensure viability.

1. Raw Materials

Given certain styles and construction of shoe, most of the raw materials may be leather in one form or another, e.g. uppers, lining, insole, sole, heel packing and heel and only require in addition, supplies of thread, eyelets, laces, tacks and adhesives. Such non-leather supplies need account for only 5 - 10 per cent of final product cost.

However, most modern constructions of shoes, being prepared in mechanized high-productivity units, employ lesser volumes of leather with higher inputs of pre-prepared non-leather components:- counters, toe puffs, unit soles, in addition to thread, etc., in such cases the components imported in most African countries, and their auxilliaries, may account for 20 to 30 per cent of final product cost.

Without doubt the basic prerequisite of any leather footwear industry must be the availability of the necessary inputs. In most situations in Africa, the availability of leather for projects has been assured but supplies of essential imported components have proven the major problem due to lack of foreign currency.

2. Scale

Leather footwear may be produced over a wide range of modes of operation, from individual artisan, through small co-operative semi-mechanized ventures to fully mechanized units of 500 to many thousands of pairs per day.

3. Building Requirements

The construction requirements for shoe factories need not be sophisticated, the major requirements are sufficiency of floor area and well lit and ventilated workrooms to yield pleasant working conditions. Due regard must be given to ensure worker safety and minimise fire hazard. In most circumstances a one storey building allows rational work flow.

The location must be considered giving due regard to available labour force and suitable transport facilities to allow distribution of the somewhat bulky end-product.

The area of building required is partially governed by style and construction of shoe as well as technology employed, e.g. a conveyor may require less floor space than a large number of trolleys.

The typical floor area required may vary from 2.0 - 3.5 m^2 per pair/day at a thruput of 500 pairs/day down to 1.4 to 2.1 m^2 per pair/day at a thruput of 2,000 pairs/day.

4. Capital Requirements and Productivity

Given this wide range of scale of operations, no firm data may be quoted, however, it may be pertinent to review some typical examples:

(a) Individual Artisan

Carried out in home. May operate with only hand tools, possibly a sewing machine, employing only local materials. Possible total capital US$ 500. Productivity 1 - 2 pairs/day/person.

Cost for job opportunity	US$ 500
Capital per pair footwear/day	US$ 250 - 500

(b) Small Co-operative

Housed in low-cost building. Few machines, sewing, etc., plus finishing. Employing only local materials. Group of 8 or so workers/craftsmen with capital of US$ 15,000. Productivity

4 - 6 pairs/day/person.

Cost per job opportunity	US$ 1,875
Capital per pair footwear/day	US$ 125 - 375

(c) Mechanized Production of 500 pairs leather footwear/day

Employing local leather and imported components. Requiring a building of some 10,000 ft.^{2}. 70 employees = 7.14 pairs/day.

Possible Fixed Capital

Production machines	US$ 300,000
Building	80,000
Other	120,000
	US$ 500,000
Working capital	500,000
Total capital	US$ 1,000,000
Capital cost per job opportunity	US$ 14,286
Capital cost per pair footwear/day	US$ 2,000

N.B. Direct comparisons of the above may lead to certain eroneous conclusions as the final products may not be comparable. The products from the mechanized production should be of a far higher quality with regularity assured. Whereas the artisan product may exhibit great variation.

ANNEX I

REGIONAL PROJECT PROPOSAL: TRAINING (Outline)

Title: "Uplifting technological standards and operational efficiency within the African tanning sector"

I. Objectives:

(a) Development Objectives: To promote the development of the leather and allied industries in the African continent. Ensure maximisation of the industry's potential in this important domestic-resources based sector.

(b) Immediate Objectives: To prepare a set of audio-visual training aids (videos), directed towards the needs of the African leather sector, to uplift the skills of those employed within the sector, thus obtaining improved quality of product and increased productivity and viability for installed plant.

II. Background and Justification

During the course of the UNIDO project entitled "Integrated development programme of the leather and leather products industry in Africa" - RP/RAF/85/610, some twelve countries were visited by sectoral consultants, and another 32 countries were the subject of detailed "desk study" and analysis of the status and problems of their leather sectors.

Universally, it was found that one of the major factors accounting for poor sectoral development was the lack of trained personnel at all levels.

It may be noted that the African leather sector has, based on its large holdings of live animals, the potential to produce in excess of 1.1 billion ft^2 of leather per annum, which has a potential value of over $US 1 billion per annum if processed to the fully-finished leather stage or $US 4-5 billion per annum (at current prices) if fully processed into leather products (e.g., footwear).

However, at this time less than 25% of the sectoral potential is developed. Indeed, in many of the countries surveyed, the leather and leather products industry was stagnating or even regressing. Existing installed plants are running at low capacity utilization levels, which coupled with quality standards below internationally accepted norms, yielding non-viable production units, may force many to cease production. Such poor sectoral status is due to a variety of reasons, amongst which the lack of skilled manpower, trained operatives and supervisors is widely reported to be a significant factor.

It has long been recognized that there is a need to up-grade the technological skills of human resources, indeed the FIRST CONSULTATION MEETING OF THE LEATHER AND LEATHER PRODUCTS INDUSTRY, INNSBRUCK, NOVEMBER 1977, called for the "Establishment of regional centres for technical information, training and advisory services". However, the infrastructural and political problems besetting the establishment of such regional centres remain unsurmounted.

Recognizing the situation, and as an aid to uplifting technological and operational skills, African representatives at an informal meeting of experts held during the course of the aforementioned project, urged the urgent preparation of a series of detailed videos, which would fill the current void. It was suggested that such videos cover all leather and leather products manufacturing techniques and be prepared at two comprehension levels:-

(i) operative (semi-literate/literate)
(ii) junior technician/foreman/supervisor.

It was felt that for economic and technical reasons senior technological staff would continue to be trained at existing institutes overseas.

Such videos were visualized as being employed at factory shop-floor level, as well as at existent sectoral centres within the African continent, and it was felt by the African representatives that they could effect significant improvement in productivity and quality of product, with concomitant uplifting of individual plant viability, increased operative safety and welfare.

It was envisaged that training aids prepared would be made available to national and regional leather centres who would then be responsible for local distribution. The materials will be prepared in English initially, subsequently in French and later on, where necessary, the centres concerned would dub or translate the material into the languages and dialects used in their locality.

Videos were thought to be the most economic training aids, wide distribution being simple and requiring minimal facilities and manpower for their presentation. UNIDO has taken steps to obtain copies of the limited number of existing videos in the sector, and where applicable, they would be suitably adapted and incorporated into the series. For economy, initially it is proposed that vedeos would be prepared covering only the leather-producing sub-sector.

III. Outputs

A series of videos, with coverage as in appended note, prepared by competent institute or company, in co-operation with a UNIDO consultant with broad knowledge of African sectoral needs.

IV. Inputs

	m/m	$US
UNIDO Consultant	2	16,000
Sub-contractors for video production		80,000
Travel		4,000
	TOTAL	$US 100,000

V. Follow-up activities

Follow-up activities are envisaged in three areas:-

(i) When the videos are produced, field projects may be required to ensure their efficient utilization. This may be initiated on a sub-regional basis, with UNIDO training expert(s) assisting national staff (e.g., the English-speaking SADCC countries as a pilot project).

(ii) If found expedient, a parallel series of correspondence courses may be prepared.

(iii) Subject to experience gained, the videos' coverage could be expanded to cover leather footwear and other leather products production.

NOTE

Videos will be prepared at two comprehension levels:-

(a) Operative (semi-literate/literate)

(b) Junior technician/foreman/supervisor level.

Where possible existing films/videos in the sector would be incorporated and elaborated upon.

(a) Operative Level

It is felt that 1-2 videos (2 hour VHS) could cover the topic in sufficient depth. The preparation of material at this level may be effected by editing down the more detailed junior technician series (see below), with the audio segment being suitably adapted. The major objectives of the videos being prepared at this level should be:-

- increased operative awareness of complete cycle of leather production process to ensure that he appreciates how his function dove-tails into the complete sequence. (Possibly cartoon-type introductory flow chart, schematics and drawings.)

- increased operative safety and welfare, improved productivity and quality of product, resulting from clear and detailed video of methods of feeding, operation, setting up and maintaining all machines normally employed.

- Simple appreciation of objectives of each process and nature of chemicals employed.

(b) Junior Technical Level

It is assumed that the target audience would have some basic knowledge of science (secondary school/ "O" level GCE / School Certificate).

The series could be completed in 4-6 videos (each 2 hours VHS) suitably sub-sectioned into 35-40 minute sessions.

The main themes could be the production of four major classes of leather and a few specialities, viz.:-

- Bovine leather - corrected grain and aniline full grain;
- Skin leather - nappa and suede for garment/footwear, gloving leather;
- Chamois leather - oil tannage;
- Vegetable-tanned sole leather - traditional pit and rapid drum tannage.

Possible video topics could be:-

1. Hide and Skin Preparation/Preservation

Possibly existing FAO film as a base. To cover flaying and curing of hides and skins under a variety of field conditions.

Flaying: abattoir (air knife and hand) - slab (with and without hoist);

Curing: wet salting - dry salting - drying (on frames, wire, etc.);

Storing: insects - insecticides - salt additives - short-term cure.
Grading.

2. Beamhouse

Hide defects and selection;

Physical and chemical operations involved;

Reaction vessels: pit - paddle - drum and processor;

Choice of chemical agents - control of process.

3. Tanning Department

Physical and chemical operations:

Types of tannage - filling - softy leather;

Pickling - tanning - splitting - shaving - neutralizing - retanning - sammying - setting out;

Control of pickle - tanning - neutralizing, etc.

Techniques for high chrome fixation.

4. Retanning/Dyeing/Drying

Choices of retan - dyeing - fat liquor;

Drying systems and effects, pasting, vacuum drying;

Dry operations: staking, drumming, grain correction/buffing etc.

5. Coating

Hand and machine operations - aniline finish - pigmented finish - embossing - ironing - glazing etc.

Grading - Measuring - Packing.

6. Vegetable Tannage - Sole Leather

Traditional tannage: physical and chemical processes;

Vegetable tanning agents;

Rapid drum process;

Combined pit and drum tannage.

7. Chamois leather: oil tannage

8. "Hair-on" Leathers - Gameskins, Reptiles.

9. Effluents, recycling:

   Utilities - boilers - miscellaneous items;

   physical and chemical testing - standards - quality control.

ANNEX II

REGIONAL PROJECT PROPOSAL: CO-OPERATION WITHIN SADCC (Outline)

Title: The co-operative development of the leather and leather products sectors within the Southern African Development Co-ordination Conference (SADCC) Area of Activity.

1. Objectives

(a) Development Objectives:

To develop the indigenous raw material base, raw hides and skins, to higher added value products such as leather and leather and leather footwear and leather goods and thereby create employment opportunities in the small scale industry sector, substitute imports and develop products with export potential.

(b) Immediate Objectives:

To assist the Governments of some SADCC countries to develop their leather and leather products sectors on a regional co-operative basis to overcome the problems associated with limited individual supplies of raw material and limited domestic markets.

2. Background and Justification

During the course of an ongoing UNIDO project ("Integrated Development Programme of the Leather and Leather Products Industry in Africa", RP/RAF/85/610) the situation in a number of SADCC countries was highlighted with respect to the leather sector. It was found that some of the SADCC countries showed the following features:

(i) Insufficient raw material to support an economic industrialized tannery capable of producing finished leather. Raw materials individually would supply only 25 - 75 per cent of a tannery input.

(ii) Several countries have, or could have, tanneries to process to wet-blue stage but domestic demand is insufficient to develop finishing sections.

(iii) Several countries have leather footwear production capacity but no domestic supply of finished leather, others have surplus footwear capacity.

(iv) Other countries have finished leather available for export.

(See further details under "Background Information, Part III)

Given this situation which appears ripe for a regional integrated development approach and noting that one of the cornerstones of SADCC development philosophe is in regional co-ordinated development and accepting SADCC objectes (see Background Information, Part I) clearly state that industrial development decisions must take into account regional considerations "... to increase the size of the industrial sector both nationally and regionally. .... to increase the linkages within the national and regional industrial sectors to make particular industries and industrial acitivity as a whole more integrated and self-reliant and less dependent on raw materials, intermediate inputs and spares from outside the region."

It would appear that any attempt to promote a regional integrated solution should harness the facilities available with SADCC.

Although the subject matter needs indepth study, a superficial appraisal envisages the situation where leather-using manufacutring units (for shoes, clothing, accessories, etc.) can be supplied by tanneries operating in a different country. Possibly wet-blue tanneries in one or more countries could be associated with leather finishing units in other countries. This approach will ensure that existing or proposed tanneries are kept at economic operating levels and that huge plants are not set up where scope for their full utilization does not exist.

Even though existing tanneries are in many cases operating below full capacity (the reasons vary but usually they are centered around lack of imported raw materials, spare parts, etc., caused by lack of hard currency), the development of regional trade in raw materials and leather would not only develop related industries but would also reduce dependence on hard currency transactions.

3. Project Proposals

Before the necessary indepth study is detailed or commissioned to prepare proposals for such regional sectoral integrated activity it would be necessary for Government and/or industry representatives from the six most concerned countries[1] to discuss the concept to establish whether the political will exists. It would be opportune if at the forthcoming UNIDO Regional Meeting on the Leather Industry planned for late 1986 in Alexandria (Egypt) the concerned countries' representatives discuss the subject matter.

Following the agreement of the representatives a detailed joint project could be elaborated between UNIDO and SADCC, such detailed proposal could be of interest to the current IDDA programme.

(1) Botswana, Lesotho, Malawi, Swaziland, Zambia, Zimbabwe.

SADCC BACKGROUND INFORMATION

(PART I)

A. Member States

The Southern African Development Co-ordination Conference (SADCC) is an organization established for ensuring econimic development for the region by achieving increased self-reliance and harmonized economic development. At present it consists of nine member states:

- The People's Republic of Angola
- The Republic of Botswana
- The Kingdom of Lesotho*
- The Republic of Malawi*
- The People's Republic of Mozambique
- The Kingdom of Swaziland*
- The United Republic of Tanzania
- The Republic of Zambia*
- The Republic of Zimbabwe*

(* Also Members of the Preferential Trade Area for Eastern and Southern Africa [PTA])

B. Formation and Objectives

The first meeting of the Organization was held in Arusha, Tanzania, in July 1979. In April 1980 the first summit of the Organization was held in Lusaka, Zambia, and a programme to attain regional development was agreed upon. In September 1980 the Council of Ministers of SADCC met in Harare, Zimbabwe, and adopted the following objectives for the Organization:

- To reduce external dependence, nationally and regionally, on imports of industrial products and inputs from outside the region;
- In particular to reduce dependence on the Republic of South Africa which is the largest single source of such products and inputs for five of the nine SADCC States and a significant one for two more;
- To increase the size (both absolutely and relative to total national production) of the industrial sector both nationally and regionally.

- To increase the scope and diversity of the industrial sectors of the member states and the region through increasing the range of final products, intermediate goods, capital goods produced;
- To increase the linkages within the national and regional industrial sectors to make particular industries and industrial activity as a whole more integrated and self-reliant and less dependent on raw materials, intermediate inputs and spares from outside the region.

C. Structure

SADCC has adopted a flexible, decentralized and consultative operational strategy. The main consultative machinery comprises the following:

- Meeting of Heads of Government (summit);
- SADCC Council of Ministers consisting of designated Ministers (normally the Minister of Finance & Planning) from each state;
- SADCC Standing Committe of Officials consisting of designated officials from each member state.

The Headquarters Secretariat is situated in Gaborone, Botswana, and is headed by the Executive Secretary. It co-ordinates all SADCC programmes and services its consultative machinery.

SADCC has identified a number of sectors for development and for each sector a member state is designed co-ordinator:

Sector	Co-ordinating Country
Transport and Communications	Mozambique
Food Security	Zimbabwe
Agricultural Research	Botswana
Animal Disease Control	Botswana
Fisheries, Wildlife and Forestry	Malawi
Soil and Water Conservation and Land Utilization	Lesotho
Manpower Development	Swaziland
Industrial Development	Tanzania
Energy Conservation and Development	Angola
Southern African Development Fund	Zambia
Mining	Zambia
Tourism	Lesotho

D. Basic Statistical Information

Country	Land Area (Sq. Miles)	Population (Million) 1980	2000 (Estimate)	GNP (1981) (Million $US)
Angola	1,246,700	7.9	12	3,872
Botswana	582,000	0.8	2	845
Lesotho	30,300	1.3	2	217
Malawi	118,485	6.1	12	1,246
Mozambique	801,590	12.0	24	2,319
Swaziland	17,363	0.6	1	461
Tanzania	945,000	18.7	36	4,748
Zambia	752,614	5.7	11	3,278
Zimbabwe	390,245	7.4	17	5,997

E. SADCC Countries' Membership in International Organizations

	UN	ADB	LOME	IMF	PTA	SACU	OPIC
Angola	*	*	a				
Botswana	*	*	*	*		*	*
Lesotho	*	*	*	*	*	*	*
Malawi	*	*	*	*	*		*
Mozambique	*	*	a	*			*
Swaziland	*	*	*	*	*	*	*
Tanzania	*	*	*	*			*
Zambia	*	*	*	*	*		*
Zimbabwe	*	*	*	*	*		

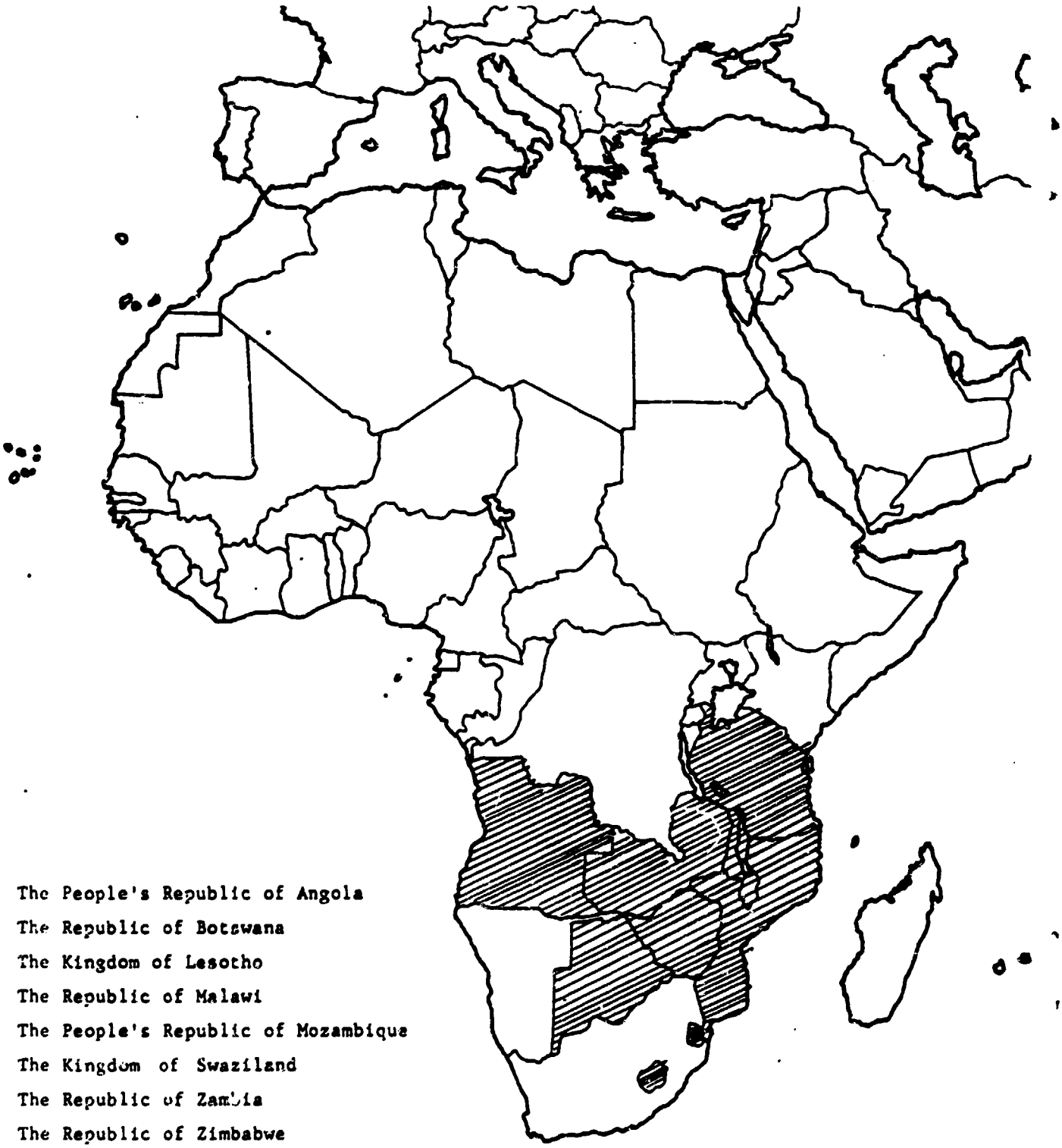
(Source: The Economist Intelligence Unit Special Report No. 182)

a = applied to join

(UN - United Nations; ADB - African Development Bank; LOME- Convention with European Economic Community: IMF - International Monetary Fund; PTA - Preferential Trade Area for Eastern and Southern African States; SACU - Southern African Customs Union; OPIC - Overseas Private Investment Corporation)

SOUTHERN AFRICA DEVELOPMENT CO-ORDINATION CONFERENCE (SADCC)

MEMBER STATES



The People's Republic of Angola
The Republic of Botswana
The Kingdom of Lesotho
The Republic of Malawi
The People's Republic of Mozambique
The Kingdom of Swaziland
The Republic of Zambia
The Republic of Zimbabwe

(PART II)

THE LEATHER SECTOR

A. Livestock Population 1981 (in thousand head)

Country	Cattle	% of Total of develop.Africa	Goats	% of Total of develop.Africa	Sheep	% of Total of develop.Afric
Angola	3,200	1.99	940	0.65	230	0.15
Botswana	2,950	1.83	680	0.47	180	0.12
Lesotho	600	0.37	780	0.54	1,180	0.77
Malawi	850	0.53	650	0.45	78	0.05
Mozambique	1,420	0.88	340	0.24	108	0.07
Swaziland	670	0.42	264	0.18	50	0.03
Tanzania	12,701	7.88	5,784	4.03	3,856	2.53
Zambia	2,225	1.38	320	0.22	50	0.03
Zimbabwe	5,261	3.27	990	0.69	370	0.24
	29.877	18.5%	10,748	7.5%	6,102	3.9%

(Source: UNIDO Regional Survey on Africa [ID/WG.411/12])

B. Potential Leather Production

(Theoretical, in thousand sq.ft)

Total area of leather, if all hides/skins were tanned

	Bovine	Goat	Sheep	Total
Angola	10,340	1,700	420	12,460
Botswana	7,750	1,410	430	9,590
Lesotho	2,170	1,130	2,040	5,340
Malawi	2,370	1,200	160	3,730
Mozambique	8,250	750	350	9,350
Swaziland	3,290	1,260	180	4,730
Tanzania	32,250	5,290	4,950	42,490
Zambia	5,270	700	100	6,070
Zimbabwe	18,740	2,030	680	21,450
	90,430	15,470	9,310	115,210

(Source: UNIDO Regional Survey on Africa [ID/WG.411/12])

C. Exotic Leathers

Another important source of raw hides and skins is that of exotic animals and reptiles (elephant, hippe, buffalo, crocodile, impala, etc.)

(PART III)

LEATHER AND LEATHER PRODUCTS IN SOME SADCC COUNTRIES

A. Leather Production in the SADCC Region

Accurate information on actual leather production is difficult to obtain, particularly as it varies widely from year to year depending on availability of chemicals for tannery or machinery spares. Of the nine member states two have no tanning capacity (Malawi and Swaziland), while the rest have varying capacities. Lesotho has a small sheepskin tannery, Botswana has a fairly large (1200 bovine hides per day) wet-blue plant and two smaller tanneries (one reported to tan 75 bovine hides daily to finished leather, the other tanning gameskins). Zambia has one tannery operating at 75 per cent capacity while Zimbabwe has four tanneries, all to finish leather, operating at an estimated 60 per cent capacity overall. Mozambique has one tannery operating under extreme difficulty due to shortage of chemicals, spares, and even hides, the latter caused mainly by difficulty in collecting hides due to the security situation prevailing in the country. Angola has one tannery producing leather but apparently at very low levels. Tanzania has three large mechanized tanneries with an overall capacity utilization of some 45 per cent.

In addition to the existing tanneries a number of projects are under study to set up new tanneries. The Malawi Development Corporation has commissioned a number of studies to determine the viability of a tannery and it is understood that plans are well advanced for the setting up of a wet-blue plant with a capacity of some 300 bovine hides per day. This project is expected to be developed with technical assistance from a tannery in Zimbabwe. Swaziland is also considering a tannery project while Zambia is planning a second tannery.

B. Footwear and Components Production in the SADCC Region

Angola: Five shoe factories which produced 800,000 pairs in 1980 (70 per cent using imported leather) but by 1981 production had declined to some 500,000 pairs. Leather goods production is restricted mainly to artisanal products.

Botswana: There are no industrial sized shoe factories, only some leathergoods units manufacturing bags, sandals, etc., mainly of vegetable tanned leather which is imported.

Lesotho: There is one shoe factory producing mainly for the South African market. A second shoe factory opened recently with a view to the export market also. This company has a mechanized, high quality components factory producing insoles, outer soles (leather and resin rubber), randing and welting. The sheepskin tannery produces sheepskin seat covers and other small items.

Malawi: One large shoe factory (BATA) only.

Mozambique: Fifteen shoe factories well equipped but run down through lack of spares. Estimated capacity is 4 million pairs per year (1 million in leather), although it is estimated that actual production is between 35 and 40 per cent.

In addition to the shoe factories there are also four leathergoods manufacturers producing bags, belts, and suitcases, etc.

Swaziland: Only small craft products.

Tanzania: Two large mechanized shoe factories with a capacity of producing 11 million pairs per year. One of these is currently producing some 5.5 per cent of capacity and the other is likewise under-utilized. There are also two other smaller factories and one leathergoods factory.

Zambia: One large shoe factory (BATA).

Zimbabwe: Some 12 shoe factories producing approximately 6.3 million (3.34 million in leather) pairs annually of which 1.5 million (0.5 million leather) are exported. There are also some factories producing leathergoods (wallets, briefcases, belts, bags, etc.) from exotic (elephant, buffalo, etc.) leathers. There is one shoe components factory producing insoles, outer soles, injected plastic heels and platforms.