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06672

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ID/WG.212/13
8 October 1975

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Symposium on the Prospects for Industrial
Meat Processing in Developing Countries

Vienna, Austria, 13 - 17 October 1975

SOME ASPECTS OF THE MEAT INDUSTRY IN AFRICAN COUNTRIES 1/

A.J. Weitenberg *

* Food Industries Officer, Joint ECA/UNIDO Industry Division, United Nations Economic Commission for Africa.

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id.75-7644

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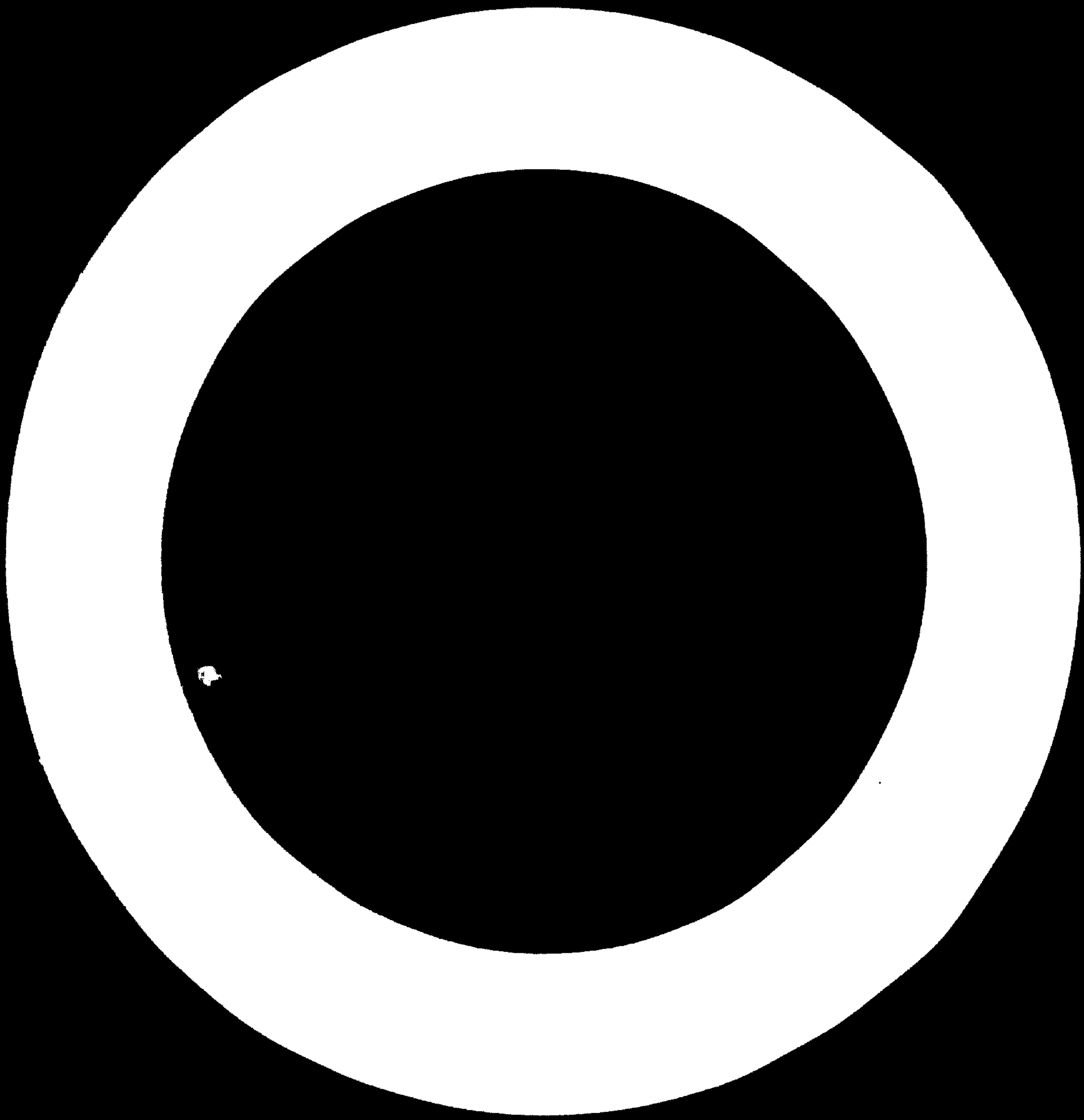

SUMMARY

The meat industry in most African countries is still at an early stage of development which is reflected by the small number of industrial slaughterhouses and meat processing plants. These are characterized by their small size, underutilization of production capacity, less hygienic conditions, high production costs and limited use of by-products. However, a few countries (Botswana, Kenya, Madagascar and Swaziland) have a relatively well developed meat industry mainly exporting chilled and frozen beef to EEC countries. On the other hand, most other African countries have meat industries which are much less developed although some of these have a good potential for development in the medium and long term (Sahelian Zone countries, Ethiopia, Somalia and Sudan).

The production of beef and meat products is small in relation to the sizeable livestock resources. There are many reasons for this but the problems related to the supply and quality of cattle are the major ones. Other problems include a low offtake (9.4 per cent), the reluctance of farmers to sell cattle and also the low growth rate of cattle. In addition, beef production is adversely affected by the low average carcass weight (127 kg) and the very high mortality rate particularly of young animals.

Prospects for the export of beef to developed countries depend heavily on EEC veterinary and trade regulations. Intra-African trade of beef should, however, be encouraged by better transport and other facilities. Unless effective measures are taken in regard to expansion and improvement of animal production, African countries may face a substantial shortage of beef in the near future.

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INTRODUCTION

The development of the food and agro-industries has to overcome usually many more constraints than is the case for many other industries. The reason for this is that the development of food and agro-industries can be successful only if all the aspects of the industry (i.e. production and supply of suitable raw material, handling, processing, packaging, storage, distribution and marketing) form an integral part of the whole. Failure of even one of the production stages can easily result in fragmentation and have adverse effects on the viability of the whole project.

The above applies particularly to the development of the meat industry which is considered to have a high potential in Africa. Many surveys on the prospects of the meat industry in African countries have been conducted and have resulted in several project proposals, pre-feasibility and feasibility studies. However, on a regional level the development of the meat industry has not been very successful despite the great potential.

It seems, therefore, that a more integrated approach to the development of meat industries is required in order to realize the optimum utilisation of available livestock resources and also to ensure that scarce financial resources are more fully and effectively channelled into sound and economically viable projects.

I. THE PRESENT MEAT INDUSTRIES IN AFRICAN COUNTRIES

The meat industry is still at an early stage of development in most African countries, which is reflected by the few industrial slaughterhouses and meat processing industries and their small production of meat and in particular of processed meat products.

Data on a regional level on the contribution of the meat industry to GDP in African countries and the value added by the industry are not available. However, for some African countries national data are available and show that the meat industry is very important to the economies of countries such as Botswana, Chad, Ethiopia, Kenya, Madagascar, Sudan and Tanzania. For some other countries the meat industry appears to be less important (Cameroon, Central African Republic, Rwanda, Senegal) whereas in some other countries, the meat industry is almost non-existent (Gabon, Liberia, Togo, Zaire).

As mentioned above, there are only a few industrial slaughterhouses and meat processing industries in developing African countries. A very few among them are relatively well developed and are almost up to the standards of those in developed countries. These industries in countries such as Botswana, Madagascar and Swaziland contribute greatly to the economies of these countries, particularly in terms of foreign exchange earnings. On the other hand there are several industries in other countries operating far below their production capacity which face many difficulties at all stages of the industrial process (supply of cattle, meat production and processing, meat handling and marketing). It will be clear that African meat industries cannot be considered a homogenous group. However, the following characteristics apply to most meat industries:

A. Small size

Apart from a few plants, meat industries in Africa are small. Whereas industrial slaughterhouses combined with meat processing in developed countries and also in Latin America usually produce at least 20 thousand tons of meat or more, many African industries have a production of around one thousand tons of meat and meat products which, under prevailing African conditions, represents an intake of less than 10 thousand head of cattle per year. Some countries including Kenya, Madagascar, Somalia and Tanzania have slaughterhouses and meat processing industries producing between 4 and 10 thousand tons of meat whereas Botswana has the biggest meat packing plant with an output of 24 thousand tons of deboned meat and 13 thousand tons of beef carcasses (in 1973). However, this large-scale industry cannot be considered representative for African countries. For instance, Madagascar has 10 meat processing plants but only two among them have an output of more than 1 thousand tons and only one meat processing plant produces more than 4 thousand tons.

B. Underutilization

During missions to several African countries[1] during the past few years, the author visited several meat processing plants of which only one was working at almost full capacity. In all other countries visited the actual production was below and in many times far below full capacity. Some of them were idle for various reasons, among which the lack of regular supply of cattle was the most common. Often the supply problem covers up other reasons mainly connected with inadequate planning of the project (site, size, market, technical staff, water, fuel, etc.). The underutilization is regrettable not only because investments are inadequately utilised in a developing country with a shortage of funds available for new projects but also because underutilization almost always results in too high production costs. It is also regrettable because African countries import substantial quantities of meat and meat products for which considerable foreign exchange is spent. It is estimated that total value of meat and meat product imports by African countries amounted to around $US 100 million[2] (in 1974).

Data on the utilisation of production capacity in African countries are not available, but based on missions carried out by the author and other missions reports it is estimated that at least 40 per cent of total production capacity in African meat industries is unused.

1/ Including Botswana, Ethiopia, Ghana, Ivory Coast, Kenya, Madagascar, Nigeria, Senegal and Swaziland.

2/ This amount includes imports by South Africa and also intra-African trade estimated at about 30 per cent of total imports.

C. [illegible] and meat products

(a) The quality of [illegible] chilled and frozen beef produced in most African countries is [illegible] and is usually not suitable for export as butcher-shop or table meat to European countries. However, some countries such as Botswana and Madagascar and to a smaller extent Kenya and Swaziland export chilled and/or frozen beef to Europe, mainly to France and the United Kingdom. Not all consignments go into butcher-shops. Meat from forequarters and other inferior cuts are processed into canned meat, sausages, meat extracts and other meat products.

(b) Chilled and frozen beef from African animals usually has a low water holding capacity. Consequently, the meat loses more volume during cooking, frying or grilling and is therefore less attractive to consumers if exported to European countries.

(c) African beef usually has a shorter shelf life since it contains less fat than meat from cattle raised under intensive feeding. The fat content, especially the outer cover, protects meat better against dehydration and early deterioration.

(d) On the other hand African meat is usually very suitable for processing, particularly, canning. Thanks to its excellent extractive matters, flavour and its low fat content, meat going into canned meat results in a good quality corned beef with a higher protein content and a lower fat content than European brands. Comparable research on African, European and Latin American corned beef showed that the African product could well compete in quality.

(e) The quality of fresh, chilled and frozen meat produced in most African countries also suffers from the unhygienic conditions prevailing in many industrial slaughterhouses.

D. Unhygienic conditions

It is well known that hygienic conditions under which animals are slaughtered in African countries are quite poor. This is in particular the case in rural areas where slaughtering may take place on a concrete floor in the open or only under a covered shed.

In rural areas hygienic conditions are far below acceptable standards in terms of the risk for meat contamination and its relatively short shelf life. Also, in many industrial slaughterhouses, hygienic conditions are inadequate, although the country in which the slaughterhouse is situated may well have strict veterinary regulations but often these are not sufficiently complied with. Sometimes slaughtering and trimming takes place on the floor although there are facilities for line dressing and also for transporting and dispatching the carcasses and quarters to other departments.

On the other hand there are four African countries (Botswana, Kenya, Madagascar and Swaziland) whose meat industries comply with EEC veterinary regulations and from which exports of chilled and frozen beef are allowed into EEC countries. The export industries in these countries are under regular EEC veterinary inspection and are almost up to the developed countries' level as far as hygienic conditions are concerned.

As to the production of canned meat and other sterilized products, developed countries' veterinary import regulations are more flexible. Imports of these products are regulated through bilateral arrangements and have generally easier access to developed countries. In fact, countries such as Ethiopia and Somalia whose veterinary and sanitary conditions do not meet EEC requirements for chilled and frozen beef exports, are able to export canned meat to Europe.

E. High production costs

Meat industries, like most other food processing industries in African countries, usually suffer from high production costs. This is mainly caused by the high overhead costs resulting from the underutilization of production capacity and high labour costs (although salaries are low compared to those in developed countries). These high labour costs result from low productivity and from the fact that during periods of interruption, which are not uncommon, workers have to be paid. These costs cannot be passed on to other governmental bodies as is done in many developed countries.

High production costs are also caused by high prices paid for packaging material, particularly for cardboard boxes and tins. Meat canning is the most expensive meat processing method, particularly in those countries which have no tin plate factories. This is even more the case in those countries where the tins have to be transported from the port to the meat industries - common practice in African countries. The usual small quantities of tins of several sizes required by the industries result in high prices per tin.

Transportation costs of meat and meat products for export also represent a substantial share of the F.O.B. price, particularly for chilled and frozen beef in countries where due to inadequate and small cold storage facilities frequently the product has to be re-frozen before transport can be continued.

F. <u>Limited use of by-products</u>

The full utilisation of by-products is imperative for a sound economic operation of a meat industry. It is assumed that total revenues from by-products (offals, hides, bonemeal, carcassmeal, bloodmeal, hornmeal, hoofmeal, tallow and dripping, horns, hides trimmings, gallstones, etc.) can represent up to 10 per cent or more of the value of the production of meat and meat products.

With the exception of a few industries, the utilisation of by-products in most African slaughterhouses, also at an industrial level, is quite poor and consequently potential protein-rich animal feeds and other industrial raw materials are wasted.

However, hides and skins are usually utilised and exported but suffer from poor treatment during slaughtering as well as during the raising of the animal and also from parasites damaging the hide. Hides from animals slaughtered in rural areas are also badly treated when dried in sunshine.

7. Fluctuations in supply

The underutilization of meat industries and sometimes interruptions are mainly caused by a lack of supply of cattle. Although the lack of supply is often caused by poorly planned site for the project, the irregular supply is also caused by trade or other barriers blocking the free movement of cattle.

In addition, farmers tend to sell their cattle irregularly according to the availability of fodder. As long as there is no shortage of fodder on grazing lands, few cattle are sold whereas many animals are put for sale simultaneously after the animals have grown in weight and pastures are getting overgrazed or water holes are drying up.

II. THE PRESENT SITUATION AND THE POTENTIAL FOR THE MEAT INDUSTRY BY GROUP OF COUNTRIES

As mentioned before, there are wide differences in the stage of development of the meat industry in African countries ranging from relatively well advanced to quite backward. Based on several criteria related to the animal production, processing, handling and marketing of meat and meat products, African countries can be divided into the following categories:

A. Countries with well developed meat industries

This group consists of four countries, namely, Botswana, Kenya, Madagascar and Swaziland which can be considered as developing African countries with most advanced meat industry. Their meat industries have the following characteristics:

(a) Their animal production is free from rinderpest and other diseases are well controlled, particularly tuberculosis and foot and mouth.

(b) The average carcass weight is higher than in most other African countries. In fact, Botswana and Swaziland have the highest average carcass weight in Africa (Table 1).

(c) Their meat industry is of an industrial scale and their export oriented slaughterhouses and meat processing industries are under regular EEC veterinary inspection and comply with the requirements of the veterinary services in EEC countries.

(d) These four countries are allowed to export chilled and frozen beef to EEC countries. For instance, Botswana exported 18 thousand tons of de-boned meat in 197[illegible] to the United Kingdom valued at $US 30 million. Madagascar exported about 5 thousand tons of de-boned frozen beef to France. Kenya and Swaziland exported much smaller quantities to European countries due to smaller quantities of meat available for export. With the exception of Botswana, these countries face a supply problem. Madagascar's cattle population has been stable for several years and in view of the expected continuing increases in internal demand for beef, smaller quantities will be available for exports in the future. Kenya's cattle population has not been increasing in recent years and the production of the Kenya Meat Commission has even decreased in the last few years. Therefore, it is expected that as a result of the increase in demand for beef in Kenya, quantities available for export will decrease.

So far Botswana has no supply problem. The demand for beef is increasing but the human population is very small compared to the cattle population (Table 1).

Swaziland's potential is substantially smaller than that of Botswana but its agro-industrial development is much more diversified.

B. Countries with developing meat industries

This group consists of the following countries: Angola, Ethiopia, Tanzania, Somalia and Sudan. These countries are generally somewhat less advanced than those of group A. However, all these countries have a large cattle population (in terms of cattle per capita) and are characterised by:

(a) The cattle are not completely free from rinderpest and other diseases are less controlled than in group A countries.

(b) The average carcass weight is on average lower than that for group A countries.

(c) These countries are not allowed to export unsterilised meat (chilled and frozen) to E : countries and the hygi nic conditions in heir slaughter-houses and meat processing plants are not yet of an acceptable standard.

(d) With the exception of Sudan all countries in this group have meat processing industries and in fact, Ethiopia, Somalia and Tanzania are Africa's most important meat canning countries.

(e) With the exception of Tanzania which is deficient in fresh meat, the countries of this group export chilled and frozen meat to other African countries and also to the Near East.

C. Countries with a potential for meat industries

Cameroon, Chad, Mali, Mauritania, Senegal, Niger, Nigeria and Upper Volta fall into this group. All countries in this group have a sizeable cattle population but these resources have not yet been tapped as in the countries of groups A and B.

(a) With the exception of Nigeria and Senegal these countries have a surplus of meat but they have not yet succeeded in establishing an important meat industry. Meat from these countries is exported on the hoof mainly to "coastal countries" (Ivory Coast, Gabon, Ghana, Liberia, Zaire, etc.) where the animals are slaughtered. Nigeria and Senegal also belong to this group because they have a substantial cattle population but are not able to export meat due to their greater meat consumption. Nigeria is becoming more and more deficient in meat as a result of increasing "buying power" and smaller number of animals made available for export by traditional suppliers (Chad and Niger).

(b) These countries have some abattoirs but operate far below their production capacity, one of the reasons being that internal demand for meat slaughtered at an industrial level is very small. In addition, these countries have not yet succeeded in exporting their surplus as frozen meat rather than on the hoof.

(c) These countries have a large potential for meat processing when their herds have been restored after the starvation of many animals from drought. Although it will be difficult to export frozen beef to European countries, possibilities for processed meat (canned or pre-cooked frozen beef) seem quite encouraging provided supply, technical and transport problems are solved. The cattle in these countries produce meat which is very suitable for meat processing (extractive matters, flavour and little fat content).

D. Countries with low potential for meat industries

All other countries fall in this group. It should be understood that this is by no means a homogenous group. In fact, the countries vary widely as regards animal production, meat production, diseases, slaughterhouses, and the size of meat deficit. However, they have a few basic common characteristics:

(a) Their animal production is small, particularly in terms of number of cattle related to the human population.

(b) All countries have a meat shortage ranging from a small deficit (Central African Republic) to a substantial shortage of meat (Ivory Coast, Zaire and Zambia).

(c) Their meat industry is of relatively minor importance to the economy.

It should be noted that the division into the categories distinguished above cannot be taken too strictly. There may be some overlapping (perhaps Tanzania could fall under category A) but they serve mainly to give a more systematic picture of the African meat industry by country and group of countries.

III. PRODUCTION OF MEAT AND MEAT PRODUCTS IN AFRICAN COUNTRIES

A. Beef and veal production

Production of beef and veal amounted to almost 2.5 million tons in 1973 representing 6.2 per cent of the world's total beef and veal production. The percentage is quite low considering that the region has 12 per cent of the world's total cattle population (Table 1).

Beef and veal production rose by [illegible] per cent per annum (Table 2) during the ten years for which data are available (1963-1973). This increase is a little higher than the population growth rate for African countries during the same period ([illegible].1 per cent).

However, there are wide fluctuations in the development of beef and veal production. Some countries have been able to realise increases of 5 per cent or more in their beef production such as Sudan (7.3 per cent), Angola (6.6 per cent) and Swaziland (5.6 per cent). However, some countries in the Sahelian zone (Mali, Mauritania, Niger and Upper Volta) saw their beef production decline because of drought.

B. Processed meat products

As to the production of processed meat products, it is estimated that African countries produced about 39.5 thousand tons in 1973 equalling around 2.5 per cent of the world's total canned meat production which is very low compared to Africa's large cattle population and the suitability of its meat for meat processing. In 1973, there were only 6 African countries South of Sahara producing 1 thousand tons of canned meat or more (Table 8).

It is disappointing to see that canned meat production during the last few years has been decreasing. Whereas African countries produced 45 thousand tons in 1971, production declined to 39.5 thousand tons in 1973 while the world's canned meat production continued to rise until 1972 and only showed a decline of less than 2 per cent during 1972-1973. Although production statistics for canned meat are not very reliable, it appears that production in Kenya, Madagascar, Nigeria, Somalia and Tanzania declined by about 10 thousand tons during the last three years. Botswana stopped meat canning although its production has not been more than a few hundred tons during the last six years.

In view of the difficulties faced by several countries in the supply of cattle, it is to be expected that canned meat production will continue to decline in African countries in short and medium term.

IV. SUPPLY OF CATTLE

A. Low offtake

Based on data from FAO's Production Yearbook 1973, it is estimated that annual offtake in 1973 accounted for 18.3 per cent for all countries. This percentage was much higher for developed countries, namely 30.8 per cent and substantially lower for all developing countries (9.4 per cent). Annual offtake in African countries (16.4 per cent) was the lowest of all regions, except the Far East where an extremely low offtake (3.1 per cent) occurs mainly due to religious reasons prohibiting the slaughter of cattle. Offtake in Latin American countries was 14.3 per cent and 15 per cent in the Near East.

(a) Reluctance to sell cattle

An important reason for the low offtake in African countries is thought to result from the prevailing conservative attitude of the cattle owners who consider their cattle as their wealth. Cattle owners are generally prepared to sell their cattle only when they are short of cash or wish to buy food or other items. Although this attitude is still common among many farmers, its importance should not be overestimated. It is true that farmers are usually reluctant to deposit their money in a bank but instead prefer to keep their cattle. However, this does not imply that farmers are not interested in selling their cattle. If in need for basic requirements (education for children, tax, food) or consumer goods (radio, television, small truck, etc.)

cattle are sold. On the other hand, farmers are reluctant to sell their cattle when prices offered by the traders are too low. The low prices paid by middlemen and the resultant disproportionately small share cattle farmers get from cattle revenues, has a more profound effect on the offtake than is sometimes thought.

(b) Low growth rate

A second reason for the low offtake is the low growth rate of cattle in many African countries. It is estimated that in some West African countries (Mali, Senegal) the average increase in weight per animal is not more than around 13 kg per annum. It is assumed that the same number of animals in a region with advanced animal husbandry methods would be able to produce about 5 or 6 times as much meat during the same period.

(c) Statistics

The data giving a low offtake for African countries may be too low due to the unreliability of statistical information. It is well known that many farmers do not want to register their animals in order to avoid payment of cattle tax which exists in several African countries, although some countries including Madagascar and Nigeria have abolished it.

B. Low average carcass weight

In addition to the low offtake, Africa's relatively small beef production related to its cattle population is also affected by the low average carcass weight which amounts to about 127 kg (cold dressed weight) but wide fluctuations occur within the region. For instance, Botswana and Swaziland average around 200 kg but cattle in several other countries have substantially lower carcass weight, some of them just over 100 kg (Table 1).

Compared to other regions, average carcass weight is lowest in African countries. Developed countries average [illegible] kg, the average for all developing countries is 163 kg and [illegible] kg for Latin American countries, 166 kg for the Far East and 129 kg in Near Eastern countries.

There are several factors responsible for the low average carcass weight in African countries, the main ones being the lack of sufficient fodder on pastures and lack of sufficient quantities of water. Intensive feeding (in feedlots) is almost non-existent. The small size of the cattle contributes also to the low average carcass weight.

The long distances over which cattle have to be transported also affects the weight of the animal. The loss of weight may be as high as 25 per cent in terms of "live-weight" and 10-15 per cent is considered quite normal. In addition to the long distance, availability of feed and water on the "trek route" also affects weight losses. Other factors are low temperatures (on the highlands) and other energy consuming conditions such as fear when transported along highways.

C. High mortality rate

The supply of cattle for slaughtering is also hampered by the very high mortality rate. It was reported that in Madagascar, a country with relatively advanced livestock production methods, 35 per cent of calves die before reaching the age of one year due to a parasitical disease, causing infection of the intestines. In addition many animals die from starvation and diseases, reducing number of animals available for slaughtering.

V. THE MARKET FOR MEAT AND MEAT PRODUCTS

A. Exports of chilled and frozen beef by African countries

Developing African countries exported 67 thousand tons of chilled and frozen beef in 1973. Further, this record level representing an exported value of $US 61 million was surpassed in 1974, according to the latest data available.[1]

During the 1968-1973 period the volume of beef and veal exports by African countries increased by 8.4 per cent per annum (Table 6). However, it should be noted that this important growth rate in meat exports was mainly the result of the sharp increase realised in 1973. Table 6 shows also that beef and veal

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1/ FAO Commodity Review and Outlook 1974-1975.

export by African countries fluctuated in previous years (1966-1972) around 45 thousand tons.

There are only a few developing African countries exporting more than 2 thousand tons of beef. The major exporting countries Botswana, Kenya, Madagascar and Rhodesia cover 83 per cent of all chilled and frozen beef exports. There are four more countries (Angola, Chad, Ethiopia and Sudan) exporting 2 thousand tons or more per annum.

It is estimated that in 1973 about 28 thousand tons or 37 per cent of all beef exports by African countries were to European countries, mainly France and the United Kingdom. In addition about 12 thousand tons were supplied to Near Eastern and other countries and the balance of about 20 thousand tons consisted of intra-African trade.

It will be understood that African countries' share in total chilled and frozen beef and veal exports is very small. The world's exports for these products amounted to 2.5 million tons in 1973 so that African countries exports of 67 thousand tons represented only 2.7 per cent compared to Latin America (26 per cent), Oceania (31 per cent) and Western Europe (29.1 per cent) (Tables 6 and 7).

B. Processed meat exports

African countries' share in canned meat exports is even smaller. Although data on canned meat exports are not reliable, it appears that developing African countries exported about 19.5 thousand tons in 1974 out of the world's total of 827 thousand tons which equals 2.3 per cent (Table 9). Only the following African countries export more than 1 thousand tons of canned meat (mainly corned beef): Ethiopia, Kenya, Rhodesia, Somalia and Tanzania. As a result of the stagnation in the development in the meat processing industry of which canned meat is the major produced item, exports of canned meat from African countries decreased by about 20 per cent from 25 thousand tons on average during 1966-1970 to less than 20 thousand tons in 1974. During the same period world exports of canned meat rose from 667 thousand tons in 1966-1970 to 827 thousand tons in 1972 showing an increase of 24 per cent.

Export of canned meat earned African countries $US 19.5 million in 1974, well below the record year of 1972 when $US 22.4 million worth of canned meat was exported.

Exports of processed meat, other than canned meat, totalled about $US 3.9 million consisting of offals ($US 2 million), pork meat ($US 1 million) and mutton ($US 900 thousand).

c. Imports of chilled and frozen beef

African countries' imports of chilled and frozen beef accounted for almost 41 thousand tons at a value of $US 45 million (Table 8) compared to an exported quantity of 60 thousand tons valued at $US 67 million. Imports of chilled and frozen beef rose by 9.6 per cent per annum since 1968 which is 1.2 per cent higher than the growth rate for exports. From the data presented in Table 7 it appears that imported quantities of beef were seriously affected by drought in West African countries. For instance, Upper Volta imported 7.6 and 8 thousand tons respectively in 1972 and 1973 and Gabon and Ivory Coast also imported substantially more beef, probably due to lower quantities of live animals available for imports from Sahelian zone countries in the beginning of the 1970's.

It should be noted that Table 7 includes data for Northern African countries (Egypt, Libya and Tunisia) which imported 8.5 thousand tons in 1973 so that total imported quantities by African countries south of Sahara was around 33 thousand tons. Gabon, Ivory Coast, Reunion, Upper Volta, Zaire and Zambia are the major beef importing countries covering 85 per cent of all beef imports by developing African countries south of Sahara.

It is difficult to estimate the share of intra-African trade in total beef and veal imports, but it can be assumed that out of 32 thousand tons about 20 thousand tons is imported from other African countries. In addition, South Africa imported about 8 thousand tons of chilled and frozen beef (mainly in carcasses) from Botswana.

D. Processed meat imports

Developing African countries imported 19 thousand tons of canned meat in 1973 which is about the same as the volume of canned meat exported by African countries (Table 11). Egypt is the major importing country (3500 tons) and in addition Libya imported [illegible] tons. Of African countries south of Sahara, major importing countries of canned meat are: Ghana (1565 tons), Reunion (2120 tons), Zaire (1751 tons) and Zambia (1450 tons). There are [illegible] other African countries which import canned meat but quantities are small. Only a small proportion (not more than 15-20 per cent) is imported from other African countries.

Import of other processed meat products by African countries is very small and accounted for only $US 2.7 million in 1973, mainly consisting of sausages.

E. The potential market for beef exports by African countries

(a) Exports to developed countries

As mentioned before, only Botswana, Kenya, Madagascar and Swaziland have access to the EEC market as far as chilled and frozen beef is concerned. The reason for this is their relatively advanced animal husbandry and the hygenic conditions in the abattoirs and meat processing industries. These countries benefited from the favourable market conditions in the beginning of the 1970's and Botswana, for instance, exported $US 30 million worth of chilled and frozen beef to the United Kingdom and Madagascar's exports of chilled and frozen beef totalled almost $US 15 million of which about $US 10 million was destined to the EEC market (France).

Kenya's and Swaziland's exports are substantially smaller. In 1973, Kenya's exports of chilled and frozen beef amounted to 3583 tons of which 50 per cent was exported to developed countries (mainly Greece) and the balance to African countries (40 per cent) and the Near and Far East (10 per cent).

[illegible] exports of chilled and frozen beef amounted to 3000 tons in 197[illegible] worth $US 4.9 thousand, mainly to the United Kingdom.

However, in 1974 the international market for beef deteriorated seriously. Fast increasing national herds in Europe, the United States and Oceania resulted in over-production of beef. [illegible] very high 1973 prices for meat caused consumer resistance in the United States and Europe and for the first time in many years, consumption of meat, in particular of beef, dropped in major consuming countries. In contrast to the United States, Oceania and Latin American countries, retail prices for beef did not weaken substantially in 1974 in the EEC. Whereas beef consumption rose substantially in other regions, EEC retail prices did not follow weakening of produce prices but indeed showed an increase. As the recession continued, there were considerable reductions in beef consumption in the first six months of 1975 in a number of countries including France, Italy and Switzerland. Another factor was the continuing increase in retail prices.

As a result the special scarcity provisions of the EEC were ended in September 1973 and duties and levies were gradually re-introduced culminating, in July 1974, in the suspension of the issuance of import licences - with the exception of certain GATT quotas - and imports from third countries were gradually stopped, including those of fresh, chilled and frozen beef from Botswana, Madagascar and Swaziland. Despite these measures, support buying under the EEC permanent intervention system accumulated over 200 thousand tons of beef in 1974 which went up to 300 thousand tons in June 1975.

Other countries such as Canada, Greece and Japan also imposed restrictions on beef imports. The United States remained a full import market where import quota remained suspended for 1974. However, African developing countries, including Botswana, Kenya, Madagascar and Swaziland have no access to the United States beef market.

Table 12 shows that net imports of beef and veal in major importing countries dropped from 1766 in 1973 to 888 thousand tons in 1974. The biggest change took place in the EEC where in place of net imports of 461 thousand tons there was an export surplus of 50 thousand tons.

With the exception of some quotas of beef imports under a special agreement between EEC and the four African countries, the restriction on exports of beef to the EEC market remained thereby seriously affecting the economy of Botswana which is heavily dependent on beef exports covering more than 50 per cent of its total exported value. Swaziland's and Madagascar's export markets are more diversified and are not so sensitive to constraints in beef exports as Botswana but were nevertheless seriously affected.

The difficult EEC beef market also affects other market outlets since major exporting countries as Argentina (385 thousand tons in 1972), Brazil (155 thousand tons in 1972) and Oceania (800 thousand tons in 1973) offer beef to other markets (Near East, African countries, Eastern Europe) at very low prices, making it very difficult for Botswana, Madagascar and Swaziland to export beef to these markets.

Meat consumption remained low in 1974 and in 1975, and as a result large stocks of meat have accumulated. A "beef mountain" of 300 thousand tons is reported for the EEC in June 1975 representing an estimated beef consumption of about 1 week for all EEC countries. This may not seem a great amount but nevertheless it represents about 50 per cent of total EEC beef imports for 1973 and 150 per cent of estimated total beef imports for 1974.

It is expected that the EEC beef market will recover in medium or long term. EEC officials have predicted a shortage of 1 million tons of meat by 1980 in EEC countries. It is difficult to say whether this development will indeed take place. It seems that the export possibilities for African countries depend less on the volume of the shortage for beef to EEC (since their export potential is still very small compared to those of Australia and Argentina) but more on the arrangements and levies under which beef will be imported by the EEC. Total estimated exports from African countries are not expected to exceed 50-60 thousand tons by 1980 and this would therefore be only 5-6 per cent of total EEC imports, should a shortage of 1 million tons of beef occur by 1980 in the EEC.

Taking into account the small quantities of beef involved and its importance to the economies of the countries concerned, it would therefore be of the greatest importance to the African countries if a special agreement between EEC and them could be arranged.

For the remainder of 19[illegible], [illegible] thousand tons for imports of beef from countries falling under the Lome Convention, including Botswana, Madagascar and Swaziland. Botswana and Swaziland undoubtedly will benefit from this but in Madagascar slaughtering of cattle stops after 20 September and consequently only stocks of beef (in Europe and Madagascar) can be exported under the special quota.

(b) Import potential in African countries

African countries import substantial quantities of beef from outside the region. Although detailed import statistics on countries of origin are not available for the last few years, it appears that about 20 thousand tons are imported from Europe and other developed (Australia, New Zealand) and developing countries (Argentina, Brazil).

At present major beef importing countries are Ivory Coast and Zaire but it is expected that Nigeria will soon join these countries. Zambia imports from overseas but also from Botswana and Kenya.

The lack of transport and storage facilities appear to be the major constraints for establishing better trade contacts for frozen beef between African countries. Another constraint for exporting beef to other African countries lies in the fact that in years with free access to EEC countries, Botswana, Madagascar and Swaziland prefer to export their beef to EEC so that possibilities for diversifying their market outlets are only explored in those years with beef surpluses when heavy competition is met from other major beef exporting countries offering their beef, often at very low prices.

Therefore, more permanent contacts should be established with their smaller (but more regular importing) markets (other African countries, Near

East) in order to be less dependent on the EEC market which in years with beef shortage is very remunerative but which seriously affects the economy of beef exporting countries in period of surpluses. For the promotion of intra-African beef trade special attention should be given to Zaire which imports between [illegible] and 8 thousand tons of beef from overseas. Nigeria will also offer a promising market for beef in the near future as a result of smaller quantities of live animals available for export from Chad and Niger (due to the starvation of large proportion of the herds in these countries and a sharp increase in beef consumption resulting from increased buying power).

As to the exports of beef and processed meat from African countries other than the traditional exporters of chilled and frozen beef to developed countries, there is undoubtedly a potential for limited quantities of frozen beef to Near Eastern countries for Ethiopia, Somalia and Sudan. This market is very promising in view of the fast increasing beef consumption in the Near East. However, there are many beef exporting countries interested in this market but thanks to their geographical situation, Somalia and Sudan are in a very favourable position also because of their religious links with "Gulf countries".

There is also a potential for the export to developed countries of processed or semi-processed meat (particularly pre-cooked frozen beef) from countries with a traditional surplus of beef (Chad, Ethiopia, Mali, Mauritania, Niger, Somalia and Sudan). However, the herds in these countries have been affected seriously by drought in the beginning of the 1970's and their surpluses of beef have been reduced substantially. After restoring their herds the beef resources in these countries should be tapped. It is not expected that these countries will be able to export frozen beef to European countries in the near future due to hygenic and veterinary conditions prevailing in their animal production and meat industry and the general poor quality of their beef as "table meat". There should, however, be a good market in developed countries for semi-processed beef and also for processed meat (corned beef) if sound economic meat processing industries could be established or the meat processing industry could be improved (Ethiopia).

A major constraint to the realization, apart from the supply problem is the lack of reliable transport facilities since livestock production areas are usually located at long distances from the coast.

(c) <u>The present and projected beef and veal consumption in African countries</u>

Based on data on the production and trade in beef it is estimated that African countries (excluding South Africa) consumed 1674 thousand tons in 1965 which came to 5.6 kg in terms of per capita consumption. The same data for 1972 show an increase to 5.9 kg per capita which was about 10 per cent of the per capita beef and veal consumption in developed market economies (on average, since there are considerable differences within developed countries in beef consumption).

It is projected[4/] that Africa's population will increase by 2.9 per cent per annum and would reach 450 million in 1980. It is also projected that beef and veal consumption will rise to 6.9 kg per capita in 1980 and therefore 2967 thousand tons of beef and veal should be available in African countries. In order to meet its own demand the African region should therefore increase its beef and veal production by 5.3 per cent annually during 1973-1980. Undoubtedly, this target will be very difficult to reach taking into account that African countries on the average realised a growth rate in beef production of 2.3 per cent between 1963 and 1973 (Table 4). Between 1963 and 1971 (so that years with severe drought are not included) the growth rate was 3.2 per cent.

Therefore, it seems unlikely that the target of 5.9 per cent will be met unless some drastic measures are taken, in particular, for the improvement of animal production methods.

In several countries, including Botswana, Kenya, Madagascar, Nigeria and Senegal major livestock development projects have been or will be implemented and they will perhaps have a positive impact on the increase of beef production

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4/ <u>Agricultural Commodity Projections, 1970-1980</u>, FAO in the medium and long term, but it is unlikely that these schemes will be able to promote beef production substantially in the short term (until 1980).

Consequently, African countries will most probably face a beef shortage in the near future if per capita consumption, in particular in urban areas, rises at the projected rate.

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Appendix Statistical information

Table 1: Data on livestock and meat production[1] in African countries and major regions, 1973

	Cattle population 1000 heads in 1973	Number of cattle per capita	Number of killings in 1973 (1000)	Meat production from indigenous animals (1000 tons)	Total meat production (1000 tons)	Average carcase weight (kg)
World	1150512	0.30	208951	39953	40972	198
Africa[2/3/]	138876	0.39	14929	2103	2084	119
Angola	2850	0.48	285	40	43	140
Botswana	2100	3.23	195	45	41	210
Burundi	756	0.19	76	11	10	131
Cameroon	1960	0.32	166	26	25	140
CAR	455	0.28	80	8	13	162
Chad	4100	1.02	240	48	24	100
Dahomey	720	0.25	80	8	9	111
Ethiopia	26450	0.99	2513	289	296	115
Gambia	280	0.72	30	3	3	100
Ghana	930	0.09	172	14	21	123
Guinea	1870	0.45	140	19	14	100
Ivory Coast	460	0.10	326	6	51	155
Kenya	7370	0.61	759	111	114	140
Lesotho	570	0.52	57	8	8	100
Liberia	32	0.03	10	1	1	100
Libya A.R.	110	0.05	45	3	5	110
Madagascar	9500	1.25	846	110	108	129
Malawi	565	0.12	65	9	9	136
Mali	3700	0.67	300	33	24	80
Mauritania	1300	1.51	100	19	12	120
Mauritius	50	0.02	16	1	2	125
Mozambique	2200	0.27	218	34	33	150
Namibia	2650	3.95	103	65	23	223
Niger	3000	0.71	200	28	22	110
Nigeria	10980	0.16	1630	168	209	128
Guinea-Bissau	290	0.50	29	4	4	138
Reunion	19	0.04	11	1	1	91

1/ Bovine animals only
2/ Only data for countries South of Sahara are given
3/ South Africa excluded

Source: Compiled from Production Yearbook 1973, FAO, 1974

Table 1 (cont'd): Data on livestock and meat production 1/ in African countries and major regions.

	Cattle population 1000 heads in 1973	Number of cattle per capita	Number of killings in 1973 (1000)	Meat production from indigenous animals (1000 tons)	Total meat production (1000 tons)	Average carcase weight (kg)
Rhodesia	[illegible]	0.[illegible]	[illegible]	[illegible]	3[illegible]	150
[illegible]	7[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]
Senegal	1750	0.41	240	21	24	100
Sierra Leone	270	0.10	52	2	6	115
Somalia	2900	0.97	131	31	17	130
Sudan	15200	0.87	1130	201	198	175
Swaziland	600	0.77	60	33	13	210
Tanzania	11322	0.79	1036	109	109	105
Togo	220	0.10	31	3	3	96
Tunisia	680	0.12	140	13	14	100
Uganda	4000	0.43	495	62	64	129
Upper Volta	1600	0.28	135	17	15	111
Zaire	980	0.05	127	15	17	133
Zamiba	1700	0.36	189	29	29	153
Developed	284654	0.38	87869	19723	20053	228
North America	134268	0.58	40956	10653	10676	260
Western Europe	97395	0.27	32126	6551	6809	212
Centrally Planned	135404	0.38	47966	7503	7399	154
Oceania	33210	2.35	11219	1334	1882	168
Developing	663270	0.35	62742	10631	10253	163
Latin America	246842	0.80	35440	6823	6730	190
Far East	230204	0.28	7623	1249	1265	166
Near East	44275	0.26	6644	843	858	129

Table 2: Beef and veal, Livestock numbers, offtake, carcass weight and production, 1964-66 average, 1970* and projections for 1980

	1964-66 average				1970*				1980			
	Livestock numbers	Offtake	Carcass weight	Production	Livestock numbers	Offtake	Carcass weight	Production	Livestock numbers	Offtake	Carcass weight	Production
	(...Thousand heads...)		(..Kgs..)	(Thousand tons)	(..Thousand heads..)		(..Kgs..)	(Thousand tons)	(..Thousand heads..)		(..Kgs..)	(Thousand tons)
World	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	170	[illegible]	[illegible]	[illegible]	182	31711
Africa	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
North Africa	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Algeria	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Morocco	[illegible]	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tunisia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	4
Libya	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sudan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Egypt	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Western Africa	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dahomey	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]
Gambia	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	5
Ghana	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	9	[illegible]	[illegible]	[illegible]	[illegible]
Guinea	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ivory Coast	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]
Liberia	[illegible]	3	[illegible]	-	[illegible]	3	[illegible]	-	[illegible]	6	[illegible]	1
Mali	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mauritania	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Niger	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nigeria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Senegal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
Sierra Leone	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible] FAO, 1971

Table 3: Beef and veal: Production, consumption and balance, 1964-66 average, 1970+ and projections for 1980

	1964-66 average				1970+				1980			
	Production	Net trade (exports (-))	Consumption Total	Consumption Per caput	Production	Balance (exports (-))	Consumption Total	Consumption Per caput	Production	Balance (exports (-))	Demand Total	Demand Per caput
	(....... Thousand tons......)			(..Kg..)	(....... Thousand tons......)			(..Kg..)	(.....Thousand tons.....)			(..Kg..)
World	33040	- 287	32753	9.7	39976	- 251	39725	10.7	51711	1653	53364	11.7
Africa	1399	- 72	1327	5.3	1609	- 90	1519	5.4	2411	- 145	2266	6.1
North Africa	422	21	430	6.6	469	24	493	27.9	700	- 48	722	30.0
Algeria	14	7	21	1.8	22	-	22	1.6	33	-	33	1.8
Morocco	73	-	73	5.5	90	-	90	5.8	134	- 2	132	6.4
Tunisia	15	1	16	3.5	21	2	23	4.5	31	-	31	4.7
Sudan	118	- 3	115	8.5	145	8	153	9.8	229	- 11	218	10.0
Egypt	202	13	215	7.3	191	14	205	6.2	273	35	308	7.1
Western Africa	341	6	347	3.5	356	- 9	347	3.4	620	- 24	596	3.9
Dahomey	5	1	6	2.4	7	-	7	2.5	10	- 1	9	2.5
Ghana	7	9	16	2.1	9	6	15	1.7	13	9	22	1.8
Guinea	16	- 5	11	3.1	21	- 13	8	2.0	38	- 26	12	2.4
Ivory Coast	5	17	22	5.2	7	21	28	5.7	13	35	48	7.0
Mali	52	- 24	28	6.0	56	- 24	32	6.5	96	- 53	43	6.7
Mauritania	22	- 12	10	9.5	31	- 18	13	11.1	54	- 36	18	12.2
Niger	43	- 19	24	6.9	52	- 26	26	6.5	80	- 44	36	6.5
Nigeria	133	37	170	2.9	139	45	184	2.7	210	96	306	3.3
Senegal	25	8	33	9.5	36	8	44	11.5	48	9	57	11.9
Upper Volta	26	10	36	3.3	29	- 13	16	3.0	41	- 17	24	3.7

Source: Agricultural Commodity Projections, 1970-1980, FAO, Rome, 1971.

Table 3 (cont'd) Beef and veal: Production, consumption and balances, 1964-66 average, 1970 and projections for 1980

	1964-66 average				1970 +				1980			
	Production	Net trade (exports (-))	Consumption		Production	Balance (exports (-))	Consumption		Production	Balance (exports (-))	Demand	
			Total	Per caput			Total	Per caput			Total	Per caput
	(.......thousand tons.......)			(..kg..)	(.......thousand tons.......)			(..kg..)	(.....thousand tons.....)			(..kg..)
Central Africa	132	- 21	111	3.4	151	- 25	126	3.5	200	- 20	180	4.1
Angola	25	- 2	23	4.5	31	- 4	27	4.9	43	- 5	38	5.9
Cameroon	24	-	24	4.5	30	- 2	28	4.8	40	4	44	6.0
Central African Republic	8	4	12	9.2	10	3	13	8.7	17	-	17	9.0
Chad	64	- 36	28	8.5	65	- 35	30	8.4	75	- 38	37	8.5
Zaire	11	11	22	1.4	14	12	26	1.5	23	17	40	1.8
Eastern Africa	824	- 65	759	8.7	929	- 58	871	8.9	1393	- 99	1294	10.2
Ethiopia	235	- 8	227	9.9	245	- 11	234	9.3	352	- 33	319	10.0
Kenya	105	- 10	95	10.1	120	- 10	110	10.2	208	- 12	196	13.1
Madagascar	90	- 9	81	13.4	104	- 11	93	13.6	151	- 31	120	13.6
Mozambique	28	-	28	4.0	34	4	38	5.1	51	14	65	7.1
Rhodesia	87	- 22	65	14.5	93	- 12	81	15.4	129	- 14	115	15.8
Somalia	19	- 7	12	4.8	24	- 10	14	5.0	37	- 16	21	5.6
Tanzania	118	- 12	106	9.1	129	- 10	119	9.0	197	- 19	178	10.2
Uganda	100	2	102	13.5	127	-	127	14.9	190	2	192	17.1
Zambia	22	1	23	6.2	27	5	32	7.4	38	17	55	9.2
North America	9730	537	10267	47.9	11244	650	11804	52.5	14093	1198	15291	60.3
Western Europe	5835	689	6524	19.0	6850	688	7538	21.2	8199	1522	9721	25.4
Centrally Planned	4620	1	4621	13.9	6587	- 17	6570	18.9	8312	675	8987	23.4
Oceania	1238	- 456	782	55.8	1450	- 490	960	62.6	1941	- 727	1214	64.8
Latin America	5626	- 835	4791	19.5	7001	-1010	5991	21.1	9805	-1865	7940	21.2
Near East	716	16	732	5.0	825	34	859	5.1	1227	109	1336	6.1
Far East	1115	13	1128	1.3	1261	21	1282	1.3	1858	139	1997	1.5

[illegible] African [illegible]

([illegible] metric tons)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Compound annual growth rate [illegible] - 1973
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	+ 2.2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	+ 1.8
[illegible]			[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]
Cameroon	[illegible]	[illegible]	[illegible]	26F	+ 0.3
Chad	[illegible]	[illegible]	[illegible]	[illegible]	+ 0.2
Ethiopia	[illegible]	[illegible]	[illegible]	[illegible]	+ 2.3
Kenya	[illegible]	[illegible]	[illegible]	[illegible]	+ 0.9
Madagascar	[illegible]	115F	[illegible]	[illegible]	+ 0.2
Mali	[illegible]	[illegible]	[illegible]	[illegible]	- 2.3
Mozambique		[illegible]	[illegible]	34F	+ 2.3
Namibia	[illegible]	64F	64F	65F	+ 0.8
Niger	[illegible]	40F	34F	25F	- 3.9
Nigeria	[illegible]	173F	[illegible]	168F	+ 1.7
Rhodesia	[illegible]	94F	94F	95F	+ 0.8
Somalia	[illegible]	31F	31F	31F	+ 2.2
Sudan	[illegible]	[illegible]	194F	201F	+ 7.3
Swaziland	[illegible]	30F	32F	33F	+ 5.6
Tanzania	[illegible]	[illegible]	115F	109F	+ 3.5
Uganda	54	68F	66F	62F	+ 1.4
Zambia	20	27F	28F	29F	+ 3.8
South Africa	376	385F	390F	395F	+ 0.5
Africa, excl. South Africa	[illegible]	2144	2114	2103	+ 2.3
North America	[illegible]	11017	11207	10653	+ 1.9
W. Europe	[illegible]	7155	[illegible]	6552	+ 1.0
Oceania	1161	1440	[illegible]	1884	+ 5.0
Latin America	[illegible]	6413	[illegible]	6883	+ 1.7
Far East	1000	1124	1216	1249	+ 2.0
Centrally Planned	[illegible]	9424	[illegible]	[illegible]	+ 3.6

1/ Only countries with a production of 25 thousand tons or more are listed.

2/ Only for countries South of Sahara.

Source: Production Yearbook 1973, FAO, 1974.

Table 5: Beef and veal (fresh, chilled, frozen): world exports

	1966-70 average	197[illegible]	19[illegible]	19[illegible]	1974 ([illegible])	Change 1973 to 1974	
	(....................thousand metric tons.......)					Percentage	
VOLUME OF EXPORTS							
World total 1/	1,882.3	2,008.2	2,451.1	2,584.3	2,28[illegible].6	-	11.5
Developed countries	1,008.8	1,256.9	1,381.0	1,611.4	1,57[illegible]	-	2.0
Western Europe	567.4	698.5	640.9	753.2	1,01[illegible].0	+	34.9
of which: EEC (six)	(247.5)	(332.7)	(313.6)	(366.4)	(528.9)	+	44.4
EEC (nine)	(460.9)	(572.1)	(565.3)	(677.1)	(944.0)	+	39.4
North America	35.8	52.5	48.2	63.2	40.8	-	35.5
Oceania	405.6	545.9	691.9	794.3	521.9	-	34.4
of which: Australia	(276.0)	(355.8)	(505.6)	([illegible].1)	(339.[illegible])	-	43.4
Others	-	-	-	-	-		-
Developing countries	666.5	656.9	956.9	816.0	549.3	-	32.7
Latin America	589.7	545.3	838.9	678.3	408.0	-	39.9
of which: Argentina	(358.4)	(230.7)	(385.3)	(294.2)	(107.5)	-	63.5
Brazil	(49.5)	(88.7)	(159.6)	(98.5)	(19.2)	-	80.5
Uruguay	(89.2)	(80.3)	(104.0)	(98.4)	(104.0)	+	5.7
Africa	74.8	109.6	115.4	135.6	139.2	+	2.7
Asia	1.8	1.6	1.9	1.4	1.4		-
Others	0.2	0.4	0.5	0.7	0.7		-
Centrally planned countries	207.0	94.4	113.4	157.4	159.5	+	1.3
Asia	-	-	-	-	-		-
Eastern Europe	110.5	83.5	76.4	110.4	110.5	+	0.1
U.S.S.R.	96.5	10.9	37.0	47.0	49.0	+	4.3
VALUE OF EXPORTS	(...................... million U.S. dollars........)						
World total 1/	1,517.7	2,111.2	2,959.9	4,211.4	4,458.1	+	5.9
Developed countries	953.0	1,404.7	1,776.3	2,752.6	3,275.5	+	19.0
Western Europe	548.7	795.7	1,011.1	1,449.9	1,897.6	+	30.9
North America	46.4	78.5	86.3	15[illegible].9	119.1	-	23.6
Oceania	357.9	530.4	578.1	1,146.5	1,258.5	+	9.8
of which: Australia	(245.4)	(339.5)	(457.5)	(848.7)	(956.9)	+	12.7
Others	-	0.1	0.2	0.3	0.3		-
Developing countries	420.7	607.3	1,042.0	1,222.8	885.0	-	27.6
Latin America	375.3	538.5	959.7	1,103.6	754.9	-	31.5
of which: Argentina	(213.9)	(235.0)	(473.6)	(531.1)	(198.5)	-	62.6
Brazil	(30.2)	(98.7)	(169.2)	(148.3)	(29.5)	-	80.1
Uruguay	(45.8)	(58.2)	(97.3)	(119.6)	(136.3)	+	14.0
Africa	43.4	67.3	79.5	116.1	127.0	+	9.4
Asia	1.9	1.7	2.4	2.5	2.5		-
Others	0.1	0.3	0.4	0.6	0.6		-
Centrally planned countries	144.0	98.7	141.5	236.0	297.6	+	26.1
Asia	-	-	-	-	-		-
Eastern Europe	87.4	91.9	114.3	189.3	206.2	+	8.9
U.S.S.R.	56.6	6.8	27.3	46.7	91.4	+	95.7

1/ In terms of product weight.

Note: From 1970 to 1974 quantities for Oceania are given on calendar year basis, while values are on split year basis. Latest year export values for eastern Europe and U.S.S.R. are estimated on the basis of average export unit values for Western Europe.

Source: FAO Commodity Review and Outlook 1974-1975

Table 6: Exports of chilled and frozen beef and veal by African countries and major regions

	1968		1970		1971		1972		1973		Compound annual Growth rate, 1968 – [illegible] (quantity)
	Q	V	Q	V	Q	V	Q	V	Q	V	
World	1824586	1423249	2068033	1861396	1952636	2087868	2331157	2935405	[illegible]	[illegible]	+ [illegible]
Africa	62979	39052	72678	42511	92592	60193	114833	511[illegible]	[illegible]965	[illegible]	+ 15.6
Angola	2381	1406	2201	1325	2371	1542	2331	18[illegible]	2300	[illegible]	+ [illegible].2
Botswana	17177	9447F	5427	2985F	9000F	5400F	11000	72[illegible]	[illegible]	[illegible]	+ 11.3
Cameroon	759	353	264	133	559	284	320	16[illegible]	[illegible]50F	[illegible]00F	– 14.1
Chad	3086	1605	13815	5047	10000F	3700F	5941	26[illegible]	2000F	[illegible]	– 12.[illegible]
Ethiopia	2124	901	2036	818	2028	1067	4426	25[illegible]	4400F	26[illegible]F	+ 15.7
Kenya	2584	2060	2235	2069	2758	2913	3862	40[illegible]	3900F	5000F	+ [illegible]
Madagascar	2705	2110	4938	4025	7827	6892	9966	114[illegible]	8682	14216	+ 26.3
Mali	1000F	600F	1000F	600F	1000F	650F	1000F	6[illegible]F	1000F	[illegible]50F	–
Mozambique	599	331	300	172	476	396	62	4[illegible]	[illegible]	55[illegible]F	+ 1.0
Rhodesia	10000F	6000F	10000F	6000F	10000F	6000F	10000F	650[illegible]F	10000F	[illegible]F	– 1/
Senegal	–	–	346	99	115	128	149	1[illegible]	[illegible]	75[illegible]	+ 14.[illegible] 2/
Sudan	–	–	–	–	319	274	2753	202[illegible]	[illegible]500F	222[illegible]	+ 12.0
Tanzania	279	99	360	130	149	73	–	–	–	–	–
Tunisia	292	330	213	268	–	–	–	–	–	–	–
Upper Volta	1415	950F	1300F	740F	1000F	740	1000F	74[illegible]	[illegible]F	[illegible]	– 22.0
South Africa	17940	12476	27797	17835	44265	29912	60691	4062[illegible]	60000	50000	+ 27.2
Africa excl. S. Africa	45039	26576	44881	24676	51237	30218	54142	4051[illegible]	67065	60864	+ [illegible]
North America	30715	38393	47731	67208	52354	78328	47603	8528	[illegible]	14[illegible]	+ 14.5
W. Europe	619037	562487	614445	664978	658486	7956691	540915	101169	72[illegible]	[illegible]39102[illegible]	+ [illegible]
Oceania	385277	322472	499941	520400	530379	568824	678064	67806[illegible]	774343	110324[illegible]	+ 15.0
Centrally planned	243688	160562	117821	99176	86143	82545	98149	11624[illegible]	22[illegible]17[illegible]	1[illegible]	– 12.5
Lat. America	480411	297[illegible]	707[illegible]20	505579	545785	538658	636663	95996[illegible]	676113	80821	+ [illegible]

1/ 1970 – 1973
2/ 1969 – 1973

Q = metric ton
V = 1000 $ US

F = FAO estimate

Source: Trade Yearbook 1973, FAO, 1974

Table 7: Imports of chilled and frozen beef and veal by African countries and major regions

	1966		1970		1971		1972		1973		Compound annual growth rate 196[illegible] – [illegible] (quantity)
	Q	V	Q	V	Q	V	Q	V	Q	V	
World	1753223	1445482	2122703	2012644	2087064	2254104	2361292	3118074	[illegible]	4622100	+ [illegible]
Africa	43977	30836	42208	30244	39937	31016	62935	46980	[illegible]	[illegible]	+ [illegible]
Central Afr. Rep.	—	—	113	121	100F	110F	110F	110F	110F	120F	+ [illegible]
Congo	1500F	3950F	1199	830F	1000F	830F	1100F	700F	1000[illegible]	700F	– [illegible]
Egypt	1776	811	3140	1795	3109	2128	4031	33572	[illegible]	[illegible]	+ [illegible]
Gabon	1300	1100F	1350F	1150F	1350F	1150F	1350F	1400F	1350F	[illegible]	+ [illegible]
Ivory Coast	613	913	819	1041	896	1164	1200	1500F	1500F	2500F	+ [illegible]
Liberia	153	259	195	337	195F	340F	195F	450F	195F	500F	+ [illegible]
Libyan A.R.	817	857	2050	2370	2118	2519	2097	2906	2100F	[illegible]	+ 20.[illegible] 1/
Malawi	—	—	166	106	199	141	398	252	410F	340F	+ [illegible] 1/
Mauritius	242	208	326	220	260	200	171	195	[illegible]	[illegible]	[illegible]
Reunion	1225	1199	1840	1861	2200	2290	1900	2100F	2100F	2700F	+ 11.3
Tanzania	186	99	220	124	247	171	302	130	300F	170F	+ 10.1
Tunisia	—	—	—	—	268	234	—	110	434	745	+ 31.1 2/
Upper Volta	—	—	—	—	1000F	850F	7600	7600F	[illegible]	[illegible]	+ 340.0 2/
Zaire	8000	4000	—	38	1000	350	7585	5971	[illegible]	[illegible]	– [illegible]
Zambia	8182	5623	5482	4076	8956	6383	12564	8599	[illegible]	[illegible]	+ [illegible]
South Africa	13162	10041	24406	15295	16700	11126	21070	10877	[illegible]	18[illegible]	+ 12.[illegible]
Africa excl. S. Africa	25815	20795	17802	14949	3291	19890	41865	36103	[illegible]	[illegible]	+ [illegible]
North America	439201	412363	528128	644330	564578	683369	662724	846749	[illegible]	[illegible]	+ [illegible]
W. Europe	1028445	843712	1115731	1073585	1094775	1262923	1355704	1926705	[illegible]	[illegible]	+ 7.2
Centrally planned	128122	65413	215877	129449	199062	111295	101210	72586	[illegible]	142303	+ 5.4
Japan	13083	13112	23227	22293	41503	46714	57574	79391	12722	293080	+ [illegible]

1/ 1969 – 1973
2/ 1971 – 1973

Q = metric ton
V = 1000 $US

F = FAO estimate

Source: Trade Yearbook 1973, FAO, 1974.

Table 3: Production of canned meat in African countries and major regions

(metric tons)

	1963	1965	1967	1969	1970	1971	1972	1973
World	1351842	1351419	1414479	1396439	1522204	1835592	[illegible]	[illegible]
Africa 1/	18000^{E}	25500^{E}	34600	36400^{E}	40500^{E}	45000^{E}	[illegible]	[illegible]
Angola	457	306	367	630	455	491	105	11[illegible]^{E}
Botswana	N.A.	1300^{E}	456	2	—	5	—	—
Egypt	649	554	579	908	1020	2371	3382	2000
Ethiopia	3332	4000	1035	5474	5226	5428	5500	[illegible]
Kenya	N.A.	N.A.	13000^{E}	11000^{E}	11000^{E}	11000^{E}	12000^{E}	11000
Madagascar	2000^{E}	3500^{E}	4267	4110	5434	5000^{E}	4500^{E}	4200^{E}
Nigeria	900	1259	1385	1151	1257	1025	[illegible]3	534
Somalia	N.A.	N.A.	N.A.	N.A.	2600	6400	[illegible]	5500
Swaziland	200	142	228	214	342	356	355	231
Tanzania	5000^{E}	5877	6446	6266	7850	6361	4475	1201
Rhodesia	N.A.	N.A.	N.A.	5000^{E}	5000^{E}	5000^{E}	[illegible]	5000^{E}
South Africa	N.A.	N.A.	3000^{E}	4000	42[illegible]	[illegible]	[illegible]	[illegible]
United States	387161	352387	2 4352	307161	307777	350435	[illegible]	[illegible]
EEC	389216^{E}	[illegible]^{E}	418270^{E}	440[illegible]^{E}	[illegible]	[illegible]^{E}	[illegible]	[illegible]
Oceania	46914	57436	51451	51066	50718	[illegible]	93251	[illegible]
USSR	355275	290500	406500	264500	345200	411300	555200	456500
Poland	12500	71700	84400	90100	91884	102762	117011	132465
Latin America	150000^{E}	110000^{E}	110000^{E}	110000^{E}	105000^{E}	100000^{E}	90200^{E}	90000^{E}

1/ Excludes South Africa E = ECA estimate N.A. = Not available

Sources: 1/ *The Growth of World Industry*, 1972 and 1973 editions
2/ Compiled from several sources

Table 9: Canned meat exports by African countries 1968-1973

	1968		1969		1970		1971		1972		1973	
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V
World 1/	781746	[illegible]	763301	[illegible]0012	8166[illegible]3	[illegible]831	839448	1023968	864905	1144878	892141	1520463
Africa 2/ a/	[illegible] E	[illegible] E	[illegible] E	21000 E	19800 E	20500 E	24600 E	26500 E	28800 E	33400 E	28700 E	29750 E
Angola	50	65	8	10	4	6	5	7	35	41	5 F	7 F
Ethiopia	2130	1065	4010	1690	1847	1010	1800 F	1000	1800 F	1000	1800 F	1000
Kenya	4542	6272	3860	5188	3791	5325	4015	6786	4750	9498	4960 F	10390
Madagascar	2640	2781	3522	3582	4269	4685	4101	5229	3881	5042	4072	6836
Rhodesia	3100	3100	3100	3100	3100	3100	3100	3300	3100	3600	3100	3900
Somalia	992	485	1103	414	2200	925	4000	950 F	5500	950 F	6000	1020 F
Tanzania	4971	6157	5618	6649	3798	4899	3302	5339	3381	6075	1800 F	6502
South Africa	2366	2760	1173	1087	1693	1751	3866	5175	5180	6898 F	5180	7698 F

a/ excluding South Africa

F = FAO estimate Q = metric ton

E = ECA estimate V = 1000 $ US

Source: 1/ Trade Yearbook, 1973, FAO, 1974

2/ FAO Commodity Review and Outlook, 1974-1975

Table 10: Canned meat: world exports

	1966-70 average	1971	1972	1973	1974 (preliminary)	Change 1973-19
	(..........	......thousand	metric	tons...	.........)	
VOLUME OF EXPORTS						
World total 1/	667.3	742.8	769.5	801.4	825.9	+ 3.
Developed countries	373.5	450.3	449.0	494.7	524.1	+ 5.
Western Europe	334.2	418.7	403.5	450.3	478.0	+ 6.
of which: EEC (six)	(146.0)	(193.6)	(179.1)	(240.9)	(250.9)	+ 4.
EEC (nine)	(303.3)	(391.2)	(376.1)	(424.6)	(449.2)	+ 5.
North America	12.8	9.3	11.6	12.9	13.2	+ 2.
Oceania	26.4	22.2	33.8	30.4	31.8	+ 4.
Others	0.1	0.1	0.1	1.1	1.1	-
Developing countries	170.9	159.1	165.3	150.8	144.0	- 4.
Latin America	142.0	133.3	139.1	126.1	118.8	- 5.
of which: Argentina	(107.9)	(80.2)	(90.0)	(58.4)	(53.7)	- 8.
Brazil	(12.8)	(34.3)	(30.7)	(35.8)	(34.8)	- 2.
Africa	25.1	22.6	22.8	19.5	20.0	+ 2.
Asia	3.5	2.4	3.1	4.9	4.9	-
Others	0.3	0.3	0.3	0.3	0.3	-
Centrally planned countries	122.9	133.4	155.2	155.9	158.8	+ 1.
Asia	24.9	20.0	20.0	20.0	20.0	-
Eastern Europe	79.3	89.5	112.0	108.1	111.0	+ 2.
U.S.S.R.	18.7	23.9	23.2	27.8	27.8	-
VALUE OF EXPORTS	(..........	....	million	U.S. dollars	..........)	
World total 1/	697.9	884.3	975.0	1,319.3	1,442.6	+ 9.
Developed countries	411.4	523.8	569.9	839.3	905.4	+ 7.
Western Europe	375.4	489.7	516.9	779.5	838.3	+ 7.
of which: EEC (six)	(185.4)	(246.3)	(251.9)	(440.7)	(466.2)	+ 5.
EEC (nine)	(342.2)	(457.5)	(484.0)	(745.9)	(804.6)	+ 7.
North America	12.3	11.0	13.0	17.7	18.3	+ 3.
Oceania	19.4	16.6	33.2	33.5	40.0	+ 19.
Others	4.3	4.5	6.8	8.6	8.8	+ 2.
Developing countries	148.7	205.2	219.8	250.2	269.8	+ 7.
Latin America	127.4	182.6	194.0	226.7	245.4	+ 8.
of which: Argentina	(100.5)	(112.2)	(122.4)	(127.5)	(132.2)	+ 3.
Brasil	(11.3)	(50.9)	(51.3)	(69.8)	(81.0)	+ 16.
Africa	18.3	20.1	22.4	18.6	19.5	+ 4.
Asia	2.[illegible]	2.1	2.9	4.4	4.4	-
Others	0.2	0.4	0.5	0.5	0.5	-
Centrally planned countries	137.8	155.3	185.3	229.8	267.4	+ 16.
Asia	26.6	20.3	22.0	24.0	24.0	-
Eastern Europe	94.4	115.1	142.5	179.4	194.6	+ 9.
U.S.S.R.	16.8	19.9	20.7	26.4	48.8	+ 84.

1/ In terms of product weight

Note: Latest year export values for eastern Europe and the U.S.S.R. are estimated on the basis of average export unit values for western Europe.

Source: FAO Commodity Review and Outlook, 1974-1975

Table 11: Canned meat imports by African countries and major regions, 1968-1973

	1968		1969		1970		1971		1972		1973		Percentage of change 1968-1973(Q)
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	
World	732930	805841	739126	816670	777992	954331	785403	1034505	853743	1175636	873859	1564376	+ 19
Africa	18114	17066	17093	16851	20165	19382	19221	18815	20706	21670	21226	[illegible]	+ 17
Angola	364	572	462	153	454	140F	522	140	210	125F	311F	125F	- 14
Cameroon	461	364	533	467	786	523	406	597	605	259	610	353F	+ 32
Cent. Af. Rep.	195	209	252	244	189	205	193F	205F	193F	205F	193F	215F	+ [illegible]
Chad	89	150	114	172	116	203	122F	215F	122F	215F	133F	226F	+ 49
Congo	425	403	651	526	500	410	530	440	580	480	581	500	+ 37
Dahomey	84	109	94	113	85F	71F	269	197	280F	205F	281F	206F	+ 235
Egypt	1267	921	2820	2113	2665	1771	2133	1516	3581	2856	3501F	2850	+ 176
Gabon	403	481	463	503	463F	503F	410	470	410	470	420	[illegible]	+ [illegible]
Ghana	198	280	188	173	2353	2330	1518	1177	1566F	1262F	1565	1560	+ 730
Ivory Coast	647	777	655	798	828	958	622	880	670F	900F	670F	970F	+ 3
Kenya	307	251	310	256	292	282	210	206	138	171	134F	167F	- 56
Liberia	369	393	325	360	358	428	360F	430F	360F	431F	360F	435F	- 2
Libyan	1019	1178	969	1190	374	444	485	470	832	721	829F	718F	- 19
Madagascar	342	421	319	398	474	562	351	445	390	540	459	688	+ 34
Mauritius	404	311	380	386	482	377	326	275	589	511	595F	520F	+ 47
Mozambique	609	666	554	580	690	687	646	762	593	702	593F	705F	- 14
Guinea-Bissau	103	83	228	169	321	208	279	262	269	340	279F	350F	+ 170

Source: Trade Yearbook 1973, FAO, 1974.

Q = metric tons
V = 100 $US

Table 11 (cont'd) Canned meat imports by African countries and major regions, 1968-1973

Country	1968 Q	1968 V	1969 Q	1969 V	1970 Q	1970 V	1971 Q	1971 V	1972 Q	1972 V	1973 Q	1973 V	Percentage change
Reunion	1164	1484	1233	1669	[illegible]	[illegible]	1328	[illegible]	[illegible]F	[illegible]	[illegible]	[illegible]F	
Senegal	300	377	265	376	[illegible]	352	276	342	[illegible]	42	[illegible]F	[illegible]F	-
Sierra Leone	303	293	256	259	[illegible]	324	347	271	342F	36[illegible]	[illegible]F	[illegible]F	-
Sudan	613	249	107	44	40	24	717	241	130	7	[illegible]F	[illegible]F	-
Tanzania	224	162	170	152	[illegible]	265	[illegible]	193	151	[illegible]	[illegible]	[illegible]	-
Togo	105	110	14[illegible]	126	137	1[illegible]	1[illegible]	125	[illegible]0F	13[illegible]F	[illegible]	[illegible]F	-
Uganda	302	[illegible]	[illegible]0	267	29[illegible]	139	[illegible]	[illegible]	295	42[illegible]	[illegible]	426F	-
Zaire	1640	1670	1572	1625	13[illegible]	1577	1140	1625	1752	[illegible]	[illegible]	[illegible]F	
Zambia	2210	1745	1752	1[illegible]	1406	1271	1462	11[illegible]	1275	[illegible]	[illegible]	[illegible]0F	-
South Africa	2392	1953	19[illegible]	15[illegible]	1393	16[illegible]	2135	[illegible]	2170F	[illegible]	[illegible]F	[illegible]0F	-
N. America	228318	302909	230993	32365[illegible]	244454	376407	221[illegible]	397[illegible]5	2424[illegible]	40[illegible]	[illegible]	[illegible]	
W. Europe	332384	355292	32586[illegible]	357[illegible]	354267	415916	372[illegible]	47[illegible]	33[illegible]75[illegible]	[illegible]22[illegible]	[illegible]	[illegible]4[illegible]	+
Oceania	544	653	63[illegible]	[illegible]	2012	2316	[illegible]	721	[illegible]	[illegible]	[illegible]	[illegible]	-
Centrally Planned	42234	39618	56583	4710[illegible]	4[illegible]	15703	50907	[illegible]506	76051	69[illegible]	[illegible]	[illegible]	+
Latin America	41313	39289	[illegible]643	389[illegible]	47515	46145	42136	43[illegible]	46242	5241[illegible]	[illegible]	5[illegible]	+
Far East	33470	28243	37708	33279	30226	28357	34715	31474	34637	33[illegible]	[illegible]	43[illegible]	+

Table 12: Beef and veal: Net imports of selected major importing countries, 1973-74 1/

	1973	1974
	000 m. tons	
North America 2/	937.0	776.0
EEC (9)	461.6	-50.5
Others 3/	367.6	162.6
TOTAL (above countries)	1 766.2	888.1

1/ Excluding carcass weight equivalent of live animals; product weight.

2/ United States and Canada.

3/ Greece, Israel, Japan, Portugal, Spain and Switzerland.

NOTE: Trade of North America, France and Denmark are given equivalent. (-) sign indicates net exports.

Source: FAO Commodity Review and Outlook, 1974-1975

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