

UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL



51645

Distr.
LIMITED

E/CN.14/INR/140
29 July 1966

Original : ENGLISH



ECONOMIC COMMISSION FOR AFRICA
Sub-regional Meeting on Economic
Co-operation in West Africa
Niamey, 10 - 22 October 1966

REPORT ON PREFEASIBILITY STUDY OF AN EXPANDED
LEATHER AND SHOE INDUSTRY IN
WEST AFRICA TO 1980

066-406

ACKNOWLEDGMENT

This study was prepared by Mr. Konrad Biedermann of the Batelle Memorial Institute (Columbus, Ohio, USA) and provided to the Economic Commission for Africa secretariat by the United States Agency for International Development under the bilateral technical assistance programme.

The views expressed in the report are not necessarily those of the Commission secretariat.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
Objectives and Scope of the Study	1
Methodology and Limitations	2
Acknowledgments	3
SUMMARY	4
West African Markets for Leather and Shoes	4
Current Production Capabilities	5
Feasible Expansion of Leather and Shoe Production to 1980	6
Potential Importance to Economic Development of West Africa.	6
PRESENT MARKETS FOR LEATHER AND SHOES	8
Imports	8
Footwear	8
Hides, Leather, Etc.	14
Production	14
Footwear	14
Leather	17
Exports	18
Footwear	18
Hides and Skins	18
Apparent Consumption of Footwear	20
Average Import-Export Prices, Customs Duties, and Tariffs	22
PROJECTED MARKETS FOR LEATHER AND SHOES, 1975 AND 1980	24
CURRENT DOMESTIC PRODUCTION	26
Plastic Footwear	26
Leather Shoes, Sandals, Rubber, and Textile Footwear	29
Tanning	31
FEASIBLE EXPANSION OF FOOTWEAR PRODUCTION TO 1980	34
Required Investment and Employment	35
Location of Feasible Expansion in Capacity	35
Raw Materials and Intermediate Products Required	38
Transportation and Marketing Systems	38
FEASIBLE EXPANSION OF LEATHER PRODUCTION TO 1980.	41
Availability of Hides and Skins	41
Required Investment and Employment	44
Location of Feasible Expansion in Capacity	45
Raw Materials and Intermediate Products Required	47

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Transportation and Marketing Systems	47
POTENTIAL IMPORTANCE TO ECONOMIC DEVELOPMENT OF WEST AFRICA.	49
Footwear	49
Tanning	49
BIBLIOGRAPHY	50

LIST OF TABLES

Table 1. Feasible Expansion of Footwear and Leather Production to 1980. . .	7
Table 2. Nigeria Footwear Imports, 1960 to 1965.	9
Table 3. Dahomey and Togo Footwear Imports, 1960 to 1964	10
Table 4. Ghana Footwear Imports, 1961 to 1964	10
Table 5. Ivory Coast Shoe Imports, 1960 to 1965	11
Table 6. Liberia Footwear Imports, 1960 to 1964.	12
Table 7. Sierra Leone, Guinea, Gambia, and Senegal Footwear Imports . . .	13
Table 8. Niger, Upper Volta, Mali, and Mauritania Footwear Imports. . . .	13
Table 9. Overall Trend in Shoe Imports of 14 West African Countries, 1960 to 1965	15
Table 10. Declining Trend in Shoe Imports of Selected Countries With Growing Local Production of Footwear, 1960-1965	15
Table 11. Imports of Hides and Leather of Selected Countries in West Africa, 1963 and 1964	16
Table 12. Imports of Manufactured Leather Goods Other Than Footwear of Selected Countries in West Africa, 1963 and 1964	16
Table 13. Estimated Domestic Production of Footwear in 14 West African Countries, 1960 to 1965	17
Table 14. Exports of Footwear From Senegal, 1961 to 1965.	18
Table 15. Exports of Hides and Skins From Nigeria, 1960 to 1965	19

LIST OF TABLES
(Continued)

	<u>Page</u>
Table 16. Hide and Skin Exports of Selected West African Countries, 1963 and 1964	19
Table 17. Apparent Consumption of Footwear in West Africa, 1960 to 1965. . .	21
Table 18. Projected Markets for Footwear in West Africa, 1975 and 1980 . . .	25
Table 19. Location of Selected Footwear Manufacturing Plants in West Africa, 1966	28
Table 20. Comparison of Domestic Production and Imports of Footwear, Nigeria, 1960 to 1964	31
Table 21. Location of Selected Tanneries in West Africa, 1965.	33
Table 22. Apparent Difference Between Current Footwear-Production Capacity and Estimated Demand for Footwear in 1975 and 1980	34
Table 23. Potential Distribution of Additional Production Capacity Required to Meet Estimated Demand for Footwear in 1975 and 1980	37
Table 24. Anticipated Balance of Footwear Supply and Demand by Country, West Africa, 1980	39
Table 25. Estimated Future Number of Livestock by Country and Estimated Annual Levels of Slaughter, 1975 to 1980.	43
Table 26. Suggested Geographical Distribution of Additional Tanning Capacity Required to Meet Estimated Demand in 1980	46

LIST OF FIGURES

Figure 1. Location of Selected Footwear Manufacturing Plants in West Africa, 1966	27
Figure 2. Location of Selected Tanneries in West Africa, 1966.	32

PREFEASIBILITY STUDY OF AN EXPANDED
LEATHER AND SHOE INDUSTRY IN
WEST AFRICA TO 1980

by

Konrad Biedermann

INTRODUCTION

Much of Africa has been fragmented into newly independent countries, many of which are small and of limited resources. Interest has grown in the possibility that cooperative economic-development planning and activities in regions that comprise many countries might contribute to the more effective and economic utilization of African resources and to improvement in living standards. These, in effect, would be multinational economic communities.

The Economic Commission for Africa (ECA), a United Nations Agency, has given special attention to this, and has initiated work along these lines in several subregions into which it has divided Africa. Industrial Coordination Missions were sent by ECA to different subregions of Africa in 1963 and 1964, and subregional conferences were held. This earlier work identified numerous industries that appeared promising in a coordinated, multinational approach toward industrial development.

The Report of the West Africa Industrial Coordination Mission outlined resources and defined industrial needs and possibilities for that subregion, embracing the following 14 countries: Nigeria, Liberia, Ghana, Mali, Senegal, Togo, Mauritania, Guinea, Upper Volta, Niger, Dahomey, Gambia, Sierra Leone, and Ivory Coast. Subsequently, AID contracted with Battelle (P10/T698-6121007, dated October 6, 1965, and amended December 20, 1965) for an exploratory study of the feasibility of establishing one or more plants in West Africa for the production of leather and shoes, paint mixing, and copper, lead, and zinc processing. The following report covers the leather- and shoe-industry prospects. Similar reports have been prepared on the other industries included under the same research contract.

Objectives and Scope of the Study

As stated in the research proposal, this study has been intended as a first approximation in obtaining a picture of what a feasible industrialization pattern for the subregion would appear to be in the next 10 to 15 years. This included an investigation of the following aspects:

- (1) Domestic markets for leather and shoes, 1960 to 1965
- (2) Projected markets, 1975 and 1980
- (3) Current production capabilities and capacities

(4) Feasible expansion of production to 1980

- (a) Location
- (b) Size
- (c) Gross output

(5) Employment effects and import requirements for inputs.

Researchers took note of the present import duties and other restrictions and impediments to a free flow of goods into and among the countries of the subregion. However, they did not let themselves be limited by these considerations in the development of a long-range optimum industrialization pattern for the subregion. If industrial planning for the entire subregion is to provide guidelines for future development and if it is to be of maximum benefit to all countries concerned, one must assume that there will be full cooperation among the nations concerned in the form of bilateral trade agreements or preferential import duties to allow relatively free movement of the goods concerned within the entire subregion.

Methodology and Limitations

This feasibility study is based mainly on a review of secondary information, supplemented by personal interviews with government and industrial sources in the countries concerned. Prior reports available in the United States were reviewed. These covered research reports and publications of such sources as AID, the Foreign Regional Analysis Division of the Economic Research Service, and the Foreign Agricultural Service of the U.S. Department of Agriculture, Department of Commerce Trade Statistics, and reports published by industry.

Sources consulted in West Africa included foreign-trade statistics, development plans, and specific feasibility studies done on behalf of various West African government agencies. U.S. Embassy Economic Officers, personnel of AID Missions, officials of development banks, and local business managers furnished additional information.

Analysis of data and information collected was made difficult by the fact that there existed certain gaps in information, irregularities in statistical series, and noncomparability of some data between countries due to different definitions used in the accumulation of the data. The extent of these problems, however, did not exceed that normally encountered with statistics available in less developed countries, or that inherent in any research effort cutting across geographical, currency, and language borders. Establishment of specific enterprises will require more detailed engineering and market studies that take cognizance of the specific locations selected, the state of industrial development at that time, equipment sources, and financing possibilities. However, findings of this study should reflect adequately the overall situation for the entire subregion and the possible extent of additional industrialization in the production of leather and shoes. It is to serve as a basis for selecting those industries for which more detailed technical and feasibility studies would be justified as a preliminary to capital-financing decisions and to consideration of possible interstate arrangements creating a multistate market.

Acknowledgments

Support of various official agencies and personnel of these agencies during the field work associated with this study is gratefully acknowledged. This includes offices and personnel of the United States Agency for International Development, the United Nations Technical Assistance Boards, the Economic Officers at various United States Embassies, and numerous state government offices and officials in the various countries visited. Without their aid and counsel, the field work would have progressed more slowly, and interpretation of data collected would have been more difficult.

SUMMARY

Cooperative economic-development planning on a basis that includes the entire West African subregion promises to result in an industrial development pattern that might contribute to a more effective and economic utilization of African resources and to improvement in living standards than planning on an individual state basis. This requires, however, obtaining an overview of what a feasible industrialization pattern for specific industries within the subregion might be in the next 10 to 15 years.

An attempt has been made to answer some of the basic questions along these lines for the leather and shoe industry in West Africa. The study itself was based mainly on a review of secondary information, supplemented by personal interviews with government and industrial sources in the countries concerned. Analysis of secondary information was made difficult by the fact that there exist certain gaps in information, irregularities in statistical series, and noncomparability of some data between countries. Personal interviews brought out the vast differences in situations and opinions that one must expect to find in an area as large as the West African subregion. In spite of these obstacles, the study did generate some first approximations of the parameters that will be of importance to long-range planning of industrial development for the entire subregion. Of course, for more immediate and specific decisions, more closely pinpointed market and engineering studies will be required that can yield the detail and accuracy of data required for the planning and implementation of specific ventures.

West African Markets for Leather and Shoes

Until 1960, imports of footwear primarily from Europe satisfied about 80 percent of the West African shoe market of some 25 million pairs. Since then, imports have declined both in absolute terms and relative contribution to total consumption. At the same time, domestic manufacturing capacity has increased significantly from 5 million pairs annually in 1960 to 20 million pairs in 1965. With a total consumption near 33 million pairs in 1965, domestic manufacturing contributed about 20 million pairs, or about 60 percent of that total. Expansion plans currently under active consideration or already in the construction stage will boost the West African production capacity to 31 million pairs annually by 1967. With a moderate growth in the market, this would make the subregion 75 percent or more self-sufficient by 1967.

The reduction of imports by 1965 has put the combined cif value (cif basis of valuation includes cost, insurance, and freight) of the 13 million pairs of imported footwear plus the minor amounts of leather and manufactured leather goods in the range of \$12 to \$15 million. With hide and skin exports from the region at that time earning a nearly equal amount of foreign exchange, the combined hides, leather, and footwear sector has not been a significant contributor to an unfavorable balance of trade. As the market for footwear expands, however, and as hide and skin resources come to be utilized more fully, it should be possible to expand industrialization in the leather and shoe sector.

Footwear market projections for 1975 and 1980 are based on a number of assumptions. One of them is that per capita income can be increased by approximately 2 percent per year, on top of a projected growth rate in population of nearly 3 percent per

annum. Another is that increased domestic production will continue to reflect itself in lower per-unit prices for shoes, which will enable more of the low-income population outside the wage-earner group to become purchasers of commercially produced footwear.

During the past few years, the average growth rate in the overall market for footwear amounted to between 5 and 6 percent per year. For the next 10 to 15 years, a growth rate of 7 percent is anticipated for the entire region. This would vary from a low rate of 4 percent per annum for the countries with a relatively low per capita income and no significant domestic footwear production to a 9 percent per annum rate for countries with high per capita income and well-established domestic production of footwear.

Accordingly, the market potential for 1975 is estimated at about 65 million pairs of shoes and sandals, and for 1980 at 91 million pairs. Plastic shoes and sandals will hold about one-third of that market, due mainly to their low price. Shoes and sandals with leather uppers and/or soles will probably account for 34 percent of this market. This leaves slightly less than one-third of the market for rubber, textile, cork-sole, and miscellaneous footwear.

Current Production Capabilities

Current and anticipated domestic footwear-manufacturing capacity is concentrated heavily in Nigeria, Ivory Coast, and Senegal, with Ghana moving into fourth place once the new shoe factory there becomes operational. With the exception of plastic-shoe factories, plants generally do not limit themselves to one type of footwear. The great variety of shoes and sandals produced includes some women's and children's shoes, although sandals and men's shoes account for the bulk of production. Women's dress shoes, subject to frequent style changes, and specialty shoes will always better be imported, since the demand in West Africa is not sufficient to justify economic production of these items. The cemented type of shoe construction prevails for leather shoes. Also, leather is increasingly subject to competition from synthetic materials. Textile and rubber footwear and extruded-plastic footwear for the low-priced market have a very firm position.

The leather-tanning industry provides enough output to satisfy most of the upper leather and lining leather needs for the estimated 5 million leather shoes and sandals now produced in West Africa. This requires approximately 400,000 cattle hides per year. Another 1 million cattle hides are exported without prior tanning, but most of the 8 million sheep and goat skins presently exported from the region are pretanned. Goat and sheep skins are used primarily in the production of stylish garments, the market for which is concentrated in Western Europe and North America. The sophistication required in terms of leather finishing and styling of garments could be acquired by the West African nations only at excessive cost. Thus, it appears that pretanning and export of sheep and goat skins will remain the best procedure.

Feasible Expansion of Leather and Shoe Production to 1980

The spotty and incomplete information obtainable on West African shoe manufacturing and tanning investment, employment, and other operating data does not give a very firm basis for predicting the important parameters for feasible expansion of capacity to 1980. However, on the basis of the market estimates for 1980, the current manufacturing capacity, including that scheduled to come into operation by 1967, and hide and skin availability, rough estimates have been made that should assist in preliminary planning. These estimates have been combined in Table 1. They should not be used, however, without due attention to the many qualifications and limitations that have to be made, and that are set forth in the body of this report.

Generally speaking, the additional market for footwear, leather, and pretanned skins for export by 1980 might approach a factory sales value of \$130 million, and could give employment to nearly 25,000 people. Investment costs at 1964-65 levels would be on the order of \$100 million. Since value added would amount on the average to about 40 percent of factory sales price, important secondary effects would be generated, both in terms of raw materials and inputs required from other industries and from additional marketing activities at the wholesale and retail level. While the potential expansion would generally not take place until the 1970s, it can provide a significant stimulus to increased manufacturing and economic activity in the subregion in future years. Based on past experience in the West African countries, it would be reasonable to assume that initiative and investment for expansion of leather and shoe production will come largely from private industrial sources. Only where local government policy has taken a different attitude, as in Ghana during recent years, will such industrial expansion require government initiative and active government participation.

Potential Importance to Economic Development of West Africa

The projected expansion of the footwear-manufacturing and tanning industries would have a fairly notable impact on the economic development of West Africa.

By 1980, the increase in annual footwear manufacture would culminate in output of products having a factory sales value of \$75 million and a value-added portion of \$28 million, or 0.25 percent of ECA-estimated increase in annual subregional GDP over the period 1965 to 1980 of \$13 billion. Capital needs of \$52 million would constitute 0.96 percent of the 1980 subregional private capital expenditures of \$5.4 billion.

The projected production expansion of the tanning industry between 1965 and 1980 would result in an annual factory value of \$51 million in 1980, with value added of \$24.5 million, or 0.19 percent of the annual subregional increase during the period 1965 to 1980. Capital needs for tannery construction during the period of about \$71.5 million would be 1.32 percent of ECA's projected 1980 subregional private capital expenditure of \$5.4 billion.

Expanded footwear manufacture would have only modest impacts locally, since plant locations preferably would be in economic centers distributed rather widely through the subregion.

Tanning, on the other hand, would exert a much stronger impact locally, with preferable locations near the sources of hides and skins in the Savanna areas well back from the coast.

TABLE 1. FEASIBLE EXPANSION OF FOOTWEAR AND LEATHER PRODUCTION TO 1980(a)

	Footwear Production			Tanning	
	Plastic	Leather and Other	Cattle Hides	Goat and Sheep Skins For Export	
Additional Production Capacity Apparently Justified by 1980	18 million pairs	33 million pairs	2.5 million hides	12 million skins	
Sales Value at Factory (dollars)	15 million	60 million	27 million	24 million	
Value Added Portion (percent)	25	40	55	40	
Investment Cost (dollars)	6 million	30-35 million	35-40 million	15-20 million	
Operating Capital Requirements (dollars)	3 million	10-12 million	5-8 million	8-10 million	
Employment	1,000	18,000	3,000	1,000	
Preferable Locations	In nearly all countries	Nigeria, Ghana, Ivory Coast, Senegal	Northern Nigeria, Niger, Upper Volta, Mali, Mauritania		
Timing of Expansion	Beginning in 1970, at increasing rate to 1980		Beginning now, at increasing rate to 1980		
Inputs From Other Sectors (dollars)	10 million polyvinyl chloride	12-15 million leather, textile, rubber, cement, etc.	7-10 million chemicals		
Major Limiting Factors	Per capita income trends, determining ability to purchase footwear	Quality of hides and skins and ability to collect them economically at points of slaughter. Ability of world markets to absorb these quantities of pretanned materials.			

(a) All dollar estimates are based on 1964-1965 costs, as calculated in selected, detailed engineering studies for specific projects and verbal estimates obtained during personal interviews.

PRESENT MARKETS FOR LEATHER AND SHOES

The primary market for goods produced by the leather and shoe industry is in the form of footwear. Other articles are manufactured from leather, such as travel goods and garments. These, however, have at present a very limited market in West Africa. For that reason, the discussion in this section of the report is limited to footwear, with only passing reference to the small quantities of other commercially produced leather goods consumed in the subregion.

Footwear consumed in West Africa includes shoes, boots, sandals, and babouches, a sandal-like footwear very popular in this part of Africa. Due to climate and lower cost, consumption of sandals and babouches far exceeds that of shoes and boots. Major materials used in footwear are leather, rubber, textile, plastic, and cork. As in other countries around the world, leather is subject to severe competition from these other materials, primarily on the basis of price.

Buyers of footwear presently are limited to only a small segment of the population. Indigenous people outside the cities and outside the money economy either do not wear shoes regularly, or they use homemade sandals. On the other end of the income scale, resident Europeans and other foreigners time their footwear purchases to coincide with travel to their home country. This leaves the comparatively small group of indigenous wage earners and urban residents as the major market for footwear.

Current consumption of footwear can be estimated on the basis of imports, local production, and exports. In some of the countries, this consumption is quite low, but it is growing as population, income, and availability of low-priced footwear are increasing.

Imports

Footwear

Imports have furnished the major share of local consumption of footwear in recent years. These imports are recorded in the foreign-trade statistics of the individual countries. But while all of the countries report data on total value, reporting units on quantities vary between number of pairs and tons, and one cannot assume any convenient conversion factor, since the type of shoes imported varies significantly from one year to the next. Furthermore, standard industrial classifications in the French- and English-speaking countries vary slightly, and there have been changes in the classification system of some countries during the period 1960 to 1965. Consequently, data lack overall homogeneity and comparability. Quantity and value information on footwear imports as obtained in the different countries is reported in Tables 2 through 8.

Trend analysis regarding specific types of footwear and unit values is made difficult by the frequent but irregular shifts in sources of supply. This in itself produces changes in the type of shoes, even if still falling under the same standard industrial classification, which in turn explain the irregular shifts in unit weights and values.

TABLE 2. NIGERIA FOOTWEAR IMPORTS, 1960 TO 1965

Description	S.I.C.	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Major Source
<u>1960</u>					
Leather soles	851-01	3,460	6,494	1.88	United Kingdom, Netherlands
Rubber soles	851-02	2,689	7,528	2.80	United Kingdom, Netherlands
Textile, cork, etc.	851-03	2,395	1,821	0.76	Czechoslovakia, Hong Kong
Sales, N.O.S. (a)	851-04	236	220	0.93	
Total		8,780	16,063	1.83	
<u>1961</u>					
Leather soles	851-01	3,282	5,764	1.76	
Rubber soles	851-02	1,541	1,280	0.83	United Kingdom, Czechoslovakia
Textile, cork, etc.	851-03	2,008	1,525	0.76	Czechoslovakia, Japan, United Kingdom
Sales, N.O.S. (a)	851-04	390	629	1.61	
Total		7,221	9,198	1.27	
<u>1962</u>					
Leather soles	851-01	3,010	5,225	1.74	
Rubber soles	851-02	1,757	1,308	0.74	
Textile, cork, etc.	851-03	1,003	781	0.78	
Sales, N.O.S. (a)	851-04	441	630	1.43	
Total		6,211	7,944	1.28	
<u>1963</u>					
Leather soles	851-01	2,347	4,300	1.83	
Rubber soles	851-02	2,636	2,691	1.02	
Textile, cork, etc.	851-03	89	92	1.03	
Sales, N.O.S. (a)	851-04	502	445	0.89	
Total		5,574	7,528	1.35	
<u>1964</u>					
Leather soles	851-01	1,987	4,188	2.11	United Kingdom, Italy, Czechoslovakia
Rubber soles	851-02	1,815	2,515	1.39	Japan, Czechoslovakia
Textile, cork, etc.	851-03	37	66	1.78	Italy
Sales, N.O.S. (a)	851-04	170	217	1.28	Japan, Czechoslovakia
Total		4,009	6,986	1.74	
<u>1965</u>					
Leather soles	851-01	778	1,639	2.11	United Kingdom
Rubber soles	851-02	447	829	1.85	Japan, Czechoslovakia
Textile, cork, etc.	851-03	26	44	1.69	Japan
Sales, N.O.S. (a)	851-04	71	110	1.55	Czechoslovakia, United Kingdom,
Total		1,322	2,622	1.98	United States

Source: Foreign Trade Statistics.

(a) N.O.S. indicates "Not otherwise specified".

TABLE 3. DAHOMEY AND TOGO FOOTWEAR IMPORTS, 1960 TO 1964

Dahomey				Togo			
Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars
1960	229	301	1.31	1960	136	178	1.31
1961	139	191	1.37	1961	100	158	1.58
1962	68	167	2.46	1962	128	200	1.56
1963	155	239	1.54	1963	178	265	1.49
1964	180	415	2.31	1964	299	426	1.42

Source: Foreign Trade Statistics.

(a) Partially based on weight, assuming a unit weight of 0.6 kg per pair of shoes or other footwear.

TABLE 4. GHANA FOOTWEAR IMPORTS, 1961 TO 1964

Description	S.I.C. (Group 851)	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Major Sources
<u>1961</u>					
Slippers	-001	3,319	2,148	0.65	United Kingdom, Japan
Leather	-002	1,694	3,937	2.32	Italy, Netherlands
Textile	-003	886	602	0.68	Czechoslovakia, Hong Kong, Japan
Rubber	-004	1,154	584	0.51	Netherlands, Hong Kong
Total		7,053	7,271	1.03	
<u>1962</u>					
Slippers	-001	1,053	632	0.60	Hong Kong
Leather	-002	1,229	2,738	2.23	Italy, United Kingdom
Textile	003	58	37	0.64	Japan, China
Rubber	-004	500	314	0.63	Hong Kong, Japan
Total		2,840	3,721	1.31	
<u>1963</u>					
Slippers	-001	995	487	0.49	Malaya, Hong Kong
Leather	-002	1,913	3,649	1.91	United Kingdom, Hong Kong, Yugoslavia
Textile	-003	80	48	0.60	China, India
Rubber	-004	154	174	1.14	Japan, Hong Kong, United Kingdom
Total		3,142	4,359	1.39	
<u>1964</u>					
Slippers	-001	490	240	0.49	Malaya
Leather	-002	1,137	2,008	1.77	Czechoslovakia, Yugoslavia, Italy
Textile	-003	108	128	1.19	Czechoslovakia
Rubber	-004	111	192	1.73	Czechoslovakia, United Kingdom
Total		1,846	2,568	1.39	

Source: Foreign Trade Statistics.

TABLE 5. IVORY COAST SHOE IMPORTS, 1960 TO 1965^(a)

Type of Shoe	S. I. C.	Quantity	Total Value, thousands of dollars	Unit Value, dollars
<u>1960</u>				
Rubber and plastic	640-100	796 tons	1,264	1,588.00
Leather uppers	640-208	127 tons	486	3,826.00
Uppers of rubber	640-211	17 tons	27	1,588.00
Textile, rubber, etc.	All others	181 tons	129	713.00
	(Not classified)			
Total		1,121 tons	1,906	1,700.00
<u>1961</u>				
Rubber and plastic	640-100	728 tons	1,156	1,587.00
Leather uppers	640-208	238 tons	867	3,643.00
Uppers of rubber	640-211	31 tons	69	2,226.00
Textile, rubber, etc.	All others	68 tons	104	1,529.00
	(Not classified)			
Total		1,065 tons	2,196	2,062.00
<u>1962</u>				
Rubber and plastic	640-100	916,000 pairs	711	0.78
Leather uppers	640-208	433,000 pairs	843	1.95
Uppers of rubber	640-211	52,000 pairs	72	1.38
Textile, rubber, etc.	All others	110,000 pairs	108	0.98
	(Not classified)			
Total		1,511,000 pairs	1,734	1.15
<u>1963</u>				
Rubber and plastic	640-100	1,174,000 pairs	907	0.77
Leather uppers	640-208	2,028,000 pairs	1,833	0.90
Uppers of rubber	640-211	156,000 pairs	156	1.03
Textile, rubber, etc.	All others	660,000 pairs	479	0.73
	(Not classified)			
Total		4,013,000 pairs	3,375	0.84
<u>1964</u>				
Rubber and plastic	640-100	1,534,000 pairs	1,241	0.81
Leather uppers	640-208	1,444,000 pairs	2,308	1.60
Uppers of rubber	640-211	145,000 pairs	157	1.08
Textile, rubber, etc.	All others	214,000 pairs	152	0.71
	(Not classified)			
Total		3,337,000 pairs	3,858	1.16
<u>1965 (10 months)</u>				
Rubber and plastic	640-100	691,000 pairs	666	0.96
Leather uppers	640-208	644,000 pairs	1,275	1.98
Uppers of rubber	640-211	33,000 pairs	35	1.06
Textile, rubber, etc.	All others	220,000 pairs	178	0.81
	(Not classified)			
Total		1,588,000 pairs	2,154	1.36

Source: Foreign Trade Statistics.

(a) Most imports from France; also from Senegal, Morocco, and Hungary.

TABLE 6. LIBERIA FOOTWEAR IMPORTS, 1960 TO 1964

Description	S. I. C.	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, thousands of dollars
<u>1960</u>				
Slippers	851-01	51	35	0.69
Leather	851-02	262	1,076	4.11
Textile	851-03	82	219	2.67
Rubber	851-04	74	159	2.15
Plastic	851-05	--	--	--
Total		469	1,489	3.17
<u>1961</u>				
Slippers	851-01	58	41	0.71
Leather	851-02	91	512	5.63
Textile	851-03	60	221	3.68
Rubber	851-04	47	136	2.89
Plastic	851-05	--	--	--
Total		256	910	3.55
<u>1962</u>				
Slippers	851-01	161	87	0.54
Leather	851-02	282	521	1.85
Textile	851-03	599	352	0.59
Rubber	851-04	440	180	0.41
Plastic	851-05	--	--	--
Total		1,382	1,140	0.82
<u>1963</u>				
Slippers	851-01	190	88	0.46
Leather	851-02	337	693	2.06
Textile	851-03	774	393	0.51
Rubber	851-04	206	152	0.74
Plastic	851-05	267	113	0.42
Total		1,774	1,439	0.81

Source: Foreign Trade Statistics.

TABLE 7. SIERRA LEONE, GUINEA, GAMBIA, AND SENEGAL FOOTWEAR IMPORTS

Sierra Leone				Guinea			
Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars
1960	1,421	1,296	0.91	1960		Not available	
1961	2,257	1,748	0.77	1961	717	1,000	1.39
1962	2,168	1,467	0.68	1962		Not available	
1963		Not available		1963		Not available	
1964	2,251	1,770	0.79	1964		Not available	
1965	1,084	1,247	1.15	1965		Not available	

Gambia				Senegal			
Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Year	Quantity, tons	Total Value, thousands of dollars	Unit Value, dollars
1960	35	43	1.23	1961	762	2,102	2,759
1961	244	144	0.59	1962	618	1,600	2,589
1962	413	186	0.45	1963	446	1,408	3,157
1963	417	179	0.43	1964	318	1,181	3,714
1964		Not available		1965	198	792	4,000
1965		Not available					

Source: Foreign Trade Statistics.

TABLE 8. NIGER, UPPER VOLTA, MALI, AND MAURITANIA FOOTWEAR IMPORTS

Niger				Upper Volta			
Year	Tons	Total Value, thousands of dollars	Unit Value, dollars	Year	Tons	Total Value, thousands of dollars	Unit Value, dollars
1960	156	104	666	1960	136	112	823
1961	250	371	1484	1961	788	587	744
1962	278	371	1335	1962	459	563	1227
1963	274	413	1508	1963	430	525	1221
1964	541	479	885	1964			

Mali				Mauritania			
Year	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars	Year	Tons	Total Value, thousands of dollars	Unit Value, dollars
1961	279	460	1.65	1961			
1962	382	388	1.02	1962	27	53	1962
1963	325	454	1.40	1963	14	36	2571
1964	563	341	.61	1964	14	39	2785

Source: Foreign Trade Statistics.

The general trend in footwear imports into West Africa appears to be a decline in numbers (see Table 9). This holds especially true for such countries as Nigeria and Senegal, where sizable production facilities have been established in the last few years (see Table 10). In fact, on the basis of current trends, near self-sufficiency in the production of ordinary types of footwear in these two countries can readily be foreseen. Some specialty footwear, such as stylish women's shoes and children's shoes will probably continue to be imported, since their manufacturing technology and limited demand do not permit economical production units for local manufacture of these types of footwear.

Sources of shoe imports vary. In the English-speaking countries, the United Kingdom was the chief supplier until approximately 1960. Since then, Italy, Czechoslovakia, Netherlands, Yugoslavia, and others have gained at the expense of the United Kingdom. Major suppliers of cheap textile, rubber, and plastic footwear are Japan, Hong Kong, and China. The French-speaking countries import more than half of their footwear from France.

Hides, Leather, Etc.

In addition to footwear, most West African countries also imported some hides, leather, and manufactured leather goods other than footwear. In comparison to footwear imports, these quantities were minor. An indication of their size and value is given in Tables 11 and 12.

Production

Footwear

Domestic production of footwear in West Africa has increased rapidly during the last 5 years. The most notable increase in production capacity was not in leather footwear, but rather in plastic shoes, and rubber and textile footwear. While leather footwear is considered superior in wearing comfort, other types of shoes are generally of lower cost, which is of prime importance in the West African market. Domestic production of leather footwear has gained also, but for the development of a mass market for shoes, producers will continue to rely heavily on the cheaper, nonleather footwear. Only in the later stages of market development can leather footwear expect to gain a relatively greater share of the total market than it has now.

The West African countries do not collect and publish on a regular basis data on industrial production. Therefore, information regarding domestic production capacity had to be assembled from varied sources, with relatively little assurance of the completeness and accuracy of the data obtained. Often, the year of initial production of new plants was not specified, and facilities were not used to full capacity during the first and second year of operation. The summary of domestic production of footwear shown in Table 13 represents the best estimate of actual production of footwear on the basis of information available.

In 1965, only Nigeria, Ivory Coast, and Senegal had significant capacities for the production of leather footwear. Thus, out of the total estimated production of footwear of approximately 20 million pairs in 1965, probably no more than 5 million pairs were

TABLE 9. OVERALL TREND IN SHOE IMPORTS OF
14 WEST AFRICAN COUNTRIES,
1960 TO 1965

Year	Imports		
	Quantity, thousands of pairs	Total Value, thousands of dollars	Unit Value, dollars
1960	21,000	21,000	1.00
1961	22,000	26,000	1.18
1962	18,000	20,000	1.11
1963	20,000	20,000	1.00
1964	17,000	18,000	1.06
1965	13,000	(a)	--

Source: Foreign Trade Statistics.

(a) Data for some countries unavailable.

TABLE 10. DECLINING TREND IN
SHOE IMPORTS OF
SELECTED COUNTRIES
WITH GROWING LOCAL
PRODUCTION OF
FOOTWEAR, 1960-65

Thousands of Pairs

Year	Nigeria	Senegal ^(a)
1960	8,780	1,350
1961	7,220	1,160
1962	6,210	940
1963	5,600	680
1964	4,000	480
1965	1,320	300

Source: Foreign Trade Statistics.

(a) Based partially on weight and/or value.

TABLE 11. IMPORTS OF HIDES AND LEATHER OF SELECTED COUNTRIES IN WEST AFRICA, 1963 AND 1964

Country	1963			1964		
	Quantity, tons	Total Value, dollars	Value Per Ton, dollars	Quantity, tons	Total Value, dollars	Value Per Ton, dollars
Nigeria		Nominal			Nominal	
Dahomey	1	183	183	5	258	52
Ghana	628	508,925	810		Not available	
Ivory Coast	70	59,558	851	41	51,446	1,255
Liberia		Nominal			Nominal	
Sierra Leone		Nominal			Nominal	
Senegal	253	205,462	812	193	133,038	689
Niger	45	35,025	778		Nominal	
Upper Volta	71	46,000	648		Not available	
Mali		Nominal			Nominal	

Source: Foreign Trade Statistics.

TABLE 12. IMPORTS OF MANUFACTURED LEATHER GOODS OTHER THAN FOOTWEAR OF SELECTED COUNTRIES IN WEST AFRICA, 1963 AND 1964

Country	1963			1964		
	Quantity, tons	Total Value, dollars	Value Per Ton, dollars	Quantity, tons	Total Value, dollars	Value Per Ton, dollars
Nigeria	Not available	1,708,000	--	Not available	1,492,400	--
Ivory Coast	234	483,342	2,068	425	903,663	2,126
Liberia	51	204,624	4,012		Not available	
Senegal	230	435,038	1,891	177	329,517	1,862
Niger	150	49,167	328	404	47,900	118
Mali	39	54,767	1,404	29	122,450	4,222
Mauritania		Nominal			Nominal	

Source: Foreign Trade Statistics.

leather footwear, of which a major share were sandals. Taking into consideration announced plans for additional shoe factories and construction of new plants already under way, production of footwear may increase to 31 million pairs by 1967. Of this, probably no more than 8 to 9 million would be leather shoes and sandals.

TABLE 13. ESTIMATED DOMESTIC PRODUCTION OF FOOTWEAR IN 14 WEST AFRICAN COUNTRIES, 1960 TO 1965

Thousands of Pairs

Country	1960	1961	1962	1963	1964	1965	1967(a)
Nigeria	600	2,200	3,600	5,000	8,300	10,000	14,000
Dahomey	--	--	--	--	--	--	--
Togo	--	--	--	--	--	--	--
Ghana	--	--	--	--	--	--	2,500
Ivory Coast	140	500	960	1,500	2,000	2,500	5,000
Liberia	--	--	--	--	400	1,000	1,000
Sierra Leone	--	--	--	--	--	--	700
Guinea	200	200	300	300	500	200	600
Gambia	--	--	--	--	--	--	--
Senegal	3,756	4,765	3,894	5,746	4,703	6,000	6,000
Niger	--	--	--	--	100	200	300
Upper Volta	--	--	--	250	200	--	200
Mali	--	--	--	--	300	360	500
Mauritania	--	--	--	--	--	--	--
Total(b)	5,000	8,000	9,000	13,000	17,000	20,000(c)	31,000(d)

(a) Anticipated domestic production on basis of existing and planned new capacity.

(b) Total rounded to nearest million pairs.

(c) It is estimated that this figure includes no more than 5 million units of leather footwear, mostly sandals.

(d) It is estimated that this figure includes no more than 8 to 9 million leather shoes and sandals.

Beyond the commercial production of footwear discussed above, there are artisan and craft shops in nearly all countries that produce a limited quantity of footwear for local consumption. Some of these shops use dried skins in addition to home-tanned leather. The extent of this kind of production is minor compared to the output of commercial establishments. For Ivory Coast, for instance, estimates of the annual output of the artisan shoe shops range between 30,000 and 50,000 pairs per year, or only 2 to 3 percent of estimated annual consumption.

Leather

Domestic production of leather is even more difficult to assess. Tannery output includes both finished leather and semitanned skins. Most of the leather produced in West Africa is used in domestic shoe production. The best estimate from the limited data available would be that currently, approximately 12 million square feet of shoe-upper leather and sole leather for use in shoes and sandals are being produced, together with nearly 8 million square feet of lining leather. The leather price has varied significantly in the recent past between 40 and 60 cents per square foot. At an average price of 50 cents per square foot of leather, the value of leather production appears to amount to approximately \$10 million.

Nearly all of the sheep and goat skins are exported. The whole subregion presently ships approximately 4,000 tons of raw and semitanned skins valued at about \$6 million per annum. Quantities and origins by country are shown in the section on current exports.

Exports

Footwear

Exports of footwear from the West African countries are in nearly all cases minor. Senegal, however, is an exception. Exports of footwear from that country are shown in Table 14. A sizable share of these shipments was made to other countries in the West African Customs Union. In addition to the footwear exports reflected in the official foreign-trade statistics, there are contraband movements of shoes, especially of cheap plastic footwear, between the West African countries. The extent of these movements, however, cannot be verified.

TABLE 14. EXPORTS OF FOOTWEAR FROM SENEGAL, 1961 TO 1965

Year	Tons	All Footwear		Tons	Leather Footwear Only		
		Value, thousands of dollars	Unit Value, dollars/ton		Quantity, thousands of pairs ^(a)	Value, thousands of dollars	Unit Value, dollars/pair
1961	459	569	1240	34	52	83	1.60
1962	252	368	1460	54	82	158	1.93
1963	316	433	1370	38	58	107	1.84
1964	522	914	3808	106	161	341	2.12
1965	90	235	2611	59	89	200	2.25

Source: Foreign Trade Statistics.

(a) Assumes a unit weight of 0.6 kg per pair of leather footwear.

Hides and Skins

Exports of hides and skins are more developed. In an average year, Nigeria alone exports between 800,000 and 900,000 cattle hides, 1 million sheepskins, and 5.5 to 5.8 million goatskins (see Table 15). Other substantial exporters are Niger, Upper Volta, and Mali. An estimate of recent export levels and values for these countries is shown in Table 16.

The above exports are mostly in the form of dried hides and skins. However, with the exception of goatskins of some breeds, the hides and skins produced in West Africa are generally of low quality. More expert flaying and processing of the hides and skins can help somewhat to overcome this disadvantage. However, to overcome the quality problems inherent in the hides and skins themselves will take a much longer time. For this, livestock-breeding and animal-husbandry practices need to be changed.

TABLE 15. EXPORTS OF HIDES AND SKINS FROM NIGERIA, 1960 TO 1965

Year	Cattle Hides			Sheepskins			Goatskins		
	Quantity, cwt	Value, thousands of dollars	Value, dollars/cwt	Quantity, cwt	Value, thousands of dollars	Value, dollars/cwt	Quantity, cwt	Value, thousands of dollars	Value, dollars/cwt
1960	121,379	4561	37.60	13,288	893	67.20	51,212	5550	108.40
1961	128,210	4494	35.10	13,557	966	71.30	51,246	4267	83.80
1962	106,756	3928	36.80	12,098	938	77.50	53,037	4385	82.70
1963	90,507	3262	36.00	16,543	1187	71.80	48,005	4612	96.10
1964	84,763	2957	34.90	19,716	1590	80.60	48,657	4771	98.10
1965(a)	32,083	1112	34.70	9,083	767	84.40	28,377	2755	97.10

(a) Data for 1965 are preliminary and incomplete.

TABLE 16. HIDE AND SKIN EXPORTS OF SELECTED WEST AFRICAN COUNTRIES, 1963 AND 1964

Country	1963		1964	
	Tons	Value, thousands of dollars	Tons	Value, thousands of dollars
Nigeria				
Hides	4525	3262	4238	2957
Skins	3227	5799	3419	6367
Niger				
Hides	176	60	178	83
Skins	188	205	199	218
Upper Volta(a)				
Hides	88	19	201	32
Skins	--	--	35	8
Mali				
Hides	611	102	241	73
Skins	39	29	23	13
Senegal				
Hides	253	51	828	303
Skins	311	161	199	162
Ivory Coast				
Hides	292	57	235	54
Skins	--	--	--	--

(a) Data are for 1961 and 1962.

A more detailed study of present hide-marketing practices and problems, giving recommendations for action, was published recently by the Food and Agriculture Organization of the United Nations.*

Beyond the exports of hides and skins, which are the major raw materials for the leather industry, there are also some exports of live animals from the above countries. While these are made for the meat that these animals yield after slaughter, locational availability of hides and skins is affected by this. However, these shifts are not a major influence or limitation to the present state of development of the leather and shoe industries in West Africa.

Apparent Consumption of Footwear

Official imports of footwear, indications of domestic commercial production, and exports of footwear can be used to obtain an estimate of current consumption of footwear, by country. The results of this approach are given in Table 17. Footwear exports from Senegal have been taken into consideration in arriving at a consumption estimate for that country. In examining the data for individual countries, one finds irregularities in the pattern that stem primarily from changes in the level of imports. Under these circumstances, the 6-year period covered is not long enough to establish any trend pattern for the individual countries. However, for the subregion as a whole, the trend in consumption is definitely upward, indicating a growth rate of between 5 and 6 percent per annum over the period 1960 to 1965.

Per capita consumption of shoes in the individual countries is not a meaningful figure in itself because a large part of the total population cannot presently be considered purchasers of commercially produced footwear. However, this measure can give an indication of the relative long-range potential for growth in consumption and of significant differences that might exist among the countries concerned. Thus, relating current annual footwear consumption to the total population, it becomes evident that the market in countries with a relatively low per capita domestic product, such as Mali, Mauritania, and Niger, amounts to only about 0.2 to 0.3 pair per head. In the countries with a higher per capita domestic product, such as Liberia, Sierra Leone, Senegal, and Ivory Coast, consumption appears to be in the range of 1.2 to 1.8 pairs per person. Compared to the 3 to 4 pairs consumed per person in the United States and other highly industrialized countries, the average of less than 1 pair per person for the entire West African subregion indicates a significant growth potential. To be sure, the type of footwear required for the climate prevailing in this area will be lighter than that called for in colder areas. However, it appears that the wear and tear resulting from the more extensive walking by the African population would bring per capita requirements eventually up to a level of 2 or more pairs per person per year.

The shoe-consumption pattern within the subregion as discussed above indicates very well the dependency of consumption on per capita income. This means that, in the short run, increases in domestic production could be absorbed only to the extent that local manufacture permits lower prices per unit at the consumer level, or to the extent that per capita income can be increased.

*Mittendorf, H. J., and Louwes, H. J., Hides and Skins Marketing in Africa and the Near East, Food and Agriculture Organization of the United Nations, Rome, Italy (April 1963).

TABLE 17. APPARENT CONSUMPTION OF FOOTWEAR IN WEST AFRICA, 1960 TO 1965

Thousands of Pairs

Year	Country	Nigeria	Dahomey	Togo	Ghana	Ivory Coast	Liberia	Sierra Leone	Guinea	Gambia	Senegal	Niger	Upper Volta	Mali	Mauritania	Total(a)
1960	Imports	8,780	229	136	5,933	1,698	469	1,421	(b)	35	1,350	236	206	(b)	(b)	21,000
	Production	600	--	--	--	140	--	--	200	--	3,756	--	--	--	--	5,000
	Consumption	9,388	229	136	5,933	1,838	469	1,421	(b)	35	(b)	236	206	(b)	(b)	26,000
1961	Imports	7,221	139	100	7,053	1,614	256	2,257	717	244	1,155	379	119	279	(b)	22,000
	Production	2,200	--	--	--	500	--	--	200	--	4,765	--	--	--	--	8,000
	Consumption	9,421	139	100	7,053	2,114	256	2,257	917	244	5,255(c)	379	119	279	(b)	30,000
1962	Imports	6,211	68	128	2,840	1,511	1,382	2,168	(b)	413	936	421	695	382	41	18,000
	Production	3,600	--	--	--	960	--	--	300	--	3,894	--	--	--	--	9,000
	Consumption	9,811	68	128	2,840	2,471	1,382	2,168	(b)	413	4,448(c)	421	695	382	41	27,000
1963	Imports	5,574	155	178	3,142	4,013	1,774	(b)	(b)	417	676	415	652	325	21	20,000
	Production	5,000	--	--	--	1,500	--	--	300	--	5,746	--	250	--	--	13,000
	Consumption	10,574	155	178	3,142	5,513	1,774	(b)	(b)	417	5,943(c)	415	902	325	21	33,000
1964	Imports	4,009	180	299	1,846	3,337	(b)	2,251	(b)	(b)	482	820	(b)	563	21	17,000
	Production	8,300	--	--	--	2,000	400	--	500	--	4,703	100	200	300	--	17,000
	Consumption	12,309	180	299	1,846	5,337	(b)	2,251	(b)	(b)	4,394(c)	920	(b)	963	21	34,000
1965	Imports	1,322	(b)	(b)	(b)	1,588	(b)	1,084	(b)	(b)	300	(b)	(b)	(b)	(b)	13,000
	Production	10,000	--	--	--	2,500	1,000	--	200	--	6,000	200	--	360	--	20,000
	Consumption	11,322	(b)	(b)	(b)	4,088	(b)	1,084	(b)	(b)	5,200(c)	(b)	(b)	(b)	(b)	33,000

Source: Foreign Trade Statistics.

(a) Estimated total for entire subregion, rounded to nearest million.

(b) Not available.

(c) Senegal consumption takes cognizance of exports listed in Table 14.

Since only limited information is available on the types and quality of shoes produced domestically, conclusions regarding the type of footwear must be based mainly on information reflected in the import statistics. From the foreign-trade data it appears that plastic and rubber and textile footwear has accounted for a significant share of the market growth, first in the form of imports, and more recently in the form of domestic production. As a result, recent emphasis in imports was more on quality leather shoes than was the case around 1960, when plastic and rubber shoes were still imported from such sources as Japan, China, and Hong Kong. Rubber and plastic footwear is not the most desirable type in terms of wearing comfort, but it does carry a lower unit price that puts footwear within the reach of many more low-income people than does quality leather footwear. For that reason, it must be expected that rubber and plastic and textile shoes will retain an important share of future production.

Average Import-Export Prices, Customs Duties, and Tariffs

Value of footwear imports is generally quoted on a cif basis (cost, insurance, and freight included). This is the landed value of the goods, prior to the application of customs and tariffs. The overall trend in value per unit, as reflected in Table 8, has fluctuated without showing any definite upward or downward trend. Fluctuations in unit value by country have been even more severe. This, however, is explained in part by shifts in the sources of supply and in the type of footwear imported, even though imports in any given year may fall in the same subcategory or classification as last year's imports.

Import tariffs on footwear vary among the different countries. All of them, however, are based on "ad valorem", which is on the landed value. In Niger, customs duties and tariffs consist of three or more individual levies amounting to a total of 20.5 percent for footwear. In Mali, customs duties on imported footwear range up to 60 percent ad valorem. Nigeria reports 33-1/2 percent, with a minimum of 2 shillings and 6 pence per unit (approximately 36 cents). All of the above rates refer to footwear imports originating from overseas. Imports from within the West African Customs Union receive preferential treatment.

The general purpose of customs duties on imports is to encourage or protect the manufacture at home of the goods in question. Another purpose is to generate revenues for the state. In countries where there is no significant personal or manufacturing income that can be taxed, levies on foreign trade provide a major source of income to the state. This is probably the context in which one must interpret the fact that Mali, which at this time has practically no capacity for the production of footwear, has the highest import duties, while those of Nigeria and other countries with a home industry range from only 20 percent to 33-1/2 percent.

Taxation in addition to customs duties varies widely among the West African countries. Usually, they are applied cumulatively. In Niger, they amount to only 4 percent. In Mali, seven or eight different kinds of taxation are applied cumulatively, amounting to 27.5 percent. In Ghana, there is a business-turnover tax of 10.5 percent, which is applied to the value of goods each time they change hands. Thus, a pair of shoes or sandals imported at a value of \$1.00 cif may cost anywhere from \$1.30 to

\$1.80 at the wholesale level, which does not include additional transportation and the wholesaling margin that must be attached to it at that point.

PROJECTED MARKETS FOR LEATHER
AND SHOES, 1975 AND 1980

In mature economies, market projections for consumer goods such as footwear are generally made on the basis of changes in population and per capita income. In the case of the West African countries, these are not appropriate guidelines. In the past, only a limited segment of the total population has constituted a market for footwear, but it is growing. Furthermore, increases in per capita income should reflect themselves more than proportionately in the ability to buy footwear, since shoes for a large part of the population constitute a necessary consumption item. Low consumption in the past has been in part a result of unavailability of the goods at reasonable prices and/or inability of the population to purchase them. From this, one would anticipate that the future market for footwear in West Africa will grow at a somewhat faster rate than indicated population growth and increases in per capita income. This will be especially so if the per-unit retail price of footwear can be lowered through the production of different types of shoes (e.g., plastic-extruded shoes) and substitution of shoe imports by the establishment domestically of additional, economically sized production facilities.

Population growth for the entire subregion during the period 1965 to 1980 has been estimated at a compounded rate of 2.8 percent per annum.* Individual estimates vary from a low of 1.1 percent per annum for Liberia and 1.3 percent for Mauritania to a high of 3.0 percent for both Nigeria and Ghana. It is estimated that aggregate private consumption expenditures for the subregion will increase at a rate of 4.8 percent per annum between 1965 and 1980. According to these projections, the countries with the smallest population increase can look forward to the fastest rise in per capita private-consumption expenditures. Mauritania and Liberia per capita consumption expenditures will increase 5.6 and 5.7 percent per annum, respectively, while those of Nigeria will rise more slowly, at an annual rate of 1.9 percent.**

If one were to base projections of footwear consumption in West Africa on these data, population growth would give the projections a moderate boost of 2.5 to 3.0 percent per year, and changes in per capita purchasing power would contribute another 2 percent to a broadening of the market. In addition, as per capita income increases, a larger share of the population will become able to purchase footwear, and this share will be even further increased by expected lower per-unit prices at the retail level. Thus, projections have been made at an average level of 7 percent per annum for the entire subregion. Individual projections range from 4 to 6 percent per annum for the countries with the least combined increase in population and per capita income — such as Niger, Guinea, and Gambia — to 7 to 9 percent for areas with higher population growth and relatively high industrialization at this time, permitting a relatively early reduction in per-unit price, with a commensurate widening of the market. Nigeria and Ivory Coast would fall into this latter category.

Projections of the markets for footwear in West Africa for 1975 and 1980 are shown in Table 18. The total figures shown refer to all kinds of footwear. What share of this total market will go to footwear with leather soles and/or leather uppers is not certain. At the present time, leather footwear as a share of total footwear ranges between 20 and 30 percent, depending upon the country under consideration. By 1975, leather hopefully will have increased its share of the market to between 30 and 35 percent. By 1980, the situation would not be changed much because of continued pressure of competing materials.

*Notes on Macro-Economic Data for the West African Studies, ECA working paper (April 27, 1966).

**Ibid.

TABLE 18. PROJECTED MARKETS FOR FOOTWEAR IN
WEST AFRICA, 1975 AND 1980

Thousands of Pairs

Country	1975		1980	
	Total	Leather	Total	Leather
Nigeria	27,700	9,400	43,400	15,600
Dahomey	470	140	700	210
Togo	450	130	600	180
Ghana	5,400	1,600	7,200	2,200
Ivory Coast	8,000	2,600	10,800	3,800
Liberia	2,700	900	3,000	1,000
Sierra Leone	2,000	600	3,000	900
Guinea	3,000	900	3,500	1,000
Gambia	740	220	900	270
Senegal	8,400	2,700	9,500	3,300
Niger	1,600	480	2,100	600
Upper Volta	2,400	750	3,600	1,150
Mali	1,900	510	2,400	700
Mauritania	240	70	300	90
Total	65,000	21,000	91,000	31,000

Note: Assumed growth rates apply to the consumption of all kinds of footwear. Growth rates are based on a combination of the following estimates: (a) population increases, (b) increases in per capita income, and (c) expected decreases in the per-unit price of shoes due to increases in the amount and efficiency of domestic production. The assumed overall growth rate is 7 percent. Rates for individual countries range from 4 to 9 percent per annum.

Leather should gain most in those countries that show a sizable population increase, have ample cattle hide and leather resources, and have the soundest domestic footwear industry. Nigeria is assumed to be in this category. Leather would gain the least in countries with smaller population increases, no hide and leather resources, and no domestic footwear industry except perhaps domestic manufacture of plastic shoes. Togo might fall into this category. Other countries would be in intermediate positions.

Based on 1964-1965 consumption levels, Table 18 projects a market growth of nearly 100 percent over the next 10 years, and of roughly 176 percent over the period extending to 1980. While these are optimistic predictions, they place total annual footwear consumption in the subregions by 1980 still at less than 1 pair per person. If the share of leather footwear should increase to 30 to 35 percent by 1975 as indicated in the projections, 50 to 55 million square feet of leather would be required in 1975, and about 80 million square feet in 1980. This would be a more than three- to fourfold increase in the use of domestically produced leather within little more than a decade, but it would still be within the limits of raw-material availability of the subregion, as discussed in a later section.

CURRENT DOMESTIC PRODUCTION

As indicated in the discussion of current markets for leather and footwear, domestic production of shoes in West Africa has increased significantly during the last few years. To make any generalizations about this local production, however, will be difficult. There is some local artisan manufacture of footwear everywhere. But even if the discussion is to be limited to commercial manufacture of footwear only, there exist enough differences in the product mix and production and investment costs of plants in different locations that any single average or even range of costs may not apply to the many specific locations and cases that planners may have in mind. Thus, the data presented here can serve only as a first approximation on the subregional level. Definitive statements regarding the prospective investment and operating costs of any specific venture must necessarily be linked to a specified product mix, designated location and time period, and an engineering study taking all of these parameters into account.

Reporting on domestic shoe production in West Africa does not distinguish between actual production and stated capacities of plants. Also, type of output is not specified accurately. However, investment and production-cost data can vary significantly depending upon the output mix. This introduces a significant margin of error into any statement derived from the investment and production-cost data as obtained in field interviews.

Since currently another significant expansion is taking place especially in the shoe-manufacturing sector, and many projects are already firmly committed or in the construction stage, it appears best to discuss production in terms of the anticipated capacities for 1967, as shown in Table 13. Known existing plants as of 1966 are listed in Table 19 and are shown on a map in Figure 1.

Total production of footwear in the subregion in 1965 amounted to approximately 20 million pairs valued at an estimated \$27 million. For 1967, output is estimated at 31 million pairs with an approximate value of \$44 million. Nigeria accounts for a 14-million-pair capacity, or 45 percent of total production capacity in the subregion. Only 4 of the 16 plants listed in the Nigerian Industrial Directory are really significant, with more than 200 employees each. The greater part of the manufacturing capacity is located in the coastal areas, with only 1 or 2 large plants in the northern part of the state. Other large footwear producers are Ivory Coast and Senegal, with the plants also located in the more densely populated coastal areas. The Ghana factory, although scheduled for completion some time ago, will not get into production until 1967. The smaller footwear manufacturing capacities for the other nations refer in large part to the production of plastic shoes or rubber and textile footwear, in which economies of scale can be achieved at relatively lower levels.

Plastic Footwear

Plastic footwear has only come into its own in the last 3 to 5 years. It is usually produced by the extrusion process. A single machine is capable of turning out in excess of 1,000 pairs per 8-hour shift, with only about eight to ten men in attendance. Styles and sizes are limited, but a number of different jigs can be used with the same machine. Together with variations in the color of the material used, this can result in a variety of the output that does satisfy type, style, and size requirements of the low-priced market.

BASE MAP - WEST AFRICA SUBREGION

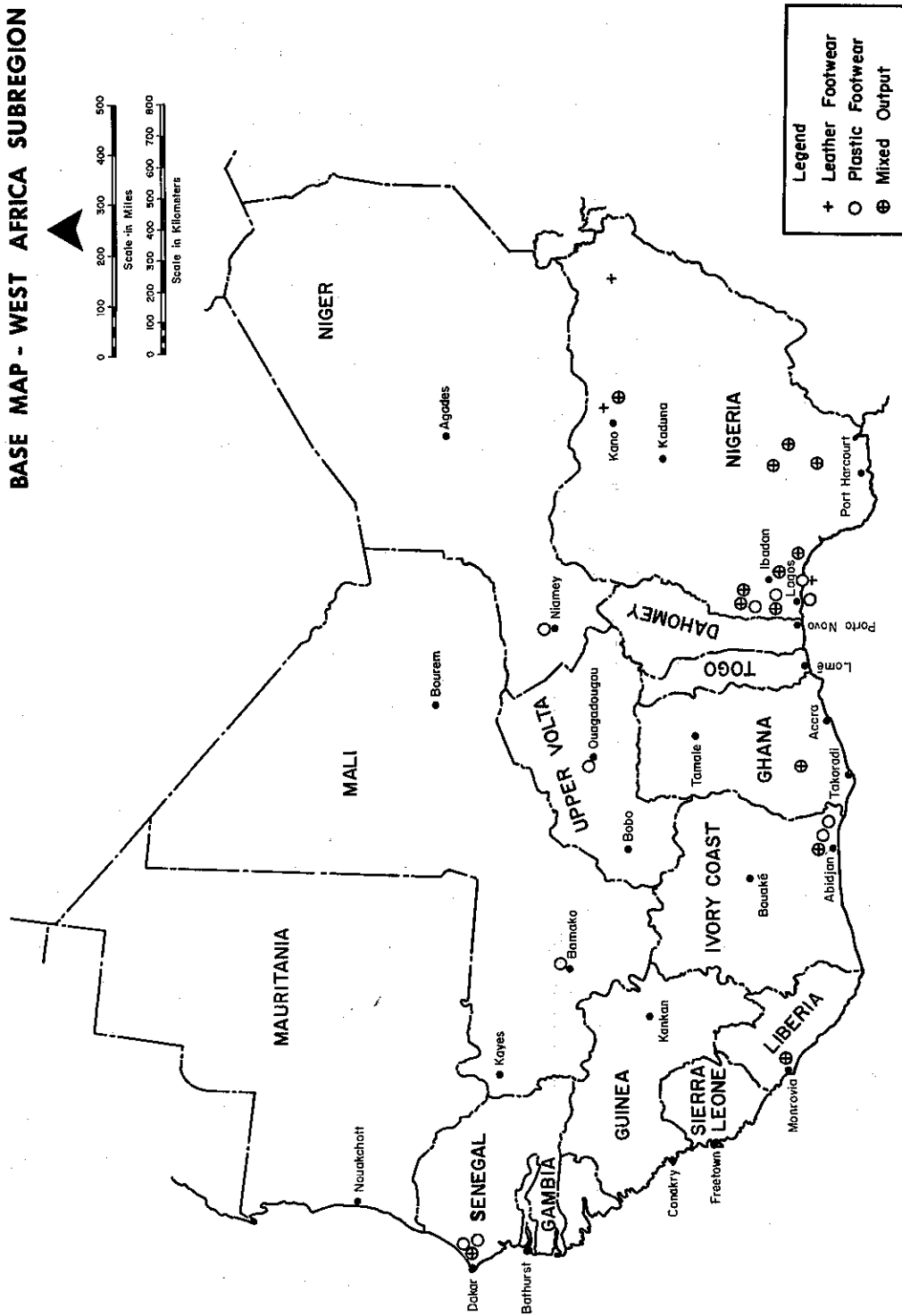


FIGURE 1. LOCATION OF SELECTED FOOTWEAR MANUFACTURING PLANTS IN WEST AFRICA, 1966(a)

(a) Includes plants under construction in 1966.

TABLE 19. LOCATION OF SELECTED FOOTWEAR MANUFACTURING PLANTS IN WEST AFRICA, 1966^(a)

Location	Name	Type of Output
Apapa, Nigeria	Bata Shoe Company (Nig.), Ltd.	Plastic, rubber, and leather footwear
Ijora, Nigeria	Britind Footwear, Ltd.	Plastic and rubber footwear
Apapa, Nigeria	Metalloplastica, Ltd.	Plastic footwear
Apapa, Nigeria	Utrilon Industries, Ltd.	Plastic footwear
Ibadan, Nigeria	Akinsanya Shoe Factory	Footwear
Ikeja, Nigeria	Bata Shoe Company, Ltd. (being expanded)	Leather footwear
Mushin, Nigeria	Polymera Industries, Ltd.	Plastic footwear
Ebute Metta, Nigeria	Salvi Shoe Manufacturing Company, Ltd.	Rubber and canvas footwear
Benin City, Nigeria	Co-Operative Shoe Makers Society, Ltd.	Footwear
Sapele, Nigeria	Omimi Shoe Company, Ltd.	Rubber and canvas footwear
Aba, Nigeria	Eastern Shoe Industry	Leather and rubber footwear
Owerri, Nigeria	The Modern Shoe Industry, Ltd.	Footwear
Onitsha, Nigeria	Okwuba Commercial Syndicate Beach Sandal Factory	Sandals
Kano, Nigeria	Nigerian Leather Works Co., Ltd.	Leather footwear
Kano, Nigeria	Nigerian Shoe Factory, Ltd.	Plastic, rubber, and canvas footwear
Maiduguri, Nigeria	Tomsu Shoe Manufacturers	Leather footwear
Kumasi, Ghana	State Footwear Corporation (under construction)	Leather, rubber, and plastic footwear
Abidjan, Ivory Coast	Bata S. A. Ivoirienne (being expanded)	Leather and other footwear
Abidjan, Ivory Coast	Manufacture Ivoirienne de Plastique Africaine	Plastic footwear
Abidjan, Ivory Coast	Cote d'Ivoire Plastique	Plastic footwear
Monrovia, Liberia	SCOLAST	Leather sandals, plastic, rubber, and canvas
Dakar, Senegal	Bata S. A. Africaine	Sandals, leather, plastic, rubber
Dakar, Senegal	SIMPA	Plastic sandals
Thies, Senegal	Societe Denegal Plastique	Plastic footwear
Bamako, Mali	Mali Plastique	Plastic footwear
Ouagadougou, Upper Volta	Volta Plastics	Plastic footwear
Niamey, Niger	SONIPLA	Plastic footwear

(a) Includes plants under construction in 1966.

To be sure, plastic shoes and sandals are not considered very desirable in terms of wearing comfort. Even if the shoe is designed for good initial fit and ventilation, the characteristics of the material do not compare fully to those of leather. But depending upon the material used, plastic shoes can last as long as or longer than leather or rubber and textile footwear. Also, plastic footwear is cheaper, and it does fulfill the most basic requirement of shoes, namely, to protect the feet. For that reason, plastic shoes have found wide market acceptance in the West African countries.

It is relatively inexpensive to establish a plastic footwear factory. A very simple concrete block building with a metal roof will suffice. If two or more of the extrusion machines are set up in one place, the necessary investment in auxiliary equipment such as a generator is spread over a wider base. In one instance, investment cost for such a complete plant capable of turning out 600,000 pairs of plastic shoes and sandals was reported at approximately \$200,000. The amortization period was given as 15 years. Raw-material cost for the imported plastic was approximately \$1.65 per kilogram at the plant, including import duties and transportation to the plant. Labor rates ranged

between 16 and 21 cents per hour. Under these circumstances, the following cost makeup of the output might be assumed.

	Cost	
	Percent	Cents Per Pair
Raw materials	75	60
Interest and depreciation	7	5
Labor, overhead, profit	<u>18</u>	<u>15</u>
Wholesale price	100	80

The distribution and retail function generally accounts for about 35 percent of the retail price of footwear. Thus, the plastic footwear selling at 80 cents per pair at wholesale would be priced around \$1.20 at retail.

As long as the plastic, which is the major raw material, must be imported, value added in this kind of operation is limited to somewhat less than 25 percent of the wholesale price. Furthermore, employment is not increased substantially by the establishment of such a plant. An annual output of 600,000 pairs of plastic shoes would require no more than about 25 to 30 employees. Thus, while the product manufactured by the plastic footwear industry in West Africa fills a real need in terms of providing low-cost shoes and sandals, this segment of industry is not a heavy contributor to general industrialization and employment unless it is backed up by a chemical industry that provides the major raw-material input.

Leather Shoes, Sandals, Rubber, and Textile Footwear

With the exception of plastic-shoe factories, other shoe manufacturing plants generally do not limit themselves to one type of footwear. Consequently, all investment and operating-cost data that could be obtained referred to plants with mixed output.

Even within the leather footwear department of a factory there exists a great variety of products that will affect costs, depending upon the specific mix in which they are produced. Although women's and children's shoes are produced also, sandals and men's shoes are the types used most often to represent the cost makeup. While sandals may take only 2 square feet of leather, men's leather shoes will require about 3 square feet. The cemented type of construction prevails, whereby the outsole is cemented to the bottom of the shoe. Lockstitch, nailed shoe construction, and other methods are less prevalent. The general trend with leather shoes and sandals in Africa is the same as elsewhere, meaning that other materials such as rubber and synthetics are being used increasingly for the outer soles.

There is a variety of styles, but it is more limited than that found in Europe and America. Widths are generally limited to one size, and variations are accomplished by different styling of standard parts using the same lasts. (Lasts are the wooden forms around which shoes are shaped.) Women's dress shoes, which at this time have only a very limited market in West Africa, are not produced locally but are imported.

The average cost makeup of leather shoes at the factory level shows a higher percentage of value added than with plastic shoes. In general, the following relationships apply:

<u>Cost Item</u>	<u>Percent</u>	<u>Cost of Sandals, cents/pair</u>	<u>Cost of Men's Shoes, cents/pair</u>
Leather	40	76	114
Other raw materials	20	38	57
Labor	8	15	23
Depreciation and interest	10	19	28
Overhead and profit	<u>22</u>	<u>42</u>	<u>63</u>
Wholesale price	100	190	285
Distribution and retailing		<u>100</u>	<u>145</u>
Retail price		\$2.90	\$4.30

The above analysis indicates that the value-added portion in the manufacture of leather shoes is limited to somewhere below 40 percent of the wholesale price. But depending upon what part of the raw materials has to be imported, the overall effect on industrialization may be a good bit more significant. Employment in the production of leather shoes is significantly higher than in the case of manufacture of extruded plastic shoes. An annual output of 600,000 pairs of leather shoes and sandals will require approximately 350 workers. If part of the output consisted of vulcanized-rubber-textile-type footwear, 250 workers might be sufficient.

Investment in a shoe factory producing several types of footwear, with leather shoes and sandals accounting for no more than about one-half of the output, appears to be on the order of \$0.80 to \$1.00 per pair of capacity on an annual basis. In other words, a factory capable of turning out 600,000 pairs per year would cost between \$480,000 and \$600,000. The additional working-capital requirement would be on the order of one-third of investment costs, or \$160,000 to \$200,000.

The potential effects of increased domestic production of footwear on price per unit and on prices in comparison to footwear imports can be seen from Table 20. Calculations in this table are based on unpublished data assembled by A. D. Little, Inc. Since no specifics regarding types of footwear and general price levels are known, it must be assumed that at least some of the trends apparent from these data are due to changes in the composition of imports and local production. However, it appears, from the data as presented, that compared to imports local production can reflect itself in cheaper prices because of simpler types and styles, lower labor rates, less taxation in comparison to imports, and increased economies of scale as the domestic operations grow larger. Without a detailed study of the facts underlying the figures, however, it would be wrong to conclude that domestic production of footwear has an advantage over imports in all of the variables mentioned. It may well be that the apparent advantage stemming from lower labor costs, use of indigenous raw materials, and lower taxation would be dissipated if one were to attempt complete coverage of the domestic market with all types, sizes, and styles of footwear demanded, regardless of complexity of manufacture and economies of scale.

Trade sources of information in West Africa indicated that at this time a shoe-manufacturing plant of an economical size would have to produce at least 150,000 pairs of footwear per year. It would probably cost \$160,000 to \$180,000 and employ some 100 laborers. As plant size increases, investment would drop down closer to the \$1.00 to \$0.80 per pair and output would reach the approximately 2,000 pairs per man per year mentioned earlier. This clearly points to the desirability of staying above the indicated minimum size for plants producing a mixed output of at least 150,000 pairs per year. All investment figures refer to locations in the coastal states. Locations in the interior

states would call for higher investment costs — at the extreme, up to twice those required for a plant establishment in the large coastal cities.

TABLE 20. COMPARISON OF DOMESTIC PRODUCTION AND IMPORTS OF FOOTWEAR, NIGERIA, 1960 TO 1964

	1960	1961	1962	1963	1964
<u>Domestic Production</u>					
Quantity, thousands of pairs	600	2,200	3,600	5,000	8,300
Value ex factory, thousands of dollars	420	1,540	2,380	3,500	5,880
Value per pair, dollars	0.70	0.70	0.66	0.70	0.71
Number of plants	4	4	5	8	17
Total investment, thousands of dollars	1,680	2,240	3,220	4,200	5,880
Investment per pair of capacity, dollars	2.80	1.02	0.89	0.84	0.71
Total employment	250	700	850	1,200	2,200
Output per worker, pairs	2,400	3,100	4,200	4,200	3,800
<u>Imports</u>					
Quantity, thousands of pairs	8,780	7,220	6,210	5,595	4,020
Value cif, thousands of dollars	9,436	9,198	7,946	7,529	6,440
Value per pair, dollars	1.07	1.27	1.28	1.35	1.60

Source: Unpublished data assembled by A. D. Little, Inc.

Tanning

Tanning is the process that converts hides and skins, highly perishable commodities, into leather, a semidurable product used primarily in the production of footwear. West African hides and skins are generally of relatively light weight. Chrome tanning of these hides converts them into a usable product for construction of shoe uppers. Tanned skins are used primarily for linings and the production of garments. Heavy leather is made for the most part by a vegetable tanning process. The manufacturing cycle is shorter, but the light hides available in West Africa are not especially suitable for the production of heavy sole leather.

Some tanning is carried on in all areas where livestock is slaughtered and hides and skins become available. However, commercial processing of hides is limited at this time essentially to two or three countries. Nigeria has the most developed tanning industry, producing about 14,000 square feet of leather annually. Production is concentrated in the two large tanneries located in Kano, namely, Great Northern Tanning Company, Ltd., and Holts Nigerian Tanneries, Ltd. Leather production of the other firms is of less importance or is concerned with pickled or semitanned skins that are exported. The tannery in Ghana is not operational yet, and the one in Ouagadougou is of relatively small scale. The Maradi plant has been under active consideration for several years, but construction has not started yet. The only other tanneries of commercial significance are both located in Senegal. Selected tanneries and their types of output are identified in Table 21 and Figure 2.

Investment in existing tanneries is not a guideline for future planning, since the tanneries were constructed at different times and under varying conditions. Trade sources estimate that a tannery of minimum economical size should process at least 50,000 cattle hides. At a dried weight of about 12 pounds per hide, this would make for

BASE MAP - WEST AFRICA SUBREGION

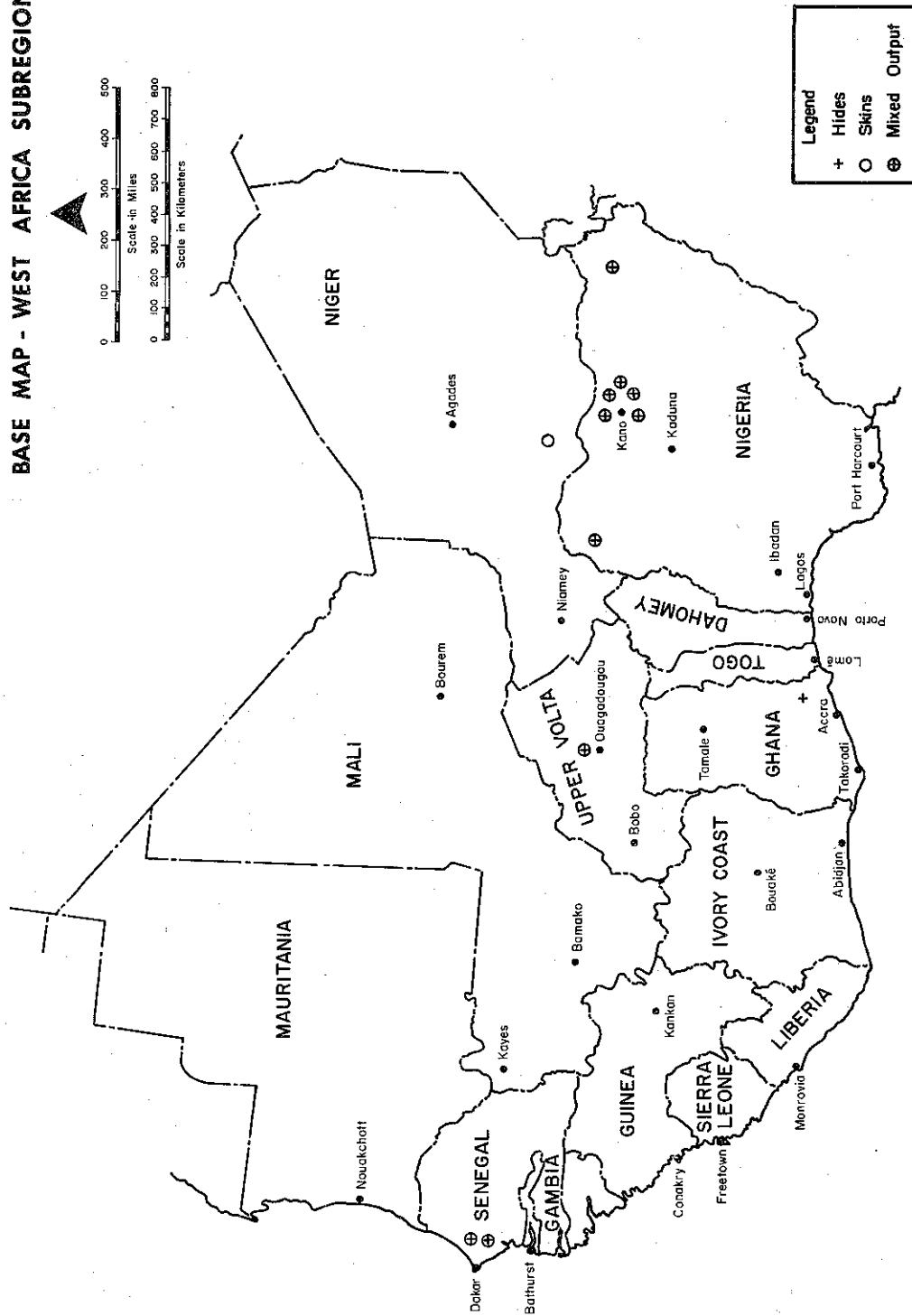


FIGURE 2. LOCATION OF SELECTED TANNERIES IN WEST AFRICA, 1965

an annual throughput of at least 600,000 pounds. Investment in this tannery would range between \$500,000 and \$800,000, and employment could range between 60 and 80 men. These are very rough approximations that would be subject to adjustments once the location, type of product, and throughput volume have been specified. Working capital for the above plant would amount to another \$120,000 under the assumption that its leather output would go to a nearby shoe factory and that inventory would not have to be carried for any great length of time.

TABLE 21. LOCATION OF SELECTED TANNERIES IN WEST AFRICA, 1965

Location	Name	Type of Output
Kano, Nigeria	Alhaji Abubakar	Pickled hides and skins
Maiduguri, Nigeria	Bornu Tannery, Ltd.	Pickled hides and skins
Kano, Nigeria	Darum Enterprises, Ltd.	Pickled hides and skins
Kano, Nigeria	Great Northern Tanning Company, Ltd.	Tanned hides and skins
Kano, Nigeria	Holts Nigerian Tanneries, Ltd.	Tanned hides and skins
Sokoto, Nigeria	Ministry of Animal & Forest Resources	Experimental tannery
Kano, Nigeria	United Africa Company, Ltd.	Dressed hides and skins
Aveyime, Ghana	State enterprise	Under construction, tanned cattle hides
Ouagadougou, Upper Volta	Centre de Tannage	Tanned cattle hides and skins
Maradi, Niger	Under consideration	Pickled skins for export
Dakar, Senegal	SAAB	Tanned hides and skins
Senegal	Unknown	Tanned hides and skins

Investment in a plant for pickling or semitanning of goat and sheep skins would not necessarily be lower. One recent proposition for a plant to process 400,000 goat and sheep skins (approximately 400,000 to 500,000 pounds dried weight) to be exported in the semitanned state estimates the necessary investment at \$550,000. The required employment was estimated at 41 men. Information on hand about economies of scale in the construction and operations of goat- and sheep-skin processing plants is inadequate to come to any conclusions regarding the minimum-size plant for this type of operation. It is known, however, that operating capital in relation to investment would have to be significantly higher (\$150,000 to \$200,000 in the above case) than in the case of a tannery supplying the local market. Carrying the finished inventory in transit to an overseas destination for another 2 to 3 months can be rather expensive. Limitations on the working capital of the operation may prevent operation at full capacity, which appears to be the case presently in one of the existing undertakings.

FEASIBLE EXPANSION OF FOOTWEAR PRODUCTION TO 1980

The extent of feasible expansion in domestic footwear production in the subregion to 1980 will depend primarily upon the extent to which actual market growth will correspond to the market projections shown in Table 18. The average annual growth rate of 7 percent that is assumed for the subregion as a whole can be maintained only if per capita income can be increased at least at the rate indicated in the ECA projections, and if domestic production due to heavy utilization of domestic raw materials and relatively light taxation can produce a lower-priced product in relation to current import prices.

A very rough estimate of unsatisfied demand by 1975 and 1980 that might be supplied in large part from expanded domestic production can be obtained by deducting current and currently planned production capacity from estimated 1975 and 1980 market requirements. This has been done in Table 22. Apparently, unsatisfied demand for 1975 will amount to approximately 34 million pairs of footwear, and for 1980, 60 million.

TABLE 22. APPARENT DIFFERENCE BETWEEN CURRENT FOOTWEAR-PRODUCTION CAPACITY AND ESTIMATED DEMAND FOR FOOTWEAR IN 1975 AND 1980

Country	Capacity ^(a)	1975 Demand	Difference, thousands of pairs	1980 Demand	Difference, thousands of pairs	1980 Demand for Leather Footwear
Nigeria	14,000	27,700	13,700	43,400	29,400	15,600
Dahomey	--	470	470	700	700	210
Togo	--	450	450	600	600	180
Ghana	2,500	5,400	2,900	7,200	4,700	2,200
Ivory Coast	5,000	8,000	3,000	10,800	5,800	3,800
Liberia	1,000	2,700	1,700	3,000	2,000	1,000
Sierra Leone	700	2,000	1,300	3,000	2,300	900
Guinea	600	3,000	2,400	3,500	2,900	1,000
Gambia	--	740	740	900	900	270
Senegal	6,000	8,400	2,400	9,500	3,500	3,300
Niger	300	1,600	1,300	2,100	1,800	600
Upper Volta	200	2,400	2,200	3,600	3,400	1,150
Mali	500	1,900	1,400	2,400	1,900	700
Mauritania	--	240	240	300	300	90
Total ^(b)	31,000 ^(c)	65,000	34,000	91,000	60,000	31,000

(a) Includes plants and plant expansions scheduled to be in operation by 1967.

(b) Rounded to nearest million.

(c) Estimate that this includes no more than 8 to 9 million leather shoes and sandals.

It would be wrong, however, to assume that all demands could be supplied entirely from domestic production. An estimated 10 percent of total consumption will always more profitably be imported, since some types and styles of footwear are not in sufficient demand in the subregion to warrant domestic production. Thus, deducting from the 65-million-pair potential demand for 1975 the 10 percent that are likely to be satisfied from imports, and deducting from this residual the current production capacity of approximately 31 million pairs, feasible expansion of domestic production by 1975 might

be on the order of 28 million pairs per year. In the same manner, deducting 10 percent for imports from the 91-million-pair estimated demand for 1980, and deducting from this residual the 31-million-pair domestic production capacity available now or in the very near future, indicates an expansion potential of the domestic footwear industry of 51 million pairs by 1980.

Required Investment and Employment

Before even the roughest estimate of investment can be made, some assumptions must be made regarding the composition of the additional output. Plastic footwear may not be the most desirable product in terms of comfort, but its ease of manufacture and low cost will assure that it remains an important mass-market item in the future. Thus, it is assumed that on the average, 35 percent of the additional domestic production capacity would be in facilities to make plastic shoes by the extrusion process. By 1980, this would amount to an additional plastic-shoe manufacturing capacity of 18 million pairs and would require an investment of approximately \$6 million at today's prices. Employment would be on the order of 1,000 people. Minimum-size units would produce 600,000 pairs of plastic shoes and sandals per year. Factory value of the entire output of 18 million pairs might be in the neighborhood of \$15 million.

If the other 65 percent of the potential expansion in capacity took place in leather shoes and sandals, and rubber and textile footwear, the total capacity to produce these 33 million pairs annually by 1980 would require an investment of \$30 to \$35 million. Employment would be on the order of 18,000. Again assuming no significant changes in economies of scale, the minimum-size factory should probably not undercut the 600,000-pairs output considered today to be a minimum viable unit. Larger units would make for somewhat lower investment cost. The ex-factory cost of the output of this new segment of the industry might approach \$60 million annually. Investment figures in each case would include funds to send key employees for 6 months to 1 year for on-the-job training to comparable plants in more industrialized countries. Working capital in each case would amount to approximately one-fourth of the annual sales.

Timing of the expansion envisioned here would have to be delayed toward the latter part of the periods indicated. Footwear-manufacturing experts indicate that in countries such as Nigeria present capacity is not fully utilized, or at least that minimal additional investment in existing plants could serve to expand capacity somewhat before new plants should be built. Thus new plants probably should not come into production until 1970. Demand at that time would indicate whether the significant rate of expansion needed to meet the 1975 and 1980 goals envisioned here is justified. Based on past experience, private industrial initiative could be counted upon to make the proper decision and bring forth investment funds, given a favorable government policy.

Location of Feasible Expansion in Capacity

Shoe manufacturing in general should be located close to the market — that is, close to the centers of population to be served. In Nigeria, that would mean an expansion of both the industry segments in the coastal areas as well as that in Northern Nigeria. The anticipated size of the shoe markets in Togo and Dahomey would not appear to justify establishment of a multiple-product and style shoe factory except perhaps that of a

minimum-size extrusion plant for plastic footwear to serve both of these countries. Expansion in Ghana would logically take place at Kumasi where the present shoe factory is being constructed, or at Aveyime, adjacent to the new tannery. Enough is not known about the distribution of population and marketing pattern of present shoe manufacturing plants in Ivory Coast to recommend specific locations there. Inasmuch as Liberia, Sierra Leone, and Guinea all have established the beginnings of a footwear industry of their own, enlargement of existing plants there to satisfy local markets appears more reasonable than the suggestion of different locations. The same holds true for Senegal.

There are countries other than Togo and Dahomey that even in 1980 will have such a limited demand for footwear that they could better be served from larger factories located in adjacent countries. Mauritania falls into this class. Mali, Upper Volta, and Niger all presently have plastic-shoe plants, which will find enough of a local market to expand over the next decade. However, as far as leather and rubber and textile footwear is concerned, it appears that these countries too could be served more cheaply from the coastal areas. Assuming relative absence of trade barriers between countries within the subregion, Mali would best be served from Senegal. Upper Volta has transportation links to Abidjan. For Niger, the closest source of supply for manufactured footwear other than plastic shoes would be via existing and planned transportation links to Northern Nigeria.

The urge to industrialize all the way into shoe manufacturing on the basis of existing raw materials (hides and leather), has already led to negotiations on the part of Upper Volta for the establishment of a small shoe factory there, with the tentative assurance of being able to market part of the output in Ivory Coast. Instances of this nature, though not necessarily in accord with the recommendations made here, are a desirable development in that the bilateral agreements on which they are based may eventually be expanded into multistate cooperation on a broader basis.

The guiding principle in locating additional footwear-manufacturing capacity should be closeness to existing and anticipated markets. Differences in investment costs cannot be gauged accurately at this stage, and differences in labor costs do not appear sufficiently large to base the location of new manufacturing capacity on it. Furthermore, location of raw materials is by no means as compelling a factor for footwear manufacturing as for tanneries (discussed in the following section). Thus, as long as a minimum-size economic operation can be justified, general transportation availability and relative closeness to the markets should remain the governing factors.

For long-range planning purposes it is desirable to obtain an indication of the likely distribution by country of additional footwear-manufacturing capacity together with required capital and potential direct employment. Such estimates are furnished in Table 23. Differences in investment and operating capital arising from economies of scale and differences in location have been incorporated only to the limited extent that the spotty nature of available information permitted. It should be understood, therefore, that accuracy of individual estimates shown in Table 23 is admittedly low. These estimates are presented merely as an indication of the likely distribution of investment and employment until more detailed and specific studies can be made.

TABLE 23. POTENTIAL DISTRIBUTION OF ADDITIONAL PRODUCTION CAPACITY REQUIRED TO MEET ESTIMATED DEMAND FOR FOOTWEAR IN 1975 AND 1980

Estimated investment and operating capital at 1964-65 cost levels.

	Dahomey -				Ivory Coast	Sierra Leone		Guinea and Gambia		Senegal	Niger	Upper Volta		Mali	Mauritania	Total for the Subregion	
	Nigeria	Togo	Ghana	Liberia		Leone	Gambia	Volta									
1968-1975 Period																	
Plastic Footwear, millions of pairs	4.0	--	1.0	1.0	0.5	--	1.0	1.0	1.0	1.0	--	1.0	0.5	--	--	10.0	
Investment, millions of dollars	1.3	--	0.3	0.3	0.2	--	0.3	0.3	0.3	0.3	--	0.4	0.2	--	--	3.3	
Operating Capital, millions of dollars	0.6	--	0.2	0.1	0.1	--	0.2	0.2	0.1	0.1	--	0.2	0.1	--	--	1.6	
Employment, number of workers	220	--	55	55	27	--	55	55	55	55	--	55	28	--	--	550	
Leather and Other, millions of pairs	11.0	--	2.0	1.5	--	1.0	1.0	1.0	--	--	--	1.5	--	--	--	18.0	
Investment, millions of dollars	11.0	--	2.0	1.5	--	1.0	1.0	1.0	--	--	--	1.5	--	--	--	18.0	
Operating Capital, millions of dollars	3.7	--	0.7	0.5	--	0.3	0.3	0.3	--	--	--	0.5	--	--	--	6.0	
Employment, number of workers	6,000	--	1100	850	--	600	600	600	--	--	--	850	--	--	--	10,000	
1976-1980 Period																	
Plastic Footwear, millions of pairs	3.0	1.0	1.0	1.0	--	1.0	--	--	--	--	1.0	--	--	--	--	8.0	
Investment, millions of dollars	1.0	0.4	0.3	0.3	--	0.3	--	--	--	--	0.4	--	--	--	--	2.7	
Operating Capital, millions of dollars	0.6	0.2	0.1	0.1	--	0.2	--	--	--	--	0.2	--	--	--	--	1.4	
Employment, number of workers	165	57	57	57	--	57	--	--	--	--	57	--	--	--	--	450	
Leather and Other, millions of pairs	7.0	--	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	--	1.0	--	--	15.0	
Investment, millions of dollars	7.0	--	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	--	1.0	--	--	15.0	
Operating Capital, millions of dollars	2.4	--	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	--	0.4	--	--	5.0	
Employment, number of workers	3,600	--	550	550	550	550	550	550	550	550	550	--	550	--	--	8,000	

Raw Materials and Intermediate Products Required

Major raw materials used in the leather and shoe industry are cattle hides and some goat and sheep skins. Their relative availabilities, qualities, and prices have a great deal to do with the extent to which shoe manufacturers will make use of substitute materials such as rubber, textiles, and synthetic materials. Hides and skins are available in the subregion, and their adequacy in relation to present and anticipated shoe manufacturing in West Africa will be discussed in a separate chapter.

Beyond this, however, there are a number of inputs from other industries. In the case of plastic shoes and sandals, the incremental production of 18 million pairs by 1980 would require some 6,000 metric tons of plastic raw material such as polyvinyl chloride in bead form, at a purchased-price f.o.b. shoe factory ranging from \$10 million for imported material down possibly to \$8 million if the material could be produced within the subregion.

It is impossible to estimate individually the amounts and values of other purchased inputs, such as linings, rubber for soles, heels, and vulcanizing, cement, thread, tacks, and nails. According to one shoe manufacturer with a mixed product line, about 30 percent by value of the raw materials in his product mix must be imported. Applying this to the incremental production of some 33 million pairs of leather, rubber, and textile shoes and sandals that might possibly be produced by 1980 in addition to present capacity, required that imports priced at the factory (including customs and transportation) amount to \$12 to \$15 million.

Transportation and Marketing Systems

The potential additional domestic shoe-manufacturing capacity of 51 million pairs per year that may be justified by 1980 will pose additional requirements upon the transportation system of the subregion. However, the grand-total volume of raw materials involved would not be likely to exceed 70,000 tons, and the product weight as marketed would probably be less than 50,000 tons. Furthermore, demands for transportation services would not be so concentrated as to justify construction or expansion of specific transportation services or routes for the express purpose of moving the raw materials or finished products involved. Thus, while increased footwear manufacture would benefit from expanded and improved transportation services in general, that industry would be only one of many enterprises the expansion of which would make improvement of transportation services desirable. An indication of likely quantities of footwear that may have to be moved between countries by 1980 under the supply-and-demand situation projected above is given in Table 24.

If the expanded footwear-manufacturing capacity were located in the industrial areas of the coastal states, it could best make use of existing transportation services both in terms of required imports and inputs originating with other industries locally, as well as raw materials originating in the interior of the country. Also, the marketing system for consumer goods is best developed in the larger cities. Existing types of department and specialty stores could well be used to market the increased amount of footwear. For distribution into the less-populated areas in the interior of each country, the existing system of wholesalers, mammy wagons, and peddlers appears adequate.

TABLE 24. ANTICIPATED BALANCE OF FOOTWEAR SUPPLY AND DEMAND BY COUNTRY,
WEST AFRICA, 1980

Thousands of Pairs

Country	1967 Capacity	Additional Capacity by 1980	Likely 1980 Imports From Outside of Subregion	Total Supply	Total Demand	National(a)	
						Excess	Deficit
Nigeria	14,000	25,000	2,800	41,800	43,400	--	1,600
Dahomey	--	--	100	100	700	--	600
Togo	--	1,000	100	1,100	600	500	--
Ghana	2,500	5,000	500	8,000	7,200	800	--
Ivory Coast	5,000	4,500	1,200	10,700	10,800	--	100
Liberia	1,000	1,500	700	3,200	3,000	200	--
Sierra Leone	700	3,000	600	4,300	3,000	1,300	--
Guinea	600	3,000	800	4,400	3,500	900	--
Gambia	--	--	500	500	900	--	400
Senegal	6,000	2,000	1,500	9,500	9,500	--	--
Niger	300	2,000	100	2,400	2,100	300	--
Upper Volta	200	2,500	100	2,800	3,600	--	800
Mali	500	1,500	100	2,100	2,400	--	300
Mauritania	--	--	100	100	300	--	200
TOTAL	30,800	51,000	9,200	91,000	91,000	4,000	4,000

(a) Interregional movements of footwear prior to 1980 will be largely due to the different construction schedules of plans in different countries.

It certainly would be desirable to reduce the number of intermediate hands through which consumer goods in this kind of setup presently have to pass. However, creation of a new type of distribution system for footwear does not appear to be indicated. The marketing margin of approximately 35 percent based on the retail price for footwear (discussed earlier) applies to marketing and retailing in the cities. In the distribution system extending into the most remote villages, the product will change hands more often and total marketing margins may be higher.

FEASIBLE EXPANSION OF LEATHER PRODUCTION TO 1980

The primary market for leather made from cattle hides lies in footwear. Tanned goat and sheep skins are used predominantly in leather garments. The markets for leather garments, however, appear to be concentrated in Europe and North America, since most of them fall into the class of luxury goods. For that reason, feasible expansion of the tanning industry in West Africa will be limited, apart from raw-material considerations, by the size of the market for leather shoes and sandals at home and by the ability to export tanned goat and sheep skins to other countries with more mature economies and significantly higher per capita income.

Availability of Hides and Skins

In contrast to precious furs of animals such as minks, Persian lambs, and seals, hides and skins are by-products of livestock production for meat. Even though they are the most valuable by-products that become available at the time of slaughter, hide and skin quantity, location, and quality depend upon factors and considerations that are beyond the control or influence of the leather and shoe industry. Since the leather and shoe industry must adjust to and live with these factors and influences, the following background information is pertinent.

Production of livestock for meat is subject to limitations that act on both the supply and demand side. On the supply side, climate, land and feed availability, incidence of disease, the state of the art in animal husbandry, and the development of the local livestock marketing system, all set limits to the number of cattle, goats, and sheep that can be produced in West Africa. Some of the present limitations will become less severe as time goes on, but others will always remain.

West Africa can be divided into two main zones – the Savanna to the north and the Coastal Zone to the south. The livestock-producing areas of the Savanna include large parts of Senegal, the southern and western part of Mauritania, Mali, Upper Volta, Niger, the northern parts of Guinea, Ivory Coast, Ghana, and northern Nigeria. Livestock production is limited on the north by the supply of water and on the south by the tsetse fly. In the northern steppe, rainfall is concentrated during a few months of the year, and the natural-feed supply is rarely sufficient for the whole year. Therefore, cattle are forced to move southward during the dry season. But, owing to the widespread presence of tsetse fly, the cattle are seldom able to remain there permanently and have to return to the drier north each year at the onset of the rainy season. This seasonal movement constitutes the annual migration. The cattle are largely owned by nomadic Fulani, Moor, and Tuareg tribes. In the West African Coastal Zone, the tsetse fly is the limiting factor. The cattle population is small and consists of tsetse-resistant breeds such as N'Dama and Baolé. The total cattle population of West Africa has been estimated at about 25 million head, of which more than four-fifths are found in the Savanna.

There are reportedly 52 million sheep and goats in West Africa. Sheep are concentrated chiefly in the drier zones of the Savanna, owing to their susceptibility to parasitism and pneumonic diseases. Also, they can withstand the dry season better than cattle. Goats are more widespread, since they can survive in areas of high humidity. Thus, they are found in the southern part of the Savanna and the Coastal Zone of Nigeria as well.

Animal husbandry as practiced in North America and Europe is not very widespread in West Africa. This is due largely to climate and sociological factors, which make the transition from nomadic to commercial livestock production very difficult. As a result, the birthrate for breeding stock stands only at 50 percent, the slaughter age of cattle is nearly 6 years, the meat yield during slaughter is less than 50 percent, and overall meat production is only about 15 kilograms per capita. The comparable figures for Europe and North America are an 80 percent birthrate of breeding stock, a cattle slaughter age of 2 years or less, a slaughter yield of nearly 60 percent, and a per capita meat production of around 70 kilograms.

On the demand side, the religious beliefs of some groups and low per capita income limit meat consumption. Meat-consumption records are not available, but for the whole of Africa meat consumption is estimated to be about 10 to 12 kilograms per person, while in Europe and North America it ranges between 40 and 90 kilograms.

Current estimates of the cattle, goat, and sheep population of individual countries are generally unreliable because of the nomadic-type livestock enterprises. The most accurate figures generally are obtained either from cattle tax returns collected by district authorities or from disease-control statistics collected by the veterinary departments at their immunization camps. Both sources of data generally lead to underestimates since tax evasion is a common practice and not all livestock owners appreciate the value of precautions against disease*.

All of the problems encountered in livestock and meat production in West Africa are very difficult to overcome. Therefore, it will be many years before a really significant increase in livestock production in relation to population will materialize in that region. In some countries, cattle numbers will not be increased appreciably, but improvements will take place mostly in the quality of livestock kept and the efficiency of meat production. Estimates of the future livestock population in the West African countries based on existing data are shown in Table 24.

Reliable statistics on livestock slaughter are not available, since only a small percentage of all animals killed are slaughtered under government inspection. Government slaughterhouses or abattoirs are usually larger in size and are situated in the consuming centers. Some of them were built for the express purpose of providing meat for export purposes. However, the bulk of animals are killed in small slaughter facilities widely dispersed throughout the livestock-producing regions. No data are available on their operations.

A factor that made reconciliation of the present number of livestock, livestock slaughter, and the availability of hides difficult is the occurrence of sizable movements of livestock on hoof from one country to another. It is the stated goal of most of the countries with appreciable livestock resources to discontinue the movement of cattle on hoof, and to slaughter them locally and transport the meat instead. This will make for a closer correlation between the location and number of livestock and the location and number of hides becoming available in a given area.

*Mittendorf, H. J., and Wilson, S. G., *Livestock and Meat Marketing in Africa*, Food and Agriculture Organization of the United Nations, Rome (March 1961).

TABLE 25. ESTIMATED FUTURE NUMBER OF LIVESTOCK BY COUNTRY
AND ESTIMATED ANNUAL LEVELS OF SLAUGHTER, 1975
TO 1980^(a)

In Thousands

Country	Cattle		Goats and Sheep	
	Number	Annual Slaughter	Number	Annual Slaughter
Nigeria	11,000	1,650	34,000	11,900
Dahomy	400	45	1,100	300
Togo	250	30	1,200	300
Ghana	800	100	1,500	500
Ivory Coast	500	60	1,000	350
Liberia	50	6	--	--
Sierra Leone	300	35	800	250
Guinea	1,000	120	1,000	300
Gambia	Minor		Minor	
Senegal	1,500	150	1,500	450
Niger	3,600	430	9,400	3,500
Upper Volta	2,500	300	3,200	600
Mali	5,000	500	11,800	3,400
Mauritania	2,000	200	6,000	2,000
Total	29,000	3,600	72,000	24,000

(a) This table is based on the following sources:

- (1) FAO Production Yearbook (1964)
- (2) Livestock and slaughter reports of the individual countries
- (3) Goals stated in various development plans
- (4) Interviews with livestock specialists.

Estimates of the number of hides and skins that might become available at all slaughtering locations in the West African countries 10 to 15 years hence is also shown in Table 25. These estimates are based on the few data on slaughter that are reported and on expected improvements in the slaughter rate over the next 10 to 15 years.

The quality of the hides and skins is relatively low by western standards. This is because flaying at the slaughterhouse often is done carelessly, resulting in cuts and holes in the hides. Air drying, pack salting, or brine curing to preserve the hides are all practiced to some extent. Air drying is by far the most prevalent method. But often these processes are carried out inadequately or inappropriately, so that the hides must be downgraded even further*. However, all these are problems that can be overcome much more readily than those discussed in connection with livestock production in general. Much extension work to improve the handling of hides and skins has been undertaken in Africa and has been successful in a number of countries. Thus, the outlook for 1975 should point to a general improvement in the quality of hides and skins produced within the West African countries.

The expected slaughter figures shown in Table 25 indicate the potential supply of hides and skins. In reality, however, a sizable part of slaughter activities takes place in remote villages where no attempt is made to salvage the hide or where there is no economical means of getting it to a further processing point. If at present only about 50 percent of the hides and skins from slaughtered animals are finding their way into processing and exports or domestic tanneries, it would be presumptuous to assume that all of the hides and skins available from slaughter 10 years hence will be able to be processed. A more realistic estimate might be that only up to 3 million cattle hides and approximately 20 million goat and sheep skins might become available annually for processing.

Required Investment and Employment

If the 3 million cattle hides that potentially might become available for commercial processing the subregion all were tanned domestically, a leather production of 90 million square feet might be envisioned. This would be adequate for the production of the 31 million pairs of leather sandals and shoes that might be marketed by 1980. However, exploitation of what appears to be a market for leather shoes and sandals will depend heavily upon the extent to which full use is made of the hide resources and the extent to which tannery capacity is expanded. The optimum expansion under the assumption that 3 million cattle hides can be collected by 1980 would amount to a cattle-hide-processing capacity of approximately 2.5 million hides. Current capacity could accommodate the remaining 500,000 hides.

On the basis of the limited data available on tannery investment under the varying conditions to be encountered in West Africa, some \$35 to \$40 million will be required to establish sufficient capacity to process 2.5 million cattle hides annually. This would include land, buildings, equipment, and engineering and contracting fees. Requirements for operating capital would add another \$10 million.

The amount of labor required for expanded cattle-hide-tanning capacity would vary with the size of plant. If individual operations are kept to a scale that permits certain labor efficiencies, e.g., individual processing volumes approaching 100,000 hides per

*Mittendorf, H. J., and Louwes, H. J., Hides and Skins Marketing in Africa and the Near East, Food and Agriculture Organization of the United Nations, Rome, April, 1963.

year, aggregate additional employment might be on the order of 2,500 to 3,000 jobs. If smaller-size plants were constructed, both investment cost and labor requirement per unit processed would be higher.

Sheep and goat skins present a somewhat different situation. As mentioned before, their primary commercial market in processed form is overseas. In the past, West African industry has pretanned these skins and then sent them to manufacturers overseas for finishing and manufacture into garment and other leather goods. The present consensus of sources in the leather-working industries is that this will continue to be the most appropriate method of using the West African goat and sheep skin resources. The market for the final goods will remain limited to countries with a relatively high per capita income, and the sophistication required in terms of leather finishing and styling of garments could be acquired by the West African nations only at an excessive cost. Thus, if pretanning and export of sheep and goat skins remains the best procedure, additional investment would be limited to that necessary to process some 12 million additional skins per year. Together with the approximately 8 million skins processed and exported annually at this time, capacity would then be sufficient to take care of the nearly 20 million skins that could potentially be collected from slaughter points in 1980.

Incremental investment for the processing capacity of 12 million skins can vary from \$15 to \$20 million, depending primarily upon location. The interior countries have had several detailed engineering studies made that point out very well the great extent to which investment costs will depend upon variations in location and specifications. Employment would be on the order of 1,000 persons.

Timing of the expansion would have to be geared to the ability to obtain skins of good quality from slaughtering locations and to conditions on the world market. It will take many years to upgrade slaughtering locations and methods. Beyond this, only a part of the West African goat and sheep skins are of the high grade that is especially desirable to buyers of pretanned skins in Europe and North America. Whether the world market will be able to absorb the increases in quantities that appear possible by 1980 will depend in part upon the extent to which the countries in the subregion are able to maintain and upgrade the quality of raw material and the pretanned stock. Since upgrading is a long-term proposition, most of the additional capacity would probably not develop before 1975. Since nearly all tanneries in the region are private industrial enterprises, one would assume that expansion from that direction would come forth readily, given an effective demand and a favorable government attitude.

Location of Feasible Expansion in Capacity

The locations at which the bulk of the hides and skins become available, and the location of domestic shoe manufacturing and exporting give some choice as to the general area in which expansion of tannery capacity would be reasonable. From a resource point of view it should be concentrated in northern Nigeria, Niger, Upper Volta, Mali, Mauritania, and possibly Senegal. This is where the bulk of slaughter will occur in the future. In contrast, the coastal states with the shoe-manufacturing capacity and shoe market as well as the export facilities, would have the advantage of significantly lower plant-construction costs. On the basis of data available from recent years, plant-construction costs in the coastal cities would amount to only 60 to 80 percent of those encountered in the interior areas.

Labor costs do not appear to be significantly different in the various areas, and would therefore not be a significant factor. Estimations on the basis of transportation costs do not point to a clear-cut solution either, because the air-dried hides and skins do not represent a significantly greater weight than the finished-product leather. The interior states, which have smaller populations and markets for consumer goods are more pressed to industrialize along the lines of available raw materials and semiprocessed goods. On a strict cost basis it remains to be demonstrated by specific case studies whether interior or coastal areas would be the best locations, but considering the overall balance of industrialization in the subregion, it appears desirable to concentrate the production of semimanufactured goods like leather in the areas of raw-material origin, which clearly are northern Nigeria, Niger, Upper Volta, and Mali.

For long-range planning purposes it is desirable to obtain an indication of the likely distribution of additional tannery capacity by country, together with required capital and potential direct employment. Such estimates are furnished in Table 26. It must be repeated here, however, that the basic relationships between capacity, investment, and employment have been developed from spotty data relating to specific locations and circumstances, which limits the reliability of the data for general use. Using these relationships of limited reliability to distribute the overall required investment and employment over the individual countries makes the resulting data of even more limited value. The resulting estimates are presented merely as an indication of the likely distribution of investment and employment until more detailed and specific studies can be made.

TABLE 26. SUGGESTED GEOGRAPHICAL DISTRIBUTION OF ADDITIONAL TANNING CAPACITY REQUIRED TO MEET ESTIMATED DEMAND IN 1980

	Nigeria	Guinea	Senegal	Niger	Upper Volta	Mali	Mauritania	Total for Subregion
Cattle Hides, thousands	1,200	100	50	400	200	400	150	2,500
Investment, thousands of dollars	19,200	1,600	800	6,400	3,200	6,400	2,400	40,000
Operating Capital, thousands of dollars	2,880	240	120	960	480	960	360	6,000
Employment	1,440	120	60	480	240	480	180	3,000
Goat and Sheep Skins, thousands	6,000	--	--	2,500	--	2,500	1,000	12,000
Investment, thousands of dollars	9,900	--	--	4,200	--	4,200	1,700	20,000
Operating Capital, thousands of dollars	4,950	--	--	2,100	--	2,100	850	10,000
Employment	500	--	--	205	--	205	90	1,000

Raw Materials and Intermediate Products Required

Major raw-material and purchased input other than the hides and skins themselves are the tanning extracts and chemicals. A recent engineering study for a potential tannery project in Niger estimated total cost of a tanned cattle hide to be approximately \$11, the cost of the chemicals amounting to 18 percent of this. Cost of a pretanned skin was calculated at about \$2.00, with chemicals accounting for about 7 percent of the cost makeup. On that basis, the input from imported or locally produced chemicals and tanning capacity for 2.5 million cattle hides and 12 million skins might be valued at between \$7 and \$10 million. To what extent it would be feasible to produce these inputs locally and thus lower their cost cannot be determined without a detailed examination of the capabilities of the domestic chemical industry.

Many small tanneries collect and process the bark of certain indigenous trees to obtain a major part of the tanning extracts required. This helps to lower their operating costs. To what extent these sideline operations can be placed on a commercial basis to lower the cost of tanning cattle hides and of pretanning skins on a large scale should be made the subject of a special investigation.

Transportation and Marketing Systems

A limiting factor to the expansion of tannery capacity will be the difficulty of obtaining quickly and in good condition the hides collected at local slaughterhouses. As the slaughtering activity becomes more concentrated in modern abattoirs, this difficulty will be reduced. However, as long as a significant part of the slaughter takes place in the individual villages and as long as the tanning industry is dependent upon collection of these hides, the current system of hide marketing and collection must be streamlined, and adequate grade standards must be established and enforced. This will be a long-term effort, and results will become visible only after a number of years.

Transportation of the finished leather or pretanned skins will pose less of a problem. The combined weight of the incremental 25 million tanned cattle hides and 12 million pretanned skins would represent no more than 50,000 tons, which the expected expansion in rail and road system should be able to accommodate. On the other hand, the fact that this movement would be distributed over an area of several countries would prevent consideration of it as a justification for building specific new transportation links. Only in conjunction with many other commodities moving over the same routes would the expanded tannery capacity and the movement of goods generated by it help to justify an expanded transportation system. There may be exceptions, however.

Cattle hides will be collected in 13 of the 14 countries of the subregion (see Table 23). Cattle-hide tanneries will be located in only 7 of these countries (see Table 26). Footwear-manufacturing plants producing some leather sandals and shoes will be distributed over 11 of the countries. But the movement of raw materials and leather between countries will in each case amount to only a fraction of the supply or production.

Goat and sheep skins will be collected in 12 countries (Table 25). Pretanning will take place in only 4 countries (Table 26), and nearly the whole output will go into export. While the interstate movement of dried goat and sheep skins to the tannery will amount to only a fraction of total raw material, the movement from the tanneries into export could be sufficiently substantial to warrant separate consideration by transportation economists.

POTENTIAL IMPORTANCE TO ECONOMIC
DEVELOPMENT OF WEST AFRICA

Footwear

The expansion of the footwear industry in West Africa to 1980 that has been deemed feasible in this report would make an important contribution to the economic development of the subregion.

With an additional annual production of 18 million pairs of plastic footwear and 33 million pairs of leather and other footwear by 1980, the value of annual factory sales would amount to \$16 million and \$60 million, respectively, with value-added portions of 25 and 40 percent, respectively. The value thus contributed to gross domestic product (GDP) in the subregion would amount to about \$28 million. This is about 0.25 percent of the subregion's annual increase in GDP of \$13 billion estimated by ECA during the period 1965-1980. Capital needs of about \$52 million would constitute about 0.96 percent of the \$5.4 billion private capital expenditures in 1980. Total expansion in employment of about 19,000 employees is estimated.

Plastic-footwear manufacture could be distributed in most of the 14 countries, while manufacture of leather and other footwear would preferably be located in Nigeria, Ghana, Ivory Coast, and Senegal.

Tanning

Growth of the subregion's tanning industry visualized in this study involves annual-production increases by 1980 of 2.5 million cattle hides and 12 million goat and sheep skins, having factory sales values of \$27 million and \$24 million, respectively. Value-added portions are 55 and 40 percent, respectively. Thus, the total addition to the annual GDP would be \$24.5 million by 1980, or 0.19 percent of the subregional annual-GDP increase over the period 1965 to 1980, of which exports (goat and sheep skins) would constitute \$9.6 million.

Capital-formation needs would total about \$71.5 million, or 1.32 percent of the estimated subregion's private capital expenditures of \$5.4 billion in 1980. Expansion in employment would amount to around 4,000 employees.

The local and national impacts of the tanning industry would be quite important, since preferable locations are in the relatively underdeveloped, industrialized countries of northern Nigeria, Niger, Upper Volta, Mali, and Mauritania.

BIBLIOGRAPHY

- (1) Church, R. J. H., West Africa: A Study of the Environment and of Man's Use of It, Longmans Green and Co., Ltd., London (1963).
- (2) Food, and Agriculture Organization, Production Yearbook 1964, Volume 18, Food and Agriculture Organization of the United Nations, Rome, Italy.
- (3) "Report of the West African Industrial Co-Ordination Mission", Economic Commission for Africa, Addis Ababa (7 January 1964).
- (4) Notes on the Agricultural Economies of the Countries in Africa: II Central and Western Africa, Foreign Agricultural Service, United States Department of Agriculture, Washington, D. C. (September 1959).
- (5) Mittendorf, H. J., and Wilson, S. G., Livestock and Meat Marketing in Africa, Food and Agriculture Organization of the United Nations, Rome, Italy (March 1961).
- (6) Mittendorf, H. J., and Louwes, H. J., Hides and Skin Marketing in Africa and the Near East, Food and Agriculture Organization in the United Nations, Rome, Italy (April 1963).
- (7) Analysis of Ibadan Meat Slaughter and Market Requirements and Feasibility of a Central Abattoir, Arthur D. Little, Inc., Report to the Ministry of Agriculture and Natural Resources, Western Region Government, Federal Republic of Nigeria, by Arthur D. Little, Inc., Report C-64280, Cambridge, Massachusetts (September 1964).
- (8) An Investigation into the Nigerian Leather Industry, Report to the Ministry of Trade and Industry, Government of Northern Nigeria, by Arthur D. Little, Inc., Cambridge, Massachusetts (October 1964).
- (9) Plant Requirements to Set Up and Operate a Leather Tannery, Technical Aids Branch, International Cooperation Administration, Washington, D. C. (Revised, May 1959).
- (10) Establishment of a Tannery for Goat and Sheep Skins at Maradi, Niger (a technical-economic study submitted to the Development Bank of Niger by a French firm) (April 1965).
- (11) Pabst, P., Zusatzstudie uber die Errichtung einer Gerberei in Niger (a technical-economic study submitted to the Government of Niger by a German firm), Saarbruecken, Germany (May 1964).
- (12) Industry Fact Sheets, Industry Profiles; Data on Leather Tanning (SIC 3111) and Rubber-Sole Fabric Shoes (SIC 3021), Agency for International Development, Washington, D. C.