

*Conseil scientifique* : Jean-François BAYART (CERI-CNRS),  
Jean-Pierre CHRÉTIEN (CRA-CNRS), Jean COPANS (EHESS),  
Georges COURADE (MSA, ORSTOM),  
Alain DUBRESSON (Université Paris-X),  
Henry TOURNEUX (CNRS)

*Directeur* : Jean COPANS

Offprint of the article by R.M. Blench

'The Introduction and spread of New World

Crops in Nigeria: a historical and linguistic investigation.'

Pages 165-210.

# Plantes et paysages d'Afrique

Une histoire à explorer

Gustav Mann et Hermann Wendland, deux « botanistes voyageurs », collectèrent ces deux espèces nouvelles de palmiers dans le sud du Cameroun (île de Conisco) et du Nigeria (côte d'Old Calabar), au cours d'une exploration effectuée de 1859 à 1862 pour le compte des Royal Gardens de Kew (Grande-Bretagne). Cette gravure accompagne la présentation de leurs découvertes, intitulée « On the palms of Western Tropical Africa » et publiée dans *The Transactions of the Linnean Society of London*, 1864, vol. 24, pages 421-439 (tab. 39). Cette illustration est intéressante sur le plan botanique puisqu'en plus de *Raphia longiflora* Mann et Wendl. et de *Raphia hookeri* Mann et Wendl., on peut reconnaître d'autres espèces végétales : la grande aracée amphibie, *Cystosperma senegalense* Engl., le palmier à huile, *Elaeis guineensis* Jacq., et le pandanus, *Pandanus candelabrum* P. Beauv. Ce document nous a été communiqué par la bibliothèque du laboratoire de Phanérogamie du Muséum national d'histoire naturelle de Paris.

© Éditions KARTHALA et CRA, 1998  
ISBN : 2-86537-830-6

Éditions Karthala  
22-24, boulevard Arago  
75013 Paris

Centre de Recherches Africaines  
9, rue Malher  
75004 Paris

THE INTRODUCTION AND SPREAD OF  
NEW WORLD CROPS IN NIGERIA :  
A HISTORICAL AND LINGUISTIC INVESTIGATION

Roger M. BLENCH

**Résumé**

*Alors qu'il existe un certain nombre d'études sur l'introduction et la diffusion des plantes américaines en Afrique, le Nigeria a été largement négligé, faute de sources pour la période précoloniale. Ce travail s'appuie essentiellement sur des données linguistiques et étudie plus particulièrement le manioc, la patate douce, le piment et l'arachide. Parallèlement à une diffusion à partir de la côte, l'auteur envisage les possibilités d'introduction de certaines espèces à partir de l'Afrique du Nord et à travers le Sahara.*

**Introduction**

Food plants and other crops brought from the New World to West-Central Africa have had a dramatic impact on both subsistence patterns and agricultural practice throughout the continent. Many American staple crops, fruits and stimulants are now well established within "traditional" African agricultural systems. Figure 1 shows the cultigens discussed in this paper classified by broad categories of usage.

Pickersgill & Heiser (1977) present a global synthesis of the dispersal of New World cultigens but the only author to give an overview of their diffusion in Africa is Pasch (1980). Pasch compiled a valuable list of

vernacular terms covering the entire continent and presented some preliminary hypotheses about foci of diffusion. A few other studies have covered specific crops or regions in more detail, for example Blench (1989). The diffusion of cassava in Cameroon was studied by the researchers contributing to a historical symposium (see summaries in TARDITS, 1981).

The actual process and even the date when the New World crops were introduced was usually not recorded and can only be inferred from passing references in travel records and descriptive publications. There is little doubt that the Portuguese and the Spanish carried crops across the Atlantic and it is usually assumed that the Portuguese were responsible for the transmission of crops to the West African coast. However, it is equally possible that some New World cultigens introduced to the Maghreb were also carried southwards across the desert along the flourishing trans-Saharan trade routes. Certainly, the crop inventory of medieval Islam, such as onion, garlic, cucumber, sweet melon and others, came to West Africa by this channel.

Figure 1 : Principal New World cultigens in West-Central Africa

Cereals	Tubers	Legumes	Fruits	Vegetables	Others
Maize <sup>1</sup>	Cassava	Groundnut	Pawpaw	Chili pepper	Cucurbits <sup>1</sup>
	Sweet potato	Lima bean	Guava	Cherry tomato	Tobacco
	Irish potato		Avocado	Capsicum	Cocoa
	New cocoyam		Pineapple	Tomato	

A trans-Saharan route for New World crops is rarely considered. Mauny (1953 : 722), in an otherwise extremely comprehensive account of historical references to West African crops, says of tobacco : "Nous avons ici sans doute le seul cas d'introduction au Soudan d'une plante américaine par le Maghreb". A similar view is reflected in agronomic texts such as Pursglove (1974, 1975, 1976) where the possibility of trans-Saharan introductions is simply ignored. Another factor is that West Africa may well have seen double introductions, both trans-Saharan

1 - Not dealt with in this paper.

(from the Maghreb to Lake Chad) and trans-Atlantic (from South America to Senegambia). The well-documented links with Senegambia reviewed by Mauny have led to the inference that the Bight of Benin region followed a similar historical pattern.

However, documentary support for this is exiguous at best. Maize has been discussed at some length in the literature, but other New World cultigens have been scantily covered. A detailed investigation of the transmission of maize in the Nigerian region using linguistic evidence suggested the trans-Saharan route was the major source of maize cultivars before the 20th century (BLENCH *et al.*, 1997). This showed that there is only one coastal name suggesting maize was brought to the region by the Portuguese, whereas most vernacular names have an explicit reference to the Hausa, the Kanuri or the North in general.

In view of the surprising findings for maize, it seems worthwhile to reopen the question of the transmission of New World cultigens in the Nigerian region. This paper<sup>2</sup> explores the evidence for crops other than maize. These can be divided into two broad categories : those brought in the undocumented era by unknown individuals for unknown reasons, and those introduced as part of an agricultural strategy especially in the colonial and immediate postcolonial era.

The focus of the paper is the crops whose history is little known but which have been established for some centuries in Nigeria, namely cassava, sweet potato, groundnut and chili pepper. The principal method is the compilation of vernacular names and the tracking of patterns in the linguistic forms. Tables for cassava and sweet potato are included in the appendix. Additional crops are dealt with more briefly. Maize is not treated here, in view of the exhaustive treatment elsewhere (BLENCH *et al.*, 1997). Cucurbits are also omitted for reasons of length as their complex taxonomy requires detailed treatment while the vernacular

<sup>2</sup> - I would like to thank Kay Williamson for making available unpublished data on vernacular names for crops, as well as for many discussions on this topic. Discussions at the table ronde "Plantes, paysages et histoire en Afrique sub-saharienne" (CRA, Paris, 3-5 mai 1994) have also helped to clarify my thinking on various crops, and in particular the data sheets prepared by France Cloarec-Heiss and Pierre Nougayrol have helped in the understanding of the eastward distribution of some of these names.

names recorded by non-specialists are often very problematic to interpret.

It should be noted in passing that the current status of New World cultigens in Nigeria is hard to establish due to a lack of reliable quantitative data on both cultivation and trade. Even information on the varieties favoured by farmers is at best anecdotal. The only attempt at a comprehensive study of Nigerian agricultural geography (AGBOOLA, 1979) has been much criticised. In addition there are the completion reports for various ADPs (Agricultural Development Projects) which estimate increased adoption of improved cultivars of maize, cassava etc., which also have a variable reputation for reliability (MIGOT-ADHOLLA *et al.*, 1994).

## I - Methods and sources

Although this paper reviews what documentary sources exist, the principal evidence for the introduction and diffusion of New World cultigens must be linguistic. In general, the more ancient strata of American crops have been so effectively incorporated into crop repertoires in Nigeria that their "foreign" origin is no longer remembered. Vernacular terms can suggest the routes along which crops spread, especially where they are either borrowed directly from another language or else the crop is named for a particular people (*i.e.* in formulations such as "yam of the x").

Terms can be usefully divided into two types: local formations, *i.e.* constructed within an individual language, and widespread base forms, usually borrowed across the boundaries of language families. These latter are considerably more useful for tracing diffusion routes, as a combination of linguistic geography and phonological change can usually point to the direction of spread.

Sources of linguistic data are predominantly from the research of the author and from Kay Williamson, especially for the languages in Southern Nigeria. In addition, other sources have been checked, although used with caution, especially in the case of the gloss "pepper" which can

refer to a variety of indigenous and imported plants. Notes on data sources and transcription are given at the beginning of the appendix.

## II - The principal crops: cassava, sweet potato, groundnuts and chili pepper

Four crops, cassava, sweet potato, groundnuts and chili pepper, are the principal focus of this paper, partly because they are the most widespread and economically important and because their arrival in Nigeria is undocumented. The other crops are dealt with more briefly in section 3.

Cassava, manioc - *Manihot esculenta* Crantz

Cassava was domesticated some 4 000 years ago in South-Central America, but the first certain reference to it is in 1558 according to the standard study of cassava in Africa (JONES, 1959). Bahuchet and Philippon (this volume) quote testimonies showing that cassava was introduced into the Gabon to Angola region by the early 1600s. The first apparent reference to cassava in the Nigerian region is Dapper (1686), who saw it at Forcados in 1668. Barbot (quoted in JONES, 1959: 73) mentions the cultivation of cassava in "Ouwere" in the 1680s, modern-day Warri (not the inland town Owerri).

Cassava was reputedly introduced into West-Central Africa by the Portuguese as a cheap staple to feed slaves on the Atlantic crossing. Both sweet and toxic varieties are cultivated, but toxic bitter cultivars predominate, presumably because of their higher yield. The making of *gari*, or fermented, grated cassava, a form of processing that eliminates the hydrocyanic acid in bitter types, was noted at Mayomba, north of Loango in 1611-1612 (BAHUCHET & PHILIPPON, this volume). There are, however, no references to *gari* in the Nigerian region until the 19th century. The other significant use of cassava is as a source of starch for clothes and most markets sell it in pellet form. In most cereal-growing areas, cassava is regarded as a low-status food and through much of the North it is often conceptualised primarily as a starch plant.

Cassava has made considerable inroads into regions where tuber cultivation was traditionally dominant, in the humid and southern subhumid zones. The principal reason is that it grows in very infertile soil. Where population densities are high, such as in the rural areas of Igboland and the Southeast, shortening swidden cycles have made the high fertility demands of yams (*Dioscorea spp.*) impractical.

When considering the evidence for its diffusion, it is worth quoting a standard textbook on the subject of the introduction of cassava into this region :

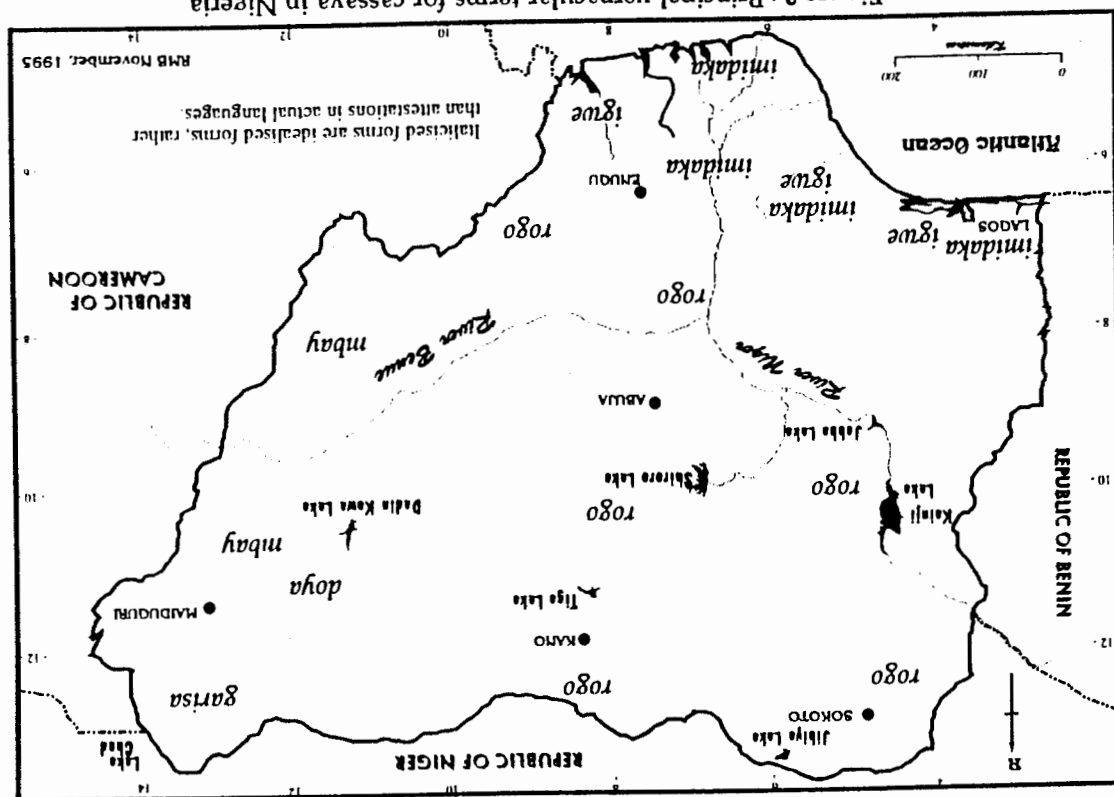
"Cassava appears to have been taken by the Portuguese to São Tomé and Fernando Po in the Gulf of Benin and to Warri and the mouth of the Congo River on the mainland during the last half of the 16th century. Elsewhere on the mainland of West Africa it was of little importance prior to the 19th century. It was not known north of the River Niger before 1914" (PURSEGLOVE, 1974 : 173).

This compilation of received wisdom is short on accuracy and long on supposition, in particular the remark about the northern distribution of cassava, adapted from Jones, who also gives no evidence.

Appendix table 1 shows a list of vernacular terms for cassava in Nigerian languages and the figure 2 shows the approximate locations of the principal terms. In Southern Nigeria, evidence of an introduction by the Portuguese is clear, since many coastal languages borrow from Portuguese "mandioca". Common forms are *imidaka* and related forms such as *mbaraka* (Kalabari). Williamson (1970 : 162) who studied the pattern of vernacular terms in the Niger Delta, concluded that the borrowing was not directly into Ijo lects, but into a language which does not allow a noun to begin with a consonant, such as Işekiri. The other terms in this region relate to *buru* "yam" and are usually ascribed to source areas further west, such as the "yam of Aboh".

A term that appears to have a pan-southern Nigerian distribution is #*igwe*. This is omnipresent in Lower Cross languages but is also recorded in Yoruba, ègè, Urhobo *igé* and perhaps Èkpèyè *ogbólo*. A possible source for this term is *gari* for the fermented form ; in Edo this was recorded as *igari* for cassava in the mid-19th century, but this is now *igai* with deletion of C2. If *igai* can yield *igé*, this would account for the scattered

Figure 2 : Principal vernacular terms for cassava in Nigeria



records. This term may refer to a particular cultivar that spread independently of the main diffusion of cassava.

What is remarkable, however, is the extreme lexical diversity, especially apparent in the southern zone. This suggests that cassava was generally carried from one farming community to another and lexical innovation was common as the new plant was compared to various existing plants. A good example of this is the comparison of cassava to the silk-cotton tree, made so commonly among the Igbo as to result in the two plants having an identical name in many lects. Despite their evident similarity, other peoples have not made the comparison.

The North is very much in contrast, and a notable feature of cassava is the extent to which it has been spread by the dominant political and commercial ethnic groups, notably the Hausa and Fulbe. One effect of this is that the majority of names in northern languages are borrowed from Hausa or Fulfulde (cf. appendix table 1). Cassava seems to have become important at an early period in the North. Barth (1857-1858, II : 505) records the Fulbe growing cassava in Yola in the 1850s and Nachtigal (1980 : 192) notes the use of its leaves for sauces in Borno in 1870.

One of the Hausa names, *dóoyār kúdi*, "yam of the South", seems to confirm the coastal provenance of cassava in the North. The origin of the Hausa *roogò* is not at all clear, but *roogò* + qualifier is applied to a number of tubers gathered in the bush, notably *Ampelocissus* sp. and some types of *Dioscorea* such as *Dioscorea diuimetorum* (Kunth) Pax. So *roogò* was probably originally applied to *Ampelocissus* sp. and when cassava became dominant, *roogò* was applied to it and "of the bush" added to the wild plant. The Hausa term is the single most common term in North-Central Nigeria, and in many languages informants give the Hausa word without phonologisation. Most Adamawa and Chadic speakers west of the region use a form of the Hausa *roogò*, but loanwords from Fulfulde *mbay* are common along the Cameroon border area.

The etymology of the Kanuri *galísa* is unclear but it is probably not connected with Yoruba/Hausa *gari* for the processed form. Barth (1862,

II : 178) gives *karása/karása* for Kanuri and *karásu* for Teda, while Nachtigal (1980 : 192) transcribes this *karásu*. It is possible that the Kanuri had access to cassava via the Tripoli trade and borrowed the name from Teda. Since that period, the term has undergone phonological shifts, perhaps by analogy with *gari*. The objection to this is that cassava is barely cultivated in the Maghreb, and Berber names are by and large not recorded.

The sweet cassavas which can be eaten without preparation are known as *ngadalá* in Kanuri. The absence of this name as a loan-word in other Nigerian languages suggests that the Kanuri did not disseminate cassava south and west. However, there are numerous witnesses of a form that may be cognate, *ngálè*, in both Chad and Central African Republic (CLOAREC-HEISS & NOUCAYROL, this volume). This pattern certainly does not suggest transmission directly from the coast, and it may be that cassava was also transmitted across Central Africa from the Nile Valley. A more detailed Africa-wide compilation of vernacular terms may provide less qualified answers.

Sweet potato - *Ipomoea batatas* (L.) Lam.

The sweet potato originates in tropical America (YEN, 1961) and was almost certainly observed by Columbus on his first voyage to Cuba (BURKILL, 1985 : 537). It was known in Europe in the 16th century and it is likely to have been transported to Africa at the same time. It is first recorded on the West African coast by De Marees in 1605 and presumably spread into the interior during the following century (MAUNY, 1953; BURKILL, 1985 : 535-537).

The sweet potato is usually grown in low-lying swampy areas or under irrigation. It has never developed commercial importance in Nigeria, nor has it been promoted by agriculture departments. Despite this, it is cultivated to some extent throughout most of the country. In recent years it has been ousted by the Irish potato in many areas of Central Nigeria.

A trans-Saharan introduction is less likely as it was apparently a late introduction into Borno. Barth (1862 : 179) noted that "sweat potato" was not grown in Borno proper, except on the borderland with Hausa.

However, Nachtigal (1980 [1871]) does mention it, which argues that it must have been brought to Borno between 1850 and 1880 (DAVID, 1976 : 251). White (1941) refers to the cultivation of sweet potatoes in the Gwoza hills. Sweet potatoes were recorded further south by 19th century travellers such as Laird and Oldfield (1837, II : 90).

The interpretation of the linguistic evidence in appendix table 2 is problematic. Lexemes for sweet potato have been collected much more rarely than maize or cassava and so there are only scattered witnesses for many areas. A number of vernacular terms translate as "white man's yam" supporting a Portuguese introduction on the coast. Urhobo, an Edoid language, has *imítítá* from the Portuguese "batata". Apart from this, there are two key lexemes, *kudaku* (Hausa/Fulfulde) and *dáánkálíi* (Hausa) that track the spread of the sweet potato. Both terms are borrowed into Kanuri (*kándurwí* and *dangáli*). These are found in a wide swathe of North-Central Nigeria and also into Cameroon/Chad/C.A.R. (CLOAREC-HEISS & NOUGAYROL, this volume). The *kudaku* lexeme is concentrated to the east of the region, but scattered forms are found in the far South, for example Yoruba *kúkú-n-dúkú*, Epie *kukuduuku* and Nupe *dúkú*. Prost (1964) notes that Songhay *kudaku* is probably derived from Hausa.

The appendix records a number of Hausa cultivar names from Burkil (1985 : 536) where these could also be confirmed from other sources and were not generic terms applied to other crops. Some of these appear to have also spread selectively, for example, *dúkuma*, borrowed into tHun.

Burkill (1985 : 536) reports what is almost certainly a spurious Yoruba etymology, deriving *kúkú-n-dúkú* from *dún* "to be sweet" and *káin* "to fill". However, there is no trace of nasalisation of the *dún* in the sweet potato lexeme and moreover, the usual reduplication of *káin* is *kíkáin*, not *kúkú* (ABRAHAM, 1946). The impression given in some sources that the Yoruba acted to diffuse the sweet potato may be misleading, as this word is probably a loan into Yoruba. This is not to deny that the Yoruba played a part in spreading sweet potatoes. In one Kamuku language, Shama, the sweet potato is actually known as *yaruba* presumably named for its introducers.

In view of the evidence that sweet potato was only introduced into Borno in the 19th century, it seems likely that it did not reach West Africa via the Tripoli-Lake Chad route. The problem is how to account for the widespread use of Hausa/Fulfulde terms. It may be that the sweet potato was carried from the coast to Hausaland at an early period and its cultivation developed by Hausa market-gardeners. It was then spread along the commercial routes of mid-19th century North-Central Nigeria. The explanation for the sporadic reappearance of "northern" names in the South may be that productive cultivars were taken south along trade routes.

Groundnut, peanut - *Arachis hypogaea* L.

The groundnut was probably domesticated in the region between the Amazon estuary and the Paraguay river and is first recorded in Brazil in the second half of the 16th century (KRAPOVICKAS, 1969). It was presumably carried to Africa shortly after that, but no unambiguous mention is made of it until Bosman in 1705 (MAUNY, 1953 : 687). Mentions of groundnuts are occasionally problematic as the reference is sometimes to the Bambara groundnut, *Vigna subterranea* (L.) Verdc. Nonetheless, they were probably carried to West Africa by unknown Portuguese traders in the 16th century as they seem to have become well established in the interior at an early date. Groundnuts in Nigeria have been studied in considerable detail, at least as regards their commercial expansion after 1912 (HOGENDORN, 1978). Burkill (1995) has recently reviewed the literature on the cultivated varieties, uses and vernacular names of the groundnut in West Africa.

The earliest mention of groundnuts in Northern Nigeria occurs in a poem in the first decade of the 19th century by the *jiftad* leader, Usman dan Fodio, which recommends applying the *zakka* tithe to groundnuts (HOGENDORN, 1978 : 36). Denham refers to "ground nuts" in the market at Kukawa (DENHAM *et al.*, 1828, I : 217). Barth (1857-1858, II : 432-433) observed that groundnuts were so common in parts of Hausaland that they corresponded to potatoes in Europe. Barth (1857-1858, V : 334) also noted that groundnuts had reached Bagirmi by the 1850s, while Nachtigal (1980 : 193) records them in Borno in 1870.

Groundnuts were promoted by colonial governments as cash crops in both Nigeria and Cameroon. Hogendorn (1978) describes the origins and growth of the commercial groundnut operations for which Northern Nigeria later became famous. In Northern Nigeria, Kano was a major collecting point and the location of oil-mills for both oil and cake for export. In recent years, research station varieties have replaced local races in many areas. The system of commodity boards became a major discouragement to groundnut producers in the 1970s leading to the disappearance of the "groundnut pyramids" for which Kano was famous. Groundnut oil-milling and local production have seen notable increases in the 1980s and 1990s.

The evidence from vernacular terms for groundnut in Nigerian languages suggests that, in most regions, groundnuts spread rapidly from farmer to farmer and were generally perceived as a relative of the Bambara nut. As a result, the same term was applied to both pulses, and the Bambara nut qualified as "local" or "indigenous". Thus among the Yungur, the former name for Bambara nut, \**shirara*, is now applied to *Arachis hypogaea*, while the term for Bambara nut is \**si'ara bɛnara*, i.e. "Yungur groundnut".

There are also hints of a transmission from the North southwards. In some languages of Northeastern Nigeria, notably Guduif, the groundnut is referred to as *worna Masara*, the Bambara groundnut of Egypt. This is inconclusive, as "Egypt" can simply be a synonym for a desirable place. However, it is notable that none of the vernacular names refer to groundnuts as the "x of a people further south" and Hausa, Kanuri and Fulfulde all have distinct lexemes loaned into languages of nearby peoples. Just as striking, the groundnut is apparently one of the few crops diffused by the Kanuri. The Kanuri name, *ka'ji*, has been borrowed into many languages in Southern Borno and Adamawa, such as Kamwe *kulace* and Sukur *kolakochi*. There is no clear etymology for the Kanuri term, although it may have been borrowed from the term for Bambara nut in a Chadic language of Northern Cameroon.

In the case of the Hausa areas, the Hausa developed (unusually) a quite distinct lexeme for *Arachis hypogaea*, perhaps borrowed from a wild plant. This term, *gyadaa*, has been borrowed into a number of languages.

However, just as common is borrowing of the Hausa term for the Bambara groundnut, *gɔjɔjɔá*, into other languages (such as the Nupe group) with the meaning "American groundnut".

The names for groundnut in Southern Nigeria fall into clear patterns, as Williamson (1970) observed from her study of terms in the Delta region. There are two principal forms, #*apapa* and #*isagwe*, neither of which have evident etymologies. The Igbo were the principal agents distributing groundnut in South-Central Nigeria, but the origin of the names they use remains unclear.

Bird's-eye Chili - *Capsicum annuum* L.

Pepper - *Capsicum frutescens* L.

Chili peppers divide into two distinct groups of cultivars, the bird's-eye chili and the large capsicum, which have slightly different regions of domestication in the Americas (PURSEGLOVE, 1974 : 525). Peppers are extremely polymorphous and a great diversity of forms is available in local markets. No detailed studies have been undertaken relating these to the botanically recognised races (e.g. in PURSEGLOVE, 1974 : 525-526). The small chili is extremely hot and is the most common species, cultivated throughout West-Central Africa. Capsicum peppers are usually less hot and are much less common than the small chilis<sup>3</sup>.

The first record of chili peppers on the West African coast is de La Courbe in 1685 (CULTRU (éd.), 1913 : 196) but it is likely that they arrived earlier. They must have been brought to the Maghreb at the same time, for they rapidly spread into the interior and became part of the cuisine. Curiously, their South American origin was forgotten and the chili became associated with West Africa, hence the name given it by Nachtigal in 1870, "Sudan pepper". Lyon (1821 : 275) mentions the red pepper in the Fezzan "very good, and plentiful". Denham *et al.* (1828, I : 268, 276) refers to "red peppers" in Borno by the 1820s. In 1870, Nachtigal (1980 : 193) said they are "cultivated in large quantities everywhere".

Further south, Clapperton (1829 : 130) mentions chili pepper as an ingredient in a type of local beer. This beer, which he calls *boozá* and for

3 - Sur l'histoire du piment au Congo, voir *infra* chap. 10, Katz. [Note de l'éditeur].



which a recipe is given, no longer appears to be made. Later, Clapperton (1829 : 136) gives a rather confused account of the types of hot spice traded by Nupe at Kulfu. He mentions *monsoura (masoro)*, *shitta (cita)* and *kimba*. *Masoro* is *Piper guineense* Schum. et Thonn and Clapperton correctly compares it to "East India pepper", though in West Africa the vines of *Piper spp.* are usually collected near settlements. In Clapperton's time, *cittá*, derived from the generic Arabic term for spices, *shitta*, was applied to *malagueta (Aframomum sp.)*, a usage also recorded in Abraham (1946). However, *cittá* seems now to have shifted to apply to *Capsicum spp.* and the Arabic loanword mentioned by Abraham, *filfil*, to have dropped out of use. Kanuri also applies a derived form, *njittá*, to *Capsicum* although whether by a direct loan from Arabic or via Hausa is unclear. Finally, *kimbáá* is the Hausa term for the tree *Xylopiá aethiopicá* (Dun.) A. Rich. whose dried pods are used to season soups. The two *Capsicum* species are known in many languages by a misapplied Hausa name, *kimbáá*, which correctly applies to the pepper-tree, *Xylopiá aethiopicá*. There is quite a diversity of names in modern Hausa, some of which represent cultivars and other specific dialects.

Vernacular terms for chili pepper in Nigerian languages are extremely diverse, especially in Southern Nigeria, and show no obvious indication of Portuguese introduction. In part this is because the chilis were assimilated to existing types of pepper indigenous to the region, especially *Aframomum sp.* Dalziel (1937 : 427) gives several examples of names in southern Nigerian languages, such as Igbo and Efik, where the name for *Aframomum* was simply taken over by the chili. In most Igbo lects, chili is the "*Aframomum* of the white man". In the North, the Hausa appear to have been the main agents of dispersal of both main types of *Capsicum*. However, the adoption of existing names for other indigenous peppery plants make it difficult to decide whether a trans-Saharan introduction is conceivable.

### III - Other South American crops

#### 3.1 - Tubers

New cocoyam, Tannia, Macabo - *Xanthosoma spp.*

The taro or "old" cocoyam is a Southeast Asian domesticate that arrived in Africa at an unknown but presumably early period. It appears to form part of a root-crop complex with plantains and water-yam, *Dioscorea esculenta* (Lour.) Burk. In the montane regions of both Nigeria and Cameroon, the evidence points to ancient cultivation of taro or old cocoyams. These varieties are rather low-yielding and high in tannins, leading to the effect of "scratching the throat".

The "new" cocoyam, *Xanthosoma spp.*, was probably only introduced into West Africa from the West Indies in the 19th century (in 1843, according to Burkill, 1985 : 210). Vernacular terms for *Xanthosoma* in Southern Nigeria almost always translate as "cocoyam of the European". A pattern of spread from the coast to the interior is evident. However, in some languages of the Northeast terms related to *makabo* are recorded, suggesting a secondary spread of the new cocoyam from Cameroon.

Irish potato - *Solanum tuberosum* L.

The Irish potato is an Andean domesticate carried to Europe in the 16th century but only introduced into Nigeria in the colonial period. It was not listed as a "useful plant" in Dalziel (1937) yet in the 1990s it is readily available in markets throughout the North, and towns such as Bokkos on the Jos Plateau act as major wholesale points.

The Irish potato is still known in many parts of semi-arid Nigeria only as a trade item. Where cultivated it is generally perceived as a variety of the sweet potato. In Kanuri, the Irish potato is the "European's sweet potato", borrowing the term for sweet potato from Hausa. The potato must also have spread from Cameroon, because in some languages of the northeastern border region it is called "kompeter", evidently borrowing from French "pomme de terre".

### 3.2 - Legumes

Lima bean - *Phaseolus lunatus* L.

The Lima bean is known in Hausa as *waken rumfa*, the "trellis bean". Similar names are found in Central Nigeria, for example Tyap *jinjok madak* "bean of the trellis". Both brown-purple, mottled types and large white races are grown in Nigeria. Although clearly also a South American domesticated (MACKIE, 1943), the vernacular terms seem to show little or no association with foreign introduction. Part of the problem is that beans are more often classified by appearance than by species. Thus, large white beans of different botanical species are classified together in vernacular terminology.

The Lima bean plays an important rôle in Yoruba cooking and Dalziel (1937 : 255) records a number of dishes made with it. It is also well integrated into the farming systems of the Southern Zaria region. It is likely that Lima beans are one of the earliest introductions on the West African coast. They were rapidly adopted and their extraneous origin is no longer recorded in vernacular names.

### 3.3 - Vegetables

Tomato - *Lycopersicon esculentum* Mill.

Cherry tomato - *L. esculentum* var. *cerasiforme* (Dun.) Alef.

The tomato only became a salad plant in Europe relatively late, perhaps in the last decades of the 18th century. It is first definitely recorded in Africa in the 1820s in Senegal<sup>4</sup>, by which time, the cherry and ordinary types were well established (MAUNY, 1953 : 723). However, in Nigeria, it seems as if only the cherry tomato was known in pre-colonial times and then only in the Northeast. In colonial times, larger salad tomatoes were introduced by missionaries and agricultural officers and were rapidly adopted by market gardeners.

Horticultural tomato cultivation is associated with dry-season farming and now constitutes a major internal trade within Nigeria. The usual

<sup>4</sup> - Mauny (1953 : 723) has an interesting note to the effect that Linnaeus may have known of the cherry tomato and considered it to be of African origin.

cultivar is the plum tomato, originally distributed from Zaria in the disappointed hope that the tomatoes would be sold back to the canning factory for tomato paste. However, gardeners rapidly found that they could get better prices selling them as fresh produce. Tomato paste constitutes an important "luxury" ingredient in sauces, even in traditional cooking. Although a single plant to produce tinned tomato paste still operates in Borno, most of that used in Nigeria is imported. Indeed, some people claim to have seen tomato paste in tins before they saw fresh tomatoes.

Lyon (1821 : 275) refers to "tomata" in the Fezzan as "scarce, but good". Denham *et al.* (1828, I : 217) refer to "bastard tomatoes" in the market at Kukawa. These sources may refer to one of the eggplants, or the cherry tomatoes brought from Egypt in the 18th and 19th centuries. This may be the source of the reference to the tomatoes bought by Migeod (1924 : 153, 156) near Mongonu, west of Lake Chad. David (1976 : 247) quotes sources for the cultivation of the tomato before 1900 in Cameroon.

In Nigeria, the word for tomato universally resembles the English form, although, as similar forms may have crossed the desert, this is not a reliable guide. In the Northeast some vernacular names refer to Egypt, but most languages do not distinguish cherry tomatoes from modern varieties, or else qualify them as "birds' tomatoes". One Hausa name for tomato recorded by Dalziel (1937 : 430) is *gautan turawa*, i.e. "European's eggplant". Another, more intriguing, is *gautan Bello*, referring perhaps to the Sultan Bello encountered by Clapperton in 1826. These names have been largely displaced by loans from English in recent years. Cherry tomatoes were probably brought across the desert to Lake Chad in the 19th century, but modern tomato types are strictly a product of agriculturalist intervention.

### 3.4 - Fruits

Cashew - *Anacardium occidentale* L.

The cashew was first mentioned in the Americas by Thevet in 1558 (MAUNY, 1953 : 717) and was presumably brought to West Africa by the Portuguese, since the first record is by Dapper (1686) in the 1660s at São

Tomé. Cashews have never become economically significant in Nigeria, although they are widely cultivated. The English "cashew" is derived from a Brazilian vernacular *caju*, probably via Portuguese. There appears to be little or no documented evidence for its appearance on the West African coast. Since both Portuguese "cajú" and English "cashew" would produce similarly shaped borrowings, vernacular names give little clue to the date of its introduction. Although Denham *et al.* (1828, II : 213) refer to cashew nuts in Borno, this is surprisingly early and may be a misidentification. The tree is known in every language by versions of the English "cashew" and its diffusion may date only from the colonial period. Burkill (1985 : 71) refers to its being named for the indigenous *Blighia sapida* Koenig, the ackee apple, but this link is no longer made in contemporary terminology.

Pineapple - *Ananas comosus* (L.) Merr.

The pineapple was first described in South America in 1535 and seems to have been brought to West Africa shortly afterwards (MAUNY, 1953 : 686). De Marees (1605) specifically stated that it had been brought by the Portuguese. Despite this, there is no evidence for its early presence in the Nigerian region, and none of the earliest travellers in the interior refer to it. It seems to have been introduced either by missionaries or officials in the colonial period.

Pawpaw, Papaya - *Carica papaya* L.

The pawpaw is native to Central America and was carried by the Spanish to other regions of the New World, as well as into Asia and Africa. The first record on the West African coast appears to be Bosman in 1705, and other mentions follow shortly afterwards (MAUNY, 1953 : 715). Although no records for Nigeria are of comparable antiquity, it had certainly begun to spread inland from the coast by the 19th century.

It is likely that the pawpaw was also introduced into Borno from North Africa in the 19th century as Barth records the Kanuri name *bambus Massarbe*, *i.e.* the melon of Egypt, and a now disused Hausa term *gonida Mast*, "custard-apple of Egypt". The analogy with the wild custard-apple, *Annona senegalensis* Pers., is made in many languages, and the

name for the custard-apple applied to the pawpaw. Thus in Hausa, pawpaw is *gwánádá* and the custard-apple, *gwánádán daji*, the "pawpaw of the bush". A similar process in Fulfulde makes the pawpaw *dukku* and the custard-apple *dukkuhi laddé*. Modern Kanuri has either *kawúsa* from the Arabic for pumpkin or *gonida* from Hausa *gwánda*. Curiously, Benton says, "pawpaws have been introduced into some of the larger towns in British Bornu, but do not flourish" (SCHULTZE, 1913 : 77). Improved cultivation techniques have allowed the pawpaw to become widespread in Southern Borno and it is often known by a variant of the name *kabusa*, suggesting that it was borrowed from the Kanuri. Other evidence for the spread of the pawpaw from north to south is the Nupe name, *kónkeni*, meaning "shea-nut [*Vitellaria paradoxa* Gaertn. f.] of the Hausa".

In other languages of the North, such as Yungur, the pawpaw is associated with Europeans, suggesting that its arrival in more rural areas is largely a 20th century phenomenon. The scatter of names available for the pawpaw in southern languages are not very informative. In some Igbo lects, the pawpaw is associated with Europeans, *e.g.* Onitsha *ògèdè óyíbò*, literally "plantain of European".

Avocado Pear - *Persea americana* Mill.

The avocado originates in Central America, deriving its name from an Aztec word (HODGSON, 1950). The first mention of the avocado in Africa appears to be at Richard Toll in 1824 (MAUNY, 1953 : 689). It is not referred to by early travellers in the interior of Nigeria. There appears to be no historical documentation for its introduction, but its absence from Dalziel (1937) suggests that it was not of economic significance in the colonial period.

However, by the 1990s it had spread throughout Nigeria wherever ecological conditions permit. The Mambila Plateau, a high-altitude grasslands in the Southeast, is especially noted for its avocados which form a small export trade. Almost all vernacular names are borrowed from English "pear" suggesting that missionaries and colonial officials were the main agents of its diffusion.

### Guava - *Psidium guajava* L.

The guava was domesticated in the New World tropics and is first mentioned by Oviedo in 1526. The first reference for Africa is in Portuguese-controlled Cape Verde in 1657 and in Angola in 1686 (MAUNY, 1953: 703). However, it is not described in any of the early travellers into the interior of Nigeria, suggesting that it was not introduced into this region until much later. Moreover, all vernacular names recorded are loans from English "guava", suggesting that missionaries or the forestry department were the main agents of its spread. Nonetheless, it is today an important fruit crop and can be bought in markets throughout Nigeria.

### 3.5 - Stimulants

Tobacco - *Nicotiana tabacum* L. and *N. rustica* L.

Tobacco is a New World domesticate first noted by Columbus and rapidly adopted by Europeans in the Caribbean as a remedy against syphilis. The practice of smoking is first recorded in 1535 but it may already have reached the Maghreb at this period via Spaniards serving in Moroccan armies (MAUNY, 1953: 722). Its introduction into Africa is not documented, but Mauny quotes an account of smokers from south of the Sahara accompanying an elephant to Fez in 1599. It was well established by the time the first European travellers reached Borno, cultivated as much for use as a cosmetic as for smoking. Apart from smoking pipes it is also dried and turned either into chewing-tobacco or into snuff. The custom of using the flower of the tobacco plant to stain the teeth seems to have spread from Hausa, as the general word for "flower" in Hausa, *fure*, is commonly applied to tobacco and this is loaned into Kanuri as *faré*.

In the 20th century, tobacco has become an important commercial cash crop in many parts of Nigeria. Tobacco seed is distributed by the major companies to smallholder outgrowers and an efficient buying system has made it into a significant cash crop even in a period of recession. "Local" varieties of tobacco are disappearing in many places.

Analysing the linguistic evidence is problematic, since almost every language has some form of the word "tobacco", usually *taba* or *tumbak*.

Dalziel (1937: 430) speculates that the *tumbak* forms in Shuwa Arabic refer to Virginia tobacco and that American tobacco entered Borno from further east. Judging by the account of El Tounsy from 1845, both the use of tobacco and the name *taba* were widely spread from Darfur across the Western Sudan. Tobacco, as snuff, was well established in Nupe by the 1820s (LANDER, 1830: 159). Migeod (1924: 97) refers to two types of tobacco: Bormu, "brown and rolled up in sticks", and Mandara, "green and [having] more flavour". Currently the Kanuri import chewing tobacco from the Mandara and call it *mandarà*, although ordinary tobacco is *tafà* in Kanuri.

Cocoa - *Theobroma cacao* L.

Cocoa was domesticated in Central America and is well known for the rôle it played in Aztec culture. It was first brought to Africa in the early 19th century and rapidly became an important plantation crop. Pursglove (1974: 573) says it was introduced by the Spanish and Portuguese in the Gulf of Guinea in the 17th century, but provides no supporting documentation and most other writers give a later date.

Cocoa became a very important cash crop for Nigeria smallholder producers in the colonial period, studied intensively by Berry (1975). However, by the end of the 1970s, the growth of oil income led to a general collapse of the infrastructure in the cocoa industry and production dropped to negligible levels. In the 1990s, the recession has induced a gradual improvement in cocoa production and replanting has begun throughout the south-western region.

Century	Portuguese/ Coastal	Trans-Sahara	Other*	Agricultural Policy
16th	Maize Cassava			
1550	Sweet potato Lima bean ? Groundnut Cassava ?	Maize Bird's-eye Chili ?		
17th	Bird's-eye Chili Tobacco			
1650		Cassava ? Groundnut ?		
18th			Tobacco ? Pawpaw ?	
1750		Pawpaw ?		

Figure 3 : Suggested Phasing of the Introduction of New World cultigens into Nigeria

Century	Portuguese/ Coastal	Trans-Sahara	Other*	Agricultural Policy
19th		Cherry Tomato		
1850			New cocoyam	
20th			Capsicum ?	Groundnut Pineapple ? Irish potato Guava Okra Cassava Tomato, Avocado
1950				

\*"Other" covers trading nations other than the Portuguese and internal diffusion with sub-Saharan Africa. The shaded regions represent the approximate period over which this trade or institution was active.

Figure 3 (suite) : Suggested Phasing of the Introduction of New World cultigens into Nigeria

## Conclusion

This paper can only reach very preliminary conclusions about the dates and routes of introduction and diffusion of the New World cultigens. These are summarised in figure 3 which should at best be regarded as tentative and as a framework for future research. The trans-Saharan route has been largely neglected as a "funnel" for the diffusion of New World crops; if certain species were crossing the desert from Tripoli at the same time they were spreading northwards from the sea-coast, this would explain why cassava, chillis and groundnuts were already widely cultivated when the first travellers reached Northeastern Nigeria.

An interesting aspect of the onward transmission of food crops is that this took place largely through African farmers, although the colonial agricultural service was involved in the introduction of certain crops, such as Irish potatoes, cocoa, coffee, grapefruit and the spreading of new varieties of cotton, groundnuts, cassava and others. The mantle of the colonial service was taken over by the state and local government agriculture departments and in the 1970s by the ADP (Agricultural Development Project) system, which was extensively funded by the World Bank. The most important contribution of the ADPs has been to distribute new types of maize and cassava. In more recent times, commercial enterprises have been responsible for the dissemination of new cultivars of tomato and tobacco.

The introduction of New World cultigens has had a major impact on the staple food economies of Nigeria. Most of the important food crops were introduced by unknown individuals and spread through the country by transmission from farmer to farmer. The speed of this diffusion provides further refutation, if any is still needed, of the supposed conservatism of peasant farmers.

## BIBLIOGRAPHY

- ABRAHAM, R.C.  
1946 - *Dictionary of the Hausa language*, London, University of the London Press.
- 1979 - *Dictionary of Modern Yoruba*, Oxford, Oxford University Press.
- AGBOOLA, S.A.  
1979 - *An agricultural atlas of Nigeria*, Oxford, Oxford University Press.
- BARTH, H.  
1857 and 1858 - *Travels and Discoveries in North and Central Africa : Being a Journal of an Expedition undertaken under the Auspices of HGM's Government in the Years 1849-1855*, London, Longmans, 5 volumes.
- 1862 (new ed. 1971) - *Collection of vocabularies of Central African languages*, Gotha, Justus Perthes.
- BERRY, S.S.  
1975 - *Cocoa, custom and Socio-economic change in rural Western Nigeria*, Oxford, Oxford University Press.
- BLENCH, R.M.  
1989 - "The Evolution of the cultigen repertoire of the Nupe of West-Central Nigeria", *Azania*, 24 : 51-63.
- BLENCH, R.M. ; WILLIAMSON, K. & CONNELL, B.  
1997 - "The Diffusion of Maize in Nigeria : a Historical and Linguistic Investigation", *SUGIA*, 15 : 9-46.
- BURKILL, H.M.  
1985 - *The Useful Plants of West Tropical Africa, Families A-D*, Kew, Royal Botanic Gardens [seconde édition, révisée, de Dalziel, J.M., 1937].
- 1994 - *The Useful Plants of West Tropical Africa, Families E-I*, Kew, Royal Botanic Gardens [seconde édition, révisée, de Dalziel, J.M., 1937].
- 1995 - *The Useful Plants of West Tropical Africa, Families J-L*, Kew, Royal Botanic Gardens [seconde édition, révisée, de Dalziel, J.M., 1937].

- CLAPPERTON, H.  
1829 - *Journal of a second expedition into the interior of Africa*, London, Colburn and Bentley.
- CLOAREC-HEISS, F. & NOUGAYROL, P.  
1997 - "Des noms et des routes : la diffusion des plantes américaines en Afrique centrale (RCA - Tchad)", in CHASTANET, M. (éd.), *Plantes et paysages d'Afrique. Une histoire à explorer*, Paris, Karthala.
- CONNELL, B.A.  
1991 - "Phonetic aspects of the Lower Cross Languages and their implications for sound change", University of Edinburgh, Ph.D. thesis.
- CRABB, D.W.  
1969 - *Ekoid Bantu Languages of Ogoja*, Cambridge, Cambridge University Press.
- CROZIER, D. & BLENCH, R.M.  
1992 (2nd ed.) - *Index of Nigerian Languages*, Dallas, Summer Institute of Linguistics.
- CULTRU, P. (éd.)  
1913 - *Premier voyage du sieur de La Courbe fait à la coste d'Afrique en 1685*, Paris, Champion-Larose.
- DALZIEL, J.M.  
1937 - *The Useful Plants of West Tropical Africa*, London, Crown Agents [voir Burkil, H.M., pour la seconde édition].
- DAPPER, O.  
1686 - *Description de l'Afrique...*, traduit du Flamand, Amsterdam, Chez Wolfgang, Waesberge, Boom & Van Someren.
- DAVID, N.  
1976 - "History of crops and peoples in North Cameroon to A.D. 1900", in HARLAN, J.R. ; DE WET, J.M.J. & STEMLER, A.B.L. (eds.), *Origins of African plant domestication*, The Hague, Mouton : 223-268.

- DE MAREES, P.  
1605 - *Description et récit historial du riche royaume d'or de Guinée*, Amsterdam, Claesson.
- DENHAM, D. ; CLAPPERTON, H. & OUDNEY, W.  
1828 (3rd ed.) - *Narrative of Travels and Discoveries in Northern and Central Africa*, London, John Murray, 2 volumes.
- ELUGBE, B.O.  
1989 - *Comparative Edoïd : Phonology and Lexicon*, Delta Series, 6, Port Harcourt, University of Port Harcourt Press.
- HODGSON, R.W.  
1950 - "The Avocado, a gift from the Middle Americas", *Economic Botany*, 4 : 253-293.
- HOGENDORN, J.S.  
1978 - *Nigerian Groundnut Exports : Origins and early development*, Nigeria, Ahmadu Bello University and Oxford University Press.
- JONES, W.O.  
1959 - *Manioc in Africa*, Stanford, Stanford University Press.
- KRAPOVICKAS, A.  
1969 - "The Origin, variability and spread of the groundnut (*Arachis hypogaea*)", in UCKO, P.J. & WIMBLEBY, G.W. (eds.), *The domestication and exploitation of plants and animals*, London, Duckworth.
- LAIRD, R.A.K. & OLDFIELD, M.  
1837 - *Narrative of an expedition into the Interior of Africa*, London, Richard Bentley.
- LANDER, R.  
1830 - *Records of Captain Clapperton's last expedition to Africa*, London, Colburn & Bentley.
- LYON, G.F.  
1821 - *A Narrative of Travels in Northern Africa in the Years 1818, 1819 and 1820*, London, John Murray.

- MACKIE, W.W.  
1943 - "Origin, dispersal and variability of the Lima bean, *Phaseolus lunatus*", *Hilgardia*, 15 : 1-29.
- MAUNY, R.  
1953 - "Notes historiques autour des principales plantes cultivées d'Afrique occidentale", *Bulletin de l'Institut Fondamental d'Afrique Noire*, 15 : 684-730.
- MEEK, C.K.  
1931 - *Tribal Studies in Northern Nigeria*, London, Kegan Paul, 2 volumes.
- MIGEOD, F.W.H.  
1924 - *Through Nigeria to Lake Chad*, London, Heath Cranton.
- MIGOT-ADHOLLA, S. ; ALIBARUHO, G. & BLENCH, R.M.  
1994 - "Review of the Functions and Future Role of ADPs in Rural Development in Nigeria", Washington, World Bank Draft Report.
- NACHTIGAL, G.  
1980 (1st ed. 1879-1889) - *Sahara and Sudan II*, edited and translated by A.G.B. & H.J. FISHER, London, C. H. Hurst [Original edition in 3 volumes ; Nachtigal's journey lasted from 1869 to 1874].
- PASCH, H.  
1980 - "Linguistische Aspekte der Verbreitung lateinamerikanischer Nutzpflanzen in Afrika", Magisterarbeit, Universität zu Köln.
- PICKERSGILL, B. & HEISER, C.B.  
1977 - "Origins and distribution of plants domesticated in the New World Tropics", in REED, C.A. (ed.), *Origins of agriculture*, The Hague, Mouton : 803-835.
- PROST, R.P.A.  
1964 - *La langue Songhay et ses dialectes*, Dakar, Institut Fondamental d'Afrique Noire.

- PURSEGLOVE, J.W. (ed.)  
1974 - *Tropical Crops. Dicotyledons*, London, Longmans.  
1975 - *Tropical Crops. Monocotyledons*, London, Longmans.
- PURSEGLOVE, J.W.  
1976 - "The Origins and migrations of crops in Tropical Africa", in HARLAN, J.R., DE WET, J.M.J. & STEMLER, A.B.L. (eds.), *Origins of African plant domestication*, The Hague, Mouton : 291-310.
- SCHULTZE, A.  
1913 - *The Sultanate of Bornu*, translated by BENTON, Oxford, Oxford University Press.
- SHIMIZU, K.  
1980 - *Comparative Jukunoid*, Vienna, Afro-Pub, 3 volumes.
- TARDITS, C. (éd.)  
1981 - *Contribution de la recherche ethnologique à l'histoire des civilisations du Cameroun*, Paris, Éditions du CNRS, 2 volumes.
- WHITE, S.T.  
1941 - "The Agricultural Economy of the Hill Pagans of Dikwa Emirate, Cameroun (British mandate)", *Empire Journal of Experimental Agriculture*, 9 : 65-72.
- WILLIAMSON, K.  
1970 - "Some food plant names in the Niger Delta", *International Journal of American Linguistics*, 36 : 156-167.
- YEN, D.E.  
1961 - "Evolution of the Sweet Potato (*Ipomoea batatas* (L.) Lam.)", *Nature*, 191 : 934.



## APPENDIX

## VERNACULAR NAMES FOR CASSAVA AND SWEET POTATO

The tables show a compilation of terms for selected New World cultigens in Nigerian languages. Languages outside Nigeria are included where they mark the extension of a particular lexical term. Column 1 gives the language classification by phylum, family and branch. The data has been set out in this format for ease of location rather than to support any historical hypothesis; indeed the argument is that New World introductions easily cross language phylum boundaries. Column 2 gives the name of the individual language and sometimes a location where there are significant dialect variations. Column 3 gives the actual word for the crop. Cultivar names are not cited.

Column 4 shows a translation of the cited form or indicates a probable borrowing. Etymological parsing is given where the meaning of component elements is known. Individual lexical citations are not sourced; published sources used are cited in the bibliography but the bulk of the data comes from the author's fieldwork, and that of Kay Williamson. Many of the unpublished sources were compiled for the second edition of *The Useful Plants of West Tropical Africa*; the relevant volumes are Burkill (1985, 1994, 1995). Published lexical sources, notably Connell (1991), Crabb (1969), Elugbe (1989), Meek (1931) and Shimizu (1980) are not otherwise cited in the text.

The standard form of ethnonyms is given following the *Index of Nigerian Languages* (CROZIER & BLENCH, 1992). The arrangement of language phyla, families and subgroups also follows the system adopted in this book. Where a writing system already exists, subdotted letters have been used, following Nigerian orthographic tradition, rather than phonetic symbols: i, e, o and u are narrow vowels, and n immediately following a vowel represents a nasalised vowel.

Table 1. Cassava - *Manihot Esculenta* Crantz

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
<b>NIGER-CONGO</b>			
Benue-Congo			
Yoruboid			
	Yoruba	ègè	
		gbáńdà	
		paki	
	Ijumu	agugoyo	
	Yagba	derefe	
	Isekiri	imidáka	< Portuguese <i>mandioca</i>
	Igala	ábàcà	
Edoid			
North-West			
	Okpamheri	ɔnuta	
		òt-alibò	< Ijubo "flour"
	Uhami-Iyayu	ikpaki	
	Ukue	kpàki	
North-Central			
	Avbianwu	èko	
	Aoma	ibòbòdii	
	Atte	u-bobogì pl. 1-	
	Edo	ígai	< "gari" ?
	Esan	ebobozì	
	Ivbie N.	ávbiore	
	Okpe	uboboji	
	Okulosho	olaka	
	Yekhee	abobozii	
South-West			
	Uneme	iboróji	
	Urhobo	emedáka	< Portuguese <i>mandioca</i>
		igé	< "gari" ?
		iwvorhiya	tapioca

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Eruwa	umufié	
	Uvbie	ibi dákà	< Portuguese <i>mandioca</i>
	Isoko	egú	
		midáka	< Portuguese <i>mandioca</i>
Delta	Degema	úbiaburu	? + yam
	Egene	edíabò òbirabu	
	Epie	ò-díabò	
Igboïd	Ekpeye	ogbóló	
		ákú	"silk-cotton"
	Ukwuani	ákú	"silk-cotton"
		imalákà	< Portuguese <i>mandioca</i>
	Ogbah	ákú	"silk-cotton"
	Onica	áfú (òk-òk)	lit. "raw fufu"
	Ozalla	a-buru a-suo	yam + ?
	Izii	imalááka	< Portuguese <i>mandioca</i>
	Ika	ákú	"silk-cotton"
	Ndele	ákú	"silk-cotton"
	Ogbakiri	ákú	"silk-cotton"
	Owere	ji á'p'hú	lit. "yam of silk-cotton"
	Onuhu (+ Riverine Igbo)	ji bò	yam + ?
		áp'hú	"silk-cotton"
	Ikwere	iji ákp'u	lit. "yam of silk-cotton"
Nupoid	Nupe	rógò	< Hausa
	Asu	rógò	< Hausa
	Gupa	rógò	< Hausa
	Kupa	rógò	< Hausa
	Gbari-Sumwakpna	lóngo	< Hausa

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Gbagyi-Kuta	gmaḡmi	
		roḡo	< Hausa
	Gade	gi-zéki	
		w-roḡo (t-)	< Hausa
	Ebira-Okene	ecukà	
	Ebira-Koto	akýénù	
Okoid	Magongo	alaita	
Idomoid	Idoma of Otukpo	ò-vilá	
	Yache	ákwoim	
	Akweya	òvirá	
	Yala of Ikom	ijikapa	
	Yala of Ogoja	ikpaleke	
	Igede	ò-taàkom	
Kainji West			
Lake	Reshe	ri-geshe	
	Laru	bablega	
Lela	eLela (=Dakarkari)	d-rnigo (c-)	< Hausa
	tHun (=Duka)	r-r-òé (òt-)	
	tKag	ò-r-zò' (ò-)	
Basa	Basa-Kwomu (Dekina)	ù-ròḡwo (ò-, ji-)	< Hausa
	Karamba (=Basa Gurmana)	ngàna nan t'ò	
Kamuku	Cinda	amo-roḡo	< Hausa
	Reḡi	roḡo	< Hausa
Pongu	Pongu	roḡo	< Hausa
	Fangwa (Ura)	magape	
Kambari	Kambari (Salka)	à-àḡba ngbàrà (ò-)	

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun- class languages)	Translation or etymology if known and comments
	Kambari (Auna)	gbámgbára	
	Kambari (Agaushi)	ko-rongo	< Hausa
East Kainji	Mala	kalogoʒi	
	Sanga	ma-rogo	< Hausa
Platoid	Berom	kit cəkət	= "tree yam"
	Shail	jiir kun	
	Kulu (=Ikulu)	arógo	< Hausa
	Ninkvop	rogo	< Hausa
	Ashé	nugu	< Hausa
	Adun	nūnān aci	< Hausa
	Kwinyen	rogo	< Hausa
	Tyap	rogo	< Hausa
	Morwa	rogo	< Hausa
	Atakal	rogo	< Hausa
Jukunoid	Chomo	mbài	< Fulfulde
	Etkywan (=lcen)	rògò	< Hausa
	Jiru	mbài	< Fulfulde
	Jukun of Wukari	irogò	< Hausa
	Kuteb of Lissam	doko ipabitam	< Hausa
Tarokoid	Tarok	akup jini arogo	"bone of jini" < Hausa
	Pe (=Pai)	i-njálak	
Cross River			
Bendi	Bokyi	o-logo	< Hausa
		panyo	
	Bette of Obudu	ú-lògò /i- ú-pányá /i-	< Hausa

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun- class languages)	Translation or etymology if known and comments
Upper Cross	Agoi	iyemi	
	Agwagune Etuno	iburu	< lɔ "yam"
	Agwagwune	iwá	< Efik
	Bakpinka	ayemi	
	Doko	iyemi	
	Duɔp	iwá	< Efik
	LeYigha	gemonɔɔn	
	Lokaa	kè-bɔ́ɔ́jèn /yè-	
	Lubila	ereŋge	
	Mbembe (Adum)	i-wá /i-	< Efik
		ó-jaŋgbokóro /á-	
		o-romotum /a-	fermented
		o-rokotum /a-	fermented
	Mbembe (Ofombonga)	ójaŋgbokóro	
		oraangáta	
	Mbembe (Apiapum)	oráŋkkerí	
		orokottim	fermented
	Mbembe (Osopong)	obaakabom	
	Nyima	jakpu	
	Otulomo	è-wá	< Efik
	Ubaghara (Biakpan/Ikun)	iburu	
	Ubeteng	e-emi	
	Ukpet	aiemi	
	Umon	iwa	< Efik
Lower Cross	Anaang	ig'wá	
	Ebughu	igbé	

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Efai	iwé	
	Efik	iwá	
	Ekit	ijkám idák	
	Enwang	igwé	
	Etebi	igwé	
	Ibibio	iwá	
		itábiró	
	Ibino	áfóó iwá	
	Ibuoro	iwá	
	Iko	áfóó iwá	
	Ilué	iwé	
	Itu Mbuso	iwá	
	Obolo	míbitáká	
	Okobo	iwé	
	Oro	iwé	
	Uda	igwé	
	Ukwa	iwá	
	Usakade	iwá	
Ogoni	Kana	é-kpákpòrò ázák' om	
	Gokana	gbébaā	
Central	Abuan	á-pitáká (á-rí-)	< Portuguese <i>mandioca</i>
Delta	Ogbia (E)	afíbb	
	Ogbia (W)	épitaká	< Portuguese <i>mandioca</i>
	Kugbo	óbyáni (í-)	
	Oduál	é-í-é-é-é (í-)	
		okpukoro	
	Kolo	afí-ábo	
	Obulom	íjápú	

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
Dakoid	Nnakenyare	pi-í-í-í	
Mambiloid	Mambila of Atta	kúkum	
	Vute	kúkum	
	Ndoro of Baissa	áigofí	
Tivoid	Tiv	álogo	< Hausa
		duáse	
		ivambèyon	
	Ceve	káselà	
		pányá	
Jarawan	Jaku	rógó	< Hausa
Grassfields	Yamba	kukum	
Ijoid			
Ij	Nkoroo	mípatáká	< Portuguese <i>mandioca</i>
	Ibani	míbatáká míptáká	< Portuguese <i>mandioca</i>
	Kalabari	mbaraka	< Portuguese <i>mandioca</i>
	Kirike	íjápú	< Ikwere (cassava + yam)
	Nembe	íbiaburu	? + yam
		é-biá-burú	? + yam
		ipiti	< Portuguese <i>mandioca</i>
	Ákaha	imbáká a-fúba	< Portuguese <i>mandioca</i>
	Ibmo	mbítáká	< Portuguese <i>mandioca</i>
	Oporoma	imbitáká	< Portuguese <i>mandioca</i>
	Oyakiri	imbráá	< Portuguese <i>mandioca</i>
	E. Tarakiri	abaáiru	
	E. Olodiana, Kulama, Basan, Apoi	mbítáyá	< Portuguese <i>mandioca</i>
	Iduwini	bitáká oké-é	< Portuguese <i>mandioca</i>

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Ogulagha	ibidáá	< Portuguese <i>mandioca</i>
	Gbaranmatu	akéfé	
	W. Olodiana	mudáka	< Portuguese <i>mandioca</i>
	Furupa	imidáka	< Portuguese <i>mandioca</i>
	Arogbo	ugbagodá	
	Ogbe-ijó	imbidáka	< Portuguese <i>mandioca</i>
	Obotebe	akéfé	
	Operemo	imbaiakalá imbidáka	< Portuguese <i>mandioca</i>
	Kolokuma	ababurú	? + "yam"
	Kabo	ukpýjúkúrú	
	Mein	embadáa	< Portuguese
Inland Ijò	Akita (Okordia)	idabóó	
	Biseni	sóuróbo	
Atlantic	Fulfulde (Adamawa)	mba pl. mbaji	
		bantarawal	
Adamawa			
Longuda	Longuda of Nya Dete	as Hausa	
Jen	Jen	womká	
Vere-Duru group	Samba Leeko of Balkosa	dunumá	
	Wom (=Perema)	bav-á (-varó)	< Fulfulde
	Nyongnepa (=Mumbake)	bai	< Fulfulde
	Koma 1	bai	< Fulfulde
	Koma 2	bai	< Fulfulde
	Momi (=Vere) of Yadiim	bá-áz (-vi)	< Fulfulde
	Pere (=Kutin)	kumaaré	

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
<b>NILO-SAHARAN</b>			
	Dendi	roógó	< Hausa
	Kaado	roógó	< Hausa
Saharan	Kanuri	gariisa	? unless from "gan"
		ngadalá (sweet cv.)	
	Toda	karáisu (Barth)	?
<b>AFRO-ASIATIC</b>			
Semitic	Arabic (Shuwa)	baghuut	
		gariisa	< Kanuri
Chadic West			
Hausa	Hausa	roogò	originally applied to a wild tuber
		dóovár kúdtù	"yam of south"
	Gwandara	rogo	< Hausa
<b>Bole-Angas</b>			
Angas	Angas	bwèr-yóm	
	Maghavul	roogò	< Hausa
	Kot'yar	rogo	< Hausa
Bole	Karekare	dóya	< Hausa "yam"
	Bole	dóovà	< Hausa "yam"
	Ngamo	dáya	< Hausa "yam"
	Pero	dóya	< Hausa "yam"
		gbóla	
	Tangale	roogo	< Hausa
	Dera (=Kanakuru)	angat.jowi	
	Pa'a	lardóya pl. lardáni	< "root" + Hf. dóya "yam"

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Miya	dòyà	< Hausa "yam"
	Bade	dawiyàn	< Hausa "yam"
	Ngizim	dàuyà pl. dàuyàvìn	< Hausa "yam"
	Ceji	dòyàmasa(t)	< Hausa "yam" + "Egypt"
	Buli	mááki	
	Polci	gyuraj seláán	? + ?
	Dot	dóoya	< Hausa "yam"
	Zul	mànkíini	
	Tala	kurmi	
	Zaar	gèdi náámci or gèdi mbáál	
	Boghom	mám (Sh) lonkalo (Co)	
	Mangas	máámkíin	
	Kir	mám	
	Gurduj	gunpèdi	
	Jimi	gaxoo	
Central			
Tera	Tera	rógò	< Hausa
	Pidimidi (=Hinna)	dòyà	< Hausa "yam"
	Hwana	mbái	< Fulfulde
Bura-Figi	Bura	doya ngali	< Hausa "yam" < Kanuri
	Kyibaku	mbau	< Fulfulde
	Ngghwavi	mbai	< Fulfulde
	Huba (=Kilba)	mbai	< Fulfulde
	Margi (Wamdiu)	mba'i	< Fulfulde
	Margi/Babal of Lassa	mbay	< Fulfulde
	Margi Putai	diwáyà	< Hausa "yam"

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	S. Margi	mbavu	< Fulfulde
	Kamwe (Fali of Kiria)	mbavá	< Fulfulde
Mandara	Wandala	mbava	< Fulfulde
	Glavda	mbava	< Fulfulde
	Gutuf	galisá	< Kanuri
	Dghwede	mbavá	< Fulfulde
	Taghwa (=Záádvə)	mbya	< Fulfulde
	Mafa	mbava	< Fulfulde
Bata	Bacama	mbai	< Fulfulde
	Gude (=Cheke of Mubi)	mbava	< Fulfulde
	Uroovin (=Fali of Vimtim)	mbaya	< Fulfulde
	Gudu	mbey	< Fulfulde
	Holma	gurog	< Hausa
	Njanyi	mbavé	< Fulfulde
Yedina	Yedina (=Buduma)	karahá	

Table 2. Sweet Potato - *Ipomoea batatas* (L.) Lam.

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
<b>NIGER-CONGO</b>			
Benue-Congo			
Yoruboid	Yoruba	ànbánmín àdìkàlín kùkù-ń-dùkù	
Edoid			See note in text
Delta	Epie	kukuduku	
North-Central	Egb	iyán-ébo	
South-West	Urhobo	fimitátá àlé óyínbó	< Portuguese <i>batata</i> "European's yam"
Nupoid	Nupe	dùkù	
	Asu	dùkù	
	Gupa	dùkù	
	Kupa	dùkù h yu	
	Gbari-Sumwákpa	dùkù	
	Gbagyi-Kuta	dùkù	
	Gbagyi-Nkwa	dùkù	
	Gade	gu-mane	
	Ebira-Okene	ihjé:mihiemi	
Idomoid	Idoma of Otukpo	ò-géégé	
Igboïd	Onicha (general), Aniocha, Egbema	ji óyíró	"white man's yam"
		kùkùndùkù	
	Ihiala	ji nwa nnu	
	Owere	ji bekéé	"white man's yam"

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
<b>Kainji West</b>			
Lela	cLela (=Dakarkari)	d-kunku (c-)	< Fulfulde
	tHun (=Duka)	r-diukuma (ɔt-)	< I Hausa
	tKag	r-kùtùnkù (àt-)	< Fulfulde
Basa	Basa-Kwomu (Dekina)	ù-kukùnduku (ɔ-, ß-)	
	Karomba (=Basa-Gurmana)	as Hausa	
Kamuku	Shama	yaruba	
	Regi	andakái	
Fongu	Fangwa (Ura)	ne-dènkèlè	< Hausa
Kambari	ciBangi	dankali	< Hausa
	Kambari (Salka)	dènkàlì	< Hausa
	Kambari (Auna)	kèdènkàlì	< Hausa
Platoid	Berom	dànkál	< Hausa
	Kulu (=Ikulu)	àlávùr	< Hausa
	Zhire	rávùr	< Hausa
	Adun	ò-rávùr (à-)	< Hausa
	Kwiveny	làávùrù	< Hausa
	Eggon	fyegen	Perhaps originally a name for the yam-bean <i>Pachyrrhizus</i>
	Alizaga (Eggon dial.)	fyegma	
	Angbashin (Eggon dial.)	figan	
	Morwa (=Sholyo)	dankali	< Hausa
	Atakat	dankali	< Hausa

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
Jukunoid	Ekyvwan (=Icen)	surukwè	
	Kuteb of Lissam	icir ukwe	yam * ?
Tarokoid	Tarok	a-kateku *	< Hausa
	Pe (=Pai)	a-kirikù /ti-	< Hausa
Cross River			
Bendi	Bokyi of Inuan	karu dekie	
Lower Cross	Anaang	edia makara	
	Efik	biá mibà kára	"yam of European"
	Ibibio	èdiám	
Ogoni	Kana	pitimpi	
Central	Abuan	à-pitüpi (asi-)	
Dakoid	Nnakenyare	kudaku	< Hausa
		danjali	< Hausa
Mambiloid	Mambila of Atta	dankelá ñ	< Hausa
	Vute	vittà	
	Kwanja Sundani	ndambè	
Tivoid	Tiv	à-tsa'ka	
Ijoid			
Ijo	Nembe	kukunduku	< Hausa
Izon	Kolokuma	bèké buru kükündukú	"European's yam"
Inland Ijo	Akita (Okordia)	adifómi	
West Atlantic	Fulfulde (Sokoto)	dan kali	< Hausa
	Fulfulde (Adamawa)	kudaku	< Hausa
		peembere/peemberejei	? < Arabic
Adamawa			
Vere-Duru group	Wom (=Perema)	kúdàkú-a (-voro)	< Hausa

Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun-class languages)	Translation or etymology if known and comments
	Nvongnèpa (=Mumbake)	kudàkú-a (-faro)	< Hausa
	Momi (=Vere) & Yadim	dànkàl-as (-i)	< Hausa
	Pere (=Kutin)	dan kale	< Hausa
Longuda	Longuda of Niva Dele	danjali-a (-ha)	< Hausa
<b>NILO-SAHARAN</b>			
Songhai	Songhay (Kaado)	kuudékà	< Hausa
Saharan	Kanuri	dàngali	< Hausa
		kúndiawú	< Fulfulde
		kuwunduwu	< Fulfulde
<b>AFRO-ASIATIC</b>			
Semitic	Arabic (Shuwa)	aya	
	Arabic (other)	bombe	
Chadic West			
Hausa	Hausa	dánkali	
		lááwur	
		dukuma (?)	
		iiyááyéé	large cultivar
		kugundugu (?)	< Yoruba acc. to Dalziel
		warina (?)	
		yáryáadii	Usually applied to an indigenous <i>pomoza</i> sp. acc. to Abraham (1949)
	Hausa (Sokoto)	kuudákúú	



Language: Phylum Family Branch	Language with location name	Term (plural affix follows in noun- class languages)	Translation or etymology if known and comments
Bole-Angas			
Bole	Bole	dānkali	< Hausa
	Tangale	daŋɔl	< Hausa
	Dera (=Kanakuru)	kudak u	
	Pa'a	kūndindiki	
	Miya	laāwār	
Central			
Tera	Hwana	katakū	< Fulfulde
Bura-Higi	Bura	daŋgali	< Hausa
		k(w)udaku	< Fulfulde
	Margi (Wamdiu)	kɔdaku	< Fulfulde
	Margi Babal of Lassa	kundahu	< Fulfulde
Mandara	Mandara	daŋkali	< Hausa
	Guduf	ɓɔdakwe	< Fulfulde
	Taghwa (=Zalɔɔva)	daŋkali	< Hausa
Bata	Uroovin (=Fali of Vimitim)	kɔdakwa	
	Njanyi	kɔdākō	< Fulfulde

---

*Plantes africaines, plantes américaines :  
parcours et relations*