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## FOODS OF GHANA

By

PAULINE WHITBY

*Food Consumption Surveys & Planning Specialist  
Food Research & Development Unit, FAO/JUNDP, Accra*

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## FOODS OF GHANA<sup>1</sup>

PAULINE WHITBY<sup>2</sup>

*Food Consumption Surveys and Planning Specialist*  
*Food Research and Development Unit, FAO/UNDP*

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### Summary

The preparation of traditional Ghanaian foods for sale or home consumption is described in this paper. A number of foodstuffs, high-lighted by the main staples—maize, cassava, plantain, cocoyam, millet, sorghum, etc. and their products are covered. Other important dietary items described include soups, stews and sauces, legumes, oil seeds, fruits, vegetables, foods of animal origin, condiments, beverages and mineral salts. The account also details regional, zonal or tribal preferences where necessary.

### Introduction

GHANA is fortunate in having a considerable variety of foodstuffs and an even greater variety of ways of preparing them. This makes Ghanaian diets interesting both to eat and to observe, but it renders description difficult. An account of the method of cooking a particular dish, faithfully recorded according to the practice in one tribe or area, may seem to readers from other parts to be quite wrong. Recipes differ sometimes even between close neighbours and by no means all the variations are distinguished by different names.

The descriptions given here of the making of various traditional foods are based either on direct observation or on information from people who are accustomed to cooking the foods in question. Generally these methods are used in Ghana but they are not the only methods, and the description will by no means satisfy people who are familiar with other methods. Where possible, the tribes using a particular method or the area in which it is common, have been indicated but this information is not always available. To include all the different variations of each well-known dish would require a paper several times as long as this one. The treatment is therefore selective, and comments are welcome.

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<sup>1</sup> This paper is based primarily on the author's personal observation, dietary survey records and information from Ghanaian colleagues. In addition *Ghana Nutrition and Cookery*, 1953, and *The Useful Plants of West Tropical Africa* by Dalziel, 1937, were frequently used for reference.

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<sup>2</sup> Formerly of the research staff of the School of Hygiene and Tropical Medicine, London, and the Nutrition Unit, Ministry of Health, Accra.



## Staple foods

In terms of food crops Ghana may be divided into three main zones:

- (a) The coastal plain, in which the chief staple crops are corn or maize (*Zea mays*) and cassava (*Manihot* sp);
- (b) The forest zone, in which the chief staples are plantain (*Musa paradisiaca*) cassava and cocoyam (*Xanthosoma mafaffa*) with some maize and yam (*Dioscorea* sp). This is also the zone in which cocoa is grown;
- (c) The northern savannah zone, in which the chief staple crops are millet (*Pennisetum* sp), with early and late varieties; guinea-corn (*Sorghum* sp) and yam with some maize, rice and cassava. This is also the area with the greatest production of groundnuts (*Arachis hypogea*.)

In all three areas the main meal of the day consist of a large quantity of a starchy crop staple, accompanied by a soup or stew containing red pepper (*Capsicum* sp) onions and tomatoes, and various other vegetables differing according to area and season; sometimes beans or groundnuts or oil-seeds, and usually a little meat or fish or both together.

Breakfast, if taken, may follow the same pattern or may be a lighter meal consisting of starchy pap, rice or *gari* (see under Cassava etc.) with beans, bread or one of the various snacks sold by food hawkers. There are a considerable variety of these, most of them made from the same starch staples as the main foods.

### THE COASTAL PLAIN

#### ✓ MAIZE

##### Corn dough foodstuffs

Maize may be prepared in a variety of ways of which *corn dough* serves as the basis of many common dishes. To make this, the corn is soaked for a period of one to three days, according to the use for which it is finally intended. It is then milled and mixed with water to make a stiff dough which is then set to ferment for a period depending on the final use—from less than a day to about three days. The fermented dough may be home-made, or may be purchased. It is cooked as *banku*, *kenkey* of various kinds, *akpler*, *kpo-kponsu* and other dishes. Below is a description of these foodstuffs:

*Banku* (Ga): A thick porridge made for home consumption or for sale in chop-bars.<sup>3</sup> *Banku* is not normally wrapped. To prepare it, the corn (kernel) is soaked for a day only, unless it is extremely hard and dry when the soaking time is increased. Following this, the dough is fermented for two days, made into balls and softened with a little cold water. The balls are then dropped into boiling water and stirred vigorously with a wooden ladle to prevent lumps from forming. More water is added a little at a time until the desired consistency is obtained. During this time the pot is kept on the fire and constantly stirred. Total cooking time is about 30 minutes. The *banku* is then formed into balls and eaten with soup or stew.

*Akpler* (Ewe): A rather softer form of *banku*. It is often made from a mixture of corn-dough and cassava-dough. If the housewife is in great hurry it may be made from maize meal and cassava flour, unfermented.

*Kenkey*: One of the most widely-used foods. There are many slightly different varieties some of them associated with particular tribes. *Kenkey* is thick porridge made into

<sup>3</sup> Traditional catering places.

balls or other shapes, wrapped in corn-husks or leaves and steamed. The process of kenkey making is lengthy and the wrapped balls are more often purchased from a kenkey-maker than cooked at home.

A small amount of kenkey may be mixed with water to make a drink. 'Iced kenkey' is a drink commonly offered for sale by drink-bars.

*Komi or Ga kenkey:* The dough is fermented two to three days. It is then divided into two portions. One-half is boiled as for banku until it is about half-cooked: this is called *aflata*. The *aflata* is then mixed very thoroughly with the uncooked dough—a process which entails very hard work. The mixture is then divided into portions which are wrapped in clean pre-wetted corn husks. Sticks, leaves or broken earthenware pieces are placed in the bottom of a large iron pot with some boiling water. The balls are then arranged on the sticks above the water while the rim of the pot is covered with a heavy cloth and a basin, and the entire preparation cooked on a fire for about two hours. The kenkey balls must be covered with water during cooking: if the water does not rise high enough on boiling the topmost balls are cooked again.

Ga kenkey is characteristically sour and has small brown flecks of bran in it. It contains salt.

*Dokono or Ntaw-Fanti kenkey:* The dough is fermented not more than two days. When the dough and *aflata* have been mixed the mixture is left to stand six to eight hours. The final balls are wrapped in plantain leaves.

This variety of kenkey is less sour than Ga kenkey and contains no salt.

*Akporhe, Nsihu* (polished kenkey): Before being taken to the mill the corn is pounded with a little water to remove the testa and the dough fermented for just 24 hours. Akporhe, the Ga form, is wrapped in corn husks with part of the ball exposed at the top. Nsihu, the Fanti variety is completely wrapped in leaves.

*Kokui—Ewe kenkey:* The meal is sifted to remove some of the bran before being made into dough. The mixture of dough and *aflata* is left to ferment about eight hours before making into balls and steaming. The balls are then wrapped in corn husks.

*Sweet kenkey:* In this variety sugar is added to the dough preparation and sometimes also mashed sweet potatoes. When the dough and *aflata* have been mixed the mixture is moistened and left to stand eight hours. The balls are wrapped in leaves and steamed four hours.

*Abolo* (Ewe): The manufacture of this product resembles that of kenkey with the following exception: The corn is rinsed with water (not soaked) and ground at once. The meal is sifted to remove some of the bran. It is made into dough with water (unfermented) and half of it cooked as *aflata*. This is then mixed with the uncooked dough and the mixture allowed to ferment for about eight hours after which it is placed on leaves and steamed into 'cakes'.

*Abolo* (Ga): This variety is mixed in the same way as the Ewe kind, but is wrapped in leaves and baked.

*Akasa* (Ga) *Akatsa* (Ewe) *Koko* (Hausa): A thin fermented pap, slightly sour; the traditional first food given to children. It is also frequently taken for breakfast and is a common food sold by food hawkers.

In making akasa in large quantities for sale, corn is soaked for about twenty hours, ground and mixed with a large volume of water. It is then put through a fine sieve or muslin to separate out the particles of bran. The mixture is left to ferment 18 to 20 hours then cooked till it thickens.

The alternative method is to take sour corn-dough then thin it with cold water, sift and pour the mixture into boiling water—stirring till it thickens. The sifting is sometimes omitted in which case the unsifted pap is called *kpokponso* or *pomponso*.



*Koklui* (Ewe): Kpokponso with lumps in it. The maize is soaked 24 hours before grinding, then made into a dough and left to ferment one to two days. (There is no sifting of the dough in this process). The dough is then made into very small balls and dropped into boiling water to cook.

#### Maize dough and plantain mixtures

These comprise several sweet foods prepared from mixtures of corn-dough and pounded ripe plantain. The fermentation period is always brief.

*Apiti* (Akan): The dough is fermented eight hours and one part of it mixed with three parts of plantain and the mixture baked, wrapped in leaves.

*Kaklo* (Ewe): The dough is fermented six hours and mixed with plantain in the same proportions as *apiti* and fried.

*Ofam* (Twi): The same proportions of plantain and dough as for *apiti* and *kaklo* are used. Palm-oil is added and the mixture is then made into cakes and baked without wrapping. Groundnuts and eggs may also be added to make a richer mixture. Unfermented dough is used for making *Abongo* (Ewe). It is mixed with palm-oil and sugar, wrapped in leaves and baked.

The same unfermented dough is also used for sweet corn-dough cakes—*Akpiti* (Ga) *Epitsi* (Fante) *Banfo Bisi* (Twi) *Amo Kaklo* (Ewe). A small amount of wheat flour and sugar are added to the dough and the mixture made into cakes and fried.

Sometimes half the dough is cooked as in *aflata* then mixed with the other half and left to ferment overnight, then sweetened and fried.

*Kpokpoi* (Ga) *Amo yakayake* (Ewe): This is eaten especially at the Homowo festival by the Gas. However, the Ewes do not associate it with any special occasion.

In the making of this product, maize is soaked 24 hours, milled, slightly wetted, squeezed out and left to ferment overnight. The following day the dough is scattered by handfuls into a perforated pot or a leaf-lined basket placed over a pot of boiling water—more dough being added as successive layers below it become cooked by the steam. When all is cooked it is crumbled by hand, with the addition of palm-oil and some cooked okro. It is then served with palm-nut soup (or, among the Ewes, okro soup).

An alternative method is to take some sour corn-dough and dry it by exposure to air until it can be crumbled.

*Kpokpoi*, especially when made by the second method, quite frequently ends up contaminated—causing “Homowo diarrhoea”.

#### Maize flour fermented and steeped in water

This is a kind of fermented maize preparation considerably different from corn-dough and forming the basis of some foods used in Ghana. The known method of preparation is widely used by the Yorubas of Nigeria and may have originated with them, but it is also used by the Ewes. The Yoruba name for the basic preparation (a soaked flour or very wet dough) is *Ogi*. So far, no name has been found for this in local Ghanaian languages.

*Ogi*: Maize is soaked 18 to 20 hours, ground, and mixed with a large volume of water. It is then strained through a very fine sieve to remove the bran. The liquid is then left to ferment for about 18 hours. The “sour water” which by this time contains lactic acid, is then poured off, leaving a very wet paste—*ogi*. One sample analysed in London contained 55 per cent of water. Corn-dough contains about 45 per cent and no surplus water is added during its manufacture. This may be used to make pap by being mixed with boiling water and allowing it to thicken without further cooking. This particular method is used by Ewes to make a pap called *Akaafa*. It has not been recorded elsewhere in Ghana but is the usual method of making pap in Nigeria. *Akasa*, made from dough must be cooked on fire to thicken it.

*Agidi* (Yoruba, also used in Ghana) *Kaafa* (Ewe); The *ogi* is added to boiling water and cooked on fire until it is very thick. It is then scooped out into leaves and wrapped into a wedge-shaped package. The contents of this resemble a tasteless blancmange. *Agidi* is eaten with soup. It is particularly popular in invalid feeding in Ghana and is used widely in hospitals.

#### Roasted corn preparations

*Roasted Corn*: The grains are roasted in a pot over low heat until golden brown. They are then poured into salted water and allowed to soak for about 20 minutes, then drained and heated till dry. The corn is served with roasted groundnuts.

An alternative method is to sprinkle the salt water gradually on the corn while still in the heated pot and to continue roasting till dry. A third method is to roast the corn and the groundnuts alternatively in clean hot sand.

The corn and groundnuts may be pounded together after roasting to make a meal—*Esie* (Twi) *Eburo Sam* (Fante) *Sale* (Nzima) *Dzowe* (Ewe) which is eaten with sugar and salt.

*Roasted Corn Meal*: *Ablemamu* (Ga) *Kyekyire* (Twi) *Eborow Isiam* (Fanti) *Wototoe* (Ewe). The dry corn is roasted in an earthenware pot until brown and ground after cooling.

The flour from this product is sometimes used in much the same way as corn-dough in such dishes as *ablemamu banku* and *ablemamu akasa*. It can be eaten uncooked also with banana or pawpaw or mixed with water and sugar as a drink.

Roasted corn meal flour is also used for *Apraparansa* in which it is cooked with the oily liquid from pounded palm-nuts (see under Oil Seeds) together with boiled beans, onions, tomatoes, pepper and fish. *Dzenkple* (Ewe) *Akplidzii* (Ga) is similar to this but palm-oil is used instead of palm-nut liquid. This foodstuff is often eaten with crabs.

#### Whole Dry Maize

This may be boiled with no treatment apart from a few hours of soaking if it is very dry and served with roasted groundnuts as *Aboda* (Ewe). In *Ashikoo* (Ga) the corn and groundnuts are boiled together.

#### Decorticated Maize

*Oblayo* (Ga): The testa of maize is removed by pounding and the whole grain boiled to make a porridge. In split maize, the testa is removed by pounding. The grain is then broken to pieces by further pounding, washed repeatedly under the tap (3-4 times) and boiled to make porridge *Ekuegbeemi* (Ga).

The method of making maize flour in northern Ghana is described under northern region staples.

### CASSAVA

#### Boiled cassava preparations

Fresh cassava roots are sometimes peeled and boiled; this is called *Ampesi*, a term which also applies to peeled boiled plantain, yam or cocoyam.

The boiled roots may be further treated by pounding in a wooden mortar to make the preparation called *fufu* (Twi) or *fufui* (Ga).<sup>4</sup> *Fufu* is pounded in two stages; after the first pounding it is left until just before the meal when it is pounded a second time. It is

<sup>4</sup> *Fufu*-making is a process typical of the forest tribes, but it has now spread to most parts of the coastal plain and many people there eat it frequently at their evening meals.

Incidentally, the term *fufu* is used in other West African countries and in the West Indies to refer to sundry other cassava preparations. Even within Ghana its use for pounded cassava (and other roots) comes strictly from the Akan languages. In Ga the term *fufu* is used for a *banku*-like preparation made from cassava dough.



turned over with wetted hands during pounding and therefore tends to contain much more water than ampesi. Extra water is added if it is desired that it should be very soft. After the second pounding the fufu must be eaten immediately or it becomes hard and unpalatable. This raises a complication in supplying it for hospitals and other institutions.

Cassava, like maize, is made into various preparations which are used as a basis for a variety of dishes.

#### **Fermented preparations**

*Cassava dough:* Peeled fresh cassava is finely grated for three days. A "starter culture", made from pieces of cassava which have been soaking in water for five days is sometimes used to speed up the fermentation process.

A dish resembling banku in method of cooking may be made from cassava dough by adding the dough to boiling water and stirring until thoroughly cooked—*Fufu* (Ga), *Amese* (Twi), *Agbelimokple* (Ewe).

It may also be sifted and steamed to make a dry flat spongy cake (*Yakayake*). For this purpose, it may be partly dried during the initial fermentation by putting it in a sack and applying weights to squeeze out some of the juice.

Balls of the dough may be cooked in soup. Phenolic compounds present in the cassava always colour it to some extent.<sup>5</sup>

*Gari.*—Peeled fresh cassava is grated rather more coarsely than for dough. It is put in a sack and weights are placed on it to squeeze out the juice. During this time it partly ferments. Squeezing may continue for two or three days.

The squeezed pulp is put through a sieve and is then roasted or fried in a very large shallow earthenware basin. Sometimes (especially near Cape Coast) the basin is greased with palm-oil, in which case the gari comes out yellow. Most of the gari made in Ghana, however, is made without oil of any sort. While roasting, the gari is constantly tossed about with a scraper made of a piece of calabash. The resulting product is dry and granular. It is sifted again and any large pieces are put aside to be ground and added to the original bulk.

Gari has the property of swelling up in cold water. It can be eaten (or "drunk") simply with water, without any cooking. Sugar may be added, or it may be mixed with cooked beans and a pepper sauce, or with dried fish and egg as in *gari foto*.

The mass<sup>4</sup> of gari in the basin does not appear to reach a very high temperature during roasting, but studies in Nigeria, where incidentally gari-making is believed to have originated, show that the gelatinization of the starch grains necessary to produce the cold-swelling property takes place only when the gari reaches at least 75°C. Presumably the granules, spending brief periods in contact with the very hot basin, reach the necessary temperature for a few seconds or minutes.

<sup>5</sup> Most varieties of cassava used in Ghana are non-poisonous, containing little cyanogenetic glucoside except in the peel. Thus special measures are not needed to rid the foodstuff of hydrocyanic acid. However, a toxic variety is sometimes grown in the Volta Region and in Togo, and is used for making gari—in which the toxin is removed with the juice. An outbreak of poisoning in 1961 was traced to a sack of kokonte (origin uncertain), believed to have been made from the toxic variety.

Nigeria cassava on the other hand is mostly of toxic varieties. Nigerian cassava flour—*elubo lafun*, is made from cassava which has been soaked in water for several days and then dried to get rid of the toxin, consequently this product is not identical with kokonte.



*Kokonte*.—Initially cassava is peeled, cut into pieces and dried in the sun. This process takes several weeks. In the early stages while it is still wet internally, it ferments. It may also become infested with black mould. Experiments have shown that the fermentation is essential for the production of the characteristic flavour of kokonte and that twenty-four hours is enough for the process.

When dry the kokonte is broken to pieces by pounding in a mortar, ground to flour in a mill and sifted. The flour is cooked by sprinkling into boiling water while stirring vigorously and makes a rather glutinous, somewhat translucent porridge. If mould was present on the cassava the porridge looks greenish or brownish; if not it is cream-coloured.

#### THE FOREST ZONE

### PLANTAIN

Kenkey is eaten in the forest belt, but there, the meals most typically consist of plantain, cassava, or cocoyam, or a mixture—either as ampesi or fufu. Plantain for fufu or ampesi is usually cooked when unripe. Plantain fufu is very sticky hence it is often mixed with some cassava which makes it more acceptable.

The plantains may however, be allowed to ripen, at which time they become yellow and sweet, though rather less so than bananas. Ripe plantain is occasionally cooked as ampesi. More commonly, however, it is roasted on an iron grille over a coalpot, or fried in oil—either in large pieces or in half-inch cubes, seasoned with ginger. This form, called *kelewele* is commoner along the coast. Roasted and fried plantains are commonly sold as snacks both in the forest zone and on the coast. Plantains may also be roasted in their skins in the ashes of fire, and are often so prepared for people spending the day on farms.

Ripe plantain is sometimes mixed with other foods as a sweetening agent. (See under corn-dough). It may also be pounded to a paste (uncooked) and mixed with plantain kokonte—the mixture being fermented six hours, then wrapped in plantain leaves and steamed four to five hours to make plantain kenkey—*Brodokono* (Twi); *Ahyenku* (Fanti).

It may also be mixed with corn-dough and cooked to make *akpler*. (See under Maize), and *Ashanku* (Ga).

*Plantain kokonte* is made in the same way as cassava kokonte from unripe plantains. It is browner than cassava kokonte.

### COCOYAM

*Cocoyam*, in addition to use in ampesi or fufu is quite often roasted in the fire before peeling. When taken as ampesi it is usually mixed with cassava or plantain; as fufu, with cassava.

Varieties of cocoyam containing needle-like crystals of calcium oxalate have been described from Ghana, as from elsewhere, but these appear to be uncommon nowadays. According to Dalziel these belong to *Colocasia esculentum* (taro) whereas the species of cocoyam most cultivated in Ghana is *Xanthosoma mafaffa*, which is related to *X. sagittifolium*, the West Indian tannia or yautia.

Cocoyam leaves are used for stew in the forest zone and elsewhere. (See under Vegetables: *Nkontomire*.)

### YAM<sup>6</sup>

*Dioscorea* sp.—Yams are eaten more in northern Ghana than in the forest and coastal zones. In the latter areas, however, they are used in certain dishes which are not common in the north.

Yam may be cooked as ampesi or fufu, like other roots. Mashed yam is frequently given to infants—being boiled before mashing.

<sup>6</sup> The term *yam* is used in America for sweet potato, *Ipomea batatas* which is related to *Dioscorea*.



*Oto* (Twi, Fanti, Ga) *Etetugu*, *Nenyanga* (Ewe).—Mashed yam with palm-oil and hard-boiled eggs. The oil is mixed with yam after mashing and the eggs are peeled and put on top of the mash. This is a festival dish. Sometimes tomato and onion are fried in oil and added to the yam.

*Mpotompoto* (Twi) *Kptonkpoto* (Ga) *Mpotoe*, *Tedzogboe* (Ewe).—Yam porridge. Yam is peeled and cut into inch cubes. These are then boiled with meat and/or smoked fish, onions and tomatoes in a fairly large volume of water. Sometimes more onions fried in palm-oil are added. The yam pieces may be mashed into the liquid or left in as such.

*Mpotompoto* is sometimes made simply with yams and a little palm-oil.

This dish is often recommended for children because of the absence of pepper in it.

*Yam flour*/*Yam kokonte*.—This is made from the "heads" of yams which take longer to cook than the rest and are therefore not commonly cooked when making *ampesi* or *fufu*. It may be made also from any yam which shows signs of rotting. Yam flour is cooked like cassava *kokonte*, or made into *wasawasa*. For this the dampened flour is shaken in a calabash until it becomes rolled into tiny balls which are steamed in a perforated pot over boiling water.

*Wild Yams*, *Ahabayere* (Twi).—Several species of yams grow wild. Some are edible after lengthy cooking and are used during periods of food shortage. Others are known to be highly toxic.

#### THE NORTHERN SAVANNAH

The coastal and forest regions have a great deal in common so far as foods and culinary techniques are concerned. In the northern savannah, these are markedly different.

#### MILLET AND GUINEA-CORN

Both early and late millets occur in Ghana and are species of *Pennisetum* (bulrush millet). Local names are too numerous to list. Guinea-corn belongs to *Sorghum* sp. The uses of these grains are for the most part similar, though some types of guinea-corn are reserved for brewing, while millets are used in the preparation of traditional northern dishes such as *maasa* and *fula*.

The commonest use for both millet and guinea-corn is in the form of a stiff porridge made from the ground flour. The word used for this dish in southern Ghana is *tuo zaafi* (Hausa), which will be used here since each of the northern languages has a different name for it. It is sometimes referred to by the initials of the Hausa name—"T.Z." Either millet or sorghum is ground to flour between stones or in a mill. Usually the grain is stored intact and only one or two days' supply of flour is ground at a time, though ready-ground flour is sold in the main markets. The grain may be washed before grinding but is not usually soaked. The bran does not appear to be removed, either by sifting the flour or by pounding and winnowing before grinding. As far as has been ascertained most of the flour used in the northern savannahs is of very high extraction. In this it differs for example, from Gambian millet or sorghum flour—from which the bran is removed by pounding and winnowing.

To make *tuo zaafi* the flour is sprinkled by handfuls on to boiling water and stirred in. It is cooked on fire with vigorous stirring for about ten minutes or longer if the quantity is large and then eaten with soup.

The flour may also be taken raw. It is usually dampened and shaped into a cake which is broken up in water and drunk, but a person in a hurry may simply stir a handful of flour into water and drink it.

The flour may also be cooked to make gruel or pap, *koko*, (Hausa). It is simply mixed with water and boiled till it thickens. No fermentation is involved in the preparation.



*Maasa*, Millet cakes.—The millet grain is decorticated by pounding and washing away the husks. One-half is pounded to flour and sifted. The other half is boiled without pounding until soft. The sifted millet is added to the boiled half with enough water to make a batter. This is often done in a special cooking vessel (made of clay) which resembles a very large set of patty-pans. This is put over fire and one cake fried in each cup. The process can be seen in many northern markets where the cakes are made for sale.

*Fula*.—The millet is soaked and pounded to remove husks which are winnowed off. It is then ground to flour which is mixed with water to a dough and shaped into balls. These are put into a large container with yam vines or other support in the bottom to hold them above the level of the boiling water and are steamed for about one hour in the covered vessel. The dough is then removed and pounded gently in a mortar. Pepper and ground cloves (*kanafuri*, *masoro*) are added bit by bit until completely mixed. The dough is then shaped into balls again and rolled in rice or milled flour to prevent it from sticking. The balls are mashed into water or milk; sugar is added and so eaten. Brown rice may be used instead of millet. *Fula* is usually bought from hawkers.

*Besi* (Dagarti).—A granular mixture of millet and groundnuts. The millet grain is fried then pepper is added and the mixture milled. It is then mixed with milled groundnuts and fried again. It is eaten with the addition of sugar and water, or if available, milk. The proportion of groundnuts in *besi* mixtures is generally small.

*Bensaab* (Dagarti) is a thick porridge made of millet flour and beans which is eaten with groundnut soup.

## CORN

*Tuo Zaafi*.—In many parts of the north, maize is grown as an additional crop and harvested before the main millet and sorghum crops. It therefore forms the main staple for one to two months of the year.

Corn being very much harder than millet or sorghum is not usually ground by hand on stones. The process of manufacturing flour is more elaborate than that of other grains. The method is described in four steps:

- (a) The corn is pounded to remove the testa—water or in some cases grit being added to loosen it. The testa is then winnowed off.
- (b) The grain is next soaked overnight.
- (c) It is then pounded, or as is the practice nowadays, taken to a commercial mill to be ground.
- (d) The damp flour is spread to dry in the sun and then sometimes (or possibly always) milled again, after which it is sifted.

The flour is used to make *tuo zaafi* in the same way as millet or guinea-corn.

It will be seen that this flour, unlike the usual millet or guinea-corn flour is quite highly refined. Since soaking is part of the manufacture it is obviously necessary that the moisture content should be checked during dietary investigations. One sample collected in Tamale was found to have a moisture content of over 30 per cent after sun-drying.

## YAM

Several species and varieties of *Dioscorea* are grown on the northern savannah and a considerable quantity exported to the south. Yams form a considerable part of the northern diet for about four months of the year. The yams are sometimes stored in earthed-up clamps or in pits.

Yam is usually eaten as *ampesi*, with soup or stew, or simply with salt and shea-butter. Slices may also be fried.

*Fufu* is not made in the north, except by southern immigrants.



*Sweet potatoes (Ipomea batatas)*.—These form a minor crop of some importance in certain areas. The varieties grown are usually whitefleshed, although some have red or purple skins. They are boiled in the skin or roasted in hot ash.

*Frafra potatoes/Salaga potatoes (Coleus dysenterious)*.—A small thin-skinned tuber grown as a cash crop. It is sometimes eaten raw on the farm; otherwise it is boiled.

#### MINOR GRAINS

*Eleusine coracana* (finger millet).—This was introduced into the north some years ago and has found acceptance in at least one area. Lynn reports the use of grain collected from the wild grass *Eriochloa*.

### Other staples

#### RICE

This is a popular food in all parts of the country but is not the chief staple in any area. A certain amount of rice is grown in Ghana but the greater part is imported.

Some of the rice grown in northern Ghana is steamed or boiled as paddy so as to loosen the glumes. This results in the transfer of some of the pigment in the pericarp to the endosperm as in parboiling. Whether B vitamins are transferred too does not appear to have been investigated.

Country rice frequently has small stones and grit in it, necessitating long and elaborate washing. This undoubtedly leads to a considerable loss of water-soluble nutrients.

Cooked rice is frequently sold by food-hawkers. It is often bought as a supplementary food for babies. A popular mixture for breakfast is rice and beans (*Vigna unguiculata*) served with pepper fried in oil. (This may also be purchased from hawkers.) A number of purchased samples of this foodstuff were found to contain about 10 per cent of beans by cooked weight whereas home-made ones usually have a bean content ranging from 25 to 30 per cent.

*Rice-water* or rice cooked in water and sweetened with sugar is sometimes taken for breakfast.

*Jollof Rice*.—A dish originating from Sierra Leone. In making it, boiled rice is mixed with meat stew containing pepper, onions and tomatoes to make a preparation resembling a pilao or risotto. Ghanaians frequently cook the rice together with the other ingredients. In Sierra Leone stew and rice are cooked separately and mixed afterwards.

*Tatale*.—Rice is washed and soaked overnight, then finely ground. Ripe plantains are pounded and mixed with the ground rice. Water is added to make a batter. Onions, pepper and salt—all ground together are added, and the mixture left to ferment for two hours or longer and fried by spoonfuls in hot oil.

In the Twi form of tatale corn-dough is used instead of rice. Rice flour may replace maize or millet in banku or tuo zaafi.

## WHEAT FLOUR

Wheat is not grown in Ghana but a considerable tonnage of wheat flour is imported. Bread is a popular meal, especially for people who have little time to cook. Beehive-shaped ovens are used in many areas for baking it. Firewood is burned inside the oven then raked out and the bread cooked by residual heat. There are also modern bakeries in most large towns which make bread for sale.

There are two main varieties of bread, *Tea Bread*, which is not sweetened, and *Sugar Bread*. Both come in loaves of several sizes, from 1 oz. upwards. Tea Bread is often served with a glass of "tea" (this term covers coffee and various proprietary beverages) for breakfast. Bread is eaten by tearing the loaf and dipping it into the tea. Stalls providing this meal can be seen in many towns. A loaf may also be eaten by itself or with tinned fish or corned beef.

Various popular snacks are made from wheat flour and sold by hawkers. They include pan-cakes, doughnuts and the following:—

*Twisted Cakes, Atshomo.*—To prepare this, a dough is made with flour, fat, sugar and water; or among the Gas and Ewes with an egg and milk instead of fat but without sugar. The dough is rolled and cut into diamond shaped pieces which are then slit, twisted, flavoured with aniseed or nutmeg and fried in hot fat.

*Dough-Cakes: Togbei, Bafroto, Baflot.*—A dough is made with flour, sugar, palm-wine to supply yeast and beaten egg. It is allowed to rise four hours and then fried in balls. The dough may be flavoured with nutmeg.

*Water Cakes.*—Fat and sugar are creamed together; flour, egg and water are added to make batter and the mixture fried in small balls.

*Sweet Cakes* (English type).—These, sometimes with dried fruit or resin are also made for sale in Ghana.

## Soups, stews and sauces

A certain amount of confusion arises because the terms *soup*, *stew* and *sauce* are used to translate local Ghanaian names which are not strictly equivalent. Also they are used somewhat differently in parts of West Africa. For instance, in Nigeria all three seem to mean the same thing. Thus the same dish may be referred to as pepper soup, pepper stew or pepper sauce. In Sierra Leone the term "sauce" is used for what in Ghana would be called soup or stew, and so on.

In Ghana the word soup translates the local words *Wonu* (Ga) *Nkwan* (Twi) or *Detsi* (Ewe). Stew translates *Flor* (Ga) *Abomu* (Twi). Soup, as well as stew, contains as a rule solid pieces of meat and sometimes vegetables, so that it does not correspond to English "soup". Henceforth these words will be used with their Ghanaian meaning.

Either soup or stew is the usual accompaniment to the starchy staple at a main meal. Both dishes typically contain—as ingredients,<sup>7</sup> pepper, onion and tomato and either meat or fish or both. In addition both may contain other vegetables, such as green leaves, okro, and garden-eggs; also groundnuts or other oil seeds—ground to paste, or palm-nut (pericarp) extract or beans.

<sup>7</sup> In Ghana the word "ingredients" means pepper, onions, tomatoes and salt. It is rarely, if ever, used for anything else.



The chief differences between soup and stew are as follows:—

- (a) Stews are cooked for a longer period and are usually thicker. Yesterday's soup, re-cooked so that some water evaporates, may become stew.
- (b) To make stew, the pepper, onion and tomato are fried first in oil, so that all stew recipes contain oil while those for soup usually do not.

Vegetables included in either are often mashed or ground to paste, either before or after cooking. In certain recipes however they may be left as cut pieces.

*Stew*: When the term "stew" is used without qualification it means the oily liquid from meat stew. Rice-and-stew, for example, is often purchased for breakfast. People who can afford it also buy a piece of meat which has been cooked in the stew, but this is paid for separately.

*Gravy*: In Ghana this means pepper, onions and tomatoes fried in oil. It has less liquid than "stew", since water is not added to it.

*Sauce*: Fresh pepper, tomato and onion ground together. This also is eaten with fried fish.

### Soups

All recipes for soups include pepper, tomato and onion, thus these are not listed under the ingredients of individual soups or stews.

#### SOUTHERN GHANA

#### Plain soup or Light soup (*Nklakla*—Ga)

A soup containing meat, fish or chicken and garden-eggs (*Solanum melongena*). The garden-eggs are ground to a paste after cooking and put back into the soup to thicken it slightly. There is no other thickening. Okros may be added. However, these are optional in most areas although in the Ewe version of this dish (*detsifi*) they are always included ground in the soup as a thickening agent, with the garden-eggs remaining in pieces.

#### Palm Soup

*Nmewonu* (Ga) *Mme-kwan* (Twi) *Abenkwan* (Fanti) *Dedetsi* (Ewe). The liquid and sediment from pounded palm-nuts forms the basis of this soup. Chicken, meat and/or fish with garden-eggs and okros are added. These vegetables may be cut in pieces but not ground or mashed.

#### Groundnut Soup

*Nkatie-wonu* (Ga) *Nkate-nkwan* (Twi) *Nkatse-nkwan* (Fanti) *Azi-detsi* (Ewe). Ground-nuts (*Arachis hypogea*) are roasted and ground to paste which is then used to thicken soups containing fish, chicken or meat as well as okros and sometimes garden-eggs. These vegetables are not mashed. The paste may be bought ready-made in the market.

#### Bean Soup

*Yoo-wonu* (Ga) *Ase nkwan* (Twi, Fanti) *Ayi-detsi* (Ewe). Cowpeas (*Vigna unguiculata*) or flat beans (*Phaseolus lunatus*) are used. They are boiled until soft, ground to paste, and used to thicken soups containing fish and/or meat and vegetables.

#### Okro Soup

*Nkruma-Nkwan* (Akan) *Enmomi-wonu* (Ga) *Fetri-detsi* (Ewe). May contain garden-eggs as well as okro. Prawns or shrimps—either fresh or smoked, are usually added, commonly being ground to powder or paste first. The vegetables are ground after boiling—the seed being ground separately, and returned to the soup.

#### Stews

In the preparation of stews, the pepper, onions and tomatoes are fried and ground before being added to the other ingredients.

### Garden-egg Stew

*Sebe flor* (Ga) *Ntorewa abom* (Twi) *Ntoroboa forowe* (Fanti) *Agbitsa flor* (Ewe). The garden-eggs may be skinned after boiling, and are mashed before being incorporated in the stew. Fish is also added.

### Cocoyam Leaves Stew

*Nkontomire* (Akan) *Kontomle* (Ga) Cocoyam leaves stew. Cocoyam leaves are boiled till soft and then mashed before being added to the other ingredients. Fish is often added. This is often prepared for meals taken on the farms—the oil and fish being carried to the farm for the purpose while the leaves, pepper and tomatoes are gathered on the spot to make the meal.

### Palavar Sauce

Leaves, *Bokoboko* (*Portulaca oleracea*), *Efan* (*Amaranthus* sp.) or others are boiled till soft and ground along with the fried pepper, tomatoes and onions. They are then cooked further for about 45 minutes with ground agushi (see under Oil Seeds). Fish is also added.

### Agushi Stew

Basic vegetable stew thickened with ground melon seeds. Generally speaking the distinctive ingredients of soups can also be used for stews and vice versa. Thus there is palm-nut stew, okro stew, nkontomire soup, etc. The dishes listed above are the most commonly encountered, but there are many others.

## NORTHERN GHANA

Soup recipes have not been studied in detail in northern Ghana. As in the south all types contain pepper, also onions and tomatoes when these are available. Any type may, in addition, contain small quantities of meat or fish, though frequently none is available. The types of soup so far recorded are<sup>8</sup>:

- (a) Soups thickened with a paste made of oil seeds, groundnut, *bungu* (*Ceretheca sesamoides*), *neri* (small melon seeds) kapok seeds (*Ceiba pentandra*) or seeds of *bito* (*Hibiscus sabdariffa*).—See under Oil Seeds.
- (b) Okro soup:—a variety made with fresh or dried okros.
- (c) Fresh leaf soups: Many cultivated and wild leafy vegetables are used for making soups in the north. (Again see under Vegetables). These soups may include groundnut paste or *dawadawa* (fermented locust bean) or *kantong* (other fermented oil seeds). The leaves are not mashed but cut into small pieces prior to cooking and cooked for only about 10 minutes.
- (d) Soup of dried leaf powder, e.g., *kuku* (*Adansonia digitata*).

## Legumes

### Cowpeas (*Vigna unguiculata*)

These are the most widespread legumes in Ghana, and are eaten throughout the country. There are white, black, red and brown varieties—usually referred to as red beans, black beans, etc. by Ghanaians. Since the term “beans” is non-specific, the name “cowpeas” is used here but it is not in common use in Ghana.

<sup>8</sup> The term stew does not appear to be much used in northern Ghana.



In the south cowpeas are most commonly eaten boiled—with rice or gari. Rice-and-beans are among the commonest foods sold by hawkers and are often bought for breakfast or lunch by school children and workers. Stew or gravy are usually served with these dishes.

In the north boiled cowpeas may be eaten with soup in place of tuo zaafi.

### Beans Stew

The beans are soaked overnight, boiled till soft and mashed or ground to a smooth paste—skins and all. Onions, pepper, tomatoes, fish and palm-oil are then added.

### Akla, Akara: Bean Cakes

The beans are washed and soaked overnight and the skins removed. The white variety from which the skins are easily rubbed is commonly used. The beans are then ground or pounded to a smooth paste and mixed with water to the consistency of thick batter. This is salted and well beaten, then fried in spoonfuls in deep hot oil. This foodstuff is sometimes made with dry bean flour instead of soaked beans. When made by Yorubas it may contain whole red peppers. (The name is probably Yoruba in origin and akara is commoner in Nigeria than in Ghana).

*Koose*.—This resembles akara but is seasoned with ginger and pepper, and usually the cakes are bigger than those of akara.

*Taubani*.—A northern dish. The cowpeas are ground to flour and mixed with water to a paste. A small amount of *kanwa* (potash—see under Minerals) is added to soften the flour. The paste is wrapped in leaves and steamed. It is then eaten with shea-butter and pepper.

Cowpea leaves are sometimes ground and added to the beans, making bean-leaves taubani which is green.

*Allele* (Ghana) *Ole, olele, moyin-moyin* (Yoruba). A Nigerian dish made like taubani, but with palm-oil and pepper added to the bean paste before wrapping. When cooked it is orange or pink. Occasionally encountered in Ghana.

### Large beans (*Apatilamo* (Ga) *Apatram* (Twi) *Phaseolus lunatus*)

This bean is grown in the forest country, but may be seen on sale in Accra and other large coastal towns. The beans are flat and may be white or mottled with a red pattern. They are usually boiled and added to soup, mashed or whole. They are much more expensive than cowpeas.

### Round beans

Bambarra groundnuts *Earth pea* (*Voandzeia subterranea*). *Akyi, Atwe* (Twi) *Akwen* (Ga) *Azi kpodoe* (Ewe) *Aboboe* (the cooked beans).

These grow in savannah areas, mostly in the north. The pods ripen underground as in groundnut. The beans are almost spherical with a hard outer seed-coat, and may be buff-coloured, red or black with a well-marked white scar. They somewhat resemble soya beans and are sometimes confused with them.

The beans are usually soaked twenty-four hours before cooking and are then boiled till soft. The result in the south is a sort of porridge with beans floating in it called *aboboe*. Red pepper, salt and often sugar are added in cooking, and served hot or cold. *Aboboe* is sold by food hawkers.

In the north boiled round beans may be eaten with stew-like cowpeas.

### Pidgeon pea (*Cajanus cajan*)

The plant originally was introduced as a hedge plant in the north on agricultural stations. The seeds are occasionally used but are considered difficult to cook.

**Earth bean**

Geocarpa bean (*Kerstingiella geocarpa*). *Sempi* (Dagomba) *Sumpui* (Frafra) *Sulimpia* (Mamprusi). This bean is known only in northern Ghana. It does not appear to be common nowadays. The seeds are of various colours and ripen in an underground pod. The taste is good but the yield poor and the beans are subject to insect attack. According to Dalziel, in the north a food is prepared by adding shea-butter and salt to the pounded kernel.

**Groundnut (*Arachis hypogea*)**

Grown chiefly in the north but also in parts of the Accra plains and Ashanti. There are several common varieties in Ghana.

In the north groundnuts are often eaten raw on the farms, but in the south they are always cooked and raw ones are thought unhealthy.

In preparing groundnuts the pods may be boiled whole then shelled, or roasted in hot sand. More commonly, however, the groundnuts are shelled from the pods before cooking.

*Groundnut soup*: In the south groundnuts are roasted, the skins rubbed off and the kernel ground to paste. This is used to thicken a soup containing meat or chicken (not usually fish) with vegetables and the usual pepper. Groundnut stew is also made from the paste. In the north groundnut paste is commonly added to soups containing leafy vegetables.

*Groundnut oil*: The oil is extracted from groundnut paste by further heating and by squeezing. This is done in the north for home use and for sale in the market. One oil mill in Accra makes groundnut oil chiefly from Nigerian groundnuts which are cheaper.

*Kulikuli*: The paste left after the oil has been expelled is shaped into a cake or ring and fried. It is then sold as a snack in northern markets under this name.

## Oil seeds

Oil seeds may be divided into two classes: those that can be used whole and which supply appreciable amounts of protein, minerals and vitamins, and sometimes starch and fat, and those which are wholly or mainly a source of extracted fat or oil—with protein or other nutrient originally present remaining in the inedible residue.

**Oil seeds used whole**

Groundnuts come into this category but are dealt with in the section on legumes.

**Melon seeds (*Agushi, Akatsewa, Neri. Citrus vulgaris*)**

Three types of melon seeds are used in Ghana:—

- (a) A broad flat type with a narrow flange round the circumference of the husk which splits easily. The seeds can be shelled entirely by putting them in a sack and beating them, afterwards winnowing off the pieces of husk. This type is similar to Nigerian *Egusi* and part, at least, of the supply is imported from Nigeria. It is sold in three forms: in the husk, husked kernels, and as ground powder shaped into balls. Its commonest use is in the making of *egusi* soup.



- (b) Seed of about the same size of ordinary melon, but narrower and fatter. It is less easy to husk and is not husked before selling.  
*Note:* The name *Agushi* (presumably derived from *Egusi*) and *Akatsewa* (Twi) appear to be used impartially for both these forms. Use: in palavar sauce making.
- (c) *Neri*, the form found in the north—is much smaller than either of the other two. The husk is difficult to peel off. The seeds are not husked but ground—husk and all, after which the powder is mixed with water and strained to remove pieces of the husk. Additional names for *neri* are: *Tumbini* (Damago) *Yarigani* (Grunshie) *Kankiersih* (Sissala), *Sema* (Frafra). Use: in *neri* soup.

*Ninkunkune* (Dagarti). *Neri* powder is mixed with water to a thick paste, shaped into balls, and boiled. The balls are served with soup containing *dawadawa* (*see* below).

Melon seed oil does not seem to be made in Ghana though it is common in Nigeria.

*Krobonko* (Twi) *Telfairia occidentalis*. A large ridged gourd, the seeds of which are used in soup like *agushi*. They are larger, however, and the soup is said to be "heavier" than *agushi* soup. Not common in Ghana.

*False sesame: Bungu. Ceratotherca sesamoides*. This plant grows wild in some areas but has been domesticated by the Dagombas. The small flat seeds are ground and used for thickening soup, being first roasted to loosen the husk, and winnowed to get rid of it. Like true sesame *bungu* has a high calcium content.

*Sour-sour, Guinea-sorrel: Hibiscus sabdariffa*. *Bira* (Dagomba) *Bito*, *Bit*, *Beet* (Frafra). Widely cultivated for seeds, leaves, calyx and pods, there are several different varieties. The seeds are boiled with *dawadawa* and pepper to make a soup which is then thickened with millet flour. For other uses of the plant *see* under Vegetables.

*Kapok or silk-cotton seeds. Ceiba pentandra. Gumbili* (Kusasi). Used for soup by the Frafra and other tribes, like sorrel seeds. Used also for *kantong* (*see* below).

#### Fermented oil-seed products

*African locust bean, Parkia clappertoniana. Dawadawa* (Hausa) *Koligu* (Dagomba) *Kpalagu*, *Kpolug* (Frafra) *Etchum* (Gonja) *Tsogo* (Grunshie, Sissala). These names apply to the fermented product.

*Parkia*: is a large tree upon which the pods hang in bunches. The beans are black, very hard and are surrounded inside the pod by a yellow mealy substance which is edible (*see* under Miscellaneous Foods: *Dozim*). They are used to prepare a strong-smelling black paste which is shaped into balls and can be seen in all northern markets. It is used for flavouring soup. It is most commonly known by the Hausa name *dawadawa*.

The method of preparation varies from place to place. Usually the seeds are boiled for twenty-four hours to soften the hard testa, then pounded and washed to remove broken testa. The kernels are then boiled again, crushed to paste, and set aside two or three days to ferment. The paste is then rolled into balls which are put out to dry on roofs or the floor of the compound where they pick up a good deal of grit. Analyses of several specimens from Nigeria showed a riboflavin content very much higher than that of the dry beans. It was highest in a rather moist specimen which smelled more strongly than the rest and contained some ammonia. The thiamine content was lower than that of the dry beans. There was a high but very variable iron content, thought to be due to contamination with laterite. There was also a good deal of unsaponifiable fat.

*Kantong* (Dagomba). This is more or less a substitute for *dawadawa*, made from the seeds of *kapok* or *baobab*. The seeds are first fried and pounded then crushed with hot water into a dough which is kept for two days to ferment. It is then dried, pounded again and made into balls. (This account may not be complete. It is not clear whether the seed-coats are removed or crushed with the rest.) *Kantong* is brown rather than black.



In Nigeria melon seeds, castor-oil seeds and seeds of *Hibiscus sabdariffa* are all fermented, but this has not been recorded from Ghana so far.

## Nuts

### Bread-nut (*Artocarpus incisa* Linn)<sup>9</sup>

*Diibol* (Twi) *Aborofo-nkatie* (white man's groundnut). A variety of bread-fruit in which the seeds rather than the flesh are eaten. The seeds are about  $\frac{3}{4}$  ins. long and are boiled or roasted and eaten as a snack.

*Coconut* (*Cocos nucifera*) *Kokosi* (Twi). Grown in all coastal villages. The juice of the immature nut is a popular drink. Occasionally the half-ripe nut is grated and squeezed to get coconut "cream" which is used for cooking rice. Once copra was exported in quantities from Keta district but this is now rarely done. An oil mill in the Western Region today produces coconut oil from copra.

## Fats and oils

### Palm-nut (*Elaeis guineensis*) *Nme* (Ga); *Abe* (Fanti); *Dedeti* (Ewe)

The oil palm is the source both of red palm-oil and of palm-kernel oil. The fruit red, lozenge-shaped, faceted—about  $1\frac{1}{2}$  ins. long and grows in large bunches. The commonly-used English names are a source of some confusion. Palm-nut is the common name in Ghana for the whole fruit, i.e. the red pericarp with the "nut" or stone still inside. Palm-nut soup or palm soup is made from the extract of the pericarp; so is palm-oil. On the other hand, the hard stone or pit removed from the pericarp is referred to as the "nut". It is cracked to extract the kernel which is used for making *palm-kernel* oil. Unlike the red oil from the pericarp, this contains no carotene and when made by the traditional method it is brownish black in colour.

*Palm soup*: The whole fruit is boiled, then pounded in a mortar to separate pericarp and "nut" and to break the flesh and oil loose from the fibres of the pericarp. The pounded mass is squeezed in warm water to extract the oil and other edible matter. The nuts are removed and the crushed pericarp pounded again and the washing process repeated. The liquid obtained consists of water, oil and a considerable amount of sediment which appears to be largely carbohydrate. It is boiled for about half an hour to concentrate it somewhat. Oil which rises to the surface is sometimes skimmed off. Meanwhile, meat, fish and vegetables (tomato, pepper, garden-eggs, okros, onions) are cooked separately and are later added to the palm-nut extract.

This soup is a favourite with several tribes. It is always given, with the addition of various herbs, to women who have just had a baby, to promote lactation. It is taken by the Gas, with *kpokpoi* (see under Maize) at the Homowo festival.

<sup>9</sup> Or a communis forest: Dalziel, p. 274.



*Palm oil:* Oil may be extracted from the pericarp by two methods:—

- (a) By boiling and pounding as in making palm-soup. The water is not boiled off; instead the sediment is allowed to settle and the oil skimmed from the top. Oil made in this way is said to be "soft" or "sweet" and is more expensive than the other variety. It is used only for cooking. Most of it comes from the Krobo district. The Ewe name for this type, "Dzomi", is used as a trade name by an Accra oil mill for one type of factory-made palm oil.
- (b) The second type, "Koloe" or hard palm-oil, is made from fermented nuts. The bunches are first sprinkled with salt water and left 3 to 4 days. This loosens the fruit. They are then shaken off the bunch into a pit lined with plantain and banana leaves and left five days to ferment following which they are removed into a pit-mortar which is made of clay lined with stones and pounded. This pounding is usually done by the whole family using long sticks. The pounded mass of pericarp is separated from the nuts and put onto a piece of sacking supported by sticks over a platform shaped like a shallow bowl and made of beaten earth. There is a drainage hole at the lowest point. Oil drips from the mass and drains out into a receptacle. Subsequently the remaining mass of pericarp is pounded again in a second pit-mortar with some water. More oil collects on the surface of the water and is skimmed off. Both lots of oil are then combined and boiled in an iron pot or an oil-drum until it is clear, it is then put into bottles or kerosene-tins for marketing.

"Hard" palm-oil gradually solidifies at the bottom of the bottle on storage. "Soft" palm oil remains liquid longer and is less liable to go rancid. "Hard" palm oil is used for cooking and also for making soap; it is cheaper than the "soft" type.

Red palm oil and palm-soup contain large quantities of carotene. The frequent use of these foodstuffs is probably the most important reason for rarity of Vitamin A deficiency in southern Ghana. In the north, where oil-palms do not grow and little palm-oil is imported, this deficiency is relatively common.

*Palm kernel oil:* The nuts removed during the making of palm-oil are spread to dry on compound floors. They are cracked by hand, using a stone, washed, then fried in kernel oil. The dried kernels are ground to paste which is then mixed with water. The oil rises and is skimmed off. It is then boiled to get rid of remaining water.

This oil is used for cooking, especially frying, and also for making soup. Its manufacture is a form of home industry. Much of the labour involved goes on cracking the "nuts" by hand, a process in which the whole family participates. It usually takes several days (the work being done between other tasks) to crack one kerosene tin full of the nuts. This produces about 1½ pints of oil.

*Shea butter. (Butyrospermum parkii).* This is the chief fat used in northern Ghana. *B. parkii* is a tree which grows freely and wild over most of the savannahs of the north. The fruits are gathered and the sweetish pericarp eaten during the "hungry season" (see under Fruits). The nuts are dried, stored and used later to extract the fat which is solid at ordinary temperatures and whitish in colour. It is used for frying, for addition to soups and various other foods; also as an unguent and hair-dressing. It is sold in the south chiefly for rubbing on the skin after bath.

The nuts are boiled for about two hours, the water being allowed to boil off completely. The shells are then cracked and removed. The kernels are broken up in a mortar and the pieces fried over a low fire in an earthenware pot until black and completely dry. They are tested by sprinkling with water and if the water disappears quickly it indicates the nuts are ready to be ground. The result of grinding is a sticky paste which is squeezed out by hand in hot water to separate the fat. The water and fat are then boiled—usually the next day—until foaming takes place and the water evaporates. The melted fat is poured into calabashes and left to cool overnight after which it is then ready for use.



Shea-nut kernels contain large amounts of tannin and latex and are not edible (for humans, at least) although they can be fed to pigs. The preparation which is very lengthy and tedious, is necessary to separate the fat from the tanning and coagulated latex.

## Vegetables

Vegetables in Ghana are used for making soups and stews or incorporated in other dishes. They are rarely, if ever served as a separate dish.

The basic soup ingredients are red pepper (*Capsicum* sp.) onions and tomatoes. Red pepper is invariably used. Tomatoes and onions are always used even when they are very expensive—except in some remote areas which are entirely dependent on their own production and where tomatoes and onions may be unavailable at certain seasons.

### Peppers (*Capsicum* sp)

Red peppers used in Ghana are almost all hot sweet peppers being grown only for sale to expatriates generally. There are eight or ten varieties, most of them with a name in each of the local languages. Certain types are particularly valued because they have an aromatic smell in addition to the "hot" taste. These, however, have a relatively short growing season and the special character is lost upon drying. Most types of peppers may be used either green or ripe, though the latter is commoner. The commonest types may be preserved by drying in the sun, for sale or home consumption. Whether fresh or dry they are ground between stones, or in the case of fresh ones, mashed in a special ridged bowl before being added to the dish. Dry pepper may be purchased ready-ground.

A soup containing a large amount of pepper has a laxative effect. Ghanaians recommend "plain soup" and palm soup for this purpose, and for ordinary constipation in adults it is a better remedy than patent medicines. For very small children, however, the irritating effect of the pepper on the lining of the digestive tract is bad. Most infants will not take soup with pepper in it, thus few of them get any soup or stew until they are at least a year old and usually more. This is unfortunate as the soup contains all the vegetables and meat, and most of the fish in the family diet. Teachers of child health try to popularise the idea of preparing a small amount of soup especially for the children without pepper.

### Onions (*Allium* sp)

There are two main types, a small one, often with a purple skin, weighing six or eight to the ounce called shallot (*Allium ascalonicum*) and a large one weighing two or three ounces, often known as Nigerian onion (*A. cepa*). Onions do not grow well in most parts of Ghana and even in rural districts they are usually purchased in the market. Part of the supply is imported. Onions are ground with the pepper for adding to soup.

### Tomatoes (*Lycopersicum esculentum*)

Several types are cultivated. Some round, some very much segmented—with a woody centre which has to be cut out before use. The tomatoes along with their seeds are mashed or ground to paste before or after boiling. Tomato paste (imported from Italy), or more recently canned in Ghana, is now a convenience and time-saving foodstuff for the traditional and commercial catering trade as well as private households. According to Dalziel, the vegetable known as "bitter tomato" is a form of garden-egg.



**Garden-egg (*Solanum melongena*)** also egg plant, or Aubergine

In the south this is one of the most popular vegetables. The commonest variety is about the shape and size of a hen's egg, but more pointed. The skin is cream-coloured when ripe, sometimes with an orange flush, but may be used while still green. It forms the basis of garden-egg soup and stew and is often added to other soup (e.g. palm-nut, groundnut and "light" soup). It may be simply cut in pieces or mashed after cooking so as to thicken the soup. (In this process, the seeds are ground separately.) Garden-eggs are much less often seen in the north.

Other varieties sometimes seen are:—

- (i) The European aubergine, an elongated purple variety—largely grown for sale to expatriates but sometimes used by Ghanaians;
- (ii) A form about the size and shape of a large cooking apple—which may be green or purple when picked;
- (iii) "Bitter" garden-egg or *Kantoi* (Dagomba) which is small and red. This is eaten in the north and is available only during the rainy season;
- (iv) Small garden-egg. *Nsusua* (Twi). A specimen was identified as *Solanum nodiflorum* or possibly *S. scalare*, of which there are both wild and cultivated forms. Both the leaves and the fruit are edible—and are included in the palm-soup prepared for lactating mothers by Fantis.

**Okro (*Hibiscus esculentus*—Ladies' fingers)**

This is equally popular in the north and south of Ghana. It forms the basis of okro soup and okro stew and is also included in others. It is a mucilaginous vegetable. In the north as in Nigeria, this quality is accentuated by cooking it with *kanwa* (potash or native soda) but this is not done in the south. It may be left in pieces in the soup or mashed or ground; in this case the seeds are ground separately. Ewe okro soup nearly always contains ground shrimps for additional flavour.

In the north okro may be dried for use in the dry season. It is cut into pieces and spread in the sun. The dried pieces are pounded and sifted before use. In the south, while okro is expensive at certain times of the year it is never unavailable and the dried form does not appear to be used. In some northern areas the leaves may be used as a vegetable.

**Tchocho (Twi) *Sechium edule*—Chow Chow)**

This is a relative of the cucumber. It is pear-shaped with a single large flat seed. It was introduced some years ago by the then Department of Agriculture and is quite widely used around Aburi as a substitute for garden-eggs.

**Pumpkin (*Cucurbita mixima* or Pepo)**

In the south this appears to be grown only for making calabashes. In the north it is also grown for food. It is not incorporated into soup but is boiled and mashed with the addition of some pepper and eaten alone.

**Mushroom**

Long-stemmed cream-coloured or brownish mushrooms are gathered wild in the forest and added to soups. They are broken in pieces, not mashed and may be dried for future use.

**Spinach vegetables**

In southern Ghana at the present time the commonest form of spinach is *kontomele* or *nkontomire* which are cocoyam leaves. These are eaten especially by people in the Ashanti forest zone who may take *nkontomire* stew or soup almost every day. The leaves are washed, broken up and boiled till soft (about twenty minutes) but they may be left on the fire much longer. They are then mashed, usually with a wooden spoon in a special earthenware bowl which has close-set ridges on the inside. The mashed pulp is put back



in the soup or stew, a little of the water added to thin it, and the rest thrown away. Occasionally a native doctor will prescribe the water in which nkontomire has been boiled as a medicine.

Other leafy vegetables used in southern Ghana, mostly on the coast, are *Talinum triangulare*, or *Shwee* (Ga) *Portulaca oleracea* or *Bokoboko* and one or more species of *Amaranthus*, known as *Efan* or *Fan*. They are cooked in much the same way as nkontomire, a favourite use being for palaver sauce (see under Soups and Stews). *Fluerya aestuans*, *Hunhon* (Twi) is used in the same way.

A considerable number of other spinaches and pot-herbs are mentioned by Dalziel as being used by southern Ghanaian tribes, but they are not commonly encountered nowadays; not, at least, in the areas (including a number of rural districts) where dietary surveys have been done during the last eight years.

#### NORTHERN GHANA

A much larger variety of wild and cultivated leafy vegetables is encountered in the north. Again they are used in soup—being as a rule, merely cut in small pieces, not mashed and then cooked no longer than is necessary to soften them. Potash (*kanwa*) or soda are not usually added unless okro is also one of the ingredients.

A few of the leaves (mentioned below) need special preparation.

#### **Bitter Leaf** (*Vermonia amygdalina*)

This contains an extremely bitter substance which must be washed out. The leaves are chopped small and repeatedly squeezed out in water. They can be seen in market already chopped and immersed in water, being sold ready for use. (Note: the treatment in Nigeria is more elaborate and the Ghanaian method needs to be checked.)

#### **Cassava leaves** (*Manihot utilissima*)

It does not appear that this vegetable receives special preparation in Ghana, so presumably the leaves (like the tuber of the Ghanaian varieties) contain comparatively little cyanogenetic glucoside.

#### **Baobab leaves** (*Adansonia digitata*)

The leaves of this tree may be used fresh as a spinach but they are more often dried in the sun, after scalding and then powdered. The powder, often called by the Hausa name *kuka*, is sold in all northern markets. (Each local language in northern Ghana has its own name for the product). The soup is mucilaginous.

#### **Other leafy vegetables**

These do not, as far as is known, need special preparation. They are: *Nangbina* (*Gynandropsis gynandra*; Cats' Whiskers) Jute leaves (*Corchorus* sp) leaves of False Sesame (*Caratotheca sesamoides*); all are mucilaginous. Pumpkin leaves: Bito or Bira (*Hibiscus sabdariffa*; Guinea sorrel) *Alayafu*. (*Amaranthus* sp); leaves of the Silk-cotton tree (*Ceiba pentandra*) and of Cowpea (*Vigna unguiculata*) and okro (*Hibiscus esculentus*) are also included. This list is by no means exhaustive but includes most of the commoner leaves.

#### **Sour-sour; Guinea sorrel.**

*Hibiscus sabdariffa*. *Bito* (Frafra) *Bira* (Dagomba). This is one of the commonest leafy vegetables. The seeds (see under Oil Seeds), pods and flower-calyces are also used for food. The pods of certain varieties resemble okro. The leaves and flowers, apart from their use in soup, are used by the Dagartisi for preserving cooked tuo zaafi (porridge) during the period of heaviest agricultural work when there is no time to cook it every day. The leaves and flowers are pounded, cold water is added, and the mixture strained.



Fresh water is boiled in another pot, a little flour stirred in and the sour water from the leaves added to it. The tuo zaafi is cooked and dropped into the sour water while still hot to set into balls. Normally about three or four days' supply is made at a time, but the pickled tuo zaafi will keep for a week. Seedlings of this plant may also be used as a vegetable.

*Red silk-cotton flowers. Bombax buonopozense. Vaka, Vagba (Dagomba).* The calyx is used in making a mucilaginous soup. Dried calyces may be seen on sale in the markets at the appropriate time of the year.

## Fruits

In southern Ghana fruits do not play a large part in the diet, but are regarded as a pleasant refreshment. In the north a number of wild fruits are among the "bush" foods collected to help out the dwindling supplies of grain during the "hungry season."<sup>10</sup>

### Cultivated fruits

*Banana: Musa sapientium.* There are several varieties, including a pink one.

*Orange: Citrus sinensis.* Local varieties often retain green patches when ripe. The flavour is good but they are hard to peel. The fruit has many seeds with tough dividing membranes. Oranges are usually "drunk" rather than eaten. To do this, the peel is cut off, leaving the tough white inner coat; then a slice is taken off the top and the juice squeezed and sucked out.

*Grape fruit: Citrus grandis.* Grown chiefly for sale to expatriates although it is receiving gradual acceptance by Ghanaians.

*Lemon: Citrus limonia.* Local varieties are green when ripe. The chief local use is for rubbing on the skin of children with fever.

*Lime: Citrus aurantifolia.* When gari is made into a drink with water and sugar, lime juice may be added, especially by Ewes. There are large plantations producing lime juice including an expatriate company in Cape Coast that expresses the juice for export.

*Pine-apple: Ananas sativus.* Many local varieties remain green when ripe though one narrow conical variety turns orange. Pieces of the fruit are cut, peeled and sold as a snack by food hawkers.

*Pawpaw or Papaya: Carica papaya.* Orange and red-fleshed varieties are grown. The fruit is eaten when ripe; it does not appear to be cooked unripe as a vegetable in Ghana nor is the juice much used for tenderizing meat. (On the whole Ghanaians prefer meat that they can chew).

*Avocado pear: Persea sp.* The name "pear" or "paya" in Ghana always refers to this fruit.

*Sour sop: Anona muricata.* The juice is released by squeezing it out of the fibrous pulp.

*Sweet sop.* Probably *Anona reticulata*.

<sup>10</sup> A period of severe food shortage affecting all foods in the north, plantain in the forests and maize on the coast; occurring commonly between April and August.

*Custard apple: Anona squamosa.*

*Mango: Mangifera indica.* Widely grown, but local varieties have not been much selected or improved. Budding and grafting do not appear to be practised except on state farms.

*Cashew apple: Anacardium occidentale.* Probably introduced recently, but there are a number of the trees in Accra, and in the first months of the year the apples are quite often seen for sale. The nuts are roasted and eaten also.

*Ackee: Blighia sapida.* The popular name "ackee" used all over West Africa and in the West Indies, hails from Ashanti. Presumably it was taken to the latter area by slaves. (The Latin name refers to Captain Bligh of *Bounty* fame).

The fruit is a hard, red, leathery, pear-shaped capsule which splits into three valves, exposing hard shiny black seeds—each with a pale yellow or cream-coloured fleshy aril. This is the edible portion. A network of red threads adheres to it and must be carefully removed as it is highly toxic. The aril, which somewhat resembles an enlarged section of a walnut, is fatty and has a savoury taste. In Ghana it is occasionally eaten raw. In the West Indies where it is much more used, it is cooked as a vegetable. In Jamaica the use of unripe ackees is believed to be responsible for the periodic outbreaks of "vomiting sickness", and recent research there has shown that unripe ackees and also the red threads from the ripe fruit induce hypoglycaemia, i.e., concentration of glucose in the blood below normal levels.

Of these fruits only mango and pawpaw are much grown in northern Ghana, outside state farms. Ackee may be seen in avenues in certain towns. Pine apple and grape fruit can be grown in that climate but the people themselves do not plant them.

#### Wild fruits

Some of the wild fruit trees have been partly domesticated in certain areas.

#### SOUTHERN GHANA

*Velvet Tamarind: Dialium guineense.* *Yoyi* (Ga) *Asena* (Twi) *Atsi-toe* (Ewe). Drop-shaped about  $\frac{3}{4}$  ins. long, with a thin brittle outer shell covered with short velvet hairs; dark brown. There is a thin layer of orange-brown pulp surrounding a hard seed. The pulp is rather dry, with a sweetish acid taste, like sherbert. The fruits are gathered and sold in large quantities in March.

*Star Apples: Chrysophyllum* sp. *Lasa* (Ga) *Adasema* (Fanti) *Adadema* (Twi) *Alasa* (Ewe). Dalziel lists *C. africanum* and *C. albidum* as occurring in Accra. Both grow wild, but may also be cultivated. The fruit is yellow or apricot-coloured, about two inches across. The cavity containing the large hard seeds is star-shaped in cross-section. The fruit has a pleasantly acid flavour but when not quite ripe this has a bitter after-taste. It exudes a milky latex when cut. The tree has been domesticated in some areas.

*Black Plum: Vitex cienkowskii, Sho* (Ga) *Afetewa* (Twi) *Fo-Yi* (Ewe). This resembles a small black plum and has sweetish taste.

*Miraculous Berry.* Sweet berry: *Synsepalum dulciferum.* *Asawa* (Twi) *Taami* (Ga). An elongated reddish-purple berry about one inch long. The taste is sweet-acid. When sour fruits are eaten shortly afterwards, these also taste sweet. Dalziel says that it is added to palm-wine and pito (see under Beverages) and to stale food to improve the taste.

*Wild Sage: Lantana camara.* *Ananse dokono* (Spider's kenkey). Small round brown berries growing in bunches on a bush.



## NORTHERN GHANA

*Baobab: Adansonia digitata.* A large tree which grows wild but is seen mostly around villages. The leaves are edible (*see* under Vegetables). The fruits are large and drop-shaped and weigh several pounds; they are covered with velvety olive-green hairs. The pulp inside is rather dry and contains a network of fibres, also a large number of seeds which are used for making kantong (*see* under Oil Seeds). The pulp itself is eaten as a snack. It contains cream of tartar, mucilaginous carbohydrates which appear to be pentoses, and a very large amount of ascorbic acid (500 to 1,000 mg. per 100 g.). It is also added occasionally to tuo zaafi (porridge) or to koko (pap) as a sweetener.

*Shea Fruit: Butyrospermum parkii.* A very common savannah tree in the north. The fruits are green, turning brown when ripe. In Ghana they are round with a rather thin pericarp and only slightly sweet. They are collected and the pericarp eaten during the "hungry season". The kernels are saved and used for making shea-butter (*see* under Oil Seeds).

Other wild fruits which have been observed in markets in northern Ghana include swamp-ebony or monkey guava.

*Diospyros mespiliformis*, the Desert date, *Balanites aegyptiaca*, and those of the *Borassus* palm, *Borassus aethiopum*.

## Foods of animal origin

### Meat

Animals kept for meat include cattle, sheep, goats and pigs, Ghanaian cattle do not belong to the hump back breeds but in outline resemble Jerseys for the most part. They are pastured on the coastal plains and in the northern savannah. They cannot be kept in the forest zone because of the prevalence of tsetse fly. During the dry season the pasture is very poor; concentrates are not fed (or available for feeding) and at this time of year the cattle lose weight rather than gain. In consequence they take a long time to reach maturity. The average estimate is 7 years although the mean rate of increase in cattle numbers is about ten per cent.<sup>11</sup> This is approximately the proportion slaughtered. The demand for beef outruns the supply, and cattle are imported from Upper Volta and other neighbouring areas in considerable numbers. Those walked down from the northern borders travel at least five hundred miles to reach slaughter centres and lose a great deal of weight on the way. However, during the last ten years the practice of trucking them down has become increasingly popular.

The milk yield of the cows is barely adequate for the normal needs of the calf. Most cattle-owners engage Fulani herdsmen whose pay consists chiefly in the right to milk the cows for sale. This practice contributes to the delay in maturation of the calves.

Sheep in Ghana have hair, not wool, and illustrating the biblical phrase, it is quite difficult to tell them from the goats, except by the upright tail and the profile of the head. Unlike cows they can be kept in the forest country.

<sup>11</sup> The greater part of this increase is attributed to imported stock brought into Ghana annually for slaughter and to a less extent for breeding.



Goats are ubiquitous. For the most part they are small, but specimens with very long legs are sometimes seen. These have probably been brought in from Upper Volta, as have the long-legged varieties of sheep. They are not milked. For the most part they are allowed to roam at will, but the Ministry of Agriculture has been trying to popularise the idea of tying them up and feeding them on cut herbage. In some areas there has been a reasonable degree of success with this trial.

Indigenous pigs are small bodied black animals. The average live weight under village conditions is about fifty pounds, although when well-fed they may double this. Unlike the sheep and goats they are not seen in every village, although the pig-keeping areas are widely scattered in Ghana.

Most of the meat from all these animals is used fresh. Any which has not been sold on the day of slaughter is smoked, but the smoked meat will usually be consumed in a few days at most, though in the north it may be dried sufficiently to keep for more than a week. Other methods of preservation, such as salting (i.e. brining) are used. Cowhide, after scraping and soaking is cooked in soup as *wele*. Most noncarcass components (offals) are consumed.

Of all processed meat corned beef is extremely popular in Ghana. A factory has been set up in Bolgatanga, near the northern border to can corned beef, but has run into difficulties owing to the inadequate and irregular supply of cattle.

*Bush-meat*: Almost any wild animal may be eaten, including the antelope, giant rat, grass-cutter, monkey, monitor lizard, crocodile, terrapin and bats. The last are eaten chiefly by the Kwahus and Sefwis (two sub-divisions of the Akans) and can be seen for sale, neatly trussed in large markets such as the one at Kumasi. The Twi name for fruit-bats is *Dankwansere* which means "laughing in the soup"—which is what it seems when the head is boiled along with the rest of the bat carcass.

In rural areas many of the men are hunters, operating largely at night with the aid of lamps. They may use muzzle-loading guns, also bows and arrows and throwing-sticks. Bush-meat is popular and may be sold to chop-bars or at the public markets. In 1962 the price of bat meat, making due allowance for bones, was about 6s. per pound in the Kwahu district—rather more expensive than most butcher's meat at the time.

The various kinds of bush-meat are among the foods most frequently placed under a taboo, either to a whole tribe or clan, or to an individual. As only one or two kinds are made taboo to each individual the effect on the person's plane of nutrition is seldom significant.

*Snails*: The giant African snail, *Achatina achatina*, is collected from the bush and from cocoa farms, and in years when it is abundant it forms an important additional source of protein. A large specimen provides at least 6 ounces of edible meat. They can be extracted either after boiling, or simply immersing in hot water when the snail emerges part way from its shell and can easily be pulled out; or the shell can be broken and the raw snail pulled out. In this case it is rubbed with lime or lemon to get rid of the mucous; but this is more laborious than cleaning the boiled snails. The intestines and hepatopancreas are removed before cooking.

Snails are cooked in soup or stew like other meat. In a few areas, notably in one part of Volta Region, they are taboo. They are not eaten in the north, or by northern immigrants to the south. And whether this is strictly a taboo or merely dislike for an unfamiliar foodstuff is not quite clear.

Snails may be preserved by threading on sticks and smoking. At one time smoked snails were imported in considerable numbers from Ivory Coast.

*Birds*: Chickens are kept all over Ghana. In the north guinea-fowls are almost equally common. Ducks are kept in a number of areas but are less numerous.

In addition, bush-fowl, wild guinea-hens and a number of other species are caught by hunters.



All birds are cooked in the same way as other meat. The small bones and the ends of the large ones are sometimes chewed up.

### Egg

Until recently chickens were kept primarily for meat, but now egg production is also popular. Hard-boiled eggs form part of certain traditional festival dishes, e.g. *oto* and palm-soup made for Homowo, and they were occasionally eaten at other times. Eggs also play an important part in fetish ceremonies being broken and rubbed over various sacred objects. In the last decade, however, poultry-farms have become increasingly common in Ghana and the production of eggs for sale, mostly from imported high-laying strains of fowls became an important industry. The industry suffered a set-back around 1965 because of the shortage of feed.

As in other parts of Africa, there are various customs, taboos and beliefs restricting the consumption of eggs by women and children. These are particularly prominent in the north. There, however, they usually relate only to hens' eggs—guinea-fowl eggs not being taboo (though the reverse situation, where guinea-fowl eggs are taboo and hens' eggs not, also occurs). This taboo like others relating to food is beginning to break down, especially in those areas where Health Visitors stress the value of sound child nutrition.

### Milk

Indigenous production of milk is very small and obtained only by robbing calves of their natural food (*see* under the paragraph on milk yield of cattle). Milking conditions are extremely unhygienic. The milk is frequently diluted with dirty water and grass and leaves are frequently put into the container to reduce the probability of the milk slopping over when carried. It is sold as a drink without boiling and is a potential source of intestinal infection, though in the present state of public health knowledge it is impossible to say that any particular infection is due to this cause.

Most of the milk consumed in Ghana is imported in processed form. Examples are evaporated, condensed and dried milk. Evaporated unsweetened milk is on the whole more popular than the sweetened condensed form. It is taken mostly in "tea"—a term which in Ghana covers tea as the name implies, and also coffee and various proprietary beverages of the non-alcoholic variety. A factory has been set up in Accra to produce beverages from reconstituted milk, using imported skimmed milk powder and vegetable oils. The milk, plain or flavoured with chocolate, is sold in tetra-pack cartons and has become quite popular.

*Wagashi*: Part of the milk produced in northern Ghana is used for making a substance resembling cream-cheese. The milk is coagulated by adding the juice of *Calotropis procera* leaves to it, after heating, and is put into a basket for the liquid part to drain off. The curd is then shaped into balls or rounded cakes, sometimes stained red on the outside with an extract of guinea-corn leaves. This "wagashi" will keep for several days or even longer. It is usually cut into slices and fried, and then eaten with the addition of pepper.

### Fish

Fish is probably the most important primary source of protein in Ghana as a whole. In fishing villages on the coast a considerable amount of sea-fish is cooked fresh, in soup or stew. Fried fish with gravy or sauce (*see* under Soups, Stews and Sauces), is also popular and is usually eaten with kenkey. The fish used for frying are usually herrings or other small fish which are cooked whole in palm-kernel oil.

The fish eaten inland is smoked or dried. Large quantities of herrings are smoked during the season in small kilns made of rammed earth or from oil-drums, according to district. Only certain types of wood are used for smoking.<sup>12</sup> Small fish are placed whole on wire-netting trays; large fish are cut into pieces before treatment.

<sup>12</sup> Also coconut shells, when available.



Extremely small fish are generally sun-dried. They are spread out on sand or on the side of the road; consequently they need careful washing to get rid of grit. They are prepared by being soaked in water and then cooked in soups. These fish are commonly eaten whole—their bone content constituting a valuable source of calcium.

Fresh-water fish are caught in traps in small rivers, and in larger rivers by casting nets. These forms include various species of *Tilapia* and *Clarias*. The latter, known as "mudfish" are often smoked. The fish are curled up, head to tail, and several specimens of similar size threaded on to a stick before smoking. Mudfish are popular in some areas but are taboo to certain groups.

Dried and smoked fish normally put out for sale in northern markets include species of *Protopterus* and *Polypterus*, but these are considered imports from Upper Volta. Most of the fish for sale in that region have come from distances consequently they are very costly. However, a considerable amount of fishing takes place in the Volta and its tributaries, and the Fisheries Division of the Ministry of Agriculture is experimenting with the stocking of dams in hopes to increase the present output. It was calculated in Sandama market in 1963 that the price of one type of small fish which had been brought up from near the coast in the Volta Region was about three times as high as in the area where it was caught. Fish is used simply as a flavouring agent in the northern region. It is usually pounded or ground to powder, and less than an ounce may be used in soup for a family of six to eight persons. Even little heaps of scales collected from the bottom of a basket of dried fish are sold in Tamale market. By the time smoked or dried fish reaches the more remote markets it is often heavily infested with beetles and their grubs—usually of the *Dermestes* sp.

*Salt Fish:* Stinkfish. The name "salt fish" as used in Ghana appears to apply to two distinct methods of preparation.

Dry salt fish—*Akpatogui* (Ewe) is salted immediately after landing. It is put into damp powdered salt, left for a day or two, then dried for many days in the sun.

Soft salt fish or "stinkfish"—*Lafi* (Ewe) is left for the greater part of the day before salting, so that it begins to rot and has a strong smell. It is then soaked for two days in strong brine and afterwards sun-dried for several days. This is used only as a flavouring. Half an ounce will flavour soup for a whole family.

*Salt Cod:* Until very recently Scandinavian salt cod was imported in barrels and sold by the piece in markets. In the more remote areas, at least, it was a cheaper source of protein than Ghanaian smoked fish. Owing to import restrictions about the year 1966 salt cod has been unavailable on the market, but may probably reappear under present trade trends. This product was cooked in soup, or eaten (like fried fish) with kenkey.

Dried stockfish which is popular in Nigeria, does not appear to be eaten by Ghanaians. It is sometimes seen in the market, but is chiefly, if not entirely, purchased by Nigerian immigrants.

*Frozen Fish:* Since about 1962 a large trade in frozen fish has developed in Ghana. A considerable number of ships (chiefly trawlers) operate from Tema. There are Japanese and Russian ships, also a considerable number under Ghanaian registry, including a fleet owned by the Government of Ghana. The fish is sold through the Tema Cold Store and is distributed throughout the country by refrigerated vans for subsequent retail sale at special government shops. A considerable proportion is sold to market women, and it is now commonplace to see blocks of frozen fish being broken or cut up in the market for sale or preservation. Much of this is smoked before sale. Many housewives prefer it in this form as it can then be cooked very much faster, or even eaten with kenkey or bread without any further cooking.



### Invertebrates

Crabs, lobsters and shrimps are popular. All, especially crabs are frequently sold live in the market. Shrimps and lobsters may also be dried or smoked for sale. The last two are often used as additional flavouring in various soups. The combination of shrimp and okro seems to be widely popular. It is used also in Nigeria and has apparently spread across the Atlantic to the southern United States in such dishes as shrimp gumbo.

Both marine and fresh water crabs are used. They may be added to various soups, including palm-soup or (especially among Gas) boiled and eaten with "pepper salad" (see under Vegetables).

There do not appear to be any special methods of catching these crustaceans as they are either caught by hand or taken in nets along with fish.

A fresh-water crayfish is also caught in the Volta and other rivers. During the season it is sold freshly boiled (flavoured with pepper) alongside the road, especially near the Adomi bridge on the south-eastern stretch of the Volta.

Certain lamellibranchs, referred to in popular parlance as "oysters" or "mussels" although they do not belong to the genera which bear these names in Europe, are also eaten. One, *Egeria radiata*, comes from the Volta. It is collected by Ewe women divers. The shellfish are spread out on the beach and grass heaped over them, which is then set alight. This causes the shells to open and partly roasts the contents.

Various marine shellfish are collected by the Gas from sandy beaches and steamed to open the shells. Occasionally after storms immature specimens of one type, *Shiamilo* (Ga) are piled up on the beach in immense numbers. These are collected by the bowlful and used for soup. They are not shelled individually—an impossible task with thousands of shells not much over a centimetre long, but are dropped into a small fire to open the shells and partly roast the contents and then pounded or ground to powder. After pounding, large residual pieces of shell may be sifted off, but after grinding the whole of the shell goes into the soup.

Both types of shellfish are known as *Adode*. They may be bought dried as well as fresh.

Insects are much used for food in some parts of Africa, but not in Ghana. In the northern region the winged forms of large termites may be trapped *en masse* when emerging from their burrows, usually by lighting a fire alongside which causes them to drop to the ground. They are gathered up and fried when the wings stick to the pan and the body becomes pleasantly crisp. They are eaten as a snack, and while more or less tasteless in themselves they are quite good when salted. The maggots of certain wood-boring insects are also eaten in the forest area.

### Condiments

The two most important flavouring agents, pepper (*Capsicum* sp) and fermented locust bean or dawadawa (*Parkia clappertoniana*) have been dealt with already (under

Vegetables and Oil Seeds respectively). There are a number of others which are sometimes used, either as substitutes for red pepper or as additions to certain dishes. These are:—

*Ocimum basilicum*: Sweet basil. *Koowe* (Ga) *Kokobesa* (Twi). The aromatic leaves are added to soups containing chicken or (sometimes) mutton; also sometimes to palm-soup even when it contains neither. The plant is grown in many compounds for this purpose.

*Xylopia aethiopica*.—Spice tree or Ethiopian pepper. *So* (Ga) *Hwentia* (Twi). The pods, which are black, about an inch and a half long and constricted at intervals, are grated and added as an additional flavouring to soups and stews—usually those cooked for special occasions.

*Tetraploura tetraptera*.—*Prekese* (Twi). A winged dark-brown pod six to eight inches long and about an inch and a half wide, with a spicy smell, containing a sweet, sticky material. Sometimes ground and added to soups.

*Monodora mysistica*.—*Adzitogbowie* (Ga) *Awerewa* (Twi). The seeds, about three-quarters inch long, resembling nuts in appearance, pale brown, with a thin shell, aromatic, are ground and added to stews. Ewes sometimes grind them with corn for use in pap or add them to boiled water for new-born babies.

*Aframomum meloqueta*, *Melequeta pepper*.—*Wisa* (Twi). Numerous small brown seeds in a flat wrinkled capsule about two inches long. Sometimes ground and smeared on fish which is to be fried, or on kelewele (chopped ripe plantain flavoured with pepper and ginger) before frying.

*Zingiber officinale*: Ginger.—*Kakatsofa* (Ga) *Akakaduru* (Twi). Used in various dishes including kelewele (*see above*) and in koose (fried bean dough). The dry powder is used if available: if not the fresh roots are pounded along with red pepper.

*Piper guineense* Ashanti or African Black Pepper. *Soro-Wisa* (Twi). The dried berries which resemble somewhat the black pepper of commerce are sometimes used as a substitute for, or in addition to red pepper.

*Eugenia macrophyllum* Cloves.—*Pepre* (Ewe) South: These may be seen in markets but are mostly used for scenting cosmetics, not for food. North: ground cloves (*kanafuri*, *masoro*) are used to spice *maasa* (millet cake).

Most of these seeds are also used medicinally, as infusions, and also in enemas.

## Miscellaneous foods

### NORTHERN REGION

*Dozim*.—The mealy yellow pulp surrounding the seeds of the locust bean (*Parkia clappertoniana*) is one of the "bush" foods used in northern Ghana during the hungry season. It is sifted and dried to a flour. Usually it is mixed with water to make a drink. It has a faintly acid taste and contains a large amount of ascorbic acid (above 100mg/100g.)

*Tiger Nuts*: *Cyperus esculentus*.—Not truly a nut but a small tuber with a sweet taste and a fibrous consistency. It may be eaten whole or ground and boiled with water to make tiger-nut milk.



## Beverages

*Pito*.—Northern grainbeer: This may be made from guinea-corn or millet. Certain kinds of guinea-corn which have an astringent flavour are reserved for this use. The grain is dampened and left to sprout, dried and ground, after which it is lengthily boiled with water in a large pot, strained off, fermented overnight, and boiled again. It is usually drunk while lukewarm. One sample analysed contained four per cent of alcohol by weight.

Pito is drunk all over northern Ghana. It is an important item of diet and also plays a part in many aspects of social life. It is often brewed for sale.

*Ahai* (Twi) *Nmadaa* (Ga). Maize beer, brewed in southern Ghana. The process of manufacture is much the same as for pito except that it is not boiled again after fermentation is complete. It is used traditionally at outdooing ceremonies and at wake-keeping and funerals.

*Palm-wine*.—The sugary sap of certain palm trees, including *Elaeis guineensis* and *Hyphaene thebaica*, is obtained either by tapping or by cutting down the tree and draining the trunk and then left to ferment. Palm-wine selling booths are a common feature of southern rural areas, just as pito-selling booths are common in the north.

*Akpeteshie*.—Locally-distilled gin for which palm-wine is frequently the starting material. This gin, in the crude state, is ferociously potent and frequently contaminated with methyl alcohol. At one time it was illicit. Nowadays, however, it is produced under licence. It is a colourless fluid with a characteristic fruity smell. It is sold as Akpeteshie in the crude state, but also forms the basis of several Ghanaian brands of gin, whisky, vodka and brandy—with further distillation and other treatment and with the addition of appropriate flavourings.

*Imported spirits*, especially gin, have come to play an important part in ceremonials and social life. The pouring of libations in gin, usually Hollands, is essential when paying a first visit to a chief. Libations are also poured as part of funeral ceremonies. On the coast the bridegroom's gifts to the bride's father must include bottles of whisky, gin or rum. The ceremonial importance of spirits goes back probably to several centuries when bottles of square-face schnapps constituted some of the earlier trade goods. Local distillation on the other hand is a relatively recent development, certainly not older than the present century. Commercial production of Ghanaian brands of whisky, etc. began in the early sixties.

*Bottled drinks*.—Factory-produced drinks, bottled in Ghana include several brands of beer, of a European type; also soda water, tonic water, and various carbonated drinks. They have percolated to the remotest parts of the country and few are the villages which do not have at least one drinks bar, with a kerosene refrigerator containing several brands.

## Mineral salts

*Sodium chloride*.—Native salt sold in the markets appears to be mostly sea-salt, often in large cubical crystals. Commercially refined salt is produced at a factory on the coast, six miles from Accra, and packaged in plastic bags.

"Potash".—At least two alkaline condiments are referred to in popular parlance under this name. Whether either of them in fact contains much potassium, or whether they both consist chiefly of crude sodium carbonate, has not been investigated. They are:

- (i) *Kanwa*: This is sold in the market in grey rock-like chips. It is used in the northern region when cooking certain vegetables—especially okro, which when cooked with it becomes very soft and slimy. It is used to soften beans when making tuubani.
- (ii) An extract of plant ashes, also used in northern Ghana. Certain plants are gathered in large quantities and burned—after which the ash is put in a perforated pot into which water is allowed to drip right through. The alkaline extract so prepared may be used directly or evaporated. It is used in the same way as kanwa.

*Edible Earth*.—A white earth or clay, somewhat resembling chalk in appearance commonly made into biscuit-like cakes. It is called *Hyire*—(pronounced *shirri*, Akan) or *Ayiro* (Ga). It may be ground up and eaten as a cure for diarrhoea, or dusted onto the skin. The similar substance called *krobo*, which is perfumed with cloves and other spices, is used only as a skin powder especially by nursing mothers.