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Industry Panel Meeting

Vienna, 5-7 February 1979

REPORT ON RAW MATERIAL AVAILABILITY:
FINDINGS OF EMINENT CONSULTANTS *

prepared by

the International Centre for Industrial Studies
UNIDO Secretariat

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Background

1. The Panel, at its first session held on 5-7 June 1978 in Vienna, recommended that UNIDO in co-operation with FAO should entrust the co-ordination of the work of collecting information on hides and skins to a small group of consultants who are eminent in the industry and who should be drawn from different regions. This group should decide on the most appropriate means of collecting information affecting the development of the world leather and leather products industries including availability and growth trends in raw material supplies, existing and potential capacities in leather and leather products manufacture, existing and prospective factors affecting marketing and trade, and any other relevant issues.
2. The Panel recommended that the eminent consultants who must function within the broad framework of the UN system, should take into account the work done by FAO in this regard in order to avoid duplication of activities; in particular it referred to the FAO Ad Hoc Government Consultation on Hides and Skins convened from 17-20 October 1978 in Rome. (A report of the Rome meeting will be presented to the Panel at its Second Session by the FAO Representative.)
3. The Panel further requested the Secretariat to disseminate the findings of the group of eminent consultants on raw material availability to the members of the Panel prior to the convening of the Second Session of the Panel meeting.
4. The Secretariat recruited the following eminent consultants in the leather industry, taking into account the names suggested by some Panel members, and convened a two-day briefing session in Vienna on 17-18 July 1978 to finalize the terms of reference of the group:

Emminent consultants assisting in the Second World-Wide
Study on leather and the leather products industry

<u>Name</u>	<u>Type of expertise</u>	<u>Area covered</u>
Gérard Bouchet (France) Managing Director ATTM Paris, France	Tanner/Technologist	Africa and Middle East
John H. Winterbottom (UK) Chairman and Managing Director, Turner Machinery Ltd., Leeds, England	Tanner/Factory and equipment supplier	Africa and Middle East
A.D. Parpia (India) ^{1/} Ex-Chairman of the Leather Promotion Council of India Madras, India	Industrialist/Trader	India
R.D. Higham (UK) Leather products technologist and economist. Editor of Leather Industry Journal England	Economist/Leather products	Asia and Far East
J.A. Villa (Argentina) Director, Ediciones Cuerecon, Buenos Aires Argentina	Economist/Leather industry	Latin America, excluding Brazil ^{2/}
Irving Glass (USA) ^{1/} Ex-President Tanners' Council of America New York, USA	Economist	OECD, USSR, Eastern Europe and China
Martin Berci Hungarian Institute of Com- mercial Quality Control Budapest, Hungary	Tanner/Economist/ Engineer	Co-ordinator

^{1/} Candidates suggested by some leather Panel members.

^{2/} Brazil covered by CTCCA, Novo Hamburgo, Brazil, by courtesy
of Dr. Sieler, President

..... The terms of reference, attached to this report as Annex I, was finalized and approved by the group of eminent consultants and circulated to members of the Panel for their comments. The consultants were recruited for a total period of 2 m/m which permitted them to carry out the field study missions after the "Semaine du Cuir" (9-12 September 1978) in Paris. With the exception of ESCAP region where the designated consultant had to be replaced by another leather expert at short notice, the regional missions were completed by end of October. The ESCAP mission was completed by end of November.

5. The consultants' mission reports were due by the end of October but we received them in late November and early December. The China mission finally started on 1 December for 10 days and no report was available at the time this report was written. Likewise the mission to the USSR was still pending and waiting for final approval from the Soviet authorities.

6. Country coverage, by region

The consultants covered the following group of producer countries in each region and those marked with an asterisk indicate countries actually visited by the team of consultants during the mission. Brazil was covered separately by the CTCCA (Leather and Shoe Technology Centre) in Brazil, and we are grateful to Dr. R.L.Sieler, President of CTCCA, for his kind assistance.

Countries covered by consultants

<u>ECA + ECWA</u>	<u>ESCAP</u>	<u>ECLA</u>	<u>OECD</u>	<u>COMECON</u>
E.Africa:				
Ethiopia	China (*)	Argentina(*)	USA	USSR
Tanzania	India (*)	Brazil	France	
Zambia	Indonesia(*)	Colombia(*)		
N.E.Africa:	S.Korea(*)	Ecuador(*)		
Egypt (*)	Philippines(*)	Mexico(*)		
Libyan Arab J.	Pakistan	Peru(*)		
	Thailand(*)	Uruguay(*)		
N.W.Africa:				
Tunisia(*)				
Central Africa:				
Cameroon(*)				
Zaire				
W. Africa:				
Nigeria				
Afghanistan				
N.E. Asia:	Iran, Iraq(*), Saudi Arabia, Syria(*), Turkey			
(*) Total countries visited: 17				

Report of consultants' findings

7. The report of the consultants' findings are summarized below by region (as in para 6.)

A. ECA and ECWA regions

8. The consultants' discussions in Addis Ababa with joint UNIDO/ECA Industry Division and FAO representative on livestock throughout the African continent reached agreement on the fact that statistics on hides, goatskins, sheepskins and on the size of cattle herds were far from correct.

9. In the consultants' views it is useless, therefore, to try to put together the sort of figures that UNIDO is asking for in its terms of reference. The cattle population figure is probably wrong. The offtake figure does not mean that the hides will be available to the tannery. They could be eaten or left to rot away. Therefore, all we are concerned about really is the number of hides and skins that are collected in any country. It is safe to say that a programme of better collection of hides and skins, and better curing of them in all African countries is highly desirable.

10. The collection and cure of hides and skins was much better in English-speaking Africa than in French-speaking parts, according to the FAO representative. In Malawi and Botswana, for example, cure and collection was very good. It could also be considered good in Kenya, Tanzania, Uganda, Zambia and Swaziland.

11. On the question of possible development of cattle population in Africa, only the south-west part of Sudan was mentioned as a real possibility. It was anticipated that the cattle herds in Sudan would be increased and animals would be transported, preferably by rail if not by road, to Khartoum for slaughter. There was a shortage of rolling stocks at present and as cotton had priority on the railways, transport of animals had to be by road, which was somewhat expensive. According to the consultant, such a development in Sudan would seem to fit in well with the development that has taken place in the tanning industry in Khartoum area.

12. In addition, Madagascar and Mosambique were suggested as areas that had land capable of supporting further cattle development, but it was doubtful, according to the consultant, whether this would take place.

13. Other factors that might affect cattle population are:

(a) There has been a considerable drop in some areas due to draught, mainly amongst goat populations, but these are climbing again fast. Goat population around Africa can generally be calculated as a fixed percentage of the rural human population.

(b) Foot and mouth disease has spread from the east into Botswana and Mozambique and herds in these countries have consequently diminished. Refugees are leaving Angola eastwards and taking their cattle with them and so this risk of infection continues.

(c) Ethiopia, which has such a very large cattle, goat and sheep population, has nationalized all the land and farmers have been allocated a small area and they will have to work in a co-operative. This has only taken place within 100 miles radius of Addis Ababa because there are so many areas of the country where the army or a government official dare not go, but in the long term it may well result in a drop in animal populations particularly as the movement of nomads becomes restricted.

(d) Cattle herds might improve in some areas with Tsetse fly control. Countries such as Nigeria and Botswana are practising Tsetse fly control and cattle herds have tended to increase. The Tsetse fly needs cover, consequently the situation is developing that the wild life that needs the Tsetse fly lives in areas where there is plenty of cover, such as trees, shrubs etc., and the cattle live in the more open areas. As human beings extend their farming areas and clear land, so they remove cover that the Tsetse fly requires and so this can bring about an increase in cattle population. This has, in fact, happened in Malawi.

(e) Tick control is developing and there is compulsory dipping and treatment of animals for tick and for warble fly in both East and West Africa.

(f) On the problem of locating abattoirs, the main constraint is the fact that so many animals are nomadic. Nigeria, for example, has built three abattoirs in the north, which are running very well. But Ghana built one that has not operated for three years. Of course, political considerations sometimes also affect the location of an abattoir.

Management and training

14. The consultants suggest that many of the present problems in tanneries in Africa was that they lacked management and technical skills and discipline at shop floor level. Africa, as a whole, was not spending

enough money and time on training technicians and managers. It was essential that everybody involved in leather industry got practical experience and training.

15. Although it may be true, as the consultants learned, that the Africans have generally little pride in industrial work, this could be changed by training and by discipline. For example, the achievements by Holts in Nigeria in fleshing goatskins, or by King Tanning Co on whole hide fleshing. According to the consultants, the majority of workers in new factories were country folk who were certainly not used to discipline and thus must be trained to accept it, and this would take time. The counter argument put forth was that one could not have good discipline on a shop floor if those in charge had not sufficient discipline or adequate training in "man management." Nevertheless, there was tremendous need for training of tannery personnel in African countries.

Availability of chemicals for tanning industry

16. Lime is available locally everywhere except in some west coast African countries. Salt is also available in most countries, but very scarce in some (not identified). Sulphuric acid can be found wherever there is a fertilizer plant and wherever there is a sulphate smelter such as in Zambia and Zaire. The number of these fertilizer plants are increasing throughout Africa. Apart from the above, all other chemicals have to be imported. According to information gathered by the consultants, sophisticated chemicals that are used in leather finishes, for example sulphonated oils and synthetic tanning materials will perhaps not be made in Africa in the foreseeable future.

Ethiopia

17. The potential for the development of the tanning industry in Ethiopia is enormous. Their greatest problem is the collection of hides and skins that are available and, no doubt, the curing of them. Large quantities of the raw materials are now exported in their raw state and the first stage in the development of an industry would seem to be to process these to the pickle or wet blue state.

18. The performance of the tanneries had been better since nationalization, according to its Acting General Manager. They had increased their output, but they have a great staff problem and are sadly in need of training. All the tanneries in Ethiopia are now under the control of the National Leather and Shoe Corporation.

Egypt

19. The information on the tanning industry in Egypt has come mainly from the management of the tannery complex at El Basateen in Cairo. Whilst the statistics shown on the attached charts do not marry up, they certainly indicate the very difficult position of the industry in that country.

20. The figures show that the tanneries owned by the Government, namely, The El Nasr Tannery in Alexandria and the tanning complex at El Basateen, are both working well below capacity. They and the private sector tanneries were all working at full capacity in the days when the USSR was buying all the leather Egypt could produce, but now both sectors of the industry are under employed. As far as the Government sector is concerned, the tanneries were, in 1975, working at 41% capacity on upper leather and by 1977 this had dropped to 26%. Similarly, in the Government sector, sole leather production in 1975 was 84% of capacity and in 1977 it was 56%. In the private sector the tanneries were working at 100% capacity in 1975, but in 1977 were only working at about 41% capacity both in upper leather and sole leather.

21. It is depressing to walk around the large tanneries at El Basateen and to see them hardly working, and one must ask the question, what should be done to find markets for their products. It is unlikely that the domestic demand for leather can be increased in the short term. There are plans for 2 new shoe factories to be built; one in Alexandria with a capacity of 1,000,000 pairs of shoes per annum, with leather soles, and another in Cairo with a capacity of 1,000,000 pairs of shoes per annum with leather soles and 1,000,000 pairs of shoe uppers for export. These factories are designed primarily for exporting shoes and they hope to have them in production in 2 years time and expect that in 4 years from now they will be exporting 90% of their production. These factories should consume about 975,000 sq.m. of upper leather per annum, but there would seem to be adequate capacity in the Government tanneries alone to produce this extra amount of leather. It is also clear that in the Government tanneries there is capacity to produce all the sole leather these new shoe factories will require. We can say, therefore, that in either the Government or the private sector there is more than enough capacity to meet the anticipated domestic needs in the foreseeable future.

22. Another consumer of leather within Egypt is the leather goods industry, which is entirely in the private sector with many very small units. It is difficult to see how this industry could be developed in the near future so that it will consume more leather, although its volume might increase as tourism develops.

23. If the tanneries in both the Government and the private sector are going to work at anything like their capacity then they must develop a shoe and leather goods industry that is capable of producing products that can be exported. This will take time and it will require investment and training not only in manufacture, but in marketing and if plans for this are drawn up in, say, the next 12 months then they will only be coming to fruition by 1985. In the meantime, it would seem that the Egyptian tanners have got to find markets overseas and to do this they must produce leather of a higher and more consistent quality. Furthermore, they will have to improve their marketing and find out what the requirements are in the leather consuming areas.

24. Looking forward to 1985, we must consider whether the Egyptian tanning industry is going to have available to it the hides and skins that are presently being imported, particularly from Sudan and Ethiopia. It is suspected there is spare tanning capacity in both these countries. It is expected that the cattle herds of Sudan will increase, as will the cattle slaughter, resulting in the greater availability of hides; and better cure and collection in Ethiopia must, in due course, make more skins available.

25. The statistics do not marry up, but it may be that the hides and skins imported in one year overlap to some extent and become leather production in the following year, but we can consider that the two charts, namely, for domestic slaughter and hide and skin imports, represent a typical year in the last 3. If the divisions of hides used for sole and upper leather are correct, the domestic slaughter provides hides and skins capable of producing just over 51,000 sq.ft. (4,700,000 sq.m.) and the imports sufficient to produce about 10,500,000 sq.ft., (9,750,000 sq.m.). We see that the total, which is 6,500,000 sq.ft. is approximately what was produced in 1976. The figures for the past 3 years for the production of upper and light leather have been :-

	<u>1975</u> sq.ft.	<u>1976</u> sq.ft.	<u>1977</u> sq.ft.
<u>UPPER & LIGHT LEATHER</u>			
Government Sector :	10,401,420	10,729,151	9,223,000
Private Sector :	68,000,000	56,000,000	40,500,000
	78,401,420	66,729,151	49,723,000

26. It is clear that the import of hides and skins on a very large scale is required to keep the Egyptian tanning capacity fully occupied because it would seem capable of processing approximately 90,000,000 sq.ft of hides and skins. The Egyptian industry, therefore, is facing one big problem, namely, to use its great tanning capacity. To do this it has to develop export sales of leather and of leather products, and it also has to ensure that it can import large quantities of hides and skins because the domestic availability of raw material would appear to be approximately 40,000,000 sq. ft. short of capacity.

27. In order to use the large amount of leather scrap that is available each year, a leatherboard plant has been installed at El Basateen. This produced 346 tons in 1976 and 571 tons in 1977. Even this is not working near capacity, but should develop into a profitable unit particularly when the shoe production is increased.

24th October, 1978 JMW:LR

HIDE AND SKIN IMPORTS - EGYPT

Weight	Type	Weight Each/kg.	Pieces	Each Sq.ft.	TOTAL sq.ft.
--------	------	-----------------	--------	-------------	--------------

PRIVATE IMPORTS - HIDES

Uganda (Cameroon (Ethiopia (Chad ex	D/DG	10	97,400	26	2,532,400
Sudan	D/DG	10	141,100	13 kg. 34	917,150 kg. Sole 2,398,700 Upper

GOVERNMENT IMPORTS - HIDES

(USA ex (Australia (Brazil, etc.	W/WG	26	33,461	32	1,070,752
Sudan	D/DG	10	122,700	26	3,190,200

- SKINPACKING

ex Sudan	D/DG	3	180,000	6	1,080,000
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- COATINGS

ex Sudan	D/DG	1.2	60,000	3.5	210,000
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24th October, 1978 JHM:LR

DOMESTIC SLAUGHTER - EGYPT, 1975

	Ex Abattoir	50%	Others	TOTAL	Cure	Weight Each kg.	Finished weight or area	Equiv. sq.ft.	TOTAL sq.ft.	TOTAL WEIGHT
Bulls	6,944	50%	6,944	13,888	Salted	30	18 kg.	34	472,192	250,000 kg.
Cows	32,053	40%	48,079	80,132	Salted	20	34 sq.ft.	34	2,724,488	-
Buff Calf	417,398	40%	626,097	1,043,495	Salted	7	10 sq.ft.	10	10,434,950	-
Heifers	365,369	40%	548,053	913,422	Salted	20	34 sq.ft.	34	31,056,348	-
Sheep	371,540	20%	1,486,160	1,857,700	Salted	3	6 sq.ft.	6	11,146,200	2/300,000 imported live
Goat	19,614	1%	1,961,400	1,981,014	Salted	1.2	3.5 sq.ft.	3.5	6,933,549	-
Camel	64,145	33%	128,290	192,435	Salted	25	16 kg.	28	5,388,180	3,078,960 kg. mostly imported live.

24th October, 1978 JHW:LR

CAPACITIES AND ACTUAL PRODUCTION - EGYPTIAN TANNERIES, 1975

	<u>Capacity</u>	<u>Actual Production</u>
Government Sector	2,332,719 sq.m.	966,291 sq.m.
Private Sector.	6,317,200 sq.m.	6,317,200 sq.m.
Government Sector	1,725 mt.	1,461 mt.
Private Sector	11,900 mt.	11,900 mt.

SOLE LEATHER

- 11 -

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals (Head)		Animals Slaughtered (Head) 000		offtake rate %		meat Production (t) 000		meat Consumption		hides (kg)*** million		average (m ²) ft ²	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle	-	-	2050		-	124	-	115	-	-	11150	kg.	2.04	
b) Buffalo	-	-	1857		-	-	-	-	-	-	1857		0.56	
c) Sheep	-	-	1960		-	-	-	-	-	-	1960		0.33	
d) Goat	-	-	-		-	-	-	-	-	-	-		-	
e) Hog or Pig	-	-	183		-	-	-	-	-	-	458		2.6	
f) Others	-	-			-	-	-	-	-	-				
TOTAL														
Import a)	-	-	-		-	-	-	-	-	-	3612	(D)	2.04	
b)	-	-	-		-	-	-	-	-	-	870	W/S	0.56	
c)	-	-	-		-	-	-	-	-	-	15		0.33	
d)	-	-	-		-	-	-	-	-	-	5			
e)	-	-	-		-	-	-	-	-	-				
f)	-	-	-		-	-	-	-	-	-				
Export a)														
b)														
c)														
d)														
e)														
f)														

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate. 000 doz.

Iraq

28. Putting together a satisfactory report on Iraq is extremely difficult. There is one large public tannery employing about 1400 people. It processes approximately 75 hides per day for sole leather, 2,000 hides for upper and lining leather, 3,500 goat and sheep per day - the goat being for wet blue and the sheep either pickle or chrome crust. 65 per cent of the sole and upper leather is made from Iraqi hides and the remainder are imported with dry salted hides coming from Kenya and wet salted from Australia, Brazil, USA and other African countries. The reason is that the local hides are too thin for sole leather and the heavier uppers required for military boots. Some buffalo are also used for sole leather. The hide leather produced is all for local consumption. The goat and sheepskins that are processed are all for export.

29. Other tanneries of consequence are: The Technical Tanning Company, Mosul, producing about 330,000 sq.m. per annum of upper leather, and the Modern Tanning Company, Mosul, pickling about 420,000 sheep and goat, which are all exported. Most of these smaller tanneries are processing goat and sheep to pickles, wet blue or crust and as there is virtually no domestic use for sheep and goat they are all exported. The consultants doubt very much whether the figures for cattle slaughter are accurate because it was not possible to get any information on the import of hides. 325,000 cattle are slaughtered in the abattoir and it is impossible to determine how many are killed in the country. FAO figures suggest that about 100,000 hides are exported and this may be the case.

30. Local hides are about 14 kg. fresh and 8 kg. dry - an average area of finished leather of about 2.14 sq. m. Hides imported for sole leather are about 16/18 kg and they achieve 65/70 per cent yield in finished leather. Hides imported for upper leather are in the 12.15 kg. range. The sheepskins show an area of 0.6 sq. m and the goat about 0.37 sq.m.

31. As far as the future is concerned there is no indication that the sheep and goat population will increase, but there has been an increase of about 2% per annum in the cattle population during recent years and this may well continue.

BA C TABLE (1) - RAW MATERIAL AVAILABILITY

IRAQ

	Live animals (Head) 000's		Animals Slaughtered (Head) 000's		offtake rate %		meat Production (t)		meat Consumption		metric tons hides (kg)*** and skins (pc) 000's		average (m ²)	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle	2060	2280	600	664	26						8400	9500	2.14	
b) Buffalo	185	144	25	19	14						450	350	2.60	
c) Sheep	8530	9900	3000	3500	35						3000	3500	0.56	
d) Goat	2600	2600	1000	1000	38						1000	1000	0.37	
e) Hog or Pig	-	-												
f) Others	-	-												
TOTAL														
Import a)	-	-	196		-						2744	3000	2.2	
b)	-	-												
c)	-	-												
d)	-	-												
e)	-	-												
f)	-	-												
Export a)	-	-									1680	1800	2.14	
b)	-	-									-	-		
c)	-	-									1000	1500	0.56	
d)	-	-									1000	1000	0.37	
e)	-	-									-	-		
f)	-	-									-	-		

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

Libyan Arab Jamahiriya

32. Information on this country is difficult to obtain and the only source of information is Egyptian technicians who work there. There are no imports of hides and skins into the Libyan Arab Jamahiriya. The quality of the domestic ones is poor due to bad flay, grain scratches and bad cure. Some goat and sheepskins are exported in the raw state.

33. It is estimated that 230,000 cattle and camel are slaughtered per annum, from which 90,000 hides are lost. About 1,200,000 sheep and 600,000 goat are slaughtered, but of this total of 1,800,000 only 1,200,000 are available to the tanneries and about 600,000 are lost.

34. Only about 150 cattle are slaughtered per day in the new abattoir in Tripoli and one or two others, and the rest are slaughtered privately.

35. There are presently two tanneries in the country, one in Benghazi which is processing about 250 sheep and goat per day, with a capacity of more than double this. The other tannery is in Tripoli and was designed for the production of sole, upper and light leathers. It has a capacity of 500 hides per day and 1,500 skins, but is actually producing only 300 hides and no skins. The tannery employs about 110 workers although at maximum production it would require 180.

36. A further tannery is to be built in Benghazi for the processing of sheep and goatskins. The planned capacity is 4,800 skins per day, 2,400 to crust and 2,400 to finished leather. There is an export of goat and sheep in the raw state and this tannery is probably intended to process what presently is being exported.

37. With the existing tanneries working well below capacity it is doubtful whether any further tannery development is necessary. Without foreign workers, mainly Egyptians, the tanneries would probably not operate.

38. Obviously, what is required in Libya is better control of animal slaughter, better flay and better cure, although it is difficult to see how this could be achieved.

LIBYA

B. C TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals (Head)		Animals Slaughtered (Head) '000's		offtake rate %		meat Production (t)		meat Consumption		Hides (kg)*** and skins (pc) MILLION		average (m ²) '000's	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle			230	230							?	1080	1680	1.95
b) Buffalo			-	-							-	-	-	-
c) Sheep			1200	1200							0.8	1.0	0.46	0.37
d) Goat			600	600							0.4	5.0	0.37	0.37
e) Hog or Pig			-	-							-	-	-	-
f) Others CAMEL			Included in bovine figures								0.6m	0.5m	?	?
TOTAL														
Import a)														
b)														
c)														
d)														
e)														
f)														
Export a)														
b)														
c)														
d)														
e)														
f)														

NOTES:

*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

***) If available, please give data of more years than above.

***) Hides weight should be given in greenweight. If other weight, please indicate.

Nigeria

39. Statistics available on Nigeria are hardly to be relied upon at all. Many of the herds are nomadic and move freely across national borders. As far as cattle herds are concerned, so many are now being eaten - due to the great shortage of protein- that the number theoretically available to the tanning industry is false. Figures on goat and sheep cannot be relied upon because so many are not killed in abattoirs and raw skins have been passing into Nigeria from surrounding countries, and this is a traditional trade.

40. Declining quality of slaughter is reducing the value of skins to such an extent that unless there is considerable improvement in the quality of flay and of the curing, it will be uneconomic for tanners to process them. Salt for curing is in desperately short supply and alternatives to this material are not available.

41. Whilst the figures on meat consumption can hardly be relied upon it is interesting that, currently, between 10,000 and 20,000 tons of meat is being imported from Brazil and this meat, subsidised by the Brazilians, is cheaper than the local meat.

42. As far as leather production is concerned, there is a shortage of hides and current availability cannot match the capacity of the existing tanneries. Import of hides is extremely difficult due to congestion at the ports which, with the nature of the material, results in deterioration.

43. Several of the tanneries in Nigeria are under European control and the quality of the product, and the productivity achieved, is as high as one could wish bearing in mind the quality of the raw material. However, the profitability of these tanneries depends very largely on how near to capacity they can keep them operating, but with hides and skins of an acceptable quality being in such short supply, many of the tanneries are in difficulties.

B TABLE (1) - RAW MATERIAL AVAILABILITY

NIGERIA

	Live animals (Head) million		Animals Slaughtered (Head) 000's		offtake rate %		meat Production (t) 000's		meat Consumption		metric tons hides (KG)*** and skins (pc) 000's		average (m ²)	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle	2	2	400	500			80	125	80	145	9	11		
b) Buffalo	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c) Sheep	2	2	250	250	-	-	13	13	13	13	250	250	-	-
d) Goat	12	12	6000	8000	-	-	300	400	300	400	6000	8000	-	-
e) Hog or Pig	-	-	-	-	-	-	-	-	-	-	-	-	-	-
f) Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL														
Import a)	See note													
b)														
c)														
d)														
e)														
f)														
Export a)	See note													
b)														
c)														
d)														
e)														
f)														

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

Saudi Arabia

44. According to FAO, there was an annual production in 1975 of:

Hides	100,000
Sheepskins	1,200,000
Goatskins	500,000

It is difficult to see how these figures can be substantiated because no statistics exist in Saudi Arabia.

45. It is clear that what hides and skins are available are mainly from animals that have been imported and slaughtered within the country. The consultant was informed that sheep at the rate of 2,000,000 per annum are being imported live from Australia and he knows that many animals are imported live from nearby countries, in particular from Somalia.

46. There is no information as to what happens to the hides and skins, perhaps they are left to rot.

47. The only cattle raising within the country is an experimental farm that has been developed by agricultural technicians from Britain and no large scale cattle breeding exists as yet.

Swaziland

48. Swaziland agriculture is split into two sectors. About half is farmed by Swazis and the agriculture is mainly subsistence in character with about 85 per cent grazing land and 10 per cent under crops. The other 50 per cent is farmed mainly by Europeans and the agriculture is modernised and about 45 per cent of it is used for grazing.

49. Of the total cattle herd of a little over 600,000, 80 per cent is owned by the Swazis and their land is over-stocked. It is recommended that their herds of about 525,000 head should be reduced by 250,000 head.

50. The biggest single slaughterer of cattle is the Swaziland Meat Corporation. Their usual kill is in the region of 25-30,000 per annum. In 1975 it was about 17,000. The total kill is generally 65,000 which includes about 25-30,000 fallen cattle.

51. The only other source of raw material is goat. There reckons to be about 250,000 of these with an annual take-off of 25-30,000, thus hardly worthy of commercial consideration.

52. As there are no tanneries in Swaziland, virtually all hides are available for export. As one would expect, the hides from Swaziland Meat Corporation are of good quality, being machine flayed and salted, whereas country hides are invariably badly flayed and badly cured. One of the main faults with Swaziland hides is the very heavy branding.

53. There is a sizeable export of wet salted hides to the Republic of South Africa and also some 7-8,000 live cattle are sold to South Africa for slaughter in Durban and Johannesburg. There is a trade in dry salted hides to Iraq and also to Italy.

54. It is very difficult to put a figure on the hide exports. There are two sources of statistics, namely, the Ministry of Agriculture and the Central Statistics Office. Their figures vary widely, but do indicate that generally, in any year, 30-40,000 hides are exported although in 1975 the figure was down to about 10,000 because it was difficult to sell meat and the kill was much reduced.

55. The consultant suggests that it would be worthwhile investigating possible developments in Swaziland and he suggests the following should be considered:

(a) The Swaziland Meat Corporation kills around 40%, say, 25-30,000; a little under 10,000 are killed in country butcheries and the rest on the farms. The SMC hides are well flayed and well cured, but the others are not. Work on improving flay and cure should be considered. If these are improved they collection will automatically improve because the hides will command a higher price on the market.

(b) If hide improvement and collection were better, there might be advantage in setting up a small tanning unit for processing the hides to wet blue, although such a unit would be very small as there would only be a little over 1,000 hides per week available in total.

(See page 21 for Basic Table 1 on Swaziland)

Tanzania

56. The picture in Tanzania is typical of many African countries and there is quite obviously a need for better husbandry, better slaughter and better collection and cure of hides and skins. The cattle population appears to be about 13,500,000 and there are about 1,000,000 hides per annum available to the market. Of these, about 200,000 are processed in domestic tanneries and exports must approach 800,000. Of sheepskins, it appears that 700,000 come on the market and of goatskins about 1,300,000 and the majority of these are exported.

BA TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals (Head) 000's		Animals Slaughtered (Head) 000's		offtake rate %		meat Production (t)		meat Consumption		metric tons hides (KG)*** and skins (pc) 000's		average (m ²) 000's	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle	620	600	450	68	52	58	11	9	13			1.0	1.0	1.12
b) Buffalo												-	-	3.25
c) Sheep												20	20	0.56
d) Goat												-	-	
e) Hog or Pig												-	-	
f) Others														
TOTAL														
Import a)														
b)														
c)														
d)														
e)														
f)														
Export a)														
b)														
c)														
d)														
e)														
f)														

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

57. The consultant suggests that by 1985 the following will apply:

	<u>Available to the market</u>	<u>Exports</u>	<u>Leaving raw material for processing in the country.</u>
Hides	1,375,000	420,000	955,000 = 1,910,000 sq.m.
Sheepskins	900,000	200,000	700,000 = 322,000 sq.m.
Goatskins	1,600,000	400,000	1,200,000 = 396,000 sq.m.

58. The National Development Corporation wants to stop all export of hides and skins and to establish a domestic industry to process them, but it is doubtful whether they will be able to achieve this objective by 1985 and it is for this reason that the consultant suggests there will still be an export trade in hides and skins. To develop tanning capacity at this rate will not be easy. Apart from the problem of financing new tanneries, a great deal of technical assistance will be necessary. Furthermore, the location of tanneries to ensure there is adequate water, power and labour and that raw materials can be delivered to them, will be of the greatest importance. Also, the number of units and their size will have to be carefully considered.

59. It may be found that it will not be possible to process all these raw materials to the finished state and it may be that tanneries for processing hides to wet blue or pickling plants for skins may be the first steps that should be taken. Processing to these conditions requires much less technology in producing finished leather, and furthermore, the marketing of them also requires less skill.

(See page 23 for Basis Table 1 on Tanzania)

B4. C TABLE (1) - RAW MATERIAL AVAILABILITY

TANZANIA

	Live animals (Head) million		Animals Slaughtered (Head) 000's		offtake rate %		meat Production (t)		meat Consumption		000 metric tons hides (Kg)*** and skins (pc) 000's pieces		average (m ²)	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
(*)														
(**)														
a) Bovine cattle	13.5	15	1.3	1.8	10%	12%					12	16.5	2.0	
b) Buffalo	-	-	-	-	-	-					-	-	-	
c) Sheep	3.2	4.0	800	1000	25%	25%					700	900	0.46	
d) Goat	4.4	5.5	1450	1815	33%	33%					1300	1600	0.33	
e) Hog or Pig														
f) Others														
TOTAL														
Import a)														
b)														
c)														
d)														
e)														
f)														
Export a)														
b)														
c)														
d)														
e)														
f)														

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

Turkey

60. The consultant has had the greatest difficulty in marrying up the statistics of the hide and skin availability and the shoe and clothing leather manufacture in Turkey. There are wide variations in such figures coming from different sources and I recommend little heed is paid to the figures shown on the basic tables. There is quite a degree of smuggling both of live animals and skins and it is extremely difficult to determine how many hides and skins are in fact available to the tanneries.

61. One of the basic problems is that the domestic raw material on which the tanning industry relies almost entirely is situated in the central and eastern parts of the country and 80% of the tanning is carried out in the west, near Istanbul and Ismir. Therefore, there is probably considerable wastage of raw material and, with bad curing and the time taken to deliver material to the tanneries, there must be a great loss in quality.

62. Cattle herds tend to be small, but some herd improvement schemes are operating and an increase in cattle population is anticipated during the next 10 years. How great this will be, and whether there will be an increase in the offtake rate, is very difficult to determine. The hides themselves are of poor quality with bad grain scratching and insect damage and the curing is poor, with the result that most of the upper leather for shoe manufacture is made from imported hides.

63. It is difficult to see that some improvement cannot be made in quality, possibly by encouraging abattoir slaughter, which should result in better flay and cure. In view of the distance between the raw material and the tanneries, possibly the development of wet blue processing plant in the west and the east of the country might be an advantage.

64. There is obviously a large production of sheep and lambskins and the sheep population is increasing. It is suggested that in the 10 year period up to 1975 there has been a 27% increase. This is entirely due to the increased consumption of mutton at the expense of goat meat. The deterioration of quality of sheepskins on their journey to the west is a serious problem and the development of pickling plants near to the source of supply might be worthy of investigation.

65. Goat flocks are diminishing and they are of poor quality. They are not widely used for leather manufacture in Turkey. It is suggested that 500,000 goat are exported live, mainly smuggled, and that 1,500,000 are exported in the dry state.

There is a resistance to goat leather and it is unlikely there will be an increased use of it by domestic tanneries and the export trade is likely to continue.

66. The tanneries are generally primitive and of the 700, only about 20 of them employ more than 60 workers.

B. IC TABLE (1) - RAW MATERIAL AVAILABILITY

TURKEY

	Live animals (Head) MILLION		Animals Slaughtered (Head) MILLION		offtake rate %		meat Production (t)		meat Consumption		Hides (Kg)*** and skins (pc) MILLION		average (m ²)	
	1970	1975 1985	1970	1975 1985	1970	1975 1985	1970	1975 1985	1970	1975 1985	1970	1975 1985	1970	1975 1985
(*)														
(**)														
a) Bovine cattle	-	14 20	-	2.8 4	-	20 20	-	- -	-	- -	-	3360 4800	2.3	
b) Buffalo	-	40 50	-	15 18	-	37 36	-	- -	-	- -	-	14 17	0.46	
c) Sheep	-	15 8	-	5.5 3	-	37 38	-	- -	-	- -	-	5.5 3	0.38	
d) Goat														
e) Hog or Pig														
f) Others														
TOTAL														
Import a)	-		-		-		-		-		3.6	10.4	-	
b)	-		-		-		-		-					
c)	-		-		-		-		-					
d)	-		-		-		-		-					
e)	-		-		-		-		-					
f)	-		-		-		-		-					
Export a)	-		-		-		-		-					
b)	-		-		-		-		-					
c)	-		-		-		-		-					
d)	-		-		-		-		-					
e)	-		-		-		-		-					
f)	-		-		-		-		-					

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

**/ If available, please give data of more years then above.

***) Hides weight should be given in greenweight. If other weight, please indicate.

Zaire

68. It is clear that there is potential for increasing the cattle, sheep and goat population in Zaire and there are some large herds of cattle which are well looked after and capable of development. It would appear, however, that there is a great loss of hides and skins, as we see from the number of animals and the hides and skins that are actually available to the market.

69. In view of the anticipated developments both in animal population and slaughter, it is suggested that there will be an 18% increase in slaughtering of cattle between 1975 and 1985.

70. It is considered that the availability figures of 80,000 hides and 500,000 goat and hair sheepskins are realistic and present requirements for shoe manufacture leave about 30% of the hides and the majority of the skins available for export.

71. Mechanised shoe production of all types is a little over 5,000,000 pairs and, even allowing for some cottage industry, this would seem to be low for a population in excess of 25,000,000. It is reasonable to assume that there will be an increase in shoe-making capacity before 1985 and although this will require more leather, the increased availability of hides and skins that can be anticipated will leave an even larger quantity available for export.

72. With the difficulties that would be experienced in collecting, say, skins it is doubtful whether the building of a small plant for wet blue processing of them would be viable and, consequently, it would appear that exporting in the raw is probably going to continue.

(See page 27 for Basic Table 1 on Zaire)

Zambia

73. Reliable information on Zambia is scarce, but the tanning and shoe making industry there is dominated by the BATA factory in Lusaka.

74. It is reckoned the annual availability of hides and skins is :-

Bovine:	200,000
Sheep:	4,000
Goat:	40,000

75. It is not known what small scale production of leather shoes exists, but the BATA factory has a capacity to produce about 2,500,000 pairs of shoes per annum, of which about 1,000,000 pairs have leather uppers. The BATA tannery has a capacity to produce about 235,000 sq.m. of upper leather per annum and a small quantity of sole leather.

76. It is extremely difficult to forecast trends and the consultant has merely assumed there will be a modest increase in the shoe production at the BATA factory.

(See page 28 for Basic Table 1 on Zambia)

ZAIRE

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals (Head) million		Animals slaughtered ('000 Head)		Offtake rate (Percentage)		Meat production (t)		Meat consumption		Hides and skins ('000 metric t)		Average (m ²)		
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
(*)															
(**)															
a) Bovine cattle	1.0	1.1	1.3	128	143	169	13	13	13						
b) Buffalo															
c) Sheep		0.6	0.7		180	210		30	30						
d) Goat		1.9	2.2		570	660		30	30						
e) Hog or Pig		0.5	0.7		265	370		53	53						
f) Others															
TOTAL															
Import a)															
b)															
c)															
d)															
e)															
f)															
Export a)															
b)															
c)															
d)															
e)															
f)															

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

**) If available, please give data of more years then above.

***) Hides weight should be given in greenweight. If other weight, please indicate.

BA 3 TABLE (1) - RAW MATERIAL AVAILABLE FY 1970 1975 1985 ZAMBIA

	Live animals (Head) million			Animals Slaughtered (Head) 000's			offtake rate %			meat Production (t)			meat Consumption			Hides (kg)*** end skins (pc) 000's pieces			average (m ²)		
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985			
(*)																					
(**)																					
a) Bovine cattle	1.8			216			12%									2.4			2.23		
b) Buffalo				-												-			0.5		
c) Sheep				5												4			0.33		
d) Goat				50												40			-		
e) Hog or pig				-												-			-		
f) Others				-												-			-		
TOTAL																					
Import a)																					
b)																					
c)																					
d)																					
e)																					
f)																					
Export a)																					
b)																					
c)																					
d)																					
e)																					
f)																					

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years than above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

United Republic of Cameroon

77. An examination of the leather situation in Cameroon is interesting for the following reasons:

- (a) The proximity of Nigeria, which is an enormous and very active market;
- (b) Its geographical situation, with a slight encroachment on to the Guinean area with eaters of animal hides in the west, and a marked encroachment on to the Sahelian region, affected by droughts, in the north;
- (c) Nomadism or semi-nomadism in the Sahelian region;
- (d) A central region suitable for cattle-raising but infested with tsetse fly;
- (e) The recent creation of a new collecting organization which supplanted the previous organizations by force;
- (f) The very recent launching of a large tannery.

78. As elsewhere, it is difficult to estimate the livestock population. The differences between the extreme values among the estimates, calculated in terms of the lowest estimate, are about 30 per cent in 1970 and 1975, and over 60 per cent in the case of 1985.

79. Most of the import and export of cattle on the hoof escapes customs control.

80. The Fourth Plan speaks openly of conflicts between farmers and stock-raisers. This is important, because there are no enclosures as yet in these countries, and shows that at a certain moment in the development of stock-raising there is competition between the areas needed for pasture and the areas needed for crop-growing.

81. The authorities responsible are finding, in Cameroon as elsewhere, that it is better to encourage the breeding of pigs and poultry than the raising of cattle, in order to satisfy the growing demand for meat.

82. The arbitrary way in which the rates of unsupervised slaughtering are determined is evident and may give an erroneous idea of the amounts of raw skins available.

83. It is also interesting to see the conflict between different collection systems, and the big variations in the quantities collected between 1974 and 1976: a reduction of 40 per cent for cattle hides, compared with an increase of 80 per cent for sheep and goat skins.

84. There are natural shortcomings in flaying and in the preservation of raw hides. Since drying has an adverse effect on the texture of the grain side of cattle hides, tests with salting trials are being carried out, the results of which will need to be followed up from the technical and economic points of view.

85. The new (and only) tannery in Cameroon started up in January 1978.- Capital investment to date is twice what was envisaged in 1974 and still seems to be insufficient. The quality obtained with wet blue and semi-finished is a technical success, given the characteristics of the raws, and is the result of considerable prior training in Europe and continued technical assistance.

86. Nevertheless, in spite of the many difficulties and the fact that the number of cattle hides collected is only 42-43 per cent of the figure initially envisaged, result in a selling price that future customers in Cameroon consider to be too high. The tannery has not yet finished dressed skins in an industrial scale.

87. Were it not for the poor quality of the residual skins after the skimming done for the tannery by STPC, there would be a temptation to say that a second tannery for small skins could be built. It is necessary to be more cautious, however, and wait a few years to see the level at which the collection of skins stabilizes.

(See page 31 for Basic Table 1 on Cameroon)

Syrian Arab Republic

88. The cattle-hide tanning industry, in the public sector, already has to import 65 per cent of its material from the Libyan Arab Jamahiriya, Saudi Arabia, Kuwait, Uganda and Kenya. Some, if not all, of these countries, however, will have their own complete tannery facilities in the next five to eight years. The Syrians are reaching the point where they almost hope that the new tanneries in Uganda and Kenya will not work properly, so that the latter countries will continue to sell their hides without processing them. If it becomes necessary to buy from more expensive sources in Europe or the Americas, production costs, which are already too high, will be even more out of line.

89. In theory the small-skin tanneries are supplied with sufficient quantities of sheep skins. The skins are from wool sheep, however, and are rather spongy; so the finished leathers are of medium quality, although they were technically well processed in the factory visited.

CAMEROON (1978)

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

(1)	(2) Live animals 10 ³ (Head)		(3) Animals slaughtered (Head) x 10 ³			(4) Meat production 10 ³ (t)			(5) Meat consumption 10 ³ (t)			(6) Hides and skins 10 ³ pieces			(7) Hides and skins openly entering L.C.C. 10 ³ (m ²) estimated total area				
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985				
(*)																			
(**)																			
99% Zebu																			
a) Bovine cattle	2500	3000	4600?	275	330	506							200	120	220?	665.9	399.5	732.7?	
b) Sheep 43%	1120	1440	2200?	336	432	660							300	468	500?	143.3	223.5	355.6?	
c) Goat 57%	1480	1910	2900?	444	573	870							350	598	600?	132.3	225.1	322.5?	
d) Hog or Pig	571	600	1400?	571	600	1400							0	0	0	0	0	0	
e) Others	112	136	190?	?	?	?							# 2.4	# 6.1	?	4.8	12.2	?	
TOTAL																946.3	861.3	?	
Import a)																			
b)																			
c)																			
d)																			
e)																			
Export a)																			
b)																			
c)																			
d)																			
e)																			

NOTES: * Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 ** If available, please give data of more years then above.
 *** Hides weight should be given in greenweight. If other weight, please indicate.

90. In the private sector, the processing of skins for export ends with pickling. In the public sector, it will end at the semi-finished or wet-blue stage. The Syrian tanners have found it practically impossible to export finished leathers. The new public sector skin tannery was working at 50 per cent capacity at the time of the visit, because of poor sales and a reduction in slaughtering at Damascus.

91. There are many problems of flaying and preservation.

92. It is admitted unofficially that the customs statistics are based on documents that are often "cooked". In the case of raw skins, dry, salted dry and salted fresh weights from various sources and with various markings are mixed. These statistics are unusable without a vast amount of critical analysis. More precise base data could be obtained from the archives of public sector factories.

93. The same unclear situation prevails for the footwear industry. Much time would be needed to remove the ambiguities created by the presence of a large private sector that allows one to discover very few of its characteristics. Although it was not possible to check, the impression was that quality in the private sector is poor, while in the public sector production costs are too high. In Syria too, there is a need for more technical and management training.

(See page 33 for Basic Table 1. on the Syrian Arab Republic)

Tunisia

94. The interesting feature of Tunisia, as far as the objective of our enquiry is concerned, is the existence of a national leather and footwear centre, with staff responsible for preparing leather industry statistics to help the Ministry of Industry draw up the five-year plans. The consultant was able to see the difficulties that these people had, working on the spot throughout the year on the subject, in obtaining data and discovering that the figures did not tally or finding that it was impossible to obtain certain figures.

SYRIAN ARAB REPUBLIC (1978)

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals 10 ³ (Head)			Animals slaughtered (Head) x 10 ³			Offtake rate (Percentage)			Meat production (t)			Meat consumption (t)			Hides and skins openly entering LICC		
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
(*)																		
(**)																		
a) Bovine cattle	528.4	556.7	690.															
b) Buffalo	1.5	1.7	2.															
c) Sheep	6045.8	5809.	6300.															
d) Goat	774.	814.	850/650															
e) Hog or Pig	-	-	-															
f) Others	318.	343.	297.															
TOTAL																		
Import a)																		
b)	1.3																	
c)	4.6																	
d)																		
e)																		
f)																		
Export a)																		
b)																		
c)																		
d)																		
e)																		
f)																		

The figures for the livestock population were adjusted in 1977 after a survey that seems to have been very serious and could serve as a model:

Cattle up by 8.13 per cent to 905,700
Sheep up by 2.45 per cent to 6,060,900
Goats down by 38.7 per cent to 1,084,200

The slaughtering rates were estimated in different ways:

17.5 to 25.7 for cattle (46.8 per cent variation)
22.5 to 50.3 per cent for sheep (123.7 per cent variation)
25.0 to 51.3 per cent for goats (105.1 per cent variation)

95. Estimates of hides collected vary, depending on the method of calculation used, from 87,500 to 96,400 or the 200,000 estimated by FAO. Estimates of sheepskins collected vary from 943,000 in 1975 in the UNIDO "Draft world-wide Study", to 1,685,444 or 1,328,000 estimated by the Tunisians for 1978, and 2,500,000 in 1977 according to FAO. Estimates by the same agencies of goatskins collected vary from 271,000 to 500,000.

96. Consequently, despite the plentiful information available, forecasts for 1985 are of little value. The defects of Tunisian raw skins are well known (i.e. warbles, ticks, scab, cuts, holes, poor salting of hides, and sun drying for certain skins).

97. Tunisian tanners have to import raw cattle hides to meet 45-50 per cent of the production needs of existing factories. The collection of skins, on the otherhand, is generally sufficient, since the small-skin tanneries are not working at maximum capacity.

The Government is pressing the collectors to join in the processing cycle so as to acquire an increasingly thorough knowledge of the figures of the collection sector.

The quality of finished leathers and dressed skins is considered to be too low, and the selling price too high. There is still much technical and management training to be done.

The development of the leather-processing industries is receiving careful attention from the people responsible for the plan. Various governmental measures have been taken. Nevertheless, the presence of a very large artisan sector, which has not been properly surveyed and whose output has been estimated but is not actually known, makes any study unreliable. It is possible that the artisan sector consumes twice as many dressed skins as does industry.

Except for those made in the recently built duty-free factories, the quality of leather articles made in Tunisia is too low, and the price/quality ratio is considered to be too high. Projects for building factories included in the first draft of the Fifth Plan had to be cut down because they were clearly too ambitious. In other words, had the UNIDO survey been made in 1977, the person making it would have noted the creation of 5,500 new jobs for 1985, while in October 1978 the forecast was only 3,340, and in January 1979 it may be still lower.

98. Thus, before a special effort is made to develop the processing industries, it would be sensible to improve the quality of raw hides and of leather. This does not apply to enterprises in the duty-free zone, where all the raw materials can be imported.

(See page 36 for Basic Table 1. on Tunisia)

General comments on Africa and the Middle East

Raw hide and skin resources

99. With regard to the raising of livestock, which is the source of raw hides and skins, Africa and the Middle East have a number of original features which do not allow one to approach the study of raw hide and skin resources on the basis of experience acquired in other parts of the world.

Briefly, the features are:

- (a) Stock-raising that has been nomadic, semi-nomadic or pastoral for centuries because of the climate and soils;
- (b) Vast geographical areas like the Sahel that are subject to periodic and frequent drought;
- (c) The penetration of Islam from the north and from the east coast of Africa;
- (d) The population of the Guinean family (Guinea coast, Ivory Coast, Ghana, Togo, Benin (formerly Dahomey), Nigeria, West Cameroon) where cattle hide is eaten;
- (e) Very old trade circuits that run inside the countries more or less parallel to the coasts, while recent trade circuits are perpendicular to the coasts;
- (f) A very sparse network of modern communications.

100. The old social, cultural and trade stratifications were cut across very arbitrarily by colonization, and the new African countries have therefore inherited very permeable frontiers that cannot be controlled effectively. There are five main consequences of this particular situation.

TUNISIA (1978)

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	Live animals 10 ³ (Head)		Animals slaughtered (Head) x 10 ³	Offtake rate (Percentage)	Meat production (t)	Meat consumption	Hides and skins openly entering LICO								
	1970	1975					1985	1970	1975	1985	1970	1975	1985		
(*)															
(**)															
a) Bovine cattle	592.6	828.3	1100.	varying from 27.7 to 51.3	?	?	?	(100.)	?	?	355.6	486.2			
b) Sheep 8½%	4731.	5901.	6600.				?	1500.	?	?	?	?	?	697.5	790.5
c) Goat 19%	633.	937.8	1550.				?	375.1	?	?	?	?	?	132.5	231.2
d) Hog or Pig	←	small	→				?	?	?	?	?	?			
e) Others	←	small	→				?	?	?	?	?	?			
TOTAL				d =		d =			?	?	1202.6	1507.9			
Import a)	(10.)				yes		?	53.9	(251.3)	?	260.4	1214.			
b)	(30.)				yes			?	?	?	?	?			
c)	0	0	0					?	?	?	?	?			
d)	0	0	0					?	?	?	?	?			
e)	0	0	0					?	?	?	?	?			
Export a)	?	?	?		no			?	?	?	?	?			
b)	?	?	?					?	?	?	?	?			
c)	0	0	0					?	?	?	?	?			
d)	0	0	0					?	?	?	?	?			
e)	←	camels	→					?	?	?	?	?			
BALANCE											1227	2721.9			

NOTES: *) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.
 **) If available, please give data of more years then above.
 ***) Hides weight should be given in greenweight. If other weight, please indicate.

101. The first consequence is the difficulty of surveying the livestock population, which moves around a great deal, either because of the need to seek new pastures or for economic reasons (higher meat prices in neighbouring countries, for example). There is a risk that animals will not be counted or will be counted twice.

102. The second consequence is the difficulty of estimating the rate of growth of herds. The growth rates vary considerably from one region to another and are sensitive to epidemics, drought, etc. Stock-raising is extensive, but so is agriculture, and there is or will be a limit to the growth of the livestock population in present conditions. Conflicts between farmers and stock-raisers are beginning to surface. On the other hand, new pasture areas are sometimes created (Tunisia, Syria) or improved (Cameroon). The incorporation of all these factors in determining growth rates is difficult. Forecasts are very delicate and are often proved wrong.

103. The third consequence is the difficulty of estimating slaughtering rates. Although supervised slaughtering in municipal abattoirs is properly accounted for, figures for unsupervised slaughtering are obtained by calculation. Slaughtering rates are taken which, when applied to the estimated livestock population, give a hypothetical number of cattle, sheep and goats slaughtered, from which the figure for supervised slaughterings is deducted. The aim of the exercise is to estimate the meat production of a country, but it is dangerous to use it to estimate the raw hide and skin reserves of the same country. It is a pity that no provision was made during the model survey carried out by Tunisia for determining the true figure for slaughterings.

104. The fourth consequence of the cultural, social and religious context is the need not to regard as "lost" such hides or skins as:

- (a) Are part of the nomads' family consumption of prime necessities (tents, ropes, water-skins, garments, beds, blankets);
- (b) Are part of Moslem religious customs (sheep skins for prayer mats);
- (c) Are used for family consumption by herdsmen and even sedentary farmers to make garments, beds and blankets;

- (d) Are used by inhabitants of the Guinean area for family consumption (cattle hides for cooking);
- (e) Are used as raw material by the very poorly surveyed artisan tanners.

105. These skins are certainly not lost and may account for a large quantity. A survey in Mali (1972) estimated that the family consumption of sheep and goat skins was 1,270,000, or 11 per cent of the estimated livestock population.

Although these skins are not "lost" they will not enter the tanning industry unless the users are supplied with substitutes at equivalent prices.

There is thus a need to make a distinction between slaughtering estimates and quantities of skins available to the tanning industry.

106. Another terminology should be created that would refer to the quantities of "raw hides and skins" entering the "trade circuit of the leather industries". The quantities could be given as a percentage of the livestock population. Ultimately, they would be equal, without family consumption and losses, to the number of animals slaughtered.

107. The fifth consequence is that, as far as collection is concerned, it is also useless to study a country without studying the neighbouring countries at the same time. One cannot ignore the movement, over which there is no official control, of raw hides and skins between Uganda and Kenya, Mali, the Upper Volta and the Ivory Coast, Cameroon, Chad, the Niger and Nigeria, Syria and Turkey, etc.

108. The volumes in circulation can be considerable. It is thought, for example, that 300,000 cattle hides and 1,000,000 sheep and goat skins enter Kenya unofficially each year.

In general, it is dangerous to base tannery-project studies on collection figures that have not been submitted to severe critical analysis.

109. A study of any country bordering on Nigeria that did not include Nigeria, a country of immense commercial importance, would give incorrect results. And a study made of the least developed countries alone is also liable to error. It is only by incorporating surveys of neighbouring countries that the true figures of resources available for the tanning industry can be arrived at.

110. In any event, the still divergent figures collected during this survey will not be of much help for correcting previous statistics.

Improvements needed in the raw hides and skins

111. Everyone speaks of this, but it must be mentioned yet again. Improvement of the quality of raw hides and skins (health of the livestock, flaying and preservation) is a matter of urgency and priority. This is basic common sense. Improvements are essential in both the east and the west.

A strategy for the collection and assessment of data

112. Although the UNIDO "Draft world-wide study of the leather and leather products industry" produced in 1977 was strongly criticized, according to the consultants this was a little unfair. The authors frequently made qualifying comments and appealed for caution in reading the report. It is to be feared that those warnings were soon forgotten.

113. In May 1977, the United Nations Economic Commission for Africa published a study by Assrat Teferra entitled "Potential and problems for leather and leather products industries in Africa". Although not all the comments and/or conclusions made there are supported, it is recommended for reading as a piece of "desk research". One of the strong points of the study is the author's insistence on the need to develop the domestic consumption of leather footwear.

114. The author of the ^{above} study collected his statistics from publications; so they are as open to criticism as those used in the UNIDO Draft world-wide study. If one is to understand the development of the leather industries and make the best use of available information, the data collected must have some degree of reliability.

115. As has been seen, the official agencies do not usually have these data and are themselves searching for them. The data can be of value only if they are collected in the field by a single person, and this applies to the livestock population, slaughterings, collection, tanning, the leather industry, and import and export movements and associated figures.

116. One person must therefore be found in each country, who has been trained as an economist and already has an official post, preferably in the Ministry of Industry (or the national leather and shoe centre, as in Tunisia). That person would be officially authorized to make inquiries of customs authorities or industrialists, and would establish the necessary contacts with stock-raising services, managements of artisan undertakings, etc. The person concerned would implement, throughout the year, a survey plan prepared in advance and would communicate the results at regular intervals to the International Centre for Industrial Studies (ICIS) this information, ICIS could then start mini-regional studies in order to refine the results and to be able to group them by continent.

117. After five or six years, the statistics would begin to acquire consistency.

In this way, it would be possible to establish from the outset the factors for converting weight into area. As soon as raw hides and skins appeared in the leather industry trade circuit, the quantity would be converted into area, even for sole leathers, and expressed in $m^2 \times 10^3$ for countries or $m^2 \times 10^6$ for continents.

118. The person responsible would be able to obtain from the customs the breakdown of the files for live animals, raw hides, simply-tanned leather, semi-finished leather, finished leather, leather footwear, other footwear, leather goods, and the like. The consumption of footwear, leather goods and so on could be recorded immediately by area and not by number of articles (1 bracelet = 1 belt!). Tables 1-4 of the terms of reference (see Annex 1) would thus become coherent and readable. The ICIS staff would then be able to concentrate on the key points.

B. ESCAP region

119. The consultants have singled out India, Indonesia, Iran, South Korea, Pakistan, the Philippines and Thailand as the most important countries in the area of livestock agriculture, hides, skins and leather and leather products. India and China were studied separately. At the time of writing this summary report, the China study was not available due to reasons explained above. It is expected that the China report will be presented at the Panel Meeting.

Meat market

Beef

120. It must be realized at the outset that the market for meat in many ESCAP countries has a character different from the rest of the world. Because cattle and buffaloes have been kept as dairy animals or for draft purposes. They have a long useful life, compared to animals that are raised solely for meat production. The meat from animals that have lived 10 to 15 years requires long cooking and to accelerate the tenderizing process various condiments are used and the meat is cut into strips or small pieces. Small pieces of meat are also more appropriate to the use of chop-sticks. It is therefore only in the urban areas that a market for beef steak has been developed, the vast majority of the market is still accustomed to traditional means of meat preparation from the traditional sources.

121. In some cities large abattoirs have been under-utilized simply because people have not come to accept the developed country concept of meat supply. Although several beef and carabeef rearing projects are under way in the region it may be a long time before significant increases in beef cattle holdings occur. Another limiting factor is the terrain, for it is only in certain small parts of these countries that cattle can be kept. In the interim period, before the domestic meat market is developed, there may be a growth in export beef, and even live exports, this can already be seen in embryo in Thailand and Indonesia. Feedlot fodder supply may not be a serious problem as grains can be supplemented or replaced with staple crop wastes.

122. In the past the poor quality of beef has kept prices low. This in turn created no incentive to kill animals earlier for the meat market, therefore animals were worked for the maximum number of years. Today several beef rearing projects are under way in Iran, Pakistan, Thailand, Indonesia, the Philippines and Korea mainly aimed at developing large-scale operations. Small farmers find several factors preventing their entry into this area:

- (a) lack of capital
- (b) shortage of roughage, high cost of concentrates
- (c) low supply of cheap yearlings
- (d) long fattening period
- (e) no economy of scale
- (f) limited organized marketing
- (g) lack of technical services and credit support

123. Limited job opportunities in industry and commerce will mean that subsistence farming will continue as an important way of life in Thailand, Indonesia, Pakistan and the Philippines. This will perpetuate the present predominantly low per capita meat consumptions and the long-established small holding livestock agricultural system.

Carabeef

124. Of the world's population of 150 million buffaloes 97 per cent are in Asia and 76 per cent in S.E. Asia. They are efficient roughage converters and when reared for meat they are killed at 2-3 years old. The swamp buffalo is the beast of burden that is found ubiquitously in Thailand and the Philippines. The Murrah or river buffalo is a dairy animal and is more common in Pakistan, India and Sri Lanka. It is considered that buffaloes are better suited to providing cultivation power for small farmers than mechanization in the immediate future.

Sheep and goat

125. These animals are the province of the small farmer and the nomadic peoples and are found in considerable numbers in India, Pakista, Bangladesh, Indonesia, Iran and the Philippines. There is some interest in developing sheep flocks in the Republic of Korea, Sri Lanka and Malaysia. The goat has several plus factors which often outweigh its negative factors of destructiveness and agility. It is an excellent converter of forage into meat and milk and has a good reproduction rate. Goats tend to be subject to domestic holding whereas sheep are kept inflocks under a more commercial management regime. Lambs and goats are marketed at 9 to 12 months, carcass weights in the region average out at about 9 kg for lambs and 10 kg for goats. The popularity of the meat often boosts its price to three times the price of beef (obtained from traditional sources).

Pigs

126. Pork is an important meat in non-Muslim areas. Large farms have been established in peri-urban areas many of them with up to 25,000 pigs. In 1968 pork was 45 per cent of the per capita consumption, taking the region as a whole. Pork is by far the most important red meat in Thailand, the Rep. of Korea and the Philippines. Even in Indonesia, a Muslim country, pork is an important meat, being second in overall importance to beef.

Hides and skins

127. Despite intermittent and, at times, sustained efforts towards improvement, the quality of raw hides and skins leaves much to be desired. Hides and skins bear the marks of the ravages of mange, tick and other parasites. Branding continues to be practiced not only as a means of identity for the owner, but also as a means of reputedly curing certain diseases. The tropical climate in the absence of refrigerated stores, dictates rapid flaying, evisceration etc., in order to hasten the meat to the market. There is still a fairly high incidence of natural death in livestock in the region.

138. Salt is often expensive and ineffective due to the high ambient relative humidity. On islands where no tanneries exist, the problems involved in curing and conveying hides and skins are by-passed by utilizing the hides and skins for food. In Indonesia about 80 per cent of buffalo hides are eaten, in the Philippines about 20 per cent. The open fibrous structure of buffalo hide tends itself to frying, but also cattle hide, goatskin and pigskins is eaten, the latter is regarded as part of the meat throughout the ESCAP countries covered in this study.

139. Demands by indigenous leather industries have diminished raw exports to a minimum. Only Thailand still exports some raw buffalo hides and Pakistan some raw woolskins. Iran and Indonesia plan to increase production and export of skins at a later stage of processing. Imports of hides are of critical importance to the Rep. of Korea which can only supply its leather industry with 5 per cent of its needs. Indonesian, Thai and Philippine tanners will require more imported hide to make fuller use of their installed capacity. Iran also requires about 40 per cent of its industry to be supplied with imported hides.

Table 1.

	POPULATION COMPARISONS													
	Human millions		%increase decrease		Density sq km.		Animal millions		%increase decrease		Density sq km.		Human Pop. per animal	
	1970	1975			1970	1975	1970	1975			1970	1975	1970	1975
Rep. of Korea	32.34	35.28	+ 2.1	366	2.51	3.6	+40	37	12.3	2.8				
Iran	28.66	33.02	+15.2	24	51.9	55.7	+ 7.3	40	.55	.59				
Pakistan	60.61	71.00	+17.1	90	52.4	65.1	+24.2	83	1.16	1.09				
Philippines	36.85	42.52	+15.4	144	13.7	15.5	+13.1	51	2.7	2.74				
Indonesia	116.2	130.6	+12.4	70	21.9	24.2	+10.5	13	5.3	5.4				
Thailand	36.37	42.0	+15.5	59	15.0	14.0	- 6.6	19	2.4	3.0				

Conclusion

140. To a greater or lesser degree the leather industries in this region which stem from the nature of livestock agriculture, natural environment and the meat market, have problems over raw material supply and quality. Only Iran has a fairly strong position when it comes to supply of usable raw material compared to levels of human population (see Table 1.). The other countries in the region have far too high a wastage of raw material or are heavily reliant on imported raw material. In a world situation where demand for hides and skins is increasing out of proportion with growth in supply, the ESCAP countries could make a greater effort to contribute to this supply. The growth aspirations of their industries will only be solidly based when this becomes to be apparent.

Comments on statistics (*)

Indonesia

141. Limited growth estimates for livestock populations are based on the fact that only in certain small areas of Sulawesi, Kalimantan and Sumatra are there grasslands suitable for ranching cattle. It is considered that cattle will continue to be kept largely in small family holdings, that buffaloes will continue to be used as draft animals and that their hides will continue as a foodstuff. There may be less growth in sheep and goat flocks as more beef is consumed, not so much as a result of larger herds, but as a result of a better offtake rate. Improvements in cattle breeding should yield a larger animal with a larger hide, conversely a better offtake rate for buffaloes, i.e. slaughtering at an earlier age, should give a slightly smaller hide yield.

142. It is not considered that hide tanners will be in a position to fill their productive capacities completely with imported hides. Competition for available supplies will keep prices high and quantities available may be limited for many developing countries. It is envisaged that many skin tanners will progress from the export of pickled and wet-blue material to crust exports.

143. Finished hide leathers will serve the shoe industry which, in turn, will serve the needs of a growing population.

(*) Basic Table 1 for each of these countries are to be found between pages 47 and 52.

Pakistan

144. Statistics throughout the entire scope of the study are in rather a confused state. Numerous studies have been done during the decade and all have presented widely different figures, especially for livestock levels and slaughterings. For the purposes of this study figures provided by an expert working group who made recommendations for the Pakistani Government's 5-year plan in this sub-sector were taken. Increases in cattle numbers should result from the new livestock ventures. Increases in buffaloes should occur because of the shortage of draft animals and sheep and goat populations should advance pro rata with human population, as these provide important subsistence foods and are essential for sacrificial purposes. Improvement in cattle breeding should be yielding larger hides by 1985.

145. Increased leather production will still be directed to ^{the} export market, especially skin leathers where greater volumes of dyed crust leather will be exported. There may be some finished leather exports but more skin leather will go into gloves and garments for exports. Hide leather will feed the shoe industry which is running at very low capacity and there will be some growth in shoe exports by 1985.

Iran

146. This country has an ambitious programme of development which covers the cattle livestock, leather and leather products industries. Progress in this programme, initiated in 1974, has moved along almost according to plan so the prospects for fulfillment are good. The projections for leather and leather products output emanate from a study made by SCETIRAN, 15, Rue No. 7 Avenue Nadershah, Teheren, in Jan. 1975 under the auspices of IDRO, the Iranian Industrial Development Organization.

147. Increases in cattle holdings and kills should result from the policy to improve breeding and increase beef production. Although Iran has the intention to increase sheep holdings and oftakes, rapid industrialization may militate against this policy and therefore a decrease in holdings is predicted for 1985. The environmentally destructive propensities of goats may also bring about a decrease in these as well.

Philippines

148. Government policies to increase livestock will be limited by climate and terrain. The most important increases will be in pigs and buffaloes which are kept within small family holdings. Improvements in hide supplies will mainly come from a better offtake rate and better collection in the remoter areas. Transport problems in an archipelago country, the high cost of salt and the humid climate will continue to make hide and skin attractive as a foodstuff. The same is true for Indonesia.

149. Any increases in hide supply can be easily accommodated by tanners who have to run at very low capacity utilization. There will be an increase in raw imports when they can be afforded but this is never likely to bring tanners up to full capacity operation. Increases in shoe manufacture may have to rely on imports of leather, although no projection has been made on this.

Republic of Korea

150. The outstanding characteristic revealed in the Korean figures is the reliance on both imported hides and leather to ^{which} the Korean industry has committed itself. Projections must maintain this heavy reliance as prospects for growth in domestic raw material supply are severely limited by the nature of the terrain. Figures given for 1977 production of various goods and projections for 1982 were taken from a document provided by the Korea Leather and Fur Export Association.

Thailand

151. Almost a common problem in the region, with the exception of the Rep. of Korea, is the inaccuracy of slaughter figures. Generally speaking, in official documents the figures quoted are those collected from registered abattoirs. Statistics in this study endeavour to represent the actual situation. In countries where family livestock holding amount to the majority of the animal population, clandestine and unauthorized slaughter is almost standard procedure and frill figures should therefore be more akin to the hides and skins production figures.

152. Again climate and environment limit ranching possibilities in Thailand, but Government policy to improve breeding and advance cattle farming plus an improvement in offtake should give a better production of hides. There may be a slight reduction in the use of draft animals as farming becomes more mechanized, but this is expected to be rather limited because small farmers, unless working in co-operatives, find it difficult to find the required capital.

153. Thai farmers are in similar straits to their counterparts in Indonesia and the Philippines. Some of their excess productive capacity will be taken up by imports. The bulk of their production will go to local shoe and leather product industries. The latter may find themselves involved in off-shore activities by large companies in the developed world who ship the leather simply for the purpose of having goods made up by low-cost labour for re-export. It will be difficult for the Thai tanning industry to keep pace with the growing capacity of the finished goods industries.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

INDONESIA

	live animals QCO (head)		animals slaughtered QCC (head)		offtake rate (%)		meat production QCO (M.T.)		meat consumption (t)		200 (KGS) and skins (kg)		average size (cm)			
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
a) Bovine cattle	6813	6825	1000	1750	21	16	25	217	187	297	1215	1100	1750	2-7	2-7	2-8
b) Buffalo	2885	2839	2800	250	280	9	10	40	40	45	250	250	280	11-35	11-35	12-25
c) Sheep	3327	3452	4000	2500	2400	69	60	20	25	24	2000	2500	2400	.55	.55	.55
d) Goat	6791	7115	8000	3500	4000	64	50	30	35	40	3000	3500	4000	.55	.55	.55
e) Hog or Pig	2814	3044	3500	1780	2100	58	60	71	98	115	110	skins	retained			
f) Others											480	490	300			
TOTAL																
Import a)																
b)																
c)																
d)																
e)																
f)																
Export a)	319	-														
b)	412	-														
c)																
d)																
e)																
f)																

live split

Notes: (a) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(***) If available, please give data of more years than above.

(****) Side weight should be given in greenweight. If other weight, please indicate.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

PAKISTAN

	live animals		animals slaughtered		offtake rate		meat production		meat consumption		1000 carcasses and average size	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
a) Bovine cattle	13467	14633	17000	1357	1581	2550	9.9	10.8	15	154	181	291
b) Buffalo	8828	10421	14000	1695	1914	2800	19.2	18.4	20	139	157	250
c) Sheep	4400	18190	25000	5517	6991	10000	38.3	37.8	40	66	84	120
d) Goat	15555	25114	25000	1967	10362	12500	50.6	48.2	50	87	114	157
e) Hog or Pig												
f) Others												
TOTAL												
Import a)												
b)												
c)												
d)												
e)												
f)												
Export a)												
b)												
c)												
d)												
e)												
f)												

Notes: (a) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(***) If available, please give data of more years than above.

(****) Hides weight should be given in greenweight. If other weight, please indicate.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

IRAN

	live animals 1000 (Head)			animals slaughtered 1000 (Head)			offtake rate (%)			meat production 1000 (kg)			meat consumption 1000 (kg)			CO ₂ eq. and skins (mt)			average size (cm)			
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	
a) Bovine cattle	5238	6500	7500	835	1150	1500	16	18	20	75	104	135				200	1200	1530	1.7	2.1	2.2	
b) Buffalo	240	130	100	38	50	30	28	38	30	9	8	4										
c) Sheep	32667	35000	38000	14700	16500	17000	45	47	51	145	167	173	2753	4068	600	14700	16500	17000	.65	.65	.65	
d) Goat	15117	14000	12000	6300	7100	6500	46	50	50	55	59	55	25	25		6300	7100	6000	.65	.65	.65	
e) Hog or Pig	57	67	80	54	62	80	95	93	100	4	4	5	15.67	kg		no skins	retained					
f) Others																						
TOTAL																						
Import a)																						
b)																						
c)																						
d)																						
e)																						
f)																						
Export a)																						
b)																						
c)																						
d)																						
e)																						
f)																						

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant's evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hide weight should be given in greenweight. If other weight, please indicate.

PHILIPPINES

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

quantities reaching
factories

	live animals QAC(Head)			animals slaughtered QSE(Head)			offtake rate (%)			meat production QPD Mt(%)			meat consumption (t)			COOPERATIVE skins (no.)			average size (cm) inc				
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985		
a) Bovine cattle	1700	1737	2000	444	563	700	26	32	35	73	87	105				600	480	650	2.7	2.7	2.8		
b) Buffalo	4452	2725	3500	182	580	525	4	21	15	30	45	87				480	500	2.7	4.35	4.25			
c) Sheep	2	2	2	1	1	1	50	50	50				1460	594									
d) Goat	945	1350	1500	225	474	600	24	35	40	3	6	7				100	100	200	55	55	55		
e) Hog or Pig	6000	7700	12000	6704	8363	13200	102	86	110	304	385	607				1182	kg						
f) Others																							
TOTAL																							
Import a)																							
b)																							
c)																							
d)																							
e)																							
f)																							
Export a)																							
b)																							
c)																							
d)																							
e)																							
f)																							

Notes: (a) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant's evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

S. KOREA

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	live animals			animals slaughtered			offtake rate			meat production			meat consumption			hides and skins			average size			
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	
a) Bovine cattle	1226	1178	2227	258	470	666	21	26	30	45	70				258	470	666	4.6	4.6	4.6	4.6	
b) Buffalo																						
c) Sheep	2	5	5	1	2	2	50	40	40			130.7	161.1		1	2	2					
d) Goat												4.4	ba									
e) Hog or Pig	1287	1818	2000	1663	2059	2600	128	113	130	80	99											
f) Others																						
TOTAL																						
Import a)																						
b)																						
c)																						
d)																						
e)																						
f)																						
Export a)																						
b)																						
c)																						
d)																						
e)																						
f)																						
Import a)																						
b)																						
c)																						
d)																						
e)																						
f)																						

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in Greenweight. If other weight, please indicate.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

THAILAND

	live animals ('000 (head))				animals slaughtered ('000 (head))				offtake rate (%)				meat production ('000 kg (t))				meat consumption (t)				'000 pieces '000 hides				
	1970	1975	1985	1990	1970	1975	1985	1990	1970	1975	1985	1990	1970	1975	1985	1990	1970	1975	1985	1990	1970	1975	1985	1990	
a) Bovine cattle	1452	4432	5500	750	1375	1000	1000	21	25	21	25	83	126	160	1775	1300	1600	1775	2.7	2.7	2.7	2.7	2.7	2.8	
b) Buffalo	5642	5947	5960	550	500	400	408	4.2	7.3	4.2	7.3	58	63	101	23.5	253	250	435	435	435	435	435	435	4.25	
c) Sheep	50	55	21	25	30		51.1	55.0																	
d) Goat	30	27	17	15	13		51.8	48.0																	
e) Hog or Pig	4807	3516	3000	4200	3200	3000	81.4	91.0	80.0	210	160	150													
f) Others farmed animals	20	40	5	10																					
TOTAL																									
Import a)	0.2	1.5	0.4																						
b)																									
c)																									
d)																									
e)																									
f)																									
Export a)	1.0	1.1	5.0																						
b)	26.0	2.0	20.0																						
c)																									
d)																									
e)																									
f)																									

Note: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

India

India has been a traditional producer and exporter of raw hides and skins and vegetable tanned leather, known as East India Tanned Hides and Skins. The East Indian tanning industry was concentrated in the Southern part of the country and has traditionally been an export-oriented industry, tracing its origins to the early 1800s.

LIVE-STOCK POPULATION: (*)

It has been recognised that the growth of the live-stock in the country is not commensurate with the growth of the human population. The most optimistic view is that the bovine population will remain "more or less unchanged", but most views lend support to a steady reduction over the coming years. Demographic forecasts indicate that the population of the country will reach nearer a billion by the end of the century and this must bring about more pressure on land for cultivation and for other human needs.

As against bovine population of 179.86 million in 1975, projections for 1985 indicate a negligible growth to 180 million, whilst the projections for 2000 show that the bovine population will decrease to 167.79 million (Report of the National Commission on Agriculture 1976).

However, the trend in the growth of the buffalo population is somewhat encouraging in view of the preference of "cattle keepers" to raise buffaloes due to better milk yields. As against 60.16 million live buffaloes in 1975, the projection for 1985 is 64 million, but here again the projection for 2000 indicates a decrease to 56.81 million.

Studies on the pattern of sheep population are contradictory and forecasts are rather hypothetical, as they are based on the belief in the efforts that are being made to encourage farming of sheep by extending financial assistance to farmers. The Animal Husbandry Departments in the region have been making efforts to create new strains by cross-breeding of indigenous sheep with "imported exotic types" with the twin object of increasing the meat yield and improving the quality of the wool. The latest census figures in the State of Tamil Nadu show a fall of 18% in the sheep population in the last decade. However, latest census figures for the whole region are lacking. It has been admitted that the fall is due to the reduction of pastorage and lack of adequate grazing in the off-season in the

(*) See Basic Table 1 on page 65.

cultivated fallows following extensive multiple cropping. Therefore, it could be reasonably assumed that the same forces are working in other parts of the country. The decline is also ascribed to increased slaughtering and increased mortality caused by rinder pest disease. It is admitted that efforts to increase sheep population will only have a marginal effect on the total sheep population of the country and the forecasts of sheep population for 1985 have therefore been worked out on a conservative basis and put at 40.10 million.

The Study conducted by the National Commission on Agriculture only recommends that the sheep population should be raised to 60 million by 2000, but how such a sharp increase in the population can be achieved between 1975 and 2000 has not been explained.

Although India ranks first amongst the countries of the world in goat population, the live-stock in 1970 was 68 million, constituting about 19% of the total world goat population (11th All-India Live-stock Census - Provisional). The increase in the goat population between 1968 and 1972 was in the region of 5.3% and the reason given for this increase is that very little expenditure on their upkeep is incurred by the goat owners and there is high incidence of twinning. However, the same forces that are restricting grazing will apply to the growth of the goat population and it is reported that "in the Uttar Pradesh the goat population is getting depleted at a fast rate". The Government's policy appears to be to discourage breeding of goats for the fact that they destroy vegetation and denude the land and forests. This can also be a reason which would act as a brake on a higher rate of growth. Therefore, the projections for 1985 has been based on the basis of a modest growth and this trend may probably continue in view of the feeding and breeding habits of goats.

There is a considerable lack of statistics on the population of pigs and the production of pork. The total number of pigs slaughtered in 1967-68 is said to be 1.6 million according to the figures published by the National Commission on Agriculture. The pig population in 1966 was estimated at 5 million whilst the population in 1972 was estimated at 6.5 million. Therefore, the projections for 1985 are based at 10 million. It must be mentioned that the information is based on ad hoc surveys. The

majority of the pig population are black pigs and are owned by "pig farmers who are illiterate". The population is scattered and isolated in small herds and the animals are slaughtered in rural areas and the pork consumed locally. Most pigs feed on refuse and virtually subsist on scavenging.

RAW MATERIAL SUPPLIES:

Although raw hides and skins are generally considered a by-product of the meat industry, the situation in India is entirely different. Almost 90% of bovines and buffaloes consist of fallen hides. Prior to 1947, there was no restriction on slaughter of cattle and some of the best hides came from Cantonment slaughter houses. The last three decades have seen a progressive ban on slaughter of "cow and its progeny" and excepting in a few parts of the country like Kerala, West Bengal and Assam, where restricted slaughter is allowed of aged and dry animals, slaughter in the rest of the country is not officially permitted, although it is possible, that a certain amount of clandestine slaughter takes place, but it is extremely difficult to assess the extent of such slaughter.

Sheep and goat are slaughtered in municipal slaughter houses and village butcheries and production of meat is an individual enterprise. Butchers buy, according to the size of their trade, animals from farmers for slaughter and the skins are collected by small merchants who sometimes finance the butchers for the purchase of the live-stock. The skins are handled by one or two intermediaries before they reach the commission merchants for eventual disposal to the tanners.

During the years when export of raw skins was permitted, a sizeable part of the production was converted into dry salted skins for export and such skins were identified by their origins like Kushtias, Maldas, Calcutta Kills, Coromandels, Patnas, Bombays and Amritsars. However, since after the prohibition of raw exports, skins are now mostly sold to the tanners in the wet salted state.

There are no pig skins produced in the country. In fact, there is very little awareness about the value of pig skins. Even if plans are formulated for flaying of pigs, it would take quite a few years before the technique of flaying, tanning and finishing could be mastered. Consumer habits to eat pork with the rind would not be easy to break.

COLLECTION OF FALLEN HIDES:

The method of collection of fallen cattle hides at best can be described as primitive. The social set-up in the country enables only a particular community to handle the dead animals. Flaying is done under the available conditions in the villages by flayers, who have little training in the art of flaying and in the technique of proper salting. Generally, the dead animals are dragged to the flaying area, mostly on the fringes of the village, which causes considerable grain rub. Bad and careless flaying and poor curing contributes to further deterioration and putrefaction in the hide. Facilities for storing are practically unknown and the hides normally find their way to the market through the usual medium of village and town collectors.

Whilst sheep and goat skins take anything between 2/4 weeks before they reach the tannery, cattle and buffalo hides can take as long as 6/10 weeks.

DEFECTS:

Goat and sheep skins, although a by-product of the meat industry, suffer in quality due to improper flaying, careless post-flaying treatment and curing. There is an increase in ante-mortem defects like scratches, wounds, thorn damage. Due to shortage of grazing areas, flocks are forced to dry and bushy tracts for grazing. Small pox defects in sheep and goat is more or less eradicated.

Defects in hides are very widespread and apart from the presence of ante-mortem defects like scars, scratches, warble, brands and wounds, post-mortem defects due to dragging, careless flaying and curing are quite widespread. In the Punjab, which is fairly a large producer of buffaloes, including buffalo calf, the quality of raw material in the last ten years has shown a very marked decline. Farmers maintain that the animals are averse to eating the fodder of plants on which fertilisers have been used. Although there is no scientific support to this view, farmers are quite vehement in their belief.

MEAT INDUSTRY:

Although about 63 million goat and sheep are slaughtered annually, there is no linkage between the leather and the meat industries. In the present set-up, which is traditional, it is highly unlikely that a linkage can be established as long as production of meat remains an individual enterprise. It appears to be even futile to attempt a plan for such a linkage.

EXPORT OF RAW HIDES & SKINS:

Since after the Constitutional changes in 1947, a good part of the raw material supply was lost to the Indian tanning industry. Some of the best qualities of raw material in cattle hides came from the Eastern part of Bengal (now Bangladesh) and from areas forming Pakistan.

The attention of the Government was drawn to the shortage of raw hides and the first steps were taken in the early 1950's to stop exports of raw hides and calf skins, both bovine and buffaloes, so as to conserve the available supplies for the domestic tanning industry.

By the middle 1950's exports of raw sheep skins came under restrictions and only fellmongered (paprah) sheep skins were allowed for export for only some years.

The Government then brought in export restrictions on raw goat skins in the late 1950's by institution of export quotas, which were progressively reduced, and by the end of 1960's and early 1970's export of raw goat skins practically ceased.

During this period India emerged as a large exporter of semi processed leather in vegetable and chrome wetblue tannages, and this period also witnessed a considerable expansion of tanning capacities, particularly in the Calcutta, Kanpur and Madras areas. Exports of raw hides and skins of all types also ceased, and the entire available raw material in the country was processed by Indian tanners. The pattern of demand for home consumption was restricted to chrome tanned pigmented side leather and lower grades of East India goat and sheep skins and the rough tanned vegetable bovine and buffalo leather. The exportable types were mostly of the better selections in goat and sheep skins, cow and buffalo calf, and the middle to better ends of kips.

DEVALUATION OF THE INDIAN RUPEE:

When the Indian Rupee was devalued in 1966, the Government of India imposed an export duty of 10% on exports of leather to "mop up additional Rupee resources" and, although, the impression then was that the export duty was a temporary measure, as later events have shown, the export duty, excepting for some modifications like exemption of finished leather from the operation of the duty, has not only come to stay, but has been progressively increased from time to time and is now levied at a rate of 25% on the f.o.b. value.

NEW PHASE & DEVELOPMENT:

The fact that supplies of raw hides and skins were inelastic and as the stage was set for the complete ban on exports of all types of raw hides and skins, policy-makers felt that the next logical step was to have certain restrictions on the export of semi processed hides and skins, so that adequate raw material would be available for manufacture of finished leather and leather products for exports. The demand for leather within the country was also slowly increasing and, to off-set the fall in exports, the basic philosophy of the policy-makers was for a vertical growth of the industry and to increase 'added value exports'.

Therefore, a Committee was constituted in 1971 under the Chairmanship of Dr. A. Seetharamiah, then Director General, Directorate General of Technical Development, Ministry of Industry, to make a comprehensive study of the question of promoting exports of leather manufactures and to make recommendations on the following:

- (a) To examine the necessity of reducing the export of E.I. tanned and chrome tanned hides and skins.
- (b) To suggest measures for speedier switch over of exports from semi processed hides and skins to finished leather and leather manufactures.
- (c) To consider the impact of export ceiling on short-term and long-term earnings of foreign exchange, and to make recommendations on any other relevant matter connected with the export of leather and leather manufactures.

The Committee made a series of recommendations for the development of the leather and leather products industries, which included physical restrictions and fiscal burdens on exports of semi processed leather, assistance for conversion and expansion of existing capacities in the tanning sector for production of finished leather and leather products.

Exports of semi processed leather therefore were brought under a system of quotas; export duties were hiked up from 20% to 25% and it was envisaged that by 1980, seventy-five percent of the semi processed hides and skins would be converted into finished leather and leather manufactures and this would necessarily reflect in replacing exports of semi processed leather to finished leather and leather manufactures.

EXPORT/IMPORT OF RAW MATERIAL:

As already mentioned, there are no exports of any type of raw hides and skins in any form. On the contrary, imports of dry and wet salted as well as pickled hides and skins have been allowed under an Open General License but there is an import surcharge of 5% on such imports. However, in spite of the freedom to import, actual imports of raw material from overseas origins have been small.

Until about ten years ago, lower grades of goat and sheep skins were imported, particularly from the Red Sea areas, but such imports have now fallen off said to be due to non-availability. Occasionally parcels of European and Australian hides are imported. However, by and large, Indian tanners lack machines and technology to handle heavy hides.

INDIGENOUS RAW MATERIAL:

The tanning industry practically relies completely on indigenous raw material and uses:

- (a) All types of cattle hides and calf skins mostly wetsalted but also some dry or dry salted.
- (b) All types of buffalo hides including calf skins mostly wetsalted and some dry or dry salted. Production of dry arsenicated buffalo hides which was an important line of production before the War, has disappeared.
- (c) All types of goat and sheep skins mainly wetsalted including fellmongered paprah sheep skins.

Hides from cattle and buffaloes are practically from dead animals, and nearly 70% of such hides are processed in the cottage sector for production of rough leather for rural consumption. The rest are processed in the organised sector, the better ends being put in chrome tannage for export as wetblue or for conversion into finished leather. The medium qualities are put in E.I. tannage for export and for conversion into semi chrome finished leather.

The mortality in buffalo calf is mainly due to cold shock, whilst the mortality in cow calf is mostly due to disease and or starvation. These skins are mainly used by East Indian tanners for export and partly for conversion into semi chrome finished leathers.

India produces mostly coarse and hairy type sheep. These go under various nomenclatures; like black wool sheep, white wool sheep, whilst the pure red hair sheep mostly come from areas in the South and the Coromandel coast. Some of the better wool type sheep (medium to fine wool) are produced in Jammu and Kashmir and the hilly parts of Himachal and Uttar Pradesh and consist of cross between indigenous and fine wool breeds. These skins however are not of a very desirable quality from the tanner's point of view.

There is a wide variation in the qualities of goat skins found in different parts of the region; Southern, Deccan and Coromandel coast skins are low in substance, rather poorer in grain, containing mostly ante-mortem defects, predominantly thorn and wire scratches and widespread monsoon defects during the rainy season. The flesh side characteristics are however desirable and these skins mostly go for vegetable tanning for production of E.I.'s and ultimately are either exported as E.I. tanned goat or converted into semi chrome leather for export, mostly for suedes.

The Bengals have short hair, plump substance and fine grain, but a large portion of this type was lost to Bangladesh and whatever is obtainable is in the few districts adjoining the Bangladesh border, like Kushiya and Maldas, which go for production of full chrome wet blue leather for export or for conversion into full chrome kid. Some quantities of Calcutta Kills in good season are also used for production of full chrome glace kid. The bulk of Uttar Pradesh and Bihar skins go for chrome tannages, but the grain quality, excepting in the good season, is not desirable and the skins suffer from widespread pokka damage during the bad season, in the months July to November.

Punjab goat skins, which are called Amritsars and Rajasthan goats, which are called Jaipurs, and Central Indian skins, which are sold as Delhis, have long hair and coarse grain. Only a small percentage of these skins are suitable for good quality upper leather. Most of the skins are tanned by East India tanners and by wetblue tanners for export or for conversion into cheaper varieties of upper leather, lining leather and printed leathers. Similarly, Bombay skins which include Gujarats are coarse in grain and are used in the same manner as the Amritsars, Jaipurs and Delhis.

RAW MATERIAL TRADE:

In spite of the fact that a great deal of transformation of the leather industry has been attempted and is being achieved, with the industry moving in the direction of modernisation, the set-up of the raw material trade still remains traditional and even primitive. Raw hides and skins are not sold and bought by any standards of selection, weight or size. There is no standard form of contract governing trade in raw hides and skins. The only yardstick for broadly identifying the qualities is by their origins. However, in the last two decades, as a result of the development of road transport, movement of live-stock for slaughter from one area to another and even overnight transportation of raw skins from bad to good areas has eroded the purity of origins.

TRANSPORTATION OF RAW MATERIAL:

Before the War, the main medium of transportation was the railways, which offered only steel wagons, and due to transit delays, heat and iron stains, considerable deterioration in the quality of raw material took place in course of transit. The tanning industry agitated for provision of wooden wagons, but these efforts were never realised. However, in the last 10/15 years, there has been a considerable development of road transport and a good part of the raw material is now moved by road even from distant centres, although a certain amount of raw material is still moved by the railways. Sea transportation by coasters, which was popular before the War, has completely disappeared. It will therefore be seen that transportation of raw material from central markets to the tanneries does not cause any serious handicaps, but the fact remains that transport from the deep interior to the central markets is still slow and the main vehicles of such transportation is by cycles, bullock carts etc.

PLANS FOR INCREASING AVAILABILITY AND IMPROVEMENT OF THE QUALITY:

Although there appear to be no plans for increasing the availability of raw material, which in the present circumstances entirely depends on the domestic production, which fluctuates due to natural calamities like floods, droughts, there is nevertheless some thinking in the industry for improving the quality of raw material. Since the largest part of the raw material, namely bovine and buffaloes, are ex-fallen animals, it would appear to be extremely important to institute steps for better carcass recovery. This subject has been debated for several years, and there is in existence the Indian Hides and Skins Improvement Society, but so far very little appears to have been achieved. As the problem has to be tackled at the grass-roots, and the size of the problem is stupendous, excepting debates for improvement and some feeble attempts, very little in the practical direction appears to have been done.

Some work in the direction of carcass recovery was undertaken by the Khadi and Village Industries Board and one main experiment in Bakshi-ka-talab does not appear to be successful.

The carcass recovery centres have to be designed with some imagination and must take into account the set-up of the village communities. Carcass recovery centres should be on the fringes of villages for quick and practical handling and minimum facilities like water supply for washing, platforms for salting and curing and necessary basic implements should be provided. These centres should be located not only on the fringes of the villages, but must be located in an area inhabited by the Chamars (the community that handles this type of work). It is also necessary to educate the people engaged in this type of work in better methods of flaying and handling of not only hides, but also other by-products like bones, horns, hooves, blood and dead meat. All said and done, it is essential that the people who do this work must be convinced that the benefits of better efforts would accrue to them. Unless there are attractions of incentives and better returns to the "Chamars", any scheme at the village level is doubtful of success.

Apart from the establishment of carcass recovery centres better methods of transportation of fallen animals must be devised so that the carcass is not dragged as is mostly done now. A programme of education needs to be undertaken by not only providing training centres, but also offering inducements like stipends to attract trainees. Means of education through modern audio-visual methods in local languages can go a long way in creating awareness. Some sort of legislation to compel the owners of dead animals and the Chamars to process the carcass in the centres designated is necessary. Better veterinary services to improve the health of the cattle and to reduce ante-mortem defects cannot be over-emphasized.

For goat and sheep skins which are slaughtered, improvement in the condition of slaughter houses in cities and towns at least should be undertaken, and only trained flayers should be permitted to undertake the job of flaying goat and sheep carcasses in such slaughter houses. Better methods of curing, especially salting, should be enforced.

GOVERNMENT POLICIES:

The new policies of the Government are more rural oriented than hitherto and 40% of the Budget of the 6th Five-Year Plan is being allotted to rural development, including setting up of village industries, district industrial centres, live-stock improvement centres and it is hoped that suitable allocations would be made for setting up of carcass recovery centres. Granting that there is a minimum appreciation of Rs.5/- per hide in value (65 U.S. cents) the total benefit can amount to nearly \$ 20 million per annum on hides alone. Better salvage of by-products like horns, hooves, bones, blood and meat can considerably add to the salvage value.

UTILISATION OF RAW MATERIAL:

As a large portion of the raw material specially hides is processed in rural tanneries or cottage industries and converted into poor quality rough leather, it has been debated whether it is a good economic policy to produce a very poor quality end product, when a certain amount of technology and organisation can assist in up-grading the quality of the end product. Although a part of this material is of a very low quality, about 40% can be classified as of a medium quality. However, the country's

socio-economic policies aim at making available to the "common" man, foot-wear at a "reasonable price" and the policies of the Government appear to encourage the preservation of the rural and cottage tanning industries to assist self-sufficiency of the village communities.

There is a certain amount of "politics" in the area of hides and skins. Various States in the country have developed, and wish to develop further capacities for finishing leather and leather product industries and are averse to "exporting raw hides and skins" to other States in the country. The setting up of tanning capacities in alien areas have been haphazard without fully taking into consideration the availability and suitability of raw material for production of particular types of leather. As an example, some tanneries have been set up in certain areas of the region of production of glace kid leather when no suitable raw goat skins are available in that area or even within a distance of 500/1000 miles.

INDIA

BASIC TABLE (1) - PAV MATERIAL AVAILABILITY

	Live animals (Head)		Animals slaughtered (Head)		Offtake rate (%)				Meat production (c)			Meat consumption (t)			Hides (Kilobars and skins (sq))		
	1970	1975	1970	1975	1970	1975	1975	1975	1970	1975	1975	1970	1975	1975	1970	1975	1975
(a)	177.97	179.86	1.60	1.62	0.90	0.90	0.90	112.0	120.5	120.5	112.0	120.5	120.5	177.4	177.4	177.4	1.670
(b)	55.28	60.15	0.79	0.84	1.4	1.4	1.4	140.7	143.6	152.5	140.7	143.6	153.5	159.1	159.1	172.1	2.040
(c)	40.93	40.10	18.81	18.43	45.96	45.96	45.96	130.1	104.3	178.8	130.1	104.3	173.8	20.00	20.48	13.83	1.417
(d)	58	69	44.33	44.98	65.19	65.19	65.19	455.5	472.3	402.9	455.5	471.1	487.2	45.23	45.83	47.83	0.41255
(e)	6	7.25	4.68	5.65	78	78	78	149.2	180.1	242.3	149.2	180.1	242.3	-	-	-	-
(f) Others																	
TOTAL	389.18	355.37	70.21	71.52	74.93	1062.5	1105.8	1194.0	1052.5	1105.6	1183.0	399.82	415.07	424.55			
Export a)	Nil	0.98	Nil	Nil	-									427.3	Nil	1000	2.710
b)	0.04	Nil	Nil	Nil	-									3250.4	820.6	500	5.570
c)	0.11	Nil	Nil	Nil	-									66.7	22.9	500	0.4515
d)	9.27	10.03	9.87	10.03	-									32.3	14.0	500	0.41100
e)	Nil	Nil	Nil	Nil	-												
f)	0.07	0.04	Nil	Nil	-												
Export a)	0.05	0.05	-	-	-									55.2	4.0	Nil	
b)	Nil	Nil	-	-	-									-	-	Nil	
c)	4.5	8.9	-	-	-	Reg.	1.24	5.0						8.4	-	Nil	
d)	0.4	0.5	-	-	-									2025.24	9.8	Nil	
e)	Nil	Nil	-	-	-									-	-	Nil	
f)	Nil	Nil	-	-	-									87.5	4.1	Nil	

Source: Department of Agriculture, U.S.G.A.

C. ECLA region

154. In the case of Latin America (except Brazil) there is no country specific data provided by the consultant who carried out the study mission to Argentina, Colombia, Ecuador, Mexico, Perú and Uruguay. The report thus covers 25 countries of the Latin American continent and does not give any breakdown of regional development characteristics, for example, in the Caribbean, Central and South American countries. Unlike the other reports, it is difficult in this case to assess the situation in any particular producer country. We have, nevertheless, requested the consultant to provide country specific data as required by the terms of reference. Brazil was covered separately by CTCCA and will therefore be dealt with by Mr. R.L. Sieler. (See page 77 for Basic Table 1 on Brazil).

Availability and growth in supplies of raw hides

155. This study is based on the growth in stock-breeding and the closely related factor of meat consumption. Using these two basic parameters as the starting point, realistic plans minimizing error can be made. We should not forget that leather is a by-product and its availability depends on the slaughtering of livestock, which in turn depends on the amount of meat consumed.

156. Latin America is in a special position as regards stocks of cattle. It accounts for 15-20 per cent of the world total, and the figure is increasing while the relevant figures for other parts of the world appear to be remaining stationary or even decreasing.

157. Basic Table 1 (pages 78/and 79) indicates the over-all availability of raw hides in Latin America from 1970. There has been strong growth in cattle hide, but the same has not been true of the hides of other species, such as sheep and goats. However, as can be seen from the figures, cattle hides account for the largest share, i.e. 48 per cent, of the total for 1975, and even more noteworthy, the percentage shows an upward trend over the years, increasing to 55 per cent by 1985.

158. Consequently, the development with regard to cattle hide virtually determines activity in the region and its future.

Growth in herds of cattle

159. In recent years, there have been around 2 or 3 percent a year increases in livestock herds in Argentina, Uruguay, Colombia, Costa Rica and Guatemala. For the region as a whole, the consultant expects an average annual growth rate of 1.8 per cent for cattle, which means around 200 million head of cattle by 1985. In Venezuela, Mexico, Perú and Bolivia, on the other hand, the growth has amounted to only 0.5-1 per cent a year. Lastly, the size of cattle herds in the remaining countries is stable or possibly decreasing. It is therefore a complex undertaking to fix a uniform rate for purposes of preparing growth projections up to 1985.

160. The accelerated growth observed in some countries such as Uruguay was due to the closing of the EEC market as a traditional meat purchaser. This meant that the meat exports of Uruguay, as of a number of other countries, declined sharply. Since domestic consumption did not increase to the same extent as exports decreased, there has been less slaughtering and consequently a greater growth than usual in stocks of cattle.

161. The growth in livestock breeding in Latin America depends entirely on economic factors. The amount of meat consumed by the population in each country is known and remains fairly stable. By contrast, meat export figures vary considerably from year to year. As a result, the amount of slaughtering fluctuates considerably. None the less, there is an upward trend.

162. Thus, it would appear exaggerated to assume a uniform annual growth rate of 2 per cent for the region as a whole, but, at the same time, an annual rate of 1.2 per cent appears excessively moderate in the light of demonstrable facts.

163. Almost without exception, the medium-term plans of Latin American Governments foresee a growth of more than 2 per cent a year in cattle herds. Unfortunately, however, these plans are more a reflection of wishful thinking than of actual facts since in practice they are contradicted by the failure to implement measures making possible the growth. This failure is partly attributable to excessive red tape in government institutions, but also in large part to changing conditions in the international meat market. The livestock breeder reacts immediately to these changes and shows an excessive degree of sensitivity which makes it rather unrealistic to want to predict whether livestock raising in the region will increase or decline in the next few years.

164. Nevertheless, the figures speak for themselves and indicate sustained growth and also a sustained, stable and growing domestic meat consumption, with, in addition, the assurance of an opening up of new international markets for meat and the possibility that, in the short term or the medium term, the EEC will review its policies.

Slaughtering

165. In 1970, the average slaughtering rate for the 25 countries covered by the study was 17.6 per cent; in 1975, it was 15.8 per cent; and in 1977, it was 16.9 per cent. In other words, the average rate is between 16 and 18 per cent. Although there are countries such as Bolivia, Colombia and Venezuela with very low rates, ranging from 10-11 per cent, there are others such as Argentina, Uruguay, Guatemala and Costa Rica in which the rate exceeds 20 per cent.

166. In 1985, we expect that the rates will have increased by at least one or two percentage points, and it is therefore perfectly feasible to fix the general average at 20 per cent. This gives figures of 40 million animals expected to be slaughtered and 7,960,000 tons of meat produced . i.e. an increase of 37 per cent in the coming eight years.

167. These figures indicate how good the region's prospects are. With a moderate increase in stock-breeding of around 1.8 per cent a year (where 2-3 per cent a year is expected world wide) and with a modest increase in slaughtering rates of 1-2 percentage points above current rates, we can expect a growth in slaughtering (and in the final analysis in production of raw hides) of 37 per cent over the period from 1977 to 1985.

Meat production

168. There has been a little known phenomenon in beef production. Because of the decline referred to in the exports of many countries in the region, the raising and fattening of livestock has become an unprofitable activity, and for this reason the size of the animals slaughtered has declined from year to year, in other words they are being slaughtered before they are "finished".

Thus, we see that in 1970 the average weight of a carcass after removal of the entrails was 214 kg, while by 1975 it had declined to 202 kg, and by 1977 even more, to 197 kg. By 1985, we predict that there will be a slight increase, so we have adopted an average of 199 kg per head.

169. The following table shows the numerical values which we have adopted for our calculations.

Cattle

	1970	1975	1977	1985
Weight per head	214 kg	202 kg	197 kg	199 kg
Weight of the salted hide	21.4 kg	20.2 kg	19.7 kg	19.9 kg
Size of the hide	36 sq ft= 3.34 m ²	34 sq ft= 3.16 m ²	32.5 sq ft= 3.02 m ²	34 sq ft= 3.16 m ²

Availability of raw hides

170. With regard to cattle, we have assumed a loss of 5 per cent of the total available for slaughter. While in some countries such as Argentina and Uruguay the loss does not exceed 1 per cent, in others such as Peru, Bolivia, Nicaragua and Venezuela there is a considerable loss, perhaps as much as 10 per cent, and for this reason the rate of 5 per cent assumed appears to be the most reasonable.

171. The following classification can be applied to the region as regards availability of raw cattle hides.

- (a) Countries with a high level of production of raw hides (equal to or exceeding the requirements of the tanning industry): Argentina, Uruguay;
- (b) Countries with average production of raw hides (adequate to supply industry): Paraguay, Nicaragua, Costa Rica, Colombia, Cuba and Guatemala;
- (c) Deficit countries (where raw hide production is not adequate to meet the requirements of the tanning industry): Honduras, Bolivia, Panama, Chile, Peru, Puerto Rico, Venezuela and Jamaica;
- (d) Countries in a heavily deficit position: Ecuador, El Salvador, Mexico, the Dominican Republic and Haiti.

Sheepskins

172. The sheep population has decreased considerably in the 1970s. In the three main producing countries, i.e. Peru, Argentina and Uruguay, the sheep population has decreased, and it is only in Mexico, the fourth most important country with regard to numbers of head of sheep, that the figure has remained stable or slightly increased.

173. The problem of sheep raising is directly connected with the problem of wool. Whereas in the case of cattle raising the closing of foreign meat markets has resulted in a lower slaughtering rate and an increase in the ^{cattle} population, in the case of sheep the unfavourable international conditions with regard to wool have caused considerable discouragement in Latin America and led to a decrease in the raising of sheep for wool.

174. This situation is shifting back slightly, and we think that by 1985 the region will have virtually the same head of sheep as in 1970.

175. A decline of 9.5 per cent in the five years from 1970 to 1975 is substantial, and somewhat alarming, but over the past two years there has been a recovery of 3.5 per cent, and this suggests that the same level as previously existed with regard to head of sheep will eventually be reached again. It would be audacious to predict that this level will be exceeded. As long as there is no clear international policy on wool trade, the prospects will remain unclear.

176. The slaughtering rates declined considerably in the 1970s. They were low to begin with (around 25-27 per cent as compared with 40-45 per cent in the industrialized countries), and they declined further. From 25.7 per cent in 1970 the average rate declined to 20.3 per cent in 1977 as a result of the causes referred to above and the slump in sheep breeding.

177. By 1985, we predict some recovery, and have fixed the rate at 23.8 per cent, which is still a moderate and minimal rate compatible with the situation in the region. Thus, we predict that 25 million head of sheep will be slaughtered in 1985. This is a substantial figure but still falls short of the figure for 1970 by 7 per cent.

In other words, as far as sheep raising is concerned, we see no prospects for development, but in the best case only a situation approximately comparable to that in 1970.

178. Furthermore, the wastage of raw skins in the region, much exceeding that for cattle, is considerable. There are countries such as Bolivia and Peru where hides lost by wastage amount to 30 or 40 per cent, although it must be admitted that there are others, such as Argentina and Uruguay, where wastage amounts to only 5 per cent. None the less, an average wastage rate of 15 per cent for the region as a whole would appear to be the most accurate. There are no indications that this rate is going to decrease in future. On the contrary, it appears to be an evil which is rooted in Latin American customs.

179. As regards the weight of each animal, a development somewhat similar to that indicated for cattle is also taking place with regard to sheep, in other words the weight of the animals slaughtered is declining because they have not been "finished". However, this reduction has not been as sharp as the reduction in the case of cattle.

180. The figures we have used in our calculations are as follows:

Sheep

	1970	1975	1977	1985
Weight of the sheep	18 kg	17 kg	16 kg	17 kg
Weight of the dry skin	0.857 kg	0.842 kg	0.837 kg	0.834 kg
Size of the skin	7.5 sq ft= 0.70 m ²	7 sq ft= 0.65 m ²	6.8 sq ft= 0.63 m ²	7 sq ft= 0.65 m ²

Goatskins

181. Goat populations are stationary. In some countries such as Mexico and Argentina, there appears to have been a slight increase, but in others such as Chile and Peru the number of head is declining.

182. For 1985, we have preferred to predict a slight increase. In doing so, we are basing ourselves on the policies laid down by Governments, which stress that this species will be protected and developed. It is likely that, sooner or later, these policies will stop being words only and will be transformed into action.

183. Slaughtering rates, which range from 28-30 per cent, are very low in comparison with those in the industrialized countries, where they exceed 50 per cent. As in the case of sheep, we have been unable to detect any signs that these rates will grow in future, and we have therefore retained the same ones for 1985.

184. Loss of raw skins by wastage is less than in the case of sheep, although greater than in the case of cattle. We believe that the most accurate figure is 10 per cent.

185. The figures adopted for our calculations are as follows:

Goats

	1970	1975	1977	1985
Weight of the animal	10 kg	10 kg	10 kg	10 kg
Weight of the dry skin	0.800 kg	0.803 kg	0.812 kg	0.800 kg
Size of the skin	6 sq ft= 0.56 m ²	6 sq ft= 0.56 m ²	6 sq ft= 0.56 m ²	6 sq ft= 0.56 m ²

Pigskins

186. By contrast with sheep and goats, herds of pigs are increasing in Latin America at a substantial rate, exceeding 2 per cent a year. There is every reason to believe that this rate of growth will continue in the future.

187. However, from the point of view of our study, this fact is of no importance because the raising of pigs is carried out with a view to consumption of the meat rather than of the hide, which in the great majority of cases is discarded. With the exception of isolated countries such as Bolivia, Mexico and a few others pigskin is never processed in tanneries because the animal is not skinned in slaughter-houses, and the skin is left on the carcass as part of the meat, in other words as a food.

188. It is for this reason that the figures in respect of raw pigskin available in the region amount to less than 10 per cent of what could be attained if the animal slaughtered was in all cases skinned.

189. Since there is a growing pork consumption in Latin America, and slaughtering rates amount to 35-37 per cent of herds, the figures are the highest in basic table 1, but even so fall short of those in the industrialized countries, where they exceed 60 per cent.

190. Another matter which also gives rise to confusion with regard to weights, measures, etc., is the fact that it is virtually impossible to distinguish between numbers of domestic animals and numbers of wild animals.

Other animals

191. In the category "other animals" we have included horses, mules and donkeys.

192. There is a fairly large population of these animals in the region, the number of head being approximately the same as in the case of goats, with the difference that the numbers of these other animals are increasing. Although the growth rate is not high, it does exceed 1 per cent a year. Thus, the population is not stagnating, as it is in the case of sheep and goats.

193. The slaughtering rates are, however, low; in fact they are the lowest in the series, at around 10 per cent a year.

194. There are substantial losses of raw hide through wastage, and the amount industrially tanned is small. The figures given in basic table 1 are only indicative, because in some tanneries this type of hide is generally tanned together with cattle hides, and almost always clandestinely.

Buffalo hides

195. It has not been possible to distinguish buffalo hides from cattle hides in the statistics. On the whole, stocks are small, except in the Amazonian area covering parts of Ecuador, Peru, Colombia and Venezuela.

196. It is therefore virtually impossible to obtain data, so we have put a zero in the relevant spaces in basic table 1. The small numbers known to exist should be regarded as included under the heading "cattle".

Reptile and wild animal skins

197. There are raw skins of reptiles and of animals such as the guanaco, the viscacha, the wildcat, the puma and the fox.

198. However, there is practically no information available in any of the countries visited. There are some raw skins and there is some tanning activity, but we were unable to track it down and express it in figures.

Import and export of meat and of livestock on the hoof

199. The data presented in basic table 1 are only indicative.

The information presented is supplementary and does not concern the substance of the study. We were unable to obtain full data. The information derived from different sources was not uniform, and an indicative estimate was therefore made. The following comments may be more informative than the figures:

(a) Exports of livestock on the hoof: The figures are of little significance, but amounts are none the less increasing since the interest of a number of countries in introducing Latin American livestock of the highest quality, especially that from the southernmost part of Latin America, is growing.

(b) Imports of livestock on the hoof: Apart from the figures reciprocating export figures (Latin American countries importing from other Latin American countries), there are imports of animals of top quality from animal husbandry establishments in Europe, aimed at improving the race.

(c) Exports of meat: This is an important field, in which Latin America is one of the world leaders.

(d) Imports of meat: The figures are almost exclusively reciprocal, in other words they refer to Latin American countries importing from other Latin American countries.

Imports and exports of raw hides

200. Imports of cattle hides: Although the region as a whole is self-sufficient as regards the amount of raw hide required by the tanning industry, there are sizable disparities from country to country. For example, Chile, Peru, Ecuador and Mexico are in a heavily deficit position and must import this raw material from other countries, usually in Latin America. However, the restrictions which have in recent years been placed on the export of raw hides have made it necessary for the deficit countries mentioned above to resort to buying raw hides from the United States or Europe.

201. Exports of cattle hides: The sharp drop in exports of raw cattle hides is one of the basic features of the raw hide market in the 1970s. The number of hides exported has declined from nearly 9 million in 1970 to 1 or 2 million at present, and the figure is further decreasing as a result of the imperative need to protect this raw material in the region so that it can be used exclusively by the local tanning industry.

Nevertheless we believe that there will always be a margin of one million exportable raw hides, most of which will go to the countries in a deficit position in Latin America itself.

202. Exports of raw sheep skins: There has also been a strong decline, from 10 million skins to half that figure, but this is less drastic than in the case of cattle hides, since there are still strong exporting groups with connexions in Europe which maintain exports of this raw material at a high level.

It is possible that, by 1985, a policy, either for Latin America as a whole or for the main exporting countries individually, will have been implemented with a view to reducing exports of this raw material, which the region requires for its tanning industry, even further.

203. Exports of raw goatskins: At one time, these exports amounted to nearly 2 million skins a year, but since these skins are a raw material of great value in nearly all the countries of the region they are protected to the maximum degree. We therefore think that, by around 1985, the amounts exported will be very small.

204. Exports of raw horse hides: Although not much is known about this item, there is a steady stream of exports at levels which are on the whole stable. In general, the tanning industry does not raise many obstacles to the export of this raw material, from which acceptable profits are not yet being derived.

Summary of basic Table 1

205. In summary we can say that the data given in basic table 1 indicates the following:

(a) The cattle population in the region is growing. In some countries the increase is rapid, while in others it is less so and there are some in which the population is stagnating or even decreasing, but the total for the region is clearly favourable. It shows an annual growth rate of around 1.8 per cent and has realized all the conditions required to achieve a level of 200 million head by 1985, i.e. an increase of around 55 million head, or 37 per cent, in 15 years. We think that there must be very few areas in the world which can demonstrate this kind of increase.

(b) The same is not true of sheep and goats. With regard to sheep, there have been some signs of a decline, and with regard to goats there has been stagnation or a very slight increase. It is safest to consider that the breeding of both sheep and goats is stagnating in the region. This situation appears to be permanent as regards goats. As regards sheep, on the other hand, any radical change in the international wool trade, whether favourable or unfavourable, will bring about a radical change, either favourable or unfavourable, in the development of stock-raising establishments. The situation does not give cause for optimism at the present time.

(c) With regard to pigs and horses, there is a generally substantial growth in stock-raising establishments, but these animals are not of interest at the present time for purposes of the tanning industry. The amount of such hides tanned in the region is very small. Therefore, the most reasonable approach is to say that the region has a raw material resource which it does not use, i.e. one which in the case of pigs is used as a foodstuff, and in the case of horses is discarded.

(d) The slaughtering rates continue to be very low in the region. An exception to this might be cattle, since although the slaughtering rates are low, ranging from 16 to 19 per cent, there are two or three countries in which industrial slaughtering is practiced, and an above-average yield is therefore obtained from stock-raising establishments.

(e) None the less, the field is open for the introduction of very important improvements. The results which can be achieved are extremely encouraging. With the 1 or 2 percentage points of improvement in slaughtering rates by 1985 which we have assumed, the figure for animals slaughtered in that year easily amounts to 200 million. It would be possible to aim to achieve several more percentage points of improvement, giving even more encouraging results, but in this case co-ordinated action by livestock producers and Governments would be necessary, either throughout the region or in each individual country, since livestock reproduction rates are usually low. If each of the parties, i.e. the producer and the Government, acts separately and independently, the result achieved may be contrary to that desired since, if the numbers of animals slaughtered is increased without improving reproduction rates, there is a danger of livestock annihilation.

(f) These clarifications notwithstanding, in 1985 the region will produce 40 million raw cattle hides, of which 38 million can be used by its tanning industry. If all these hides are tanned, Latin America will be tanning 22 per cent of the world total for 1985, and will, in other words, have become the leading region of the world in tanning.

(g) In this regard we are optimistic, since the parameters which we have taken as our point of departure and the growth rates we have calculated are moderate, and we have confined ourselves to confirmed facts and existing situations in the tanning industry in the region. We could have prepared a much more optimistic projection and obtained higher figures, but the figures actually available to us indicate that we have made the most likely assumptions.

(h) We cannot say the same with respect to sheep and goats because in neither of these cases are favourable developments expected. Also, in both of these cases the slaughtering rates are very low, as are the reproduction rates, and we have preferred in both cases to predict, for 1985, figures very close to the current ones.

(i) Meat production and consumption provide the clearest indicator of the tanning industry's future. Both are increasing in the case of cattle and are stagnating in the case of sheep and goats.

(j) Beef consumption is growing in Latin America, partly owing to a higher unit consumption by the population and partly to population growth. At the same time, meat exports are showing signs of recovery, and this will mean that the total amount of meat produced in 1985 will be 45 per cent greater than the amount produced in 1970.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

BRAZIL

	live animals (Head)		animals slaughtered (Head)		offtake rate (%)		meat production (t)		meat consumption (t)		hides (kg) ***		skins (pc) ***		average size (m ²)	
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975
a) Bovine cattle	78	101	135	96	85	160	100	170	120	150	192	700	500	510	41	51
b) Buffalo																
c) Sheep	170	185	200	22	12	124	65	100	0.055	0.055	0.055	0.10	0.20	0.45	2	154
d) Goat	60	65	80	15	0.5	217	77	75	0.022	0.025	0.025					
e) Hog or Pig	51	37	43	100	94	522	269	302	0.71	0.50	0.70	0.31	0.44	0.70	11.20	40
f) Others (only horses)	14	80	40		0.2		50	50		0.41	0.25				4.3	2.4
TOTAL	140	171	210	231	205	313			2.61	2.80	300	1.11	2.05	2.50	140.1	
Import a) }	0.01	0.02	0.04	EXCLUDED IN												
b) }																
c) (±) }	42	47	54													
d) }																
e) }	0.0	0.0	0.0													
f) (±) }	0.4	0.6	2.4													
Export a) }	0.004	0.000	0.004						0.004	0.002	?					
b) }	0.0	0.0	0.0													
c) }																
d) }																
e) }																
f) }																

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

(4) OFFTAKE RATE = SLAUGHTER RATE + EXPORT RATE

— NO INFORMATION OR UNRELIABLE NUMBERS

(5) SLAUGHTER RATE

INFORMATION SOURCES

- CTCCA
- EDGE
- CECON
- SIC
- CAPEC

LATIN AMERICA

TABLE 1: MEAT PRODUCTION (CONTINUED)

	Meat production (thousands of tonnes)			Meat consumption (thousands of tonnes)			Raw hides ^{1/} (thousands of pieces, and tonnes)			Area (thousands of square metres)							
	1970	1975	1977	1970	1975	1977	1970	1975	1977	1970	1975	1977					
Cattle	5,450	5,370	5,760	7,960	5,000	4,870	5,200	6,900	24,300 t.p. 520,000 t.	25,300	57,900	550,000	32,000	81,400	79,850	24,250	220,000
Buffalo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sheep	450	360	320	425	420	310	280	350	23,200 t.p. 19,000 t.	15,400	17,200	14,000	22,000	16,200	12,000	10,000	10,000
Goats	71	73	70	76	66	66	64	68	6,500 t.p. 5,200 t.	6,400	6,400	6,000	6,000	3,600	3,700	3,550	3,000
Pigs	890	900	1,100	1,250	870	950	1,050	1,150	1,000 t.p. 800 t.	1,000	1,100	950	1,000	740	740	850	900
Other (horses, mules, donkeys)	675	515	530	610	45	50	50	60	1,000 t.p. 8,000 t.	1,000	1,200	10,000	12,000	2,900	2,900	3,500	4,000
Total	7,575	7,258	7,500	10,221	6,400	6,296	6,644	8,228	50,000 t.p. 554,000 t.	52,200	53,000	580,500	60,700	104,000	99,250	105,010	143,510
(a)	35	40	50	50	-	-	-	-	2,100 t.p. 67,000 t.	4,000	3,600	71,000	3,000	10,300	12,600	10,900	9,500
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(c)	13	15	15	10	-	-	-	-	450 t.p. 400 t.	450	400	850	450	315	290	200	200
(d)	-	-	-	-	-	-	-	-	250 t.p. 200 t.	250	250	700	700	140	450	450	450
(e)	8	10	10	15	-	-	-	-	-	-	-	-	-	-	-	-	-
(f)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(g)	60	400	500	800	-	-	-	-	8,200 t.p. 175,000 t.	1,500 t.p. 30,000 t.	1,900 t.p. 35,000	1,000	20,000	27,400	4,700	5,400	3,100
(h)	-	-	-	-	-	-	-	-	10,000 t.p. 3,000 t.	5,000	4,200	2,500	2,500	-	-	-	-
(i)	60	60	70	100	-	-	-	-	1,400 t.p. 1,400 t.	1,500	2,000	500	100	7,000	3,200	2,800	1,600
(j)	-	-	-	-	-	-	-	-	1,400 t.p. 1,400 t.	1,500	500	100	100	600	1,000	300	70
(k)	2	3	5	10	-	-	-	-	-	-	-	-	-	-	-	-	-
(l)	-	-	-	-	-	-	-	-	100 t.p. 1,000 t.	100	100	100	100	300	300	300	300

^{1/} Bovine hides - green salted; sheepskins, goatskins, etc. - dried.

D. OECD region

General summary observations

206. In the OECD area, excepting Japan, there are several extremely noteworthy trends and developments. Cattlehides are the base of the leather and leather products industries. Other types of raw material are, if not peripheral, at least secondary. Three major factors are responsible:

(a) Suitability of modern cattlehide leather for virtually all consumer leather products.

(b) Relative homogeneity of cattlehides in the developed world and particularly in the major producing areas such as the United States, EEC and Australia.

(c) Area yield of cattlehides with consequent superior adaptability to mass output of leather products.

207. Growth in animal population is leveling off. This trend is entirely distinct from cyclical fluctuations such as characterise the cattle industry of the U.S. The trend is attributable to:

(a) Demographic factors, i.e., declining birthrates in the OECD area.

(b) Greater efficiency in production of beef and dairy products;

(c) Absence of circumstances, now recognised as non-recurrent, such as the feedlot revolution in the U.S. and the stimulus of beef price support measures in the EEC.

208. Various linear projections of future animal numbers, based on the data of the past two decades, are highly fallible because they did not take item (c) above into account.

209. It should be noted, however, that the level of beef and dairy output now attained in the U.S. and Western Europe will have far-reaching consequences in other regions. For example, beef production in Argentina is a function of export demand.

OECD in Europe

Raw material availability

210. Between 1970 and 1975 there has been an appreciable growth in the bovine herd of the OECD in Europe, from 102 million to 109 million head. (Including Turkey; See Table 1/ ^(p.95) for area and country detail.) Beef price support by the EEC was a major factor stimulating herd expansion. Since 1975 numbers have declined slightly (1977 preliminary estimate - 107 million) in response to beef surpluses in the EEC. The decline does not reflect a "Cattle Cycle" in the

U. S. sense. It is primarily an adjustment to more realistic beef pricing and also reflects greater yield of beef from the diffusion of improved feeding techniques and the shift from veal to beef production.

211. Further substantial growth in cattle numbers is unlikely. It is probably over-optimistic to project cattle population of 112 million by 1985. After that date, stable human population is likely to be a demand ceiling which will keep herds at or moderately below 112 million.

212. The sheep and lamb outlook is broadly similar but for somewhat different reasons. Wool prices have encouraged growth in several countries; Middle East demand for live sheep and lambs has promoted flock increase in Turkey. By 1975 total numbers, inclusive of Turkey, reached 112.6 million head. The maximum foreseen by 1985 is 114 million. Beyond then the comparative cost of feed grains for cattle will strongly influence the trend of sheep numbers. However, any significant departure from the 114 million level is extremely unlikely.

213. Capriculture has minor importance in Europe OECD. The bulk of the flock is in Greece and Turkey. Numbers will continue to decline almost directly in ratio to modernization of agricultural methods. The 1985 projection in Table 1 assumes a very slow rate of improvement, both in Greece and Turkey, in farm techniques and national cultural patterns.

214. Hogs and pigs are second only to cattle as a source of red meat in non-Muslim OECD. A pattern of slow but steady growth in numbers is anticipated for several reasons: Minimal land requirement in contrast to ruminants; farm and urban offal can be part of the hog diet; rapid turnover.

215. Theorists not familiar with the commercial aspects of producing and marketing pork products have cherished the hope that pigskins could become a bulwark of the leather economy. The arithmetic suggested is appealing: 80 million pigs slaughtered per annum in Western Europe; 10 sq. ft. per pig integument = 800,000,000 ft., or the equivalent yield of 20 million cattlehides. Unfortunately, this raw material nirvana is frustrated by problems for which no solution is in sight.

(a) Pigs are not paragons of cleanliness and can be carriers of parasitic and bacterial disease. Therefore, in almost all developed countries scalding the carcass prior to butchering is a sanitary requirement and also a low cost means of bristle removal. Alternative methods are available, but at far higher cost in equipment, materials and labor.

(b) Flaying a pig calls for surgical dexterity due to the fatty layer under the corium in contrast to cattle, sheep or goats.

(c) It is profitable to sell the skin substance attached to the various cuts. In effect, the ultimate consumer pays the price of bacon for rind removed by the butcher or packer.

Leather-making substance would have to be as costly as pork chops to create the incentive for commercial flaying of pigs and hogs.

216. In brief, barring fundamental changes in swine breeds, packer operations, flaying techniques and relative skin vs. meat values there is no prospect for increase in commercial supply of pigskins. Currently, small quantities are produced in Yugoslavia, Poland and the USSR. The total is apparently in the area of 4 million per annum, or less than 3% of the potential supply as defined by slaughter. Even Yugoslavia, which has made a specialty of pigskin leather and leather products (garments) has purchased pigskins from the mini-scale U. S. supply.

217. In summary, aggregate raw material produced within OECD Europe increased between 1965 and 1975. From the latter date forward, animal numbers and slaughter will stabilize or at best expand very slightly through 1985 and beyond. The approach of zero human population growth for the entire area will tend to reduce meat demand by virtue of differential consumption in young and old age groups.

218. The composite hide and skin supply of the region compares as follows with estimated consumption in tanneries.

E E C

(Millions)	Supply			Consumption		
	1970	1975	1985	1970	1975	1985
Cattlehides	14.6	19.2	19.7	27.7	25.9	25.0
Calfskin	8.8	9.3	9.3	17.6	16.5	16.0
Sheepskins	26.1	28.6	29.1	74.2	71.8	63.0
Goatskin	1.3	1.3	1.3	27.9	23.8	20.0

OECD EUROPE (Including Turkey)

Cattlehides	26.5	28.8	28.6	36.1	36.8	36.0
Calfskin	10.3	10.0	9.7	18.3	17.4	16.5
Sheepskin	50.8	56.1	57.0	87.2	83.3	75.7
Goatskins	11.9	11.2	10.2	31.0	29.2	26.0

219. Historically the composite OECD area in Europe has met the deficit between indigenous supply and aggregate consumption by importing hides and skins from less developed, agricultural countries in South America, Asia, Africa and Oceania. Cattlehides, for example, were drawn principally from South America and Australia, calfskins from New Zealand and Australia, goatskins from Asia (India), Africa and Brazil, sheepskin from Oceania, South America and the Middle East (hair sheepskins). Obviously significant changes have occurred during the last 20 years. Major external sources of supply have declined or been eliminated entirely. Cattlehides from South America are, for all practical purposes, export embargoed. Government policy in India has enormously reduced the export of raw goatskins and deliberately supplanted such export, through quota and subsidy systems, by the shipment of semi-processed skins (wet blue or vegetable tanned) as well as the export of finished leather and fabricated leather products. Consequently the salient question in this context is quite simple: What are the dimensions of any further probable or feasible shift in the movement of raw material supply from external sources to the OECD area? In this respect, of course, the information developed and the views expressed by consultants directly concerned with other regions of the world

will be available to UNIDO. However, several observations may be in order and these reflect the opinion and experience of observers commercially familiar with existing and prospective patterns of trade. In essence; it appears that those regions of the world which used to be denominated as major surplus areas have practically completed the transition to internal utilization. This is obviously true of Argentina, Brazil, India and Mainland China. In Africa, it is believed that short of revolutionary changes in animal husbandry the export of hides and skins from various areas will continue for years to come to be economically advantageous as well as necessary.

220. It is reasonable to point out that appraisal based on the economic terms of market oriented economies can obviously be frustrated by the methods and practices of centrally planned economies or by economics which for all intents and purposes are centrally planned at least in the leather and leather products area. Eastern Europe and the USSR are instances of the first group. India, Japan, Argentina, Brazil, South Korea are examples of the second. Wherever import and export policy are instruments of national policy, executed through direct trade control, non-tariff barriers, subsidies, quotas and the like, conventional economic analysis reaches an impasse.

221. The composite figures shown in the tables for the EEC and the OECD in Europe reflect a very considerable volume of internal trade in hides and skins. This parallels, in recent years, corresponding shifts in leather processing and leather product manufacture. West Germany, for example, had been a net importer of cattlehides in the past and has now shifted to a net export basis. Such changes reflect shifts in manufacturing such as the emergence of Italy and Spain as the major shoe manufacturing countries of the region. Intra-regional trade in raw material is not impeded by national restrictions with the exception of Spain. In that sense the EEC and to a growing extent the OECD in Europe may well be characterized, with regard to leather and leather products, as an economic community where the advantages of skills, manpower, and social structure contribute to optimum specialization.

Quality of Raw Hides and Skins

222. A number of critical factors affect the quality of raw hides and skins both with respect to relative market value and feasibility of economic and efficient utilization. These are set forth in detail here because they are applicable to all regions and countries.

(a) Uniformity of breed. The bovine species, to take one instance, includes a multitude of breeds and cross breeds. Hides from different breeds vary in such characteristics as size (area), thickness, fiber structure, grain character, etc. Obviously the more uniform the breed in a given area, the greater the homogeneity of the hides produced. From the standpoint of both the tanner as well as the ultimate manufacture of leather products, the uniformity of raw material is vital to consistency of product line. In the EEC, and in the OECD for the most part, breeds have been standardized and maintained in sufficient numbers to yield raw material in sufficient quantities for consistent commercial utilization.

(b) Animal husbandry. Standards of cattle raising vary widely throughout the world. Well nurtured, well maintained animals yield good hides free of parasitic damage and other defects which impair hide value in tanning and in manufacturing. Cattle herds in the region are much smaller than on the ranches of the U. S. or Argentina. Moreover, their fodder is not dependent on seasonal or climatic changes as in Africa or Asia. They yield hides of high quality.

(c) Flaying. Butchering facilities and the quality of flaying have an enormous influence on the resulting quality of the raw material. Quality of hides improves directly with the centralization of slaughter in packing houses or large abattoirs. The converse is also the case and is responsible for the poor quality of hides from animals slaughtered by farmers or local butchers.

(d) Cure. After flaying hides and skins are subject to prompt bacterial decay unless this is arrested by effective curing. The ideal curing system rely upon immediate application of salt, or brine solutions, to arrest decay so that hides can reach the tanner in undamaged condition.

(e) Storage. Unless hides and skins reach a tannery promptly, effective storage methods and facilities must be utilized to prevent damage loss due to excessive temperature changes or insect infestation.

(f) Transportation. Facts applicable to storage of hides and skins are also pertinent with regard to transportation from source to the tannery point of utilization.

223. Based on the foregoing criteria the typical quality of hides and skins in the region, except in Turkey and in certain points in Greece, receive high marks for commercial quality and grades. A good deal of local butcher or farm slaughter is still carried on notably in Spain, Italy, Greece and Turkey. However, the bulk of animals are slaughtered in commercial establishments. An important contributing factor in the maintenance of hide and calfskin quality is provided by the auction system in several countries including West Germany, France and the UK. This is a centralized means of marketing to tanners, dealers, exporters and the like. Product responsibility by the auction associations or houses entails the application of qualified standards by the vendors.

224. Within the OECD as a whole the projection of future lines of development is not difficult, provided the following premises are accepted:

(a) Raw material will be processed in the country of origin, when that represents the most efficient and economic utilization of such raw material.

(b) Raw material will move without artificial hindrance from country of origin to other countries when:

(i) The indigenous quantity of such raw material cannot warrant capital investment for processing facilities.

(ii) The lack of homogeneity or quality of such raw material requires sale to the international market for most efficient and economic utilization, and with a maximum return to producing country.

(iii) Protracted reliance on subsidy and non-tariff barriers demonstrates that an artificially stimulated industry is non-competitive.

225. Based on the above premises and on the facts detailed in the general observations as well as the commentary on the OECD the following forecast is made:

(a) Cattlehide consumption in the OECD will exceed the 1975 level by 1985; consumption of calfskins will be slightly lower in 1985 due to the transition from veal to beef production; sheepskin usage will decline by 10% from the 1975 level; consumption of raw goatskins will decline sharply but total usage of raw plus semi-processed goatskins will be only 12% below the 1975 level.

(b) Total shoe production in the OECD will reach 1,270 million pairs in 1985 compared with 1,127 million pairs in 1975.

(c) The consumption of leather for products other than shoes in the OECD region will approximate 40% of total leather usage and in units will be 9% to 10% greater than in 1975.

REGIONAL EVALUATION SUMMARY

United States

Raw Material Availability

226. Cattle numbers in the U. S. are second only to the reputed bovine population of India. Further comparison with India, and probably any country, is meaningless. Cattle raising in the U. S. is large scale agri-business. The herd is more homogenous, more efficiently maintained, more economically processed and yields higher average quality hides than anywhere else.

227. In 1975 total numbers reached 131.8 million. Bovine slaughter that year amounted to 41.8 million cattle and 5.3 calf and kip. Total hide and skin supply

exceeded commercial slaughter by approximately 2.8%; this increment resulting from farm kill and the rendering of fallen animals. Cattle numbers began a cyclical decline in 1976-1977; the trough is expected by 1981. The ratio of bovine slaughter to total herd in recent years varied from 35.7 to 39.5, depending on the phase of the cattle cycle.

228. The most important factor in the development of the present U. S. cattle industry is not generally known or understood. It is the extraordinary role of the feedlot as a factory system of producing beef in greater quantity and more rapidly than traditional methods of cattle raising. In twenty years - between 1950 and 1970 - cattle slaughter in the U. S. doubled and concurrently the herd increased by 70%. This phenomenal growth is unprecedented in agricultural history. Feedlots were responsible.

229. It may be of interest to theorists and economists not familiar with the cattle industry, ^{that} there are two essential prerequisites to efficient (and profitable) cattle raising: Pastureland and adequate supplies of feed grains or fodder (hay, silage, etc.). Pasture or grassland is a sine qua non with an acre, or a good fraction thereof, required per head. Grass accounts for a major part of the beef or dairy animals' growth and grass is low cost solar energy via chlorophyl. Grain feeding brings pre-adolescent animals to mature weight, and palatability, more rapidly than a continued grass diet.

230. Suitable or available areas of grassland are quite limited on the world map. These appear to be located in the temperate zones and are marked by year-round precipitation as opposed to seasonal deluge such as the monsoon. Among the areas which can be identified with actual or potential grassland are: North America (U. S., Southern Canada, Northern Mexico), Argentina, Paraguay, Uruguay and parts of Brazil, Europe and below the 44th parallel (except where exposed to the Gulf Stream), temperate or plateau Africa, Western China and Mongolia, New Zealand and parts of Australia (when it rains).

231. Production and availability of feed grains or fodder for animals, as distinct from direct ingestion by humans, is even more limited than grassland.

232. The significance of the quantum jump in U. S. slaughter due to the feedlot, cannot be over-emphasized. Hide supply in the U. S. outstripped population and leather consumption growth. The U. S. moved from the import to the export side of the foreign trade ledger. Hide prices trailed far below commodity price indices until 1972 when Argentina embargoed the export of hides. The world leather economy was given a huge and illusory stimulus.

233. But, the development between 1955 and 1975 in the U. S. is non-recurrent. It has been accomplished; feedlot expansion has stopped. Future growth in cattle slaughter and hide supply in the U. S. will be minimal, if at all. Extrapolations made on the basis of the last two decades are likely to be very inaccurate. U. S. cattle slaughter by 1985 will do well to reach or slightly exceed the 1977 peak. Certain countries lacking indigenous hide supply have installed substantial tanning capacity in reliance on optimistic appraisal of U. S. prospects. Such reliance may prove sadly unfounded. South Korea and Taiwan are the notable examples.

234. U. S. calfskin production has declined steadily for more than 20 years. Reasons: Shrinkage in the number of dairy cows; decline in veal demand; greater profit in feeding calves for beef. Medium and long term calfskin supply will not exceed 3 million pieces.

235. Sheep and lamb flocks in the U. S. have moved steadily down for 25 years. From a peak of more than 30 million, numbers have fallen to 12.2 million currently. Long term stabilization is expected in the range of 9-10 million head. Slaughter has dropped commensurately, 8.5 million in 1975 and will level off at 6.0 million to 6.5 million by 1985.

236. Foregoing comment on pigskins applies without qualification to the current and prospective situations in the U. S. Several packers have attempted to restructure their pork operations and remove the whole skin through novel flaying techniques. The efforts were not successful; supply of whole skins in the U. S. is not sufficient to sustain an exclusive pigskin tanning operation. Wolverine World Wide (Hush-Puppies) maintains machines in several packing plants

to remove the skin from the butt end of slaughtered hogs. These pieces, about 2.5 sq. ft., are tanned and fabricated in its own plants. The concept has not been adopted by other companies and at present does not yield sufficient leather for more than a fraction of Wolverine's requirements.

237. In brief, less than 1% of the potential footage from a 50 million hog slaughter is now realized. No change is on the horizon.

Quality of Hides and Skins

238. U. S. cattlehides are the largest and perhaps the only supply in the world meeting these criteria:

- (1) Basic homogeneity of animal breed (Angus, Hereford, Longhorn).
- (2) Standardized methods of raising and marketing cattle.
- (3) High quality of hides with respect to substance, grain, flaying, cure. Brands are an economic rather than quality issue since only area is affected and this is recognized in price differentials for branded selections.
- (4) Recognized and respected standards for grade and selection.
- (5) Consistency of quality from year to year and by comparable season.

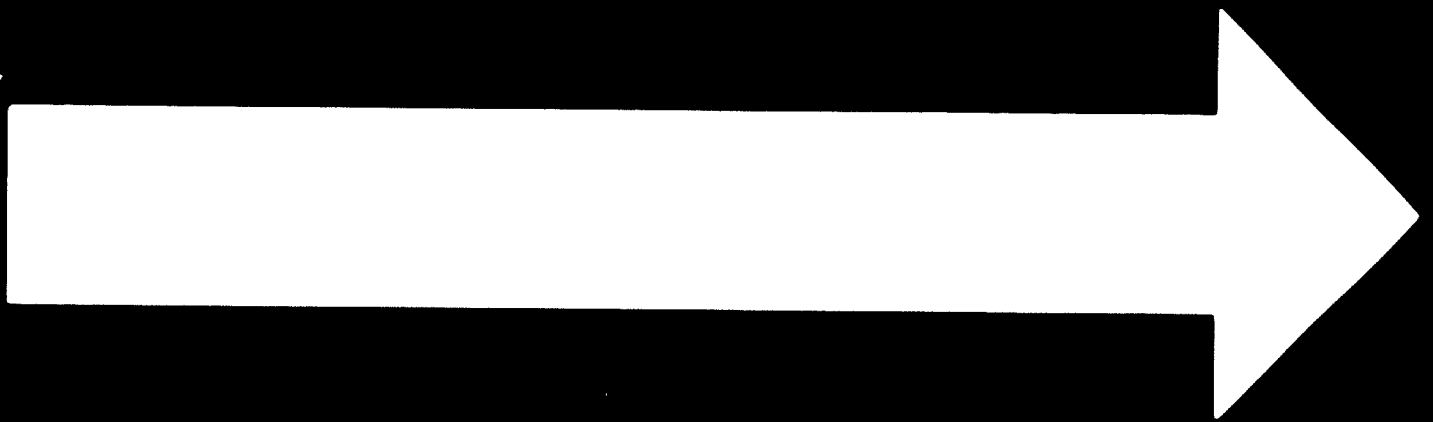
239. In a unique sense, therefore, U. S. hides set the commercial standard for international trade in cattlehides.

The quality of calfskin and kip is uniformly high.

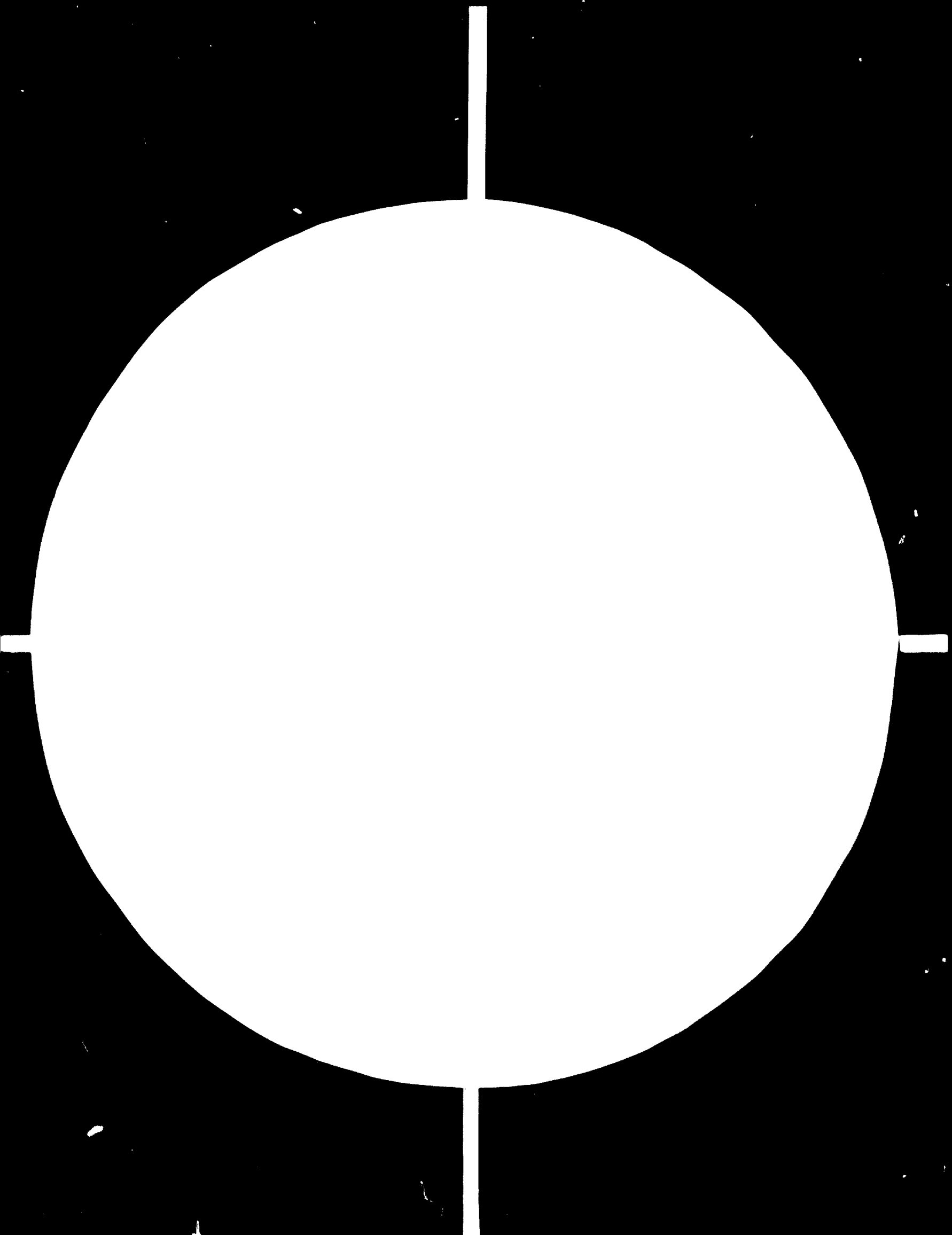
240. Sheep and lambskins vary in regional characteristics but flaying, cure, pickling, etc., meet top standards. An increasing proportion of skins are marketed as shearlings, woolled skins, to meet world demand for double face garment leather. (Skins with wool on and sueded leather surface.)

241. JAPAN The tanning industry of Japan is an economic anomaly and the derivative leather products industries present equally perplexing contradictions. Available facts and data can be summarized as follows:

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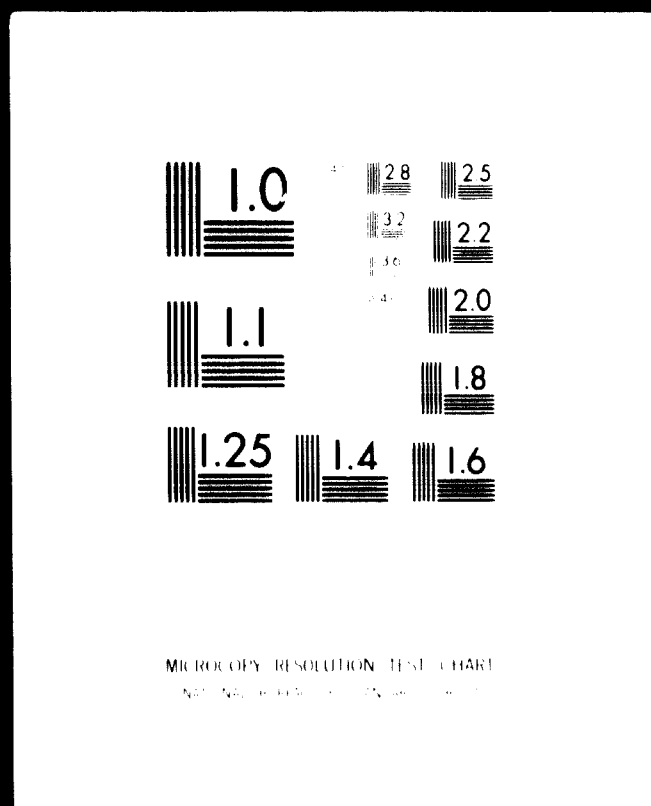


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Raw Material Availability

242. Japan is almost completely lacking in raw material. Its current yearly resources consist of approximately 1.2 million bovine hides and skins, 6 million pigskins and several hundred thousand goat and sheepskins. However, Japan is the world's largest importer of cattlehides, drawing approximately 10 million hides in 1975, mainly from the U. S. There is no possibility of meaningful increase in cattle and sheep numbers in Japan because grassland is not available and practically all feed grains would have to be imported. Such raw material as Japan does produce domestically is of good quality.

Oceania

Raw Material Availability

243. New Zealand and Australia account for almost one-third of the sheep and lamb population of the world (206.9 million head in 1975). Cattle numbers in the two countries aggregate 42 million head. By far the greater part of the resultant hide and skin production is exported. There are no restrictions on such exports which are an important resource to OECD in Europe, the U. S., Mainland China and Japan. Total annual supply in 1975 was:

<u>Millions</u>	<u>Cattlehides</u>	<u>Calfskins</u>	<u>Sheep and Lambskins</u>
New Zealand	7.4	1.7	30.4
Australia	2.1	1.4	31.6

Quality of Hides and Skins

244. Sheep and lamb production in Oceania is agri-business. Skin quality therefore meets the criteria indicated in a previous paragraph. New Zealand lambskins are a particularly choice raw material because they are suitable for grain or suede garment leather. Australian sheep pelts move primarily to the wool pulling and glove leather tanneries of Europe.

245. New Zealand calfskins are used to produce the finest grades of shoe upper leather. New Zealand hides are good quality and relatively uniform. Hides from Australia are properly flayed and cured but variable in grain quality. Most of the cattle herd in Australia is range bred. A large proportion of the hides have tick or grain damage. For purposes such as corrected side leather or heavy leathers, such defects are not vital. In short, the hides and skins from Oceania are commercial in quality and very salable.

E USSR, Eastern Europe and China

246. The data and information available on these areas do not make feasible the same evaluation summaries as presented in the foregoing on the OECD areas. Pending the development of further information, a few general observations are in order:

USSR

247. The region lacks adequate supply of the primary raw material, bovine hides and skins. This is attributable to several factors which are worth noting because of their long-term significance. First, a major portion of the USSR land area is in the north temperate or sub-Arctic zones. A short growing season therefore limits the availability of grass land and introduces hazards in the consistent production of feed grain crops. Until and unless totally new techniques are developed for cattle raising, it is difficult to foresee substantial and stable growth in the cattle herd. Second, breeds are diverse and hide characteristics vary accordingly. Third, there is a modern packing industry near several metropolitan centers; the bulk of the slaughter is performed in relatively small abattoirs and locally by farmers and butchers.

248. Production of leather and leather products is not geared primarily to indigenous supply of raw material. It reflects planned operation based on goals set for consumers' goods by centrally-planned organization. Hence the USSR has become a major importer of cattle hides, cattlehide leather and shoes, the latter from Eastern Europe and the former from the U.S., Western Europe and Argentina.

EASTERN EUROPE

249. In relation to population and planned requirements, cattle hide numbers and hide supply in Eastern Europe are even more deficient than in the USSR. Although the climate is more temperate, the absence of grass land and feed grain are inhibiting factors. While there has been some growth in cattle numbers during the past 15 years, the total herd remains low both in terms of beef supply as well as hide availability. Eastern Europe is also an important purchaser of hides in the world market, that is, the U.S., Western Europe and to a minor extent of hides or crust leather in South America.

250. Pigskins are utilized to a greater extent in Eastern Europe, notably Yugoslavia and Poland, than anywhere else except Japan and China. However, even in Yugoslavia and Poland the available supply of pigskins is constrained by the economic elements noted in the evaluation of this potential supply in the OECD.

People's Republic of China

251. Information gleaned from a number of sources points to a leather economy which is entirely unique among the large countries of the world. Cattle population in China is exceedingly low and the number of hides available internally is believed to be slightly less than 9 million per annum. This has been supplemented in recent years by imports from Australia and, it is believed, from Southeast Asia (largely buffalo and buffalo calf). Potential industrial development in mainland China could pose questions of enormous weight for the available hide supply of the world.

252. In China more pigs are flayed, relative to slaughter and in absolute numbers, than anywhere else in the world. The quality of skins is not uniform and much of the leather produced heretofore is of inferior quality. In the past, China was a major supplier of goat and pigskins to the world market. Such exports have declined and the skins are now apparently consumed internally for shoes and for other leather products.

EUROPE
INC. TURKEY

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	MILLIONS						000 MT					
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
live animals slaughtered (Head)	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
a) Bovine cattle	101	110	112	265-28.8-28.6	35.8-36.5-34.7	48.71	8113	8400	1435.0	557.0	571.0	3.9
b) Sheep	103.4	114.2	112.6	9.7-10.3-10.3	10.0-14.00	12.40	10.0	14.00	9.7-10.3-10.3	1.0		
c) Goat	23.6	28.5	2.6	11.9-11.2-10.2	95-99	82.6	90	113.00	50.8-56.1-57.0	.6		
d) Hog or Pig	82.2	89.8	90	80.0-87.0-88.0		90.0			11.9-11.2-10.2	.5		
e) Others												
TOTAL							16300	14700	18400	21900		
Import a)							19100	20500				
b)									482.0	489.0		
c)									44.4	502.0		
d)									62.5			
e)									187.7	133.7		
f)									167.0			
Export a)									3.7	3.4	2.1	
b)									275	432		
c)									46.2	42.7	72.9	
d)									29.4	67.6	23.5	
e)									32.5			
f)									22.1	17.4	17.0	

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If this country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

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EEC

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	MILLIONS				900				000 MT						
	live animals (Head)		animals slaughtered (Head)		offtake rate (\$)		meat production (t)		meat consumption (t)		hides (kg)*** and skins (pc)		average size (m)		
(**)	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
a) Bovine cattle	72	79	78	146	182	197	33.5	36.1	37.1	572	656	6700	344.4	464.6	452.7
b) Swine				8.8	9.3	9.3							8.8	9.3	9.3
c) Sheep	413	416	445	26.1	28.6	29.1	63.1	68.7	65.4	474	540		26.1	28.6	29.1
d) Goat	2.3	2.2	2.3	1.3	1.3	1.3	56.5	53.0	52.5				1.3	1.3	1.3
e) Hog or Pig	646	687	720	63	67	70	95	96	98	6772	8000				
f) Others										2249					
TOTAL							13099	15400	15000	17500					
Import a)													391.0	348.0	
b)													31.8	51.6	
c)													167.6	120.9	
d)													152.9		
e)													20.7	14.8	17.0
f)															
Export a)													238.0	387	
b)													384.1		
c)													57.9	60.7	
d)													24.5	22.3	
e)													27.2		
f)													1.4	1.2	1.1

Note: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant's evaluation come in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

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BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

FRANCE

	MILLIONS			000			000			000 MT			
	live animals (Head)	animals slaughtered (Head)	offtake rate (%)	meat production (t)	meat consumption (t)	skins (pc)	average size (m)	1970	1975	1985	1970	1975	1985
a) Bovine cattle	2.2 - 2.4 - 2.3	3.2 - 4.2 - 4.3	28.1 - 32.1 - 33.0	1608 - 1745		106 - 114 - 114	3.8 - 3.8 - 3.8						
b) sheep CALF		2.0 - 3.5 - 3.3				13.6 - 15.8 - 14.9	1	1	1				
c) Sheep	9.8 - 10.5 - 11.2	7.2 - 7.6 - 7.9	73.0 - 73.3 - 70.5	138		7.0 - 7.3 - 7.7	.6	.6	.6				
d) Goat	.9	1.0	.5			.5	.5	.5	.5				
e) Hog or Pig				1470									
f) Others				47									
TOTAL				3053 - 3700									
Import a)				3400									
b)													
c)													
d)													
e)													
f)													
Export a)													
b)													
c)													
d)													
e)													
f)													

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

Handwritten notes:
 a) For ...
 b) ...
 c) ...
 d) ...
 e) ...
 f) ...

WEST GERMANY

F.R. of Germany

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

	MILLION \$				000 000				000 MT				
	live animals (Head)	animals slaughtered (Head)	offtake rate (%)	meat production (t)	meat consumption (t)	skins (PE)	average size (m)	1970	1975	1985	1970	1975	1985
a) Bovine cattle	14	15	3.9 - 4.2 - 4.3	33 - 35 - 33	1287 - 1400	MT → 11.8 - 12.8	4.0	4.1	4.1				
b) Pigs			.7 - .7 - .6										
c) Sheep	.8	1.0	.4	.5	50	50	50	50	50				
d) Goat													
e) Hog or Pig	19.6 - 20.2	21.0	20.7 - 22.8	23.6	105 - 110	EST.	.3	.3	.4				
f) Others EQUINE					4.9 - 5.0 - 3.0								
TOTAL					3473 - 4110	3700 - 4300							
Import a)					3770								
b)													
c)													
d)													
e)													
f)													
Export a)													
b)													
c)													
d)													
e)													
f)													

Notes: (e) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(***) If available, please give data of more years than above.

(****) Hide weight should be given in greenweight. If other weight, please indicate.

Handwritten notes:
 a) 1970-75
 b) 1975-80
 c) 1980-85
 d) 1985-90
 e) 1990-95
 f) 2000-05

ITALY

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY ITALY

	MILLIONS		000		000		000 MT				
	live animals (Head)	animals slaughtered (Head)	offtake rate (%)	meat production (t)	meat consumption (t)	hides (kg)***	skins (pc)	average size (m)			
	1970	1975	1970	1975	1970	1975	1970	1975			
a) Bovine cattle	9	8	1.4 - 1.5	1.3	34.4 - 38.7	37.3	936	935	1000	39 - 40 - 39	3.6 - 3.7
b) Bovine cattle			1.7 - 1.6	1.7						7.7 - 7.3 - 7.7	.8 - .9 - .9
c) Sheep	8.0 - 8.9	9.3	5.6 - 5.9	6.0	70.0 - 66.3	65.4	48.4	55.0		5.6 - 5.9 - 5.0	.6 - .6 - .6
d) Goat	1.0	1.0	.6	.6	60	60	60	60		.6	.6
e) Hog or Pig							548	795			
f) Others							734				
HORSE							43	49	45		
TOTAL							1577	1900	1766		
Import a)											
b)											
c)											
d)											
e)											
f)											
Export a)											
b)											
c)											
d)											
e)											
f)											

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1965 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

Handwritten notes:
 1) ...
 2) ...
 3) ...

MESIC TABLE (1) - RAW MATERIAL AVAILABILITY SPAIN

	MILLIONS		000		000		000 MT		average size							
	1970	1975	1970	1975	1970	1975	1970	1975	1970	1975						
a) Bovine cattle	4	4	5	1.1	1.3	1.6	37	45	40	18.7-23.6	2.6	-	3.4			
b) Poultry			.2		.5						.2		.5			
c) Sheep	18.5-16.3		15.0		11.4		6.2		6.9		7.3		13.4		14.8	
d) Goats	2.6-2.4		2.1		1.0		3.8		4.2		4.8		11.4		1.0	
e) Hog or Pig	6.5		8.6		9.0		5.1		6.3		7.0		7.8		7.6	
f) Others															N.A.	
TOTAL							15		10		8		865		1400	
Import a)															1240	
b)															242-604-83.0	
c)															6.8-5.4-9.0	
d)															5.7-3.8-4.3	
e)																
f)																
Import a)																
b)																
c)																
d)																
e)																
f)																

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in greenweight. If other weight, please indicate.

Handwritten notes:
 1) ...
 2) ...
 3) ...
 4) ...
 5) ...

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY UNITED KINGDOM

MILLIONS		000		000		000 MT	
live animals (Head)	animals slaughtered (Head)	offtake rate (\$)	meat production (t)	meat consumption (t)	skins (pc)	and average size (m)	1970 1975 1985 1970 1975 1985 1970 1975 1985
a) Bovine cattle	12 15 14	32 4.8-4.8	29 35 37	919-1215-1000	842-1219-121	4.0	
b) Poultry		2-.5 .4				1.1	
c) Sheep	19.2-19.5-19.4	11.7-13.1-13.0	60.9-67.1-62.0	234-250-260	11.7-13.1-13.0	.7	
d) Goat							
e) Hog or Pig	8.2-7.8-9.0	9.4-8.6-9.7		917-845			
f) Others							
TOTAL			2072-2200	2320	4800		
Import a)							40-33-25
b)							1.8-1.2-1.0
c)							30.7-25.7-23.1
d)							1.3-.7-.4
e)							
f)							
Export a)							22.4-69.3-70.0
b)							1.2-2.3-3.0
c)							7.3-10.9-7.8
d)							1.1-1-.1
e)							
f)							

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation come in the text.

(**) If available, please give data of more years than above.

(***) Sides weight should be given in Greenweight. If other weight, please indicate.

Handwritten notes:
 The above figures are based on the data provided in the table. The figures for 1985 are based on the consultant's evaluation. The figures for 1970 and 1975 are based on the actual data. The figures for 1985 are based on the consultant's evaluation. The figures for 1970 and 1975 are based on the actual data.

U.S.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY UNITED STATES

	MILLIONS		000		000		000		000 MT		and average size		
	live animals (Head)	animals slaughtered (Head)	offtake rate (\$)	meat production (t)	meat consumption (t)	hides (kg)	skins (pc)	1970	1975	1985	1970	1975	1985
a) Bovine cattle	113-132-130	362-418-44.0	36 36 34	9900-12000	← SAME	816	929	1000					3.9
b) Bovine CALF	4.2-5.4-3.1												1.9-2.4-1.4
c) Sheep	20.3-14.5-9.0	12.6-8.5-6.1	62 61 67	263-140	268-145								1
d) Goat	2.5-1.1-1.0	.6-.3-.2	40 35 20	186	190								12.5-8.5-6.1
e) Hog or Pig				6062-5218	6057-5995								.6-.3-.2
f) Others				5214	5214								.4-2.0-2.0
TOTAL				16925-18000	16901-18000								
Export a)				16675	16700								
b)													9.5-24.5-25.0
c)													2.0-1.2-.5
d)													19.7-17.3-14.0
e)													1.3-1.8-.2
f)													
Export a)													421-500
b)													588
c)													5.6-10.3-5.0
d)													1.0-1.1-1.0
e)													.3-.3-.1
f)													

Notes: (a) Time period may differ 1-2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant evaluation comes in the text.
 (b) If available, please give data of more years than above.
 (c) Exact weight should be given or Greenweight. If other weight, please indicate.

JAPAN

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

JAPAN

	MILLIONS						1000 T							
	live animals (Head)	animals slaughtered (Head)	offtake rate (%)	meat production (t)	meat consumption (t)	hides (kg) ^(a)	skins (pc)	1970	1975	1985	1970	1975	1985	
a) Bovine cattle	3	4	1.2	1.4	2.7	30	35	211	340	330	21.8	261	304	4.1
b) Buffalo CATTLE			.1	.2							.4	.8	.8	.6
c) Sheep								1.2	.4	.2				
d) Goat	.2	.1	.6	.3	.2			596	1200	909				
e) Pig or Hog	6.2	7.4	8.0	5.1	6.0	6.9								
f) Others								11.5	5.5	6.3				
TOTAL								821	1400	1120	2600	2388		
Export a)														
b)														
c)														
d)														
e)														
f)														
Import a)														
b)														
c)														
d)														
e)														
f)														

Notes: (a) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(aa) If available, please give data of more years than above.

(aaa) Hides weight should be given in greenweight. If other weight, please indicate.

Handwritten notes:
 2/2-246-200
 6.3-9.0-7.0
 1.8-2.7-2.0

AUSTRALIA

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY AUSTRALIA

	MILLIONS		000		000		000 MT		000 MT		
	live animals (Head)	animals slaughtered (Head)	offtake rate (\$)	meat production (t)	meat consumption (t)	hides (kg)	skins (pc)	average size (m ²)	1970	1975	1985
a) Bovine cattle	2.4	33	2.9	2.8	2.7	9.4	120	122	3.5		
b) Buffalo CATTLE											
c) Sheep	173-152	140	31	30	28	18	20	20	172	174	172
d) Goat											
e) Hog or Pig											
f) Others											
TOTAL				1882	2500	1180	2000	1860			
Import a)											
b)											
c)											
d)											
e)											
f)											
Export a)											
b)											
c)											
d)											
e)											
f)											

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) If available, please give data of more years than above.

(***) Hides weight should be given in Greenweight. If other weight, please indicate.

Handwritten notes:

①

... ..

NEW ZEALAND

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

NEW ZEALAND

MILLIONS

	live animals (Head)			animals slaughtered (Head)			offtake rate (\$)			meat production 000 (t)			meat consumption hides (kg) and skins (pc)			average size (m)		
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
a) Bovine cattle	8	9	9	2.0	-	2.1-2.3	365	506	580	146	162	170	36	38	41	3.5		
b) Buffalo-CALF				1.0	-	1.4-1.5												
c) Sheep	60	55	54	33.5	-	31.6-34.0	550	600	600	120	130	135	67	63	68	.6		
d) Goat																		
e) Egg or Pig				.3	.3	.4	37	33	34									
f) Others																		
TOTAL							953	1200	1048	303	339	325						
Import a)																		
b)																		
c)																		
d)																		
e)																		
f)																		
Export a)																		
b)																		
c)																		
d)																		
e)																		
f)																		

Notes: (e) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(***) If available, please give data of more years than above.

(****) Hides weight should be given in greenweight. If other weight, please indicate.

Some comments on consultants' findings

253. According to the analysis of the data correlated so far, the trends indicated by FAO are generally in accord with those of the eminent consultants. For Africa, Asia and Latin America comprehensive data breakdown by individual countries was not made available to the consultants, which makes comparison between FAO's and the consultants' data difficult. Table 2 therefore shows FAO global figures for raw material availability.

OECD region

254. In the case of the OECD region, it is assumed that the source of information is the same (i.e. OECD Secretariat), except that the consultant also had access to the private sector in the main producer countries of the region. However, there are some important deviations between the two sets of data which are identified below:

(a) The consultants' data on production, imports and exports are generally lower than the FAO.

(b) The apparent consumption figures also show serious deviation, i.e. FAO shows the OECD region as a whole will become a net exporter of raw materials in the short-term, whereas the consultant's data show the inverse trend. The consultant indicates for 1975-85 decreasing export of hides and skins from the region (mainly in the case of the United States, Australia and New Zealand) which implies that the OECD region will not become a net exporter of raw materials (see Tables 1.1, 1.2 and 1.3)

Proposals for future action

255. Our preliminary evaluation of the consultants' reports indicates that in order to maximize the contribution of the consultants output, we have to spend more time in briefing and debriefing specially when dealing with statistical evaluations and interpretation of available country data.

256. The eminent consultants have reinforced the view that the problems of the hides and skins economy cannot realistically be tackled on the basis of short-term field missions. They have suggested that a study mission must count on spending at least 6 weeks in each producer country to obtain basic information and to analyze the data.

257. Moreover, since comparable country-specific data are more an exception rather than the rule, a major international effort would need to be mounted to develop standardized reporting format for each producer country.

258. However, they agree that in the meantime it is possible to work with the data available in spite of its inadequacies and to improve the present system of reporting on world-wide production and utilization figures.

CATTLE HIDES AND CALFSKINS

C O U N T R Y	I M P O R T S (Unit: 000tons)			E X P O R T S (Unit: 000tons)														
	1970	1975	1985 ^{1/}	1970	1975	1985 ^{1/}												
	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT	FAO CONSULTANT FAO CONSULTANT FAO CONSULTANT												
Belgium-Lux.	25.2	24.1	27.9	27.0	26.0	26.0	25.2	24.1	27.9	27.0	26.0	25.2	24.1	27.9	27.0	26.0		
Denmark	15.6	31.2	14.4	21.9	21.0	21.0	15.6	31.2	14.4	21.9	21.0	15.6	31.2	14.4	21.9	21.0	21.0	
France	131.5	138.7	151.2	145.5	143.0	143.0	131.5	138.7	151.2	145.5	143.0	131.5	138.7	151.2	145.5	143.0	143.0	
German Fed. Rep.	129.8	135.2	138.7	139.8	137.0	137.0	129.8	135.2	138.7	139.8	137.0	129.8	135.2	138.7	139.8	137.0	137.0	
Ireland	25.3	29.3	54.3	43.9	49.0	49.0	25.3	29.3	54.3	43.9	49.0	25.3	29.3	54.3	43.9	49.0	49.0	
Italy	39.9	51.5	114.9	62.5	63.0	63.0	39.9	51.5	114.9	62.5	63.0	39.9	51.5	114.9	62.5	63.0	63.0	
Netherlands	36.7	39.2	41.7	41.8	40.0	40.0	36.7	39.2	41.7	41.8	40.0	36.7	39.2	41.7	41.8	40.0	40.0	
United Kingdom	95.0	101.6	125.5	129.6	127.0	127.0	95.0	101.6	125.5	129.6	127.0	95.0	101.6	125.5	129.6	127.0	127.0	
EEC Total	559.3	541.0	655.5	612.0	606.0	606.0	559.3	541.0	655.5	612.0	606.0	559.3	541.0	655.5	612.0	606.0	606.0	
Austria	21.5	16.3	21.7	19.5	19.0	19.0	21.5	16.3	21.7	19.5	19.0	21.5	16.3	21.7	19.5	19.0	19.0	
Finland	14.8	16.1	12.5	16.3	15.1	15.1	14.8	16.1	12.5	16.3	15.1	14.8	16.1	12.5	16.3	15.1	15.1	
Greece	11.0	9.7	11.0	9.7	12.0	12.0	11.0	9.7	11.0	9.7	12.0	11.0	9.7	11.0	9.7	12.0	12.0	
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Norway	5.5	5.6	6.8	4.9	4.9	4.9	5.5	5.6	6.8	4.9	4.9	5.5	5.6	6.8	4.9	4.9	4.9	
Portugal	10.5	9.9	10.4	9.2	7.0	7.0	10.5	9.9	10.4	9.2	7.0	10.5	9.9	10.4	9.2	7.0	7.0	
Spain	40.0	32.6	44.4	33.8	35.0	35.0	40.0	32.6	44.4	33.8	35.0	40.0	32.6	44.4	33.8	35.0	35.0	
Sweden	16.0	17.2	13.2	14.6	12.0	12.0	16.0	17.2	13.2	14.6	12.0	16.0	17.2	13.2	14.6	12.0	12.0	
Switzerland	26.1	12.7	18.3	16.4	13.0	13.0	26.1	12.7	18.3	16.4	13.0	26.1	12.7	18.3	16.4	13.0	13.0	
Turkey	46.2	50.4	41.4	53.9	44.0	44.0	46.2	50.4	41.4	53.9	44.0	46.2	50.4	41.4	53.9	44.0	44.0	
CEED Europe incl. Turkey	736.9	720.0	860.2	790.0	1,079.8	788.0	736.9	720.0	860.2	790.0	1,079.8	788.0	720.0	860.2	790.0	1,079.8	788.0	788.0
Australia	105.5	96.0	166.0	142.0	144.0	144.0	105.5	96.0	166.0	142.0	144.0	105.5	96.0	166.0	142.0	144.0	144.0	
Canada	86.9	72.0	83.4	96.0	92.0	92.0	86.9	72.0	83.4	96.0	92.0	86.9	72.0	83.4	96.0	92.0	92.0	
New Zealand	37.6	36.0	50.5	38.0	40.0	40.0	37.6	36.0	50.5	38.0	40.0	37.6	36.0	50.5	38.0	40.0	40.0	
Japan	21.4	22.0	25.0	24.0	35.0	35.0	21.4	22.0	25.0	24.0	35.0	21.4	22.0	25.0	24.0	35.0	35.0	
USA	252.2	255.0	1105.9	470.0	1,051.0	1,051.0	252.2	255.0	1105.9	470.0	1,051.0	252.2	255.0	1105.9	470.0	1,051.0	1,051.0	
CEED Total	1,831.0	1,861.0	2,427.6	2,110.0	3,025.7	2,155.0	1,831.0	1,861.0	2,427.6	2,110.0	3,025.7	2,155.0	1,861.0	2,427.6	2,110.0	3,025.7	2,155.0	2,155.0

^{1/} Unit: Projections based on FAO data.

Notes to Table 1.1

Production:

All OECD countries (except Iceland) are covered by both FAO and the consultant. Substantial deviations, i.e. deviations of more than 25% can be observed in the following cases:

For Denmark the consultant's figure is by 34% higher for the year 1970 and by 52% higher for the year 1975.

For Austria the consultant's figure is by 42% higher for the year 1975. For Turkey the consultant indicates by 25% more for the year 1970 and by 30% more for the year 1975. As concerns the projection for the total OECD area for the year 1985 the consultant's estimate is by approx. 30% lower than FAO's estimate. For the EEC area the consultant forecasts 27% less than FAO and for the European OECD countries including Turkey the consultant's 1985 figure is also by 27% lower than FAO's estimate.

Imports:

All OECD countries (except Iceland) are covered by both FAO and the Consultant. In all countries, except in Finland, Norway and Switzerland, the consultant's figures are slightly lower for the year 1970. In Finland, Norway and Switzerland they are slightly higher, but no major differences can be observed in the 1970 figures.

For 1975, the consultant's figures concur in most cases with the FAO figures. Major differences occur in the cases of Netherlands and Spain, where the consultant's figures are considerably lower. (Netherlands: FAO: 57,900t, Consultant: 36,000 tons; Spain: FAO: 83,500t, Consultant: 65,800 tons). Substantial differences.

For the year 1985 the consultant predicts a figure for the EEC and OECD Europe including Turkey which is by 27% lower than the FAO figure for the year 1985. For the total OECD area the consultant's estimate is by approx. 35% lower than the FAO estimate.

Exports:

All OECD countries (except Iceland) are covered by both FAO and the consultant. For 1970 the consultant's figures are slightly lower than the OECD's figures except in the following cases, where they are higher: Belgium-Luxembourg, Australia, Canada, New Zealand and USA.

For 1975, the consultant's figures concur in most cases with the FAO figures. In the other cases only slight differences can be noticed, with the exception of Australia and USA. In the case of Australia the consultant indicates 153,000t as compared to 119,000tons given by FAO and in the case of USA the consultant's figure is by 42,000tons higher than the FAO figure, thus amounting to 598,900 tons.

As concerns the year 1985 the consultant's estimate for the EEC countries amounts only to approx. one half of FAO's estimate and is by approx. 45% lower than FAO's estimate for the European OECD countries including Turkey. For the OECD area as a total the consultant forecasts by approx. 52% less than FAO.

Table 1.2

SHEEPSKINS AND LAMBSKINS

O. E. C. D. Countries	PRODUCTION (Unit: 000tons)			IMPORTS (Unit: 000tons)			EXPORTS (Unit: 000tons)									
	1970	1975	1982/	1970	1975	1982/	1970	1975	1982/							
	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT	FAO CONSULTANT PAO CONSULTANT							
Belgium-Lux.	0.3	0.2		9.3	0.0	7.8	0.0	0.0	2.5	0.0	3.2	0.0	0.0			
Denmark	0.1	0.0		1.9	0.0	0.5	0.0	0.0	0.3	0.0	0.3	0.0	0.0			
France	5.4	7.0	6.4	7.3	7.7	50.0	83.4	42.7	77.8	56.0	3.9	5.5	5.6	4.9		
Germany, Fed. Rep.	0.4	0.4*	0.7	0.5	0.5*	12.7	11.1	9.3	9.3	6.0	1.0	1.6	2.3	1.4	1.5	
Ireland	2.1	2.5		0.3	0.0	1.1	0.0	0.0	0.0	0.0	1.2	2.2	3.4	3.4	3.0	
Italy	5.4	5.6	5.0	5.9	5.0	40.0	38.2	36.3	36.3	33.0	1.0	1.9	1.7	1.7	1.2	
Netherlands	0.4	0.7		6.8	4.2	4.0	3.8	2.8	2.8	2.8	1.1	4.0	2.0	4.2	4.4	
United Kingdom	13.8	11.7	15.8	13.1	13.0	26.8	30.7	23.3	25.7	23.1	7.4	9.3	10.8	10.9	7.8	
EEC Total	28.0	26.1	31.4	28.6	34.7	147.7	167.6	125.1	152.9	123.8	18.5	24.5	29.2	27.2	52.3	22.5
Austria	0.0	0.0		2.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Finland	0.0	0.0		2.6	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greece	6.4	7.0		0.2	0.1	0.2	0.2	3.0	3.0	3.0	3.9	4.6	2.8	4.8	1.0	1.0
Iceland	0.8	1.0		—	—	—	—	—	—	—	—	—	—	—	—	—
Norway	0.9	0.8		0.4	0.0	0.2	0.2	0.3	0.3	0.3	0.8	0.0	2.1	0.0	0.0	0.0
Portugal	1.8	1.9		0.8	0.9	0.5	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Spain	8.1	8.0	11.4	8.5	17.0	11.0	11.4	9.3	9.3	9.3	0.4	0.1	0.1	0.1	0.1	0.1
Sweden	0.1	0.2		3.5	0.3	2.5	0.1	0.0	0.0	0.0	0.5	0.1	0.8	0.2	0.0	0.0
Switzerland	0.1	0.2		0.5	1.6	0.2	1.6	0.5	0.5	0.5	0.2	0.0	0.3	0.0	0.0	0.0
Turkey	10.1	9.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.1	0.0	0.0	0.0
OECD Europe incl. Turkey	56.3	50.8	59.8	56.1	65.3	166.3	187.7	142.0	167.0	146.3	26.8	29.4	35.6	32.4	23.5	23.5
Australia	42.2	94.0	28.7	67.0	75.0	0.0	0.0	0.3	0.0	0.0	39.3	92.9	21.8	62.9	74.9	74.9
Canada	0.3	0.0	0.3	0.0	0.0	1.0	0.0	1.2	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0
New Zealand	50.8	67.0	45.7	63.0	68.0	0.0	0.0	1.0	0.0	0.0	41.2	41.1	42.0	33.4	40.0	40.0
Japan	0.0	0.0	0.0	0.0	0.0	2.6	1.8	1.8	2.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0
USA	9.7	12.5	7.3	8.5	6.1	20.3	19.7	16.2	17.3	14.0	3.4	9.8	4.1	10.3	6.0	6.0
OECD Total	159.3	224.3	141.8	194.6	144.6	190.6	209.2	162.5	187.0	162.0	111.0	173.2	103.8	139.0	113.5	142.4

Notes to Table 1.2

The comparison between FAO's and the consultant's estimates is made here only for the OECD as a total.

Production:

The consultant's figures are by approx. 40% higher than FAO's data for all the three years, 1970, 1975 and 1985.

Imports:

The consultant indicates an approx. 10% higher estimate for the year 1970 and an approx. 15% higher estimate for 1975 while his forecast for 1985 reaches only 92% of FAO's forecast.

Exports:

For 1970 the consultant reports an approx. 5% higher figure than FAO, for 1975 the consultant's figure is by approx. 40% higher, and the consultant's forecast for 1985 is approx. 27% higher than FAO's forecast.

Table 1.3

GOATSKINS AND KIDSKINS

O. E. C. D. Countries	P R O D U C T I O N (Unit: 000tons)			I M P O R T S (Unit: 000tons)			E X P O R T S (Unit: 000tons)		
	1970	1975	1985 ^{1/}	1970	1975	1985 ^{1/}	1970	1975	1985 ^{1/}
	FAO CONSULTANT 0.0	FAO CONSULTANT 0.0	FAO CONSULTANT 0.0	FAO CONSULTANT 0.2	FAO CONSULTANT 0.0	FAO CONSULTANT 0.0	FAO CONSULTANT 0.0	FAO CONSULTANT 0.3	FAO CONSULTANT 0.3
Belgium-Lux.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.3
Denmark	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
France	0.3	0.5	0.5	1.4	2.4	1.1	0.3	0.7	0.6
Germany, Fed. Rep.	0.0	*	*	2.5	1.9	0.8	0.1	0.0	0.0
Ireland	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Italy	0.3	0.6	0.6	12.6	13.0	12.7	0.1	0.0	0.0
Netherlands	0.0	0.0		0.1	2.1	0.1	0.1	0.3	0.2
United Kingdom	0.0	0.0		0.9	1.3	0.7	0.1	0.1	0.1
EEC Total	0.6	1.3	1.3	17.9	20.7	15.3	6.8	1.4	1.2
Austria	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Finland	—	—		0.0	0.0	0.0	0.0	0.0	0.0
Greece	1.8	2.1		1.0	0.6	1.8	0.6	0.3	2.1
Iceland	—	—		—	—	—	—	—	—
Norway	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Portugal	0.2	0.2		0.1	0.0	0.2	0.0	0.0	0.1
Spain	1.0	n.a.	n.a.	1.7	2.9	4.0	0.1	0.0	0.0
Sweden	0.0	0.0		1.2	0.5	0.4	0.0	0.0	0.0
Switzerland	0.0	0.0		0.2	0.3	0.2	0.0	0.0	0.0
Turkey	3.5	3.3		0.0	0.0	0.0	1.7	2.0	1.1
OECD Europe Incl. Turkey	7.2	11.9	10.2	22.1	25.0	24.3	3.2	3.7	4.5
Australia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Japan	0.1	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0
USA	1.3	0.6	0.2	1.8	1.3	0.8	0.8	0.3	1.6
OECD Total	8.6	12.5	10.4	24.4	26.3	25.4	4.0	4.0	6.3
				19.7	22.1	19.5	3.7	4.5	3.4
				19.7	22.1	19.5	3.2	3.7	4.5
				19.7	22.1	19.5	3.2	3.7	4.5

^{1/} included in sheepskin production. ^{2/} 1985 projections made by UNIDO based on FAO data.

Table 2

CATTLEHIDES AND CALFSKINS (incl. buffaloes) (wet salted weight)

	1961				1970				1975									
	Production		Imports		Exports		Production		Imports		Exports							
	000t	%	000t	%	000t	%	000t	%	000t	%	000t	%						
Developing countries	1,488.4	43	53.5	6	292.4	36	1,875.4	43	121.8	9	294.8	25	1,973.6	40	243.4	17	103.7	7
Developed countries	1,943.8	57	860.7	94	527.8	64	2,533.1	57	1,161.2	91	898.0	75	3,014.0	60	1,173.0	83	1,317.6	93
World	3,432.2	100	914.2	100	820.2	100	4,408.5	100	1,283.0	100	1,192.8	100	4,987.6	100	1,416.4	100	1,421.3	100

SHEEPSKINS AND LAMESKINS (dry weight)

	1961				1970				1975									
	Production		Imports		Exports		Production		Imports		Exports							
	000t	%	000t	%	000t	%	000t	%	000t	%	000t	%						
Developing countries	89.8	31	2.7	2	40.4	29	111.0	34	1.3	1	40.7	25	113.1	36	2.6	1	34.5	23
Developed countries	200.8	69	166.5	98	97.8	71	218.3	66	203.9	99	119.0	75	197.9	64	171.2	99	118.8	77
World	290.6	100	169.2	100	138.2	100	329.3	100	205.1	100	159.7	100	311.0	100	173.8	100	153.3	100

GOATSKINS AND KIDSKINS (dry weight)

	1961				1970				1975									
	Production		Imports		Exports		Production		Imports		Exports							
	000t	%	000t	%	000t	%	000t	%	000t	%	000t	%						
Developing countries	88.5	87	1.1	3	36.2	91	102.2	90	0.6	2	36.9	90	113.1	92	1.0	3	26.7	72
Developed countries	12.7	13	42.9	97	3.7	9	11.1	10	30.1	98	4.3	10	10.5	8	29.6	97	7.0	21
World	101.2	100	43.9	100	39.9	100	113.3	100	30.7	100	41.2	100	123.6	100	30.6	100	33.8	100

Source: FAO Committee on Commodity Problems, Commodity Intelligence and Statistics for Raw Hides and Skins and Derived Processed Products. Part II, August 1978.

20 July 1978

TERMS OF REFERENCE

FOR A PROJECT REPORT ON THE COLLECTION AND EVALUATION, BY
A GROUP OF CONSULTANTS^{1/}, OF WORLD-WIDE BASIC INFORMATION
OR DATA ON PRESENT AND FUTURE INDUSTRIAL DEVELOPMENT IN
LEATHER AND LEATHER PRODUCTS INDUSTRY^{2/}

I. Introduction

The Draft World-wide Study on Leather and Leather Products Industry 1975 - 2000 (UNIDO/ICIS.45, 16 September 1977) was prepared for the First Consultation Meeting in Innsbruck, Austria, 7-11 November 1977, which recommended that further information was required, in particular on raw hides and skins availability and leather products. The preparation of the Second Report is now under way in close co-operation with FAO, UNCTAD, ITC, ILO and the UN Regional Economic Commissions.

II. Purpose of the Project

2. The purpose of this project is to collect and evaluate world-wide information by country and by region on leather and leather products industry including --

- (a) the availability and growth trends in supply of raw hides and skins;
- (b) the factors affecting the quality of raw hides and skins;
- (c) the existing and potential capacities in leather and leather products manufacture;
- (d) the main factors influencing development of the sector (e.g. markets, manpower resources, government policy, finance, chemicals, etc.);
- (e) the future development of the leather and leather products industry within the region.

^{1/} Hereinafter referred to as "the consultants".

^{2/} i.e. leather footwear, leather goods, leather garments and other leather products.

III. Responsibilities and Duties of the Consultants

Statement of Work

3. In the collection and evaluation of current world-wide information on leather and leather products industry the consultants are required to develop a unified approach for collecting the above detailed information in collaboration with UN Regional Economic Commissions, OECD and the Centrally Planned Economies, in order to ensure their comparability and use.

4. The consultants are required to undertake the work specified in each and everyone of the components of the terms of reference, numbers IV to VI listed below. These components are not necessarily exhaustive and the consultants are required to make additional assessments and to collect any other information necessary for the purpose of this project, as stated above.

IV. Regional Evaluation Summary.

5. The consultants are required to prepare an "Evaluation Summary" by region in which they should briefly explain the most essential evaluation results of the study to give the Sectoral Studies Section, in a very condensed way, an assessment of the information gathered and its inherent value. It should contain a synoptical review of all essential findings, as indicated in paragraph 2 above, of the terms of reference.

V. Raw Material Availability

6. In the collection and evaluation of raw material availability, the consultants are required to develop an international matrix for assessing the world-wide information gathered in order to ensure comparability and practical utilization of such data flows by the Sectoral Studies Section. In this connection, the consultants are required in each of the major producer country in the region to:

- (a) obtain statistical information on current and projected medium term (1985) heads of animals slaughtered for meat production by source and assess this data against current availability of raw hides and skins in the domestic market; obtain medium (1985) to long-term (2000) statistical projections on supply of raw hides and skins;

- (b) assess the quantity, quality, grades and species or types of raw hides and skins available and the type of linkage established between the meat industry and the leather industry;
- (c) assess the quantity, quality, grades and species or types of raw hides and skins currently exported; state any export tax or subsidy levied; and draw attention to any constraints on the export of raw hides and skins;
- (d) analyze the local demand for raw hides and skins; identify the stage(s) of processing; and the grades and types of raw material utilized;
- (e) obtain information on the transportation of raw hides and skins and draw attention to the technical problems associated with handling and transportation of it;
- (f) obtain information about any plans to increase the availability and quality of raw hides and skins.

VI. Leather and Leather Products

7. The consultants are required, for each major producer country to -
- (a) analyze the local consumption pattern of leather and leather products during the last five years; and identify for each product the quantity, as well as the value of the imports by country of origin;
 - (b) forecast for a period of five to ten years, starting from January 1979, the demand for different types of leather and leather products in terms of quality and quantity and indicate changes or trends in consumption pattern for the next five to ten years;
 - (c) forecast to what extent the above demands may be covered by local production; identify any special characteristics of the local market in this regard;
 - (d) identify any restrictions (e.g. foreign exchange controls, taxes, duties, etc.) imposed on the import or export of leather and leather products;
 - (e) obtain data on current production capacity for each of the product groups; assess current rate of capacity utilization; as well as estimates of any planned expansion of production capacity by product groups up to 1985; and identify main manufacturers for each group of products;

- (f) identify and analyze the type of leather and leather products exported by quantity and country of destination during the past five years.

VII. Schedule of Work

8. The consultants will proceed for a total period of 2 m/ra to prepare the individual regional reports according to the briefing in Vienna on 17 - 18 July 1978 and submit their final reports by 31 October 1978.

BASIC TABLE (1) - RAW MATERIAL AVAILABILITY

(per annum)

	live animals (Head)			animals slaughtered (Head)			offtake rate (%)			meat production (t)			meat consumption (t)			hides (Kg) and skins (pc)			average size (cm)		
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
a) Bovine cattle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b) Buffalo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c) Sheep	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d) Goat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
e) Hog or Pig	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
f) Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL																					
Import a)																					
b)																					
c)																					
d)																					
e)																					
f)																					
Export a)																					
b)																					
c)																					
d)																					
e)																					
f)																					

Notes: (a) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(b) If available, please give data of more years than above.

(c) Hides weight should be given in greenweight. If other weight, please indicate.

	Finished**						Semi-processed					
	Light Leather *** 1,000 m ²		Heavy Leather**** metric tons		Wet-blue 1,000 pieces		Crust***** 1,000 pieces or kg.					
	1970	1975	1985	1970	1975	1985	1970	1975	1985	1970	1975	1985
*												
a) Bovine hide												
b) Buffalo hide												
c) Sheep skin												
d) Goat skin												
e) Hog or pig												
f) others												
TOTAL												
Import a)												
b)												
c)												
d)												
e)												
f)												
Export a)												
b)												
c)												
d)												
e)												
f)												

Notes: (*) Time period may differ 1-2 years, but actual data taken to be identified in table. 1985 - if the country has medium-term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultant's evaluation can be in the text.

(**) Suitable in the fabrication of shoes, garments, leather goods and all other leather products.
 (***) For production of shoe uppers, linings, garments, handbags, small leather goods, upholstery, etc.
 (****) For sales, industrial leather, saddlery leather, etc.
 (*****) Production of leather goods such as handbags, etc. (these are to be reported in p-

BASIC TABLE (3) - Leather products

(Less than 1 pair per capita)

	Leather shoes** (pairs)		Leather shoe uppers (pairs)		Leather garments (pieces)		Leather goods (pieces)	
	1970	1975	1970	1975	1970	1975	1970	1975
*								
a) Bovine hide								
b) Buffalo hide								
c) Sheep skin								
d) Goat skin								
e) HCS or pig								
f) Others								
TOTAL		70						
Import a)								
b)								
c)								
d)								
e)								
f)								
Export a)								
b)								
c)								
d)								
e)								
f)								

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has more than 1 term plans. If not give opinion of the consultant. If the country has plans, the opinion of the consultants evaluation comes in the text.

(**) Main part of upper material of genuine leather.

BASIC TABLE (4) - Capacity-Manpower

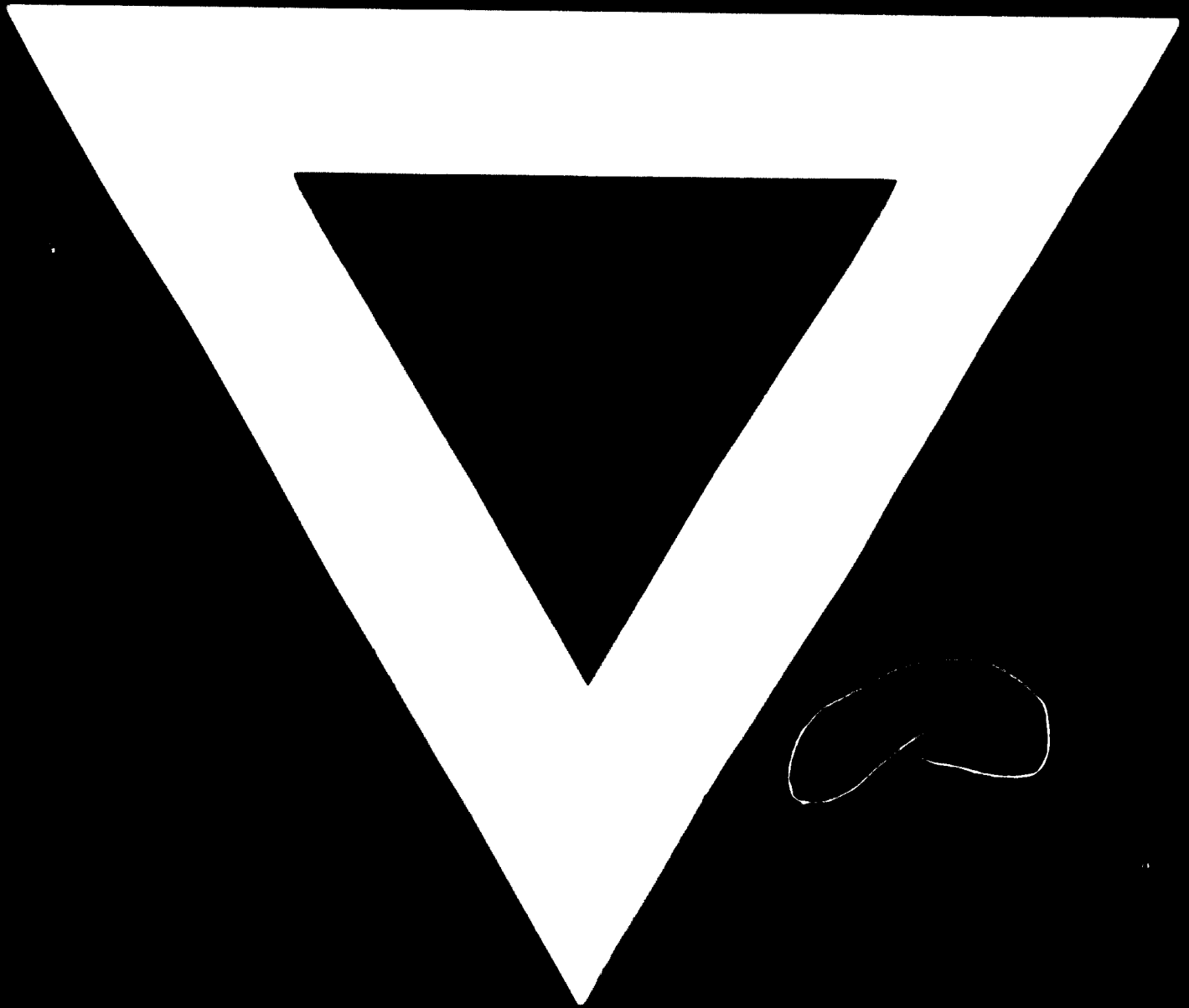
	Number of establishments**			Manpower			Estimated capacity (years)			Production (pieces)		
	1965	1975	1985	1965	1975	1985	1965	1975	1985	1965	1975	1985
*												
Tanneries												
Shoe factories												
Factories producing all other leather products												

Notes: (*) Time period may differ 1 - 2 years, but actual data taken to be identified in table. 1985 - if the country has medium term plans. If not, give opinion of the consultant. If the country has plans, the opinion of the consultant's evaluation comes in the text.

(**) Non-operating factories to be reported in the text.

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

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