OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

06682

United Nations Industrial Development Organization

Distr.
LIMITED
ID/WG. 212/19
14 October 1975
ORIGINAL: ENGLISH

Symposium on the Prospects for Industrial Meat Processing in Developing Countries
Vienna, Austria, 13 - 17 October 1975

SPECIFIC ASPECTS OF MEAT PROCESSING IN KENYA 1/

by

Frank N. Mutura*

* Managing Director, Uplands Bacon Factory (Kenya) Limited.

1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

id.75-7725

THE PRESENT AND POTENTIAL MARKET REQUIREMENTS

A table of present consumption of meats is attached as Appendix on. The market for meat in Kenya could be divided into three population stratus i.e. Kenyans, Tourists and European residents. The meats themselves could also be divided into three main classes expecially from the slaughterhouses point of view:

(a) (i) Beef
(ii) Goat Meat
(iii) Mutton
(b) Pig Meat
(c) Poultry

(a) (i) BEEF

Cattle population now estimated at 9.5 million including 700,000 dairy cattle are roughly divided into range and high potential areas.

The value of beef industry now estimated at £.30 million for meat plus £.1.2 million for hides, with conservative figure of meat consumption of 1.2 million head producing 240 million kilogrammes of Cold Dressed Weight meat. Kenya Meat Commission purchases about 200,000 head or 40 million kilogrammes of beef which fetch £.9 million of which 1.5 million kilogrammes are exported as corned beef. K.M.C. exports of chilled and frozen beef are estimated at 2 million kilogrammes.

It is anticipated that the local meat consumption which has an upward trend from year to year may cause shortage of meat in the country in near future; unless effort is made to improve the offtake in both range and high potential areas, and improving of the management of existing stock and increasing availability of immature cattle from Range Areas.

Now the problem facing our beef industry is complicated by consumers requirements. It is the policy of the Government to control consumers' prices; the majority of consumers usually eat low grades of beef, yet this beef is on cost input beef. A rise in price may not produce much more of it. The presne flexible pricing system has been designed to provide an incentive to beef producers to produce beef all year round and to produce it in a more intensive basis.

To summarise Kenya's strategy to meet the above problems the following are included in the beef develop ment plan:

(a) Increasing offtake through increasing the number of stock routes and holding grounds.
(b) Increasing liveweight of offtake through improved management of existing stock.
(c) Increase availability of immatures from Range areas.

Improve the maturity age by crossbreeding. This will but down the period of maturity from four years to three years. Therefore, this may result into 20% in production.

It is hoped that changing of beef grading and price may force the farmers into crossbreeding programme improve pasture management and dry weather feeding.

The Beef Research Station has now produced the data on fattening cattle in feedlots. 35,000 steers of both from range areas and high potential areas have been used for this purpose which will rise to

60,000 animals if whole feedlot is utilized by 1976. It has been proved already that young stock from high potential areas would be more profitable if they would be sold to feedlots operators for fattening to supply export market.

In high potential areas, large scale farming and range-land have already been stimulated by livestock and milk recording programme at Naivasha and Beef Research station at Lanet near Nakuru in beef production activities. The extension staff are therefore to be urged to promote crossbreeding, recording and pasture management. On smallholding and large scale farms the extension staff should lay emphasis on steer production by utilizing A.I Programme which is now wide spread all over high potential districts. Where grazing is plentiful and dairy cattle short, the farmers should be encouraged to keep bull calves to fatten them for steers.

(a) (ii) GOATS

There are an estimated 5 million goats of which 60% are in low potential areas. There is one herd of Angora Goats and several small holdings of milking goats; Toggenberg, British Alpine, Nubian and Saamen as well as some Jemnapari from India. The value of goats in the country is estimated at £. 3 million producing 10 million kilogrammes of meat of which £. 400,000 are derived from skins.

The following are our strategic points to improve goats production:

(a) Improve management on smallholdings areas (Regular dosing, water pasture castration, selection breeding).

(b) Introduction saamen and Jamnapari goats for the purpose of upgrading for both milk and size. Saamen goats can give upto 150 gallons of milk per lactation, and goats are more efficient in converting food into milk than cattle

(c) Building up goat's herd on low potential areas.

(d) Introducing large breeds to upgrade our small indigenous goats.

(a) (iii) SHEEP

Hair sheep estimated at 4 million head are roughly distributed in high and low potential areas with more sheep in low potential areas. It is estimated that 550,000 wool sheep of which 40% are merinoes, 30% Romney and the rest crossbreeds and Downsbreed. The total sheep are estimated at the value of £. 4 million producing 20 kilogrammus of meat p.a. valued at £. 40 million. From 750,000 of sheep consumed in the country annually (7 million kilogrammes of meat) 2 million kilogrammes are sold to K.M.C. at a value of £. 510,000. A total of 1.5 million kilogrammes of wool are sworn annually and sold to K.F.A. at the value of £. 22 million.

There is need to produce more mutton to take the pressure off beef and to allow more beef to be exported to earn more foreign exchange. Sheep production has already proved in high and low potential areas.

The following are known limits for expansion of wool sheep in Kenya Highlands:-

Over 7,500 feet - Downs and Romney.

5000 feet to 7500 feet - Romney marsh and corriedales and Downs crosses.

5000 feet and below - Dry country Merinos and where management becomes difficult Dorpers.

Because of worm infestation it seems that warm and wet areas are not suitable for exotic wool sheep, but very suitable for Dorper breed and Dorper crosses.

In our strategy to improve sheep production the following factors should be taken into consideration;

(a) Improve the existing stocks by improving management, recording and introducing high production rams.

(b) Introducing sheep production enterprises in sheep areas, by introducing purebred stock or upgrading local sheep with exotic wool rams or Dorper rams.

(c) Introducing sheep (Dorper, Merinos) on ranching enterprises.

(d) Improving management of existing stock, and introducing rams on small holdings areas. It may be necessary to organize marketing of culled stock and to make available in shops various equipment necessary for sheep production.

(e) Improving management e.g. regular dosing, rotational grazing, feet treatment, rotational Bomas; to reduce worm infestitations.

By adopting the above points we may be able to double our production within few years.

It is necessary for extension officers who work in sheep potential areas to obtain standard recommendations from sheep and goats research station at Naivasha to use them as guidelines.

(b) PIGS

An estimated of 50,000 pigs which is about half the figure the country has carried in the past, are slaughtered every year in the country of which 40,000 are sold to Uplands Bacon Factory (Kenya) Limited. 20% of these are porkers and the rest Baconers and Heavy Hogs. Half of the pigs slaughtered at Uplands are exported.

The total value of pig industry in Kenya is

estimated at K.£.25 million. The pig industry has been in a declining situation for the past few years therefore any major decision taken must be towards improving the population of pigs, upgrading the quality of pigs and expansion of local markets.

The expansion of pigs in rural areas means expansion of local consumption. Pig meat in rural areas is now sold by butchers at a price equivalent to beef price. This may be the main incentive It will keep money in meat importing districts and allow extra meat to be exported.

Long term prospects for pig production could be improved by expanding rural markets, and a small expansion on export provided butchers' prices in rural areas are controlled.

Our strategy to improve pig industry should be based on improving the following factors:-

(a) Emphasis must be layed on improving efficiency.
(b) Mainlain high standard of pig production in large scale farming areas and utilizing surplus milk which may be left over the Kenya Co-operative Creameries (KCC) pig keeping in these areas should be a specialized job.
(c) Expand production in the smallholding areas, mainly for local consumption.
(d) Expansion of local feed mills and closer tie up between the farmers; feed mills and the butchers.
(e) Full support to be given to Uplands Bacon Factory by the Government in her effort of more vertical integration.

(c) POULTRY

It is estimated that there are about 12 million chicken in Kenya of which 1.2 million are exotic birds producing

an estimated £. 4 million dozen of eggs valued at £. 159,000. The rest estimated at 11 million are indigenous birds producing an estimated 16 million dozen eggs valued at £. 3.2 million per annum.

The demand for meat in domestic and export markets is increasing rapidly resulting in high price level for meat, which does provide stimulus for increased production. One of major problems of the livestock industry in Kenya now is chronic consumption of beef. Consequently the Government has now decided to promote production of increasing supplies of all practical forms of meat protein.

The poultry production has been given priority, and programmes are underway to develop poultry industry.

At present majority of poultry in Kenya re indigenous breeds. The eggs produced by these birds are and will in future remain an important supplying sources of protein in rural areas.

On production side on farm level, there is need for advice regarding utilization of all kinds of available feeds and wastages for a quicker and healthier growth of the birds, and more efficient production of eggs.

One of the most important factors with regard to poultry production is a healthy high quality chick. There are a few breeders in the country who have closely organised themselves in an organization of Kenya which comprises of: Kenya Poultry Development (Athi River), Ideal FArm (Lengata), Egpoul Limited (Kabete), Kigwaru (Limuru), Poultex Limited, (Mombasa) Kaslak Limited (Mombasa, Star Poultry Farm (Kikuyu). Washanga Hatcheries Limited (Mombasa).

There is a considerable increase of consumption of chicken and eggs in both Urban and rural areas. It is estimated at 80,000 birds weekly in Urban areas and this number is expected to double by 1978.

(a) Our effort should be therefore, concentrated in helping the promising farmers to improve their efficiency in poultry management and find the local and export markets for their products.

(b) Smallholders should be encouraged to set up small units for local consumption.

(c) Good birds should be obtained from recongised hatcheries.

II PROCESSING TECHNOLOGY AND TYPE OF PRODUCTS

Kenya slaughterhouses fall into two distinct categories namely:-

1 Export Slaughterhouses

2 Non Export Slaughterhouses

The definition of these categories is as self explanatory as the aim for setting them. The Government has realized the need to set high standards of Hygiene obtaining anywhere in the world to enable meat exports. The country is very suitable for livestock production and to be able to tap the potential of this livestock production international standards of slaughtering had to be maintained. Today Kenya has four export slaughterhouses of which two are for beef, mutton and goat meat, one for pork and one for chicken. Processing is of international srandard partly due to the historical connection of these slaughterhouses. The curing of bacon for example has continued to be of the Wiltishire type while corned beef drew alot of experience from an international consortium for several years before the termination of the contract three years ago.

The Government has shown a lot of determination to ensure the country's meat does not go through exports of this quality and through non export slaughterhouses. In order to maintain the standards, the suppliers of meat to ships and aircraft had to come from export slaughterhouses. The country-wide meat inspection was streamlined under the Director of Veterinary Services. Prior to that meat inspectors were under the Ministry of Health with limited delineation of responsibilities.

Though not yet formally enacted the non-export slaughterhouses are categorized on practical requirements whereby tighter hygiene requirements are demanded for slaughterhouses in or around municipalities. The need to avoid possible outbreaks out of uninspected meat is greater in areas of high density populations and hence this further classification. It is understood the government intends to institute municipal slaughterhouse regulations in due course whereby no carcases would be allowed to enter any municipality unless it originates from a municipal slaughterhouse status. Then after that the vehicles carrying such meat would be required to be of a particular standard and so on.

On supplying and quality of raw material mentioned elsewhere when dealing with various animal types it should be noted that Kenya set aside disease free areas referred to as "clean areas" to ensure highest quality animals particularly for export trade. This ofcourse involved a lot of money to eliminate any possibility of disease by vaccination and quarantine of animals in holding grounds when entering clean areas. Ideally of course the whole country should be made disease free but this is just not possible at this stage with the sort of geographycal boundaries

which would necessitate huge capital expenditure very much beyond the means of most governments of the third world. It can eventually be attained through Regional co-operation between neighbouring states. As of now such an ideal is but a distant dream for posterity to realize. The developed countries should be persuaded to understand the efforts being made by developing nations in this regard and give support and encouragement by relaxing importation of meats and meat products from developing countries which have put an effort in establishing disease free zones and erected slaughterhouses to international standards. Kenya export slaughterhouses carry a British Veterinary Certificate for example and yet it has been extremely difficult to persuade U.K. authorities to allow some of our products to interested parties in U.K. After continued effort to have this allowed without success we start enquiring from some visitors who come to our factories from U.K. their impression on our standard of hygiene and products quality and almost invariably in everycase they remark that our plant is by far better than most of the slaughterhouses they have come across in their home country. Serious consideration of relaxing the ban without necessarily jeopardising health of their national should be given urgently.

III UTILIZATION OF BY-PRODUCTS

The export slaughterhouses have little wastage on by-products because of the available machinery which are non-existent in small rural slaughterhouses. Utilization of these items made a difference in the beef export slaughterhouse several years ago between a loss and a profit. A study was carried out that revealed that the plant was losing about a £. 1,000 a day by not using the by-production fully. The implementation of that study alone brought in extra £. 365,000 a year to the plant which had previously been washed down the drain.

In the international pork plant several items left over are converted into meat and bone meal for animal feeds, and plans to start making gelatine are under way. The only wastage is the pigs hair which has been under investigations for sometime. A problem which has been mentioned has been the shortness of the hair of the Kenya pigs which render it less suitable for various utilizations. Wastage of by products in non export slaughterhouses is at a very high scale and ways should be investigated on how to rectify the situation.

IV ECONOMICS OF MEAT INDUSTRY

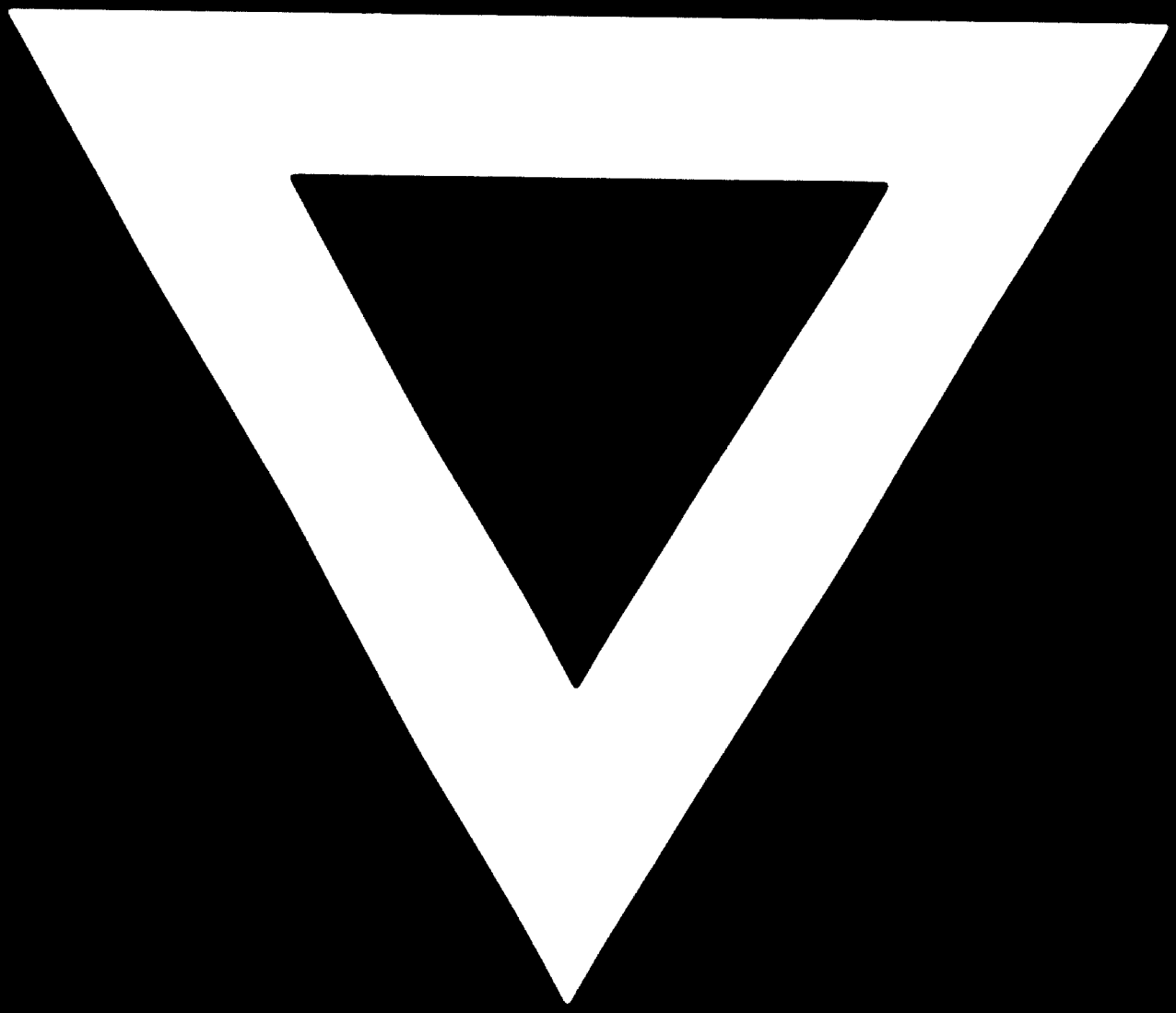
The meat industry in Kenya particularly the large slaughterhouses have been characterised by serious fluctuations in supply of the raw material. Some of these fluctuations have been caused by natural causes like drought leading the slaughter-houses into loss situations. Added to this has been the competition offered by smaller slaughterhouses and small butchers with negligible overheads but due to their number cause serious drain as far as the bigger slaughterhouses are concerned. This holds true to both beef and pork slaughterhouses. The Government control of meat price for such valid reasons has not greatly helped the international slaughterhouses. What has arisen is continuous conflict between butcheries who have become quite a force to reckon with and the Kenya Meat Commission and until it is satisfactorily resolved there is imminent danger of wrecking the entire meat industry. Butchers and small slaughterhouses are doing well but the bigger international plants could be doing better profitwise - Probably their standards are ahead of their time in their present environment without reaping proportional benefit from international meat markets to justify the inve tments sank into them.

Pork industry has also had its setbacks due to fluctuations in the supply of feeds. The Government had subsidised feed maize for many years but eventually decided against

the practice. This put the industry into rather difficult phase of adjustment especially when this happened at the time of acute inflation. Due to feeds problem the Government has agreed that the biggest slaughterhouses become more vertically integrated from producing pigs, growing and processing feeds for them through to slaughter and marketing. This will help a great deal stabilize the pig industry which has great potential in Kenya, where per capita consumption is as low 0.2 kg per year. If this was to be modestly increased to 1 kg per head per year this would mean an additional production of nearly 100,000 more pigs making the slaughterhouses sufficiently occupied. Beef as mentioned elsewhere is consumed at probably too high a level and at relatively low price in relation to the other meats and this until adjusted will continue to adversely affect the other types of meat. Since 1970 the per capita consumption has at 11.5 kg per annum been above the world average of 10.7 and is expected to be at that level by 1980. Search for some balance to ensure that all production of different meats continue to be produced where most suited in the country must continue before one type swallows the other. Rescuscitation would be too costly and therefore such an eventuality should be avoided by all possible means.

V PROVISION OF QUALIFIED PERSONNEL AND TRAINING REQUIREMENTS

There has been combined efforts by both industry and the government to train personnel to ran meat plants in the country. The industries have both on the job training which in terms of numbers that can be catered for carries more weight and emphasis than sending personnel abroad to train. A meat technology institution has been set in co-operation with A.F.O. Another course on meat technology is offered at the Kenya Polytechnic either on full time or part time in the evenings. The University of Nairobi has been running a full degree course on Veterinary Science for several years now.



76.01.16