Slow Food®

Slow Food Foundation for Biodiversity

FAO

PROMOTING ORIGIN-LINKED QUALITY PRODUCTS IN FOUR COUNTRIES
(GTF/RAF/426/ITA)

FINAL REPORT

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1 – SUMMARY

This document is the final report on activities carried out by the Slow Food Foundation for Biodiversity as part of the project "**Promoting origin-linked quality products in four countries**", one of the eight projects in the FAO Program **"Food Security through Commercialization of Agriculture"** in West Africa, financed by the Italian Ministry of Foreign Affairs (Italian Cooperation for Development).
The project was conceived as the Slow Food Foundation and FAO independently manage various activities in Africa with different approaches, but in this case saw a common interest and mutually beneficial objectives.
Given the distinctive features of the Slow Food Foundation's approach to its activities in many countries of the Global South—in Africa, South America and Asia—and as a result of its common interest with the FAO regarding some activities in the agrifood area, there have been significant collaborative efforts in recent years. This project is a practical expression of the shared aims.

To optimally coordinate activities, attention has focused on West Africa, in particular **4 countries**: **Sierra Leone, Guinea Bissau, Mali and Senegal**.
West Africa has some of the poorest regions on the continent. They are frequently affected by political instability and lack well-defined economic strategies for agricultural production. However this area contains some of the greatest biodiversity in the world. It is an indigenous diversity where many species have originated, favored by many centuries of dominance with the continual passage of species, breeds, varieties and ecotypes which found excellent conditions for acclimatization.
This prompted a specific interest in this geographical area. Another reason for selecting the area was because the current trend towards globalization of consumption and products is now contributing towards a significant loss of biodiversity in its widest sense, affecting animal breeds and plant varieties, local areas, traditional cultures transmitted through the generations, food diversity, and knowledge of the dietary, nutritional, medical and cosmetic properties associated with different animal and plant species.
This premise was the basis for project studies within the four countries. They involved monitoring existing genetic resources which are used and closely linked to tradition, and creating an inventory, which was partly based on objective scientific data and partly based on the oral accounts of indigenous peoples.
As a result of Slow Food's international experience (implementing the Presidia project—projects to protect traditional products at risk of extinction), work continued with the selection and evaluation of products, which depending on specific requirements, could be promoted and developed as a Slow Food Presidium.

The project finally involved a range of communication and food education activities (in the four countries and also at international level). This aimed to restore awareness of the importance of "eating local" and to spread awareness of the priceless value of this area's biodiversity.

The report focuses on the monitoring, inventory preparation, product description and evaluation carried out in the field. It is prefaced by a short introduction to Slow Food's activity in Africa and developing countries. This is followed by a description of the environmental and social features affecting biological, botanical, social and geopolitical developments in the overall area and the four countries in particular. It then presents the work carried out to collect useful information for drawing up a product inventory.

A descriptive profile containing essential points was prepared for each product. This information was needed for subsequent evaluation (using a grid of specific criteria) and for selecting products suitable for setting up a Slow Food Presidium.
Finally, a descriptive narrative profile was prepared for each product selected for a new Slow Food Presidium, together with a production protocol. Drawing up production rules is one of the first activities Presidia have to carry out in order to specify and share every step of the production process with producers.
The document concludes with a list of bibliographic references, providing supporting scientific and literary material, together with useful references for further information.

What is the relationship between the Slow Food Foundation for Biodiversity and the Slow Food association?
The Slow Food Foundation for Biodiversity was founded by Slow Food International and Slow Food Italy. It is the technical and operational instrument for implementing projects to protect food biodiversity.
The Slow Food association makes a crucial contribution to its activities: the Slow Food convivia raise funds and voluntarily collaborate in managing local projects (Presidia, Earth Markets, gardens), selecting products to protect (The Ark of Taste), and organizing meetings between communities from different countries.

What is the relationship between the Slow Food Foundation for Biodiversity and Terra Madre?
Terra Madre is Slow Food's political vision. It is a movement involving groups striving to produce food which is local, sustainable and fair. The network is composed of small-scale producers (food communities), cooks, academics, students, musicians, NGOs, and associations. The Slow Food Foundation for Biodiversity is the association's technical instrument for implementing projects in support of Terra Madre food communities. All the Presidia, Ark, Earth Markets and garden producers are part of the Terra Madre network.

2 – SLOW FOOD IN AFRICA

While the Slow Food Foundation is not formally an NGO or association set up for the purpose of development assistance, in fact it carries out activities to support, network and promote rural development in countries both in the global north and global south. Its activities in developing countries often take place in the same areas and within the same working context as the operations carried out by traditional development cooperation bodies (government agencies, international organizations, NGOs, local authorities and others engaged in decentralized cooperation).
The path the association took towards sustainable development started in Italy in the 1980s. At that time Slow Food was a food and wine and cultural association with the following aims:

- education in food, taste and gastronomic science;
- the defense of biodiversity and traditional food products linked to it;
- the promotion of a new food model which respects the environment, traditions and cultural identities, capable of bringing consumers closer to producers.

These objectives are pursued through different projects, which work to:

- strengthen local food production chains;
- rediscover and catalog traditional knowledge;
- promote local food as a means of guaranteeing food security, support native species and breeds, help farmers, herders and fishermen to break free from social and commercial isolation;
- strengthen producer awareness and self-esteem.

In the early years, Slow Food activities mainly developed in Italy, but gradually the idea that conserving the distinctiveness of local food, agricultural traditions and community knowledge could play a fundamental role in protecting ecosystems and promoting sustainable production, spread through Europe and the rest of the world.
The association now has over 100,000 members and more than 1000 local chapters (known as convivia) in 153 countries.

The development model promoted by the association originates from the idea that poor and marginal farming areas can reverse the process of abandonment by diversifying local products and promoting them on the basis of their specific identity. The diversification of small-scale, high-quality products is seen as virtuous as it opposes the standardization typical of industrial production. This model not only can be extended to other Italian or European areas, but is valid across the world: in this way projects which were initially conceived for application in Italy can be adapted to different contexts, including developing countries.
Developing country economies are often based on single-crop agriculture. In the past, when many of these countries were still colonies, local agricultural products were developed for export and even today, many economists often claim they are the only means of supporting and developing the economy. This forces these countries to put their natural heritage under considerable pressure so they can (often ineffectively) obtain minimal resources to mitigate their dire situation, with serious damage for present and future generations.
The protectionist policies of the United States and Europe towards cereal and textile products have exacerbated this situation, since many industrialized countries—including European countries with the Common Agricultural Policy (CAP)—use export incentives to allow national producers to place their goods on developing country markets at a price below production cost, with destructive effects for local producers.
The result is that developing countries see their only export opportunity in products like coffee, tea, cashew nuts, cotton, bananas and other crops that cannot be grown in the northern areas of the

world, and are forced to buy the cereals they need to survive on the international market, at prices which have risen considerably over the years.
Consequently there is a growing state of food dependence, since income from exports is often lower than what is needed to buy the cereals they no longer produce domestically. This leads to a continuous reduction in the proportion of land used for growing subsistence crops in favour of an expansion of export crops which only benefit a few large landowners and exporters. This elite, which has gradually arisen partly as a result of land grabbing, makes it impossible to change the types of crops grown.
Moreover, intensive agriculture and the planting of new areas of land results in a progressive impoverishment of natural resources, with desertification of vast croplands and the destruction of forests and woodland areas.
In light of the above situation, Slow Food felt it was also important to apply the main concepts of its philosophy to developing countries, where it could help to create new paths for development: gentle and possibly slower development, with modest, widespread growth linked to the most appropriate use of local areas and people. This approach also means mitigating one of the greatest risks of globalization, which is cultural standardization, seen as a loss of, or failure to build on, local identities.
In this way, the places in the Global South where Slow Food projects are implemented can be likened to the marginalized areas of the north, where the same problems of depopulation, emigration and abandonment occur in the European countryside and mountains, following different and more complex dynamics. For example, the economy of a European valley can be saved by reviving a local dairy tradition which had become economically unsustainable but which, thanks to the work of a Presidium, can be recovered and able to support the local economy again. Similarly, work on a traditional product in a developing country can stop locals escaping to the cities or embarking on desperate journeys to Europe because they feel they have no hope for the future.

The small-scale interventions carried out by Slow Food in the Global South are intended to restore dignity and pride to traditions and areas that tend to see everything Western as absolutely better. Farmers in the developing countries with which Slow Food has come into contact are initially amazed at the interest shown in their products and traditions. This interest gradually encourages them to reconsider what they previously thought of as old and obsolete as something unique, which belongs to them and no one else and is, therefore, valuable.

3 - WEST AFRICA, AGRICULTURE, BIODIVERSITY, FOOD AND CONSUMPTION

The geographical area described as West Africa has some features specific to particular regions and some aspects in common. It is still experiencing significant geopolitical upheaval, the result of massive social changes which have affected the development and growth of very disparate cultures, though they are physically close.
This part of the African continent boasts the richest tradition and history of the tropical and subtropical countries bordering the Atlantic Ocean.
The strong influence of the Sahel climatic zone—the sub-Saharan region extending from the desert towards the Atlantic coast through tropical forest—is not uniform but is conditioned by its many indigenous cultures, ethnic groups, languages and deep-rooted traditions.
Before the historical events of colonial times, West Africa experienced a range of geopolitical structures, from large empires containing many ethnic groups to tiny communities confined to one or two villages.
West Africa is home to the most populous black country of the continent (Nigeria); it has traces of some of the most important African empires (the empires of Ghana, Mali and Songhai); it is where independence movements originated (in Ghana in 1957) many of which are still the focus of political upheaval and turmoil (as in Mali).
The political borders that separate people from each other and confer different nationalities (many less than 50 years old) have not affected the shared sense of belonging to a unique part of the world. It is still possible to feel the strong connection between peoples as a result of dialects or languages that cross borders.
This means that it is necessary to be aware of the distribution of different ethnic groups and their internal relationships, which do not respect national frontiers.
This part of Africa has a high degree of plant biodiversity. Many species originated here, which is surprising if you consider its small area compared to the main regions where the world's plant species originated and were domesticated. African rice, palm oil, some types of millet and sorghum, and a great many vegetable species were first identified, and subsequently diversified and selected, in this region.
There is scientific evidence (involving the classic evaluation of crop wild relatives or ancestral species, as well as more comprehensive and established methods of botanical archaeology) showing that many varieties of sorghum, millet and rice have existed, spread and been used in this area for thousands of years.
Different species adapted to different climatic conditions and came down to us through the most effective way of preserving biodiversity: everyday consumption by indigenous peoples. The different types of climate in this enormous geographical area encouraged significant diversification in the genetic expression of many plant species: the route from the Sahel to the Atlantic Ocean passes through desert and arid zones, fertile soils of fluvial origin and tropical forests.
Until the mid-19th century, plant and animal species were very diversified and closely linked to the food habits and customs of indigenous peoples.
Then with the arrival of monocultures producing export crops, this variability significantly decreased. It now only partially survives in rural communities a long way from large cities.
When the variability of climatic environments and agricultural contexts is discussed, reference is made to macro regions that do not fall within the borders of individual countries.
These regions include the **forest**, which though not very widespread, is significant in Guinea Bissau and the savanna, which extends across to the Atlantic Ocean.
The wet forest regions are linked by rivers to the more extensive savanna, with its alternating fertile and very arid areas. The Niger which crosses and brings water to all the countries of West Africa has had a significant influence on the economic development of the region and on populations, which though belonging to very different and unrelated ethnic groups, find locations near the river

an ideal place for settlement. The river facilitated trade and made an essential contribution to the development of agricultural, livestock and fishing practices.
The forest region is part of the larger and varied rainforest. Here some tree-growing species spread widely, particularly in the 18th and 19th centuries, and achieved a prominent economic position not only for local consumption but also for export to neighboring countries and further afield. Palm oil, rubber from native trees, cacao, as well as native timber played an essential role in the economic, cultural and social development of Sierra Leone and Guinea Bissau, for example.
Oil palms have always been species of great interest: the nuts provide an oil widely used in local cuisine, as well as various cosmetics. Substances for producing alcoholic beverages can be extracted from the trunk, the leaves and foliage are widely used for traditional building, particularly for covering roofs. These applications explain the widespread use of the species in many West African countries and in the course of a few decades exports increased significantly, first along the Niger to neighboring countries and then across the ocean. British consumption of palm oil from West Africa rose sharply towards the end of the 18th century, particularly for the production of candles, then for margarine and everyday food. With rising demand, foreign investment in African countries also increased, and disrupted the production methods developed by indigenous people. Foreign companies began to plant specialized palms, producing very low trees to reduce the costs of production for harvesting but this also reduced the quality of the product. With the passage of time, particularly after the world wars, production of palm oil finally shifted to Asia (Malaysia and Indonesia), while not many of the specialized local plantations remained. Only some traditional plantations exist, managed sustainably using traditional techniques.
A similar situation can be seen for the production of rubber from native species. Peak production was at about the same time as commercial palm oil was being developed, at least until the end of the 19th century. After that time the product was no longer of significant commercial interest. This was partly due to competition from North Africa (particularly Egypt) and partly due to advances in chemical knowledge. There were never any rubber plantations: during the period of high commercial demand, rubber was obtained from the wild forests by slave labor. The time of high supply ended rapidly, but had important consequences for the agricultural development of the region. Many areas with oil palms or rubber trees were overexploited in the period of greatest production and were partly cleared of trees. It was in these areas that it was possible to develop cacao and expand plantations considerably.
The introduction of cacao to West Africa in the second half of the 19th century significantly changed the agricultural and environmental situation, with ever increasing mechanization in the rainforest. Economic management of the sector was in the hands of a few business people, even if of local origin, while most of the manual work was carried out by laborers from rural areas and nearby villages, who were often exploited.
Though never reaching the production levels of cacao or palm oil, coffee has been of some significance. However, apart from some scattered fruit trees (such as pineapple, banana, mango), the native forest species with strongest demand is kola. Kola nuts, traditionally gathered from trees growing around the forest, from Ivory Coast to Sierra Leone, is used as a stimulant by the populations living on the savanna and near the desert regions. Catering to relatively local demand, the product has never reached distant markets.
The more forested region had few products directly linked to the diet of native populations, being mainly limited to tubers (cassava, yam) under some trees such as the plane tree.
Finally, it is interesting to note the ability of women to recognize and use many wild, tuberous or leaf species with important nutritional or medicinal properties, which have become part of the daily diet of rural people in regions close to the forest. Here the role of products for subsistence has prevailed over profit and commerce. Recognizing the importance of wild native biodiversity for the local diet is the best way of protecting the environment.
As far as the provision of products for the regular diet is concerned, the forest region is much less important than the **savanna** (which is gradually encroached on by the forest).

The savanna is not a uniform region: it is initially very fertile, particularly near river basins, and then extends towards the Sahel with alternating moist and extremely dry environments. This brings radical changes in the types of indigenous species and cultivation techniques.
From the 18th to the mid-19th century, the West African savanna was home to a range of very differentiated species, some of which played a decisive role in the rural economy of the time.
One of the main food products for local people is rice, which was historically spread through what used to be called the "*rice-growing belt*", an area extending from Casamance (south of Senegal) as far as Ivory Coast.
Prior to the introduction of Asian rice (*Oryza sativa* L.) all the varieties growing in Africa and in the west specifically, derived from *Oryza glaberrima*, an autochthonous and indigenous rice which has always been a basic staple in the diet of local peoples. These varieties have been, and are, cultivated using very different techniques: from classical wet paddy fields to dry rice fields on hills, from saline areas in mangrove forests to floating varieties with a long stem and short cycle.
The savanna of West Africa is where rice is grown, as well as millet, sorghum and corn. These cereals underpin a productive agricultural system and provide essential nutrition. Smaller quantities of durum wheat are grown and there is a wide range of legume varieties and types. Due to their alternation with cereals, legumes help to supplement and enrich the local diet, and they also maintain soil fertility through root action and nitrogen fixation.
One factor that has had a decisive effect on agriculture in this region is increasing industrialization, followed by ecological impoverishment and depletion. The cultivation of peanuts is a typical case. Until the time of colonialism, it was based on an autochthonous and indigenous species, *Voandzeia sub terranea*, also known as *Vigna subterranea* or the common name *bambara groundnut*, which originated in West Africa, probably in the northernmost regions of Nigeria. With the introduction of peanuts from America, *Vigna subterranea* began to lose ground, only remaining important in rural areas practicing subsistence agriculture, due to its use in traditional dishes. Thanks to its nutritional value—particularly its high protein and oil content, and its high calorific value—and its storability, *Vigna subterranea* was a crucial constituent of local diets. The cultivation of American peanuts spread particularly in Senegal, where it became a commercialized cash crop from the end of the 19th century, and after the end of colonialism moved to neighboring countries. In the first half of the 20th century it provided almost 50% of income for native populations.
The ethnic group most involved with this product is the Wolof in Senegal, though other ethnic groups and tribes soon began to cultivate and consume the product. In Mali, Bambarà groundnuts were traditionally intercropped with millet or cotton. This provided significant agricultural and economic flexibility, which at times was crucial.
The cultivation of cotton, a non-food product which is widespread particularly in the Haasa lands of northern Nigeria (around Kano) has always fluctuated. The climatic and geographical features of the region, skills in cultivation and post-harvest processing have made the area an important competitor to other production areas such as the northern US or India. But in spite of great efforts during colonial times with the construction of useful infrastructure (such as a railway to the banks of the Niger), there has never been a real boom in production. Local people have been farsighted and preferred to diversify, adding other species such as corn and peanuts to cotton. The reasons for the decline are due to the difficulty in processing and the impossibility of competing with a consolidated globalized world market. Finally the fact that it was not a food product was decisive in directing choices towards products that could ensure subsistence.
Another factor that has affected agriculture in this region is the availability of water. It is fascinating to study the differentiation of species and varieties that can adapt perfectly to specific climatic conditions in the savanna: the alternation of wet and dry seasons made it necessary to select varieties with short cycles that could benefit from the end of the dry season for germination and sprouting while avoiding the limitations imposed by drought in the period immediately after. Where conditions allowed construction of artisan infrastructure to optimize water use and utilize irrigation in the dry period, the cultivation of vegetables, tobacco, and of course rice, flourished. It is not easy

to understand how water resources are distributed in the Sahel. Studies in the last 10 years have shown that the region is much less deprived of water than thought in terms of satisfying rural environments and crops. However there is certainly a problem in optimizing and distributing water to various areas for human consumption and agricultural use. This has a significant effect on crops, technical and food choices, and agriculture in general.

Livestock farming is much more widespread on the savanna. Areas near the rainforest are less suitable for cattle, in particular for health reasons (cattle cannot survive the humid climate and insect attacks, particularly from the tsetse fly). As one moves towards the sub-Saharan region, the arid climate becomes better suited for livestock than crops, particularly cattle and sheep. In West Africa more than in any other part of the continent, there is a sharp distinction between rural populations involved in pastoral farming and those cultivating crops.
This social and geographical division has had a significant effect on the movement of goods from one side of the region to the other, particularly the sale of meat products from the north to the south and vice versa for many other food products.

Colonialism helped to trigger and consolidate many sociocultural, agricultural and dietary changes. It played a decisive role in creating the present situation of economic, political, social and cultural impoverishment in West Africa. The situation has not yet turned around, though many years have passed since the long-desired political independence was achieved. A succession of coups and conflicts has done nothing to help recover political, economic and social stability.
Settlers were never very willing to change their food habits but tended to import new species, new forms of consumption and new approaches to everyday eating. City people are the first to accept new situations, risking the loss of their sociocultural identity. The rural areas further away from large centers of population managed to resist this trend. They retained some of their indigenous heritage, traditions and knowledge which often helped people to survive challenging food, political and social difficulties. Women in particular played a fundamental role, transmitting to their children knowledge regarding seed selection, farming techniques, harvesting, processing and cooking of wild and cultivated products, as well as the cosmetic and medicinal uses of plants.
The differing roles of men and women consolidated: men worked the land and sowed seeds, women harvested, selected the product and preserved its diversity, deciding what should be kept for the next sowing and in what proportions. However this division of labor underwent significant changes in many urban areas, where women lost the decisive role they used to play in African families.

The significant pressure on West African biodiversity is also due to the growing demand for food and the need to provide it reliably in adequate quantities. The population of West Africa will have to soon contend with significant demographic growth and a consequent increase in food demand. It is estimated that in 2025 the region will have almost 150 million more inhabitants, with a 20% increase in the demand for food. There is therefore a considerable risk that the agricultural model based on quantity, significant use of improved hybrids and external inputs (particularly chemical fertilizers: there has been a five-fold increase in the consumption of chemical fertilizers in West Africa over the last 30 years, though it is still more than 10 times lower than the global average) will experience a sharp and dangerous acceleration.
Efforts to achieve genetic improvements, irrespective of the methods applied and the parental variety used, have given good results in terms of quantitative yields but this has diminished the nutritional potential of many food products, with an increased risk of the genetic erosion of plant species.
By contrast, local products do not have high yields but almost always respond well to the need for resistance to demanding climatic conditions, biotic and abiotic stress, while also having high nutritional value. The question is clearly whether local products will be enough to meet the increasing demand for food. Under current conditions the answer is no, because rural areas in

Africa have suffered progressive abandonment and many communities have focused their agricultural efforts on commodities demanded by Western markets. But if appropriately stimulated and accompanied by scientific research, efficient irrigation, storage and distribution systems and adequate promotional campaigns, it could be possible to revive local and traditional community agricultural production and offer a potential solution towards African food sovereignty.

Profile Sheet – Legumes

Legume vegetables have always played a fundamental role in the diet of West African people. They provide important nutrients and maintain the fertility of the soil. In whatever way they are processed and consumed, their high protein content (20-40%) makes them an irreplaceable food, particularly in rural villages a long way from large cities. In addition they contain carbohydrates (40% starch content) which together with the 10% fiber and low fats (2-3%), make them invaluable in combating malnutrition and associated diseases.

Their important constituents and significant protein content are due to an interesting symbiosis with the *Rizhobium sp*. and *Frankia sp*. bacteria which enable legumes to fix atmospheric nitrogen. Specific metabolic processes involving nitrogen take place within the plant and there is a significant buildup of proteins in the seeds. These processes also enable legumes to benefit the soil, improving its structural and chemical properties and allowing a reduction in the use of nitrogen-based fertilizers if green manure is applied after harvesting.

The African continent is where some species of legumes were domesticated and they spread to many rural regions due to their capacity to survive in difficult climatic conditions and grow in very poor, arid soils.

Legumes exist in a great variety of types, from herbaceous and prostrate to shrubby and arboreal, with extremely different roles according to their origin or cultivation. Among the most widespread and popular prostrate species in tropical sub-Saharan Africa, the genus *Vigna spp* is of particular importance. It covers about 60 different species which originated and diversified in southwest Africa. Commonly called “black eye” bean due to its distinctive black eye round the hilum, the *Vigna* genus is significantly different from the American *Phaseolus*, which also has a very large number of different species, but they are genetically distant from those of African origin.

The *Vigna* genus has small seeds in long thin pods and two species are widely used: *Vigna unguiculata* (cowpea) and *Vigna subterranea* (Bambara groundnut).

Vigna unguiculata (*niebè* in Senegal) is one of the legumes that has best adapted to conditions in West Africa. It provides seeds (consumed dry or fresh), pods (consumed unripe), leaves and sprouts. The flour produced from these small beans is widely used in traditional cuisine to prepare a type of couscous and particular recipes containing local spices. The plant is also used as forage and for pasture land.

The species *Vigna subterranea* (in Senegal *voundzou*, in Guinea Bissau *mancara de Bijagó*, in Mali *bambarà*) is considered to have originated in Mali and is mainly cultivated for its seeds, which are used in various traditional preparations, particularly during local ceremonies. The flour obtained after grinding the seeds is mixed with cornflour to make local dishes, in particular fried or steamed dough, which is eaten at mealtimes where bread is not so common. The seeds are also used as animal feed and the leaves for their medical properties.

Legumes have enormous importance in tropical African regions as they have a great variety of uses and many edible parts. Their leaves, seeds and sometimes roots are eaten. The leaves and roots of legumes with an annual cycle can only be eaten when fresh, while the seeds can be dried and preserved, providing an important food source throughout the year.

Another species worth noting is *Sphenostylis stenocarpa* (yam bean), which is widespread in many countries of tropical Africa. In addition to the seeds, it produces enlarged roots that can be used as food.

There are also non-indigenous legumes which were introduced during colonial times and through adaptation have come to play an important role in human diet and the economy of some West African countries. This is a case for *Arachis hypogaea*, which is widespread in Sierra Leone and the highlands of Guinea Bissau. It reached Africa through the Portuguese and rapidly spread due to its ability to acclimatize in very poor soils.

The arboreal legumes found in West Africa (Mali, Guinea Bissau, Senegal, Sierra Leone) include *Parkia biglobosa* (*foroba* in Creole, but more usually *neré*) which is important for its multifunctional uses. In Guinea Bissau, for example, the dried seeds (*netetù*) can be ground and made into a flour (*futi*) which is often served with rice; the seeds, after boiling, can be made into *kunga*, a mash served with rice or meat. In Sierra Leone, as well as in parts of Senegal, Mali and Guinea Bissau, a complex procedure transforms the seeds into *sounbareh* (or *soumbala*) a basic product in local cuisine which is used as a condiment in sauces and soups. The cooked seeds can be used as a coffee substitute or ingredients for other local preparations after grinding and mixing with the leaves of *Moringa oleifera*. The green seed pods can be processed to make carbohydrate-rich drinks, while raw or cooked leaves are often used in local cuisine together with other plant products. In Guinea Bissau, bark ash is mixed with palm oil to produce soap (*sabon preto*) while in Mali another type of traditional soap is obtained by mixing bark ash with *neré* pods and *karité* butter.

There are various secondary uses of west African legumes. Many of the arboreal legumes are highly regarded for the quality of their wood (*Dalbergia spp., Baphia nitida*, etc.), and are used by local furniture makers. In the past many legumes were of significant importance as plant dyes. Extracts from the leaves of *Philenoptera cyanescens*, for example, are still used as a textile dye, particularly in Sierra Leone. Many West African legumes are a potential source of honey: *Cordyla pinnata*, *Parkia biglobosa*, *Acacia seyal* and *Detarium senegalese* are the species preferred by bees for producing mangrove honey, a traditional product of Guinea Bissau and Senegal.

The large number of leguminous plants belonging to the *Acacia* genus are well-known and widespread for producing high-calorie edible gum. *Acacia albida*, in particular, produces edible seeds which local people in rural zones resort to when there is a shortage of food. *Acacia senegal* is a source of gum arabic and *Cyamopsis tetragonoloba* of guar gum.

Profile Sheet – Cereals

African people have consumed wild cereals for tens of thousands of years. The products included native types of millet, wild rice, teff and others, which were generically called “African millets” in African terminology and by early explorers and colonial powers.

When the first Europeans came to the West African coasts and colonization began, local food was almost exclusively based on cereals such as millet, fonio, rice and sorghum. These were not only traditional local cereals, but were also indigenous because this was where they first originated and differentiated, being the first major product cultivated for food, along with a few legumes and tubers.

Cereals continue to be a fundamental part of the everyday diet of West African people. They are a primary source of carbohydrates, some also provide significant amounts of protein and micronutrients. However their composition means that they do not always provide a balanced diet and cannot be considered complete foods. For this reason they are often eaten in combination with each other and together with legumes and tubers. People in rural areas are also familiar with their various medical properties, particularly for digestion and diabetes.
Many minor cereals of the Sahel are perfectly adapted to the specific climatic conditions due to their local origin. Some of them subsequently spread internationally, such as **pearl millet** (*Pennisetum glaucum* L.), which is now the sixth most important cereal crop worldwide and is also widely used in Asia, India and China.
As a result of their nutritional properties and adaptability to poor-fertility soils and drought, some varieties of millet are still cultivated and closely linked to local food traditions. For example, in Senegal the Serer ethnic group have traditionally cultivated millet. It is not only regarded as food but is also associated with sacred rituals (particularly during funeral ceremonies). Millet is used in many recipes, including *mboum* (prepared with millet flour, peanut paste and moringa leaves) and a salted millet couscous only produced on Fadiouth Island. Fermented millet is used to prepare *djola*, an alcoholic beverage similar to beer. Millet is also used for a range of traditional foods in Mali, such as the small *alfintà* fritters, *deghé* and millet beignets (*fourou-fourou*).
There are no selected cultivars, just local ecotypes recognizable by their small differences in grain color associated with particular uses. Women select and identify them, playing an essential role in seed preservation and reproduction.
Fonio (*Digitaria exilis*, white fonio, and *Digitaria iburua,* black fonio) originated and first diversified in Africa, particularly Mali, though its traditional use now mainly survives in Senegal. It is widely used due to its rapid growth. The species adapts well to dry marginal regions, has excellent nutritional properties and does not require much attention during cultivation. There are no specific varieties but some types differ according to their growing cycle and are given different names. In Senegal fonio cultivation is mainly carried out by women, who take care of the different stages and post-harvest processing before the millet ripens. Fonio also plays an important role in local traditions: it is often a gift for daughters and is associated with various ceremonies, particularly weddings. In Mali the dish *fonio au gras* is very common.
Another important cereal in many African regions is **sorghum** (*Sorghum bicolor*). It also originated in western regions and is still widely used due to its rapid growth. It plays an important role due to its versatility: it can replace wheat or rice in some food dishes, it can be used instead of barley for producing beer, it can be the main ingredient in soups instead of more expensive cereals. The plant is also used as forage for cattle and for traditional rural buildings. In the Sahel sorghum never lost its importance; in Mali, where it is called *saba*, it is one of the most widespread crops, present in many types differing according to the cultivation method. For example *décru* sorghum is cultivated in places where the water recedes leaving a fertile substrate where the plant can make use of its rapid growth. Some of the most well-known Malian dishes include dishes based on sorghum and grilled peanut pate, sorghum *brisure*, the first lunch after circumcision, sorghum *brisure au gras* with dried peanut powder. In Guinea Bissau sorghum is mainly cultivated in the southern regions of the country and is called *milho preto*.
Sub-Saharan Africa has many minor cereals which though less widespread than millet, sorghum or fonio, have still established a significant role in agricultural tradition and food habits, particularly among certain ethnic groups. The Tuareg, nomadic herders of the northern Mali desert (also in Algeria, Libya, Niger) who have started to become semi-sedentary, have always gathered **kram-kram** (*Cenchrus biflorus*). This is a cereal that grows wild in the sandy soils on the boundary of Sahara and Sahel which has significant nutritional value due to its high protein content (21%). In Mali porridge is made using millet flour and kram kram flour.
Other indigenous cereals include **Guinea millet**, originally from the Sahel, but grown in a defined area covering Guinea, Sierra Leone and parts of Senegal.
Finally, **wheat** (*Triticum aestivum* L.) is important only in Mali, with its maximum diffusion occurring at the end of the 15th century with the rise of the Moroccan empire (which settled in the regions north of Timbuktu). Wheat (*alkamà* in the Songhai language) became established both in dry and wet regions. Some ecotypes consolidated due to their productive potential and specific use for preparing bread and sweet snacks. Using the flour of a tender local wheat, Shongai women prepare *katta*, thin short noodles, a traditional meal for Muslim festivals. Women also prepare a steamed bread (*ouigila*), a bread cooked in sauce (*tukasu*) and *takula*, for everyday use. Some traditional sweet products are also based on wheat, such as date loaf.
Women play a crucial role in cultivating and processing African cereals. They directly manage many fields, but their most important contribution is in identifying different varieties, knowing how to get the right mix for sowing and knowing what specific food to make from each variety harvested. Women also manage commerce and trade between villages and hand down their knowledge to their children.

Profile Sheet – Rice

West Africa took centre stage in the domestication of rice about 3000 years ago. Still today the inhabitants of many indigenous villages use ancient cultivars which have been handed down locally. They are not only used for food but also have ceremonial and cultural significance. At weddings young couples are “blessed” with grains of rice scattered on their heads and the spirits of the ancestors are invoked with offerings of rice. When it comes to culinary traditions, the women of these villages smile at the thought that after tasting traditional African rice a person will find it hard to appreciate the flavor of any other rice.
Many scientists and historians consider that rice enabled the development of large empires such as those of Ghana, Mali and Songhai, at least from 1000 to 1500. Though spread throughout Africa, the role of rice in these areas is stronger than elsewhere from a cultural and food perspective.
Autochthonous African rice refers to *Oryza glaberrima*, a species that originated in Africa and with domestication adapted to different environmental conditions. While the Niger delta is the primary centre of differentiation, it is accepted that Senegal, Guinea Bissau and Sierra Leone together contributed to secondary differentiation, and the proliferation of local

cultivars and ecotypes which were passed down over the centuries. High temperatures, alternating wet and dry periods, long periods of drought, a short cycle, tolerance to biotic and abiotic stress together with various specific sensory properties helped this species to consolidate in western Africa. Until about 500 years ago, there were no other rice species in Africa apart from *Oryza*. With the arrival of Portuguese colonization in the 16th century, the genus *Oryza sativa* of Asian origin was introduced, and it rapidly spread due to its greater productivity.

There are interesting historical documents which trace the role of rice in West Africa. There was always a clear distinction between rice cultivated in dry areas and paddy fields. In Guinea Bissau, it is still possible today to distinguish different types of production. **Pam-pam** or highland rice, is the result of itinerant cultivation where a plot of land is cleared of forest each year and "dry" rice is grown. This type is less productive (1t/ha). **Bas-fonds** or freshwater rice is cultivated in water. It is the most widespread method and in West African conditions produces from 1 to 2 t/ha. **Mangrove** or saltwater rice (*arroz de bulanhas*), is the most productive (above 3 t/ha) and very unusual. The Balanta people of Guinea Bissau moved along waterways, river banks or near the coast where mangroves flourished. After removing some of the plants they built barriers to filter the salty water. Salinity was reduced and freshwater added so rice could be cultivated. In these conditions production is more than double that in dry regions, but does require significantly more work. Though this technique predated the arrival of Europeans, it subsequently enjoyed its greatest development due to the greater availability of iron tools (instead of traditional wooden and stone implements) which made it easier to remove the mangroves. The resulting soil was very fertile. Rice is sown in nurseries in July, transplanted to the fields in September and harvested in January. Men and women perform different tasks. Removal of the mangroves, preparing and maintaining cultivation areas is done by the men while the women look after crop cultivation and harvesting. Only a few varieties can adapt and provide good yields in this environment. The most well-known is *Kablac*, which has been widely used among communities for about 30 years as an improved selection from other, much older native varieties. Other varieties still finding limited application include *Jambarà*, *Sengeren*, *Yaca Saw*, *Aninha*, *Atanhan*, *Torompass*, *Tsome*. Mangrove rice is still grown in Guinea Bissau and to a lesser extent in a limited area of Sierra Leone. Part of the harvest is kept for family consumption, the rest is sold to other villages and in large centers.

In Mali there is a particular type of production which has developed in areas where the River Niger or its tributaries flood the land for several months. This is the cultivation of "*riz flottant*" (floating rice), a crop that maintains all its physiological functions while it floats on the water during the rainy season. The plants germinate in the soil when it is dry or only wet for a short time, slowly grow in the first weeks and are then faced with rapidly rising water. At this point they grow very rapidly to remain above the water level, which can reach a depth of 5-6 meters. Only some old varieties of *Oryza glaberrima* can be used. The varietals must be able to endure periods of total immersion, have a high growth rate and short cycle, and withstand uprooting. At the beginning of the 1980s more than 70% of rice produced in Mali was obtained using the "*riz flottant*" method.

Asian rice (grown in dry, immersed or mangrove environments) has become increasingly widespread in areas near large cities. It has gained significant economic importance, not only by supporting farmers' livelihoods but also through being commercialized in urban markets.

However in rural areas *Oryza glaberrima* has maintained its importance and farmers have preserved a range of varieties. Porterés described a large number of native African rice varieties in the 1960s and 1970s, detailing a few morphological differences of grain size and color. He also described their agronomic characteristics, highlighting their high tolerance of fluctuating water levels. In some rural villages, native rice still plays an important role and the varieties still maintained at the present time have survived because they have always been grown together. Traditional cultivation of rice involves growing different varieties in the same field to ensure some production in the event of adverse conditions. This is an uncommon but efficient system for protecting and preserving biodiversity. The strategy depends on women's knowledge and ability to distinguish different cultivars from the appearance of the grain and to prepare the right mixture for sowing. The different varieties selected have different adaptation to the soil or resistance to adverse conditions. The women exchange their seeds with other villages to ensure maximum morphological and agronomic diversity.

Native rice has suffered serious genetic erosion since the 1960s when the start of a long period of drought was accompanied by a significant increase in population. The first consequence was a growth in imports. Apart from short periods, rainfall fell by one third on average and in some years by as much as half. It was necessary to turn to varieties with very short cycles, which were not too high and could maximize production in a short period. This was another reason why Asian rice was increasingly adopted. At the same time African and European institutes developed research programs to improve varieties by combining the genetic characteristics of *Oryza glaberrima* and the productivity of *Oryza sativa*. One of the results of this work were the cultivars of the *Nerica* group, which has been the focus of much recent attention and high expectations. African governments promoted its cultivation by widely distributing free seed, including to remote rural villages, but fortunately did not make significant inroads. Recently some of the experts have had second thoughts and gone back to the *Oryza glaberrima* varieties. The new varieties have reduced tolerance or resistance to biotic or abiotic stress, and it definitely seems more beneficial to return to the indigenous genetic material. Although a lot of material has been lost due to the severe drought, many cultivars are still grown: *Gbengbe*, *Ngetech*, *Nduliwa*, *Ngoloyumbu*, *Maika*, *Jumukui*, *Wusuì*, are some of the indigenous varieties still cultivated by communities in Sierra Leone.

Asian rice maintains a dominant position in the urban market while native African rice has never lost importance in the remote villages and small rural communities. Over the centuries it has been an essential and irreplaceable part of everyday diet.

From a nutritional point of view, some authors claim that *Oryza glaberrima* can reach double the protein content of *Oryza sativa*. Furthermore, African varieties have a high lysine content. This amino acid is important as it helps to strengthen immune defenses, an important factor in these regions. Native African rice is also richer in minerals and fiber compared to common Asian rice because it is eaten in a less refined state.

In some rural communities rice is still processed by hand using a mortar but is more usually taken to a mill. Waste product can be used as animal feed.

Rice is undoubtedly the main staple in everyday West African diet. It is traditionally boiled and eaten with fish, meat and vegetables, served with various sauces or used as a basis for deserts.
In Guinea Bissau and Sierra Leone, women in some communities treat the rice by scalding and drying in the sun to obtain a traditional parboiled product. Fritters for festivals are made from rice flour and sugar (or honey).
In Guinea Bissau boiled rice is eaten with mango (which can be ripe or green, fresh or dried). Also in Senegal rice is the main staple of local culinary traditions. The Senegalese eat rice at lunchtime, for dinner and in the morning. In Mali, where the use of wheat is more traditional, there are also traditional dishes based on rice. *Alabadia*, for example, is made of rice, meat, butter and a little salt. Rice with the herb *fakoi*, a condiment prepared by the Songhai, is the traditional dish in the Timbuktu region.
Rice consumption per head in sub-Saharan Africa has steadily increased, particularly since the 1960s. This is for various reasons, including increasing population, rapid urbanization and a consequent change in food habits. There has been a gradual marginalization of ancient grains (millet, sorghum, fonio, which take longer to prepare and are associated with poverty and the past), which have been substituted by rice, particularly white rice. In West Africa today rice accounts for more than a third of cereal-based calories in people's diet, and rises to 85% in countries such as Guinea Bissau, Sierra Leone, Liberia, Ivory Coast. Increased consumption has not been matched by sufficient growth in production so to close the gap between supply and demand, West Africa has become a large importer of white rice, mainly from Thailand, Vietnam and Brazil.
On average imported rice is now more than 50 % of West African consumption, reaching 70% in Senegal (Data from USDA).

Profile Sheet – Leaves

The everyday food dishes prepared in the villages of West Africa often use the leaves of traditional vegetables and are an important dietary supplement due to their protein, vitamin and mineral content.
There are many plant species involved and some of them are still little known. Many are used in coastal or inland parts of West Africa, but are rarely available elsewhere. The local environment provided suitable conditions for domestication and the product now propagates spontaneously without specific cultivation.
Sub-Saharan Africa is home to about 800-1000 species of leaf vegetable. Some are left to spread naturally, others are farmed on small plots using traditional techniques handed down through the generations.
One of many examples is *Cleome gynandra*, a very common product in West Africa which is used in soups and condiments as well as having medical application, particularly for treating anemia in women giving birth or for gastrointestinal infections. *Moringa oleifera*, is widespread in Guinea Bissau and Sierra Leone. Its leaves are very rich in protein (more than eggs and twice as much as cow's milk), vitamins (four times as much vitamin A as carrots, nearly 8 times as much vitamin C as oranges), potassium (three times as much as bananas) and minerals (Source: C. Gopalan et al., 1994). It is eaten raw, in salads or cooked like spinach.
Adansonia digitata (baobab) has leaves rich in vitamin C, uronic acid, rhamnose and other sugars, tannins, potassium tartrate, catechins, etc. The macerated, compressed leaves have anti-inflammatory and vermifuge properties (for treating Guinea "worm").
The leaves of *Solanum aethiopicum* (African eggplant) have high iron content (6.1 mg/100 g), while *Amaranthus caudatus* and *hybridus* have double that amount. The latter species has a zinc content almost 4 times greater than the average of other commonly eaten leaf species. The *Amaranthus* genus, is also known for its ability to provide a significant part of the daily requirements of beta-carotene, a precursor of vitamin A. This is also the case for the leaves of *Ipomea batatas* (sweet potato) and *Vigna unguiculata* (cowpea*)*, which supply amounts significantly greater than the daily recommended dose. This helps to prevent the risks of nutritional deficiencies and the onset of diseases due to lack of micronutrients and vitamins.
Traditional leaf-based dishes have a high content of biologically active substances, which are well-known for maintaining health over the long term. *Baselia alba*, for example, is one of the vegetables with the highest antioxidant content after drying in the sun, while the fresh leaves of *Amaranthus cruentus* and *Telfaria occidentalis* have a very high nutraceutical content.

Profile Sheet – Trees, shrubs, lianas and wild herbs

Wild trees and plants are of fundamental importance for food and traditional medicine in west Africa. Women teach their daughters to recognize, gather, process and use wild species, which are particularly widespread and numerous in the areas closest to forests.
The category covers trees (which may be large like the baobab or poirier de cayor), shrubs, climbers or herbs. There are often traditional recipes which use almost every part of the plant, from the bark to the leaves, the fruit to the roots.
The most sacred tree, a symbol of west Africa, is the **baobab** (*Adansonia digitata)*. It reaches an age of a thousand years (some individuals considerably more), it is a natural water reservoir, once mature it can resist any climatic conditions and it is an enormous food resource. Rich in protein and vitamin A, fresh leaves which have been boiled and seasoned with palm oil are used for soups, while dried and reduced to powder they are used as thickeners when cooking millet couscous. The fruit, also known as *pain de singe* because a favorite food of monkeys, is composed of a spongy white mass with many seeds in the middle. It is rich in vitamins (A, B1, B2, B6 and PP and significant amounts of vitamin C) and contains more calcium than milk. The pulp has an acidulous flavor and is eaten fresh or mixed with water and sugar to make a refreshing juice. The seeds can be ground to obtain a very nutritious flour or roasted and reduced into cream. The **poirier de cayor** (*Cordyla pinnata)* is one of the largest and most attractive trees in West Africa. Its fruit is round and the green pulp inside contains two dark seeds. The fruit can be eaten when it turns yellow and soft: a small portion is cut out with a knife and the sugary pulp sucked. Poirier de cayor also provides high quality wood which is used to construct pirogue boats and musical instruments. In the coastal regions of the Casamance and Saloum in Senegal, **ditakh** (*Detarium senegalese)* is common, a wild tree preferring fresh wet environments which adapts well to highly

saline soils. There are two types, one is poisonous with red berries and grows to a height of 40 meters while the other is edible, about 10 m high with white flowers and small, round, green fruit which are very sweet and popular with children. The flowery pulp is protected by a hard brown shell and is eaten fresh or made into juice, jam or dried. A tree similar to the ditakh is **danx,** also called ndanx, danka or doli (*Detarium microcarpum*). Its fruit are also small and sweet, with high quantities of vitamins A, C and K. The dried seeds are strung on cotton to make beautiful scented necklaces. The commonest tree in the region, the **dattier du desert** (*Balanites aegyptiaca*) readily grows in arid desert soils. The small yellow fruit have a bitter flavor and are eaten fresh or dried (they can be preserved for a long time and are eaten after macerating in water). As it also produces fruit during periods of drought, it is a vital resource when there are food shortages; when fruit and vegetables are not available it is used to flavor cereal dishes. A delicate protein-rich oil can be extracted from the seeds and they can also be dried and used as legumes. The leaves are excellent for making sauces and soups but must be boiled for a long time to remove their bitter taste. The **leung** tree (*Vitex doniana),* like the tamarind, grows near houses and its thick foliage provides welcome shade on hot sunny days. The small black fruit has very sweet pulp which is eaten when freshly picked (it is rarely for sale at markets) or made into juice and jam. The leaves of the leung can also be used for flavoring vegetable sauces. The **tamarinier noir** (*Dialium guineense*) is a wild tree whose small dark velvety pods contain orange pulp with a single seed. The fruit is slightly astringent, similar to the baobab but sweeter. The pulp can be macerated to make a very refreshing drink. The leaves are used to flavor sauces and the fresh or powdered seeds flavor the sauces eaten with cereals.
There are other trees such as the **niangon** and **moringa** and many others.
Smaller trees and shrubs include the **jujubier** *(Ziziphus mauritiana)*, which grows wild in many regions of Asia and Africa. The ripe fruits, *jujube*, are small, dark red beans with a delicious odor which contain carotene, vitamins A and C as well as offering many curative properties. They can be eaten fresh or in a refreshing drink prepared by macerating the beans in water. They have always been consumed by the Tuareg, who make the fruit into a flour and prepare *pain oufer*, bread with distinctive forked or ring shape (so it can be easily hung from the back of a dromedary). Jujube flour is also used to make biscuits which children eat by dipping in soup or fresh milk. The **casse fétide** shrub (*Cassia tora)* grows in the fertile lands of the Gambia River, its tributaries and the coastal region of the Casamance. Its small oval leaves are picked by women and used to prepare sauces served with rice or millet. The **cerisier du Sénégal** (*Ahania senegalensis)* owes its name to the sweet flavor and red color of its fruit, which look like bunches of cherries. They are picked from April to June and used to make jam, jelly, syrups and beverages. The leaves of the **kinkeliba (***Combretum micranthum)* are used to make an infusion which has a little milk added before eating with *thiacry* (a type of couscous) for breakfast. Dried and pressed into small molds, they are available at local markets around the year. The **guère** shrub (*Guiera senegalensis)* grows wild in many regions of West Africa. As it can resist long periods of drought this 3-4 meter high shrub is also found in semi-desert areas. It has thin branches and small, oval, pale green leaves. They are used to make an infusion which is traditionally considered a natural remedy for colds and coughs. Originally from South America, the small **mandiple** tree (*Spondias mombin)* grows wild throughout Guinea Bissau. It has small fruit which are yellow when ripe. They are eaten fresh or macerated in water to obtain a juice which is then filtered and sugared. The **manganaça** shrub (*Icacina oliviformis*) is very important, particularly at times of drought: it grows wild on the savanna and can survive as long as four years without water. The manganaça's small red fruit, seeds and roots are eaten. The fruit is sweet and is eaten fresh; the seeds quickly harden once removed and keep for a long time. They must be boiled for several days before eating. The women then dehusk them to make a flour which can replace rice in dishes with meat, fish or vegetables.
The most important climbing plants include the **lian** *(Zaban senegalensis)*, whose yellow fruit is an ingredient for juice and syrup, **mbeurbeauf** (*Cucumus melo agrestis)* which climbs the trunks of trees in the savanna and produces a fruit similar to watermelon but of very small size (just a few centimeters in diameter): its slightly bitter, tasty leaves are used for sauces and infusions, **madd** and **toll**.
The aromatic herbs include **Gambian tea** *(Lippia multiflora Moldenke et Lippia chevalieri)*, a very scented perennial used to make infusions, and **bologi**.
The **Slow Food Gandoul Islands Wild Fruit Juices Presidium** is an example of a project set up to support wild fruit growing in a local area.
The Saloum delta is an intricate maze of salt and fresh water, islands and open spaces, covering an area of 180,000 hectares in Senegal's Fatick region. Three women's communities living on Dionewar, Falia and Niodior islands gather and process mollusks, in particular *yet*. Once very abundant, this mollusk is now facing a serious crisis. The main problem in this area is the increasing pressure on marine resources due to exploitation by large foreign fishing fleets and the increase in local population whose major activity is fishing. The situation is further aggravated by the breaching of Pointe de Sangomar (a sand spit offshore from Dionewar island), which has caused an increase in water salinity. The use of wood fuel for smoking fish also contributes to local deforestation, especially of mangroves.
For these reasons a project was developed together with the women to diversify from fishing activities and engage in gathering and processing some of the many wild fruit growing locally. Each family in this area produces for its own consumption excellent juices of karkadè, baobab, ginger, tamarind, ditakh, new and other types of fruit.

Profile Sheet – Street Food

It is possible to see the real connection between African people and their local traditional food from the many stalls selling food to eat while you walk, or to take home at any time of day. This street food is cooked and sold in front of the consumer.
There is a traditional form of eating out in West Africa which is closely linked to street food. This is the *maquis*, small open-air restaurants offering simple traditional recipes.
One widespread street food available in many different forms from both small restaurants and stalls is **fufu**. The original version used mashed yam (*Dioscorea spp.*) as its principal ingredient, mixed with plane and other flavorings. Depending

on the production area, it can be made into balls (Sierra Leone) or pies, which are served with vegetable, fish or meat soup. In some cases they are flavored with sugar or honey.
A similar product common in Mali is **tô** (or Toh). Unlike *fufu*, the main ingredient is millet, sorghum or fonio flour. In rare cases corn or rice flour is used.
Most street foods in West Africa are fried in palm oil, or more recently, peanut oil.
A very common food found in West Africa is called **akara** (or **fur fur**). This is a round dough which can be made using bean, rice, or cassava flour, or a mixture of vegetables. The most common *akara* is made using black-eyed bean flour (*Vigna unguiculata*) mixed with onion, salt and pepper, plus a little ginger. The dough is then fried in palm oil.
Millet is the basic ingredient of **maasa** (or **alfintà**) fritters in Mali. The flour is raised with natural enzymes, mixed with sugar and fried in palm oil. The millet may sometimes be replaced by rice flour. In Mali, particularly the historic city of Djenné, women prepare and sell rice fritters at the market which have been made by mixing rice flour with water and cooking the dough in round hollows in a plate.
Grilled or smoked meat or fish kebabs are found throughout the region.
There is a great range of sweet snacks sold at any time of day at stalls and markets. **Sweet Kanyah balls** in Sierra Leone are made from rice flour, peanut paste and sugar, formed into a round shape and sold loose or in bags by women or children. In Mali, the flour obtained from sundried wild jujube pulp (*Ziziphus mauritiana*), is made into **oufer** following an ancient Tuareg recipe. These are traditional biscuits formed into a ring which can be hung from a thread. Even back in the time of the Malian empire, travelers would eat **meni** (or **meniyong**), a sweet based on sesame seeds and honey. In Sierra Leone, women and children often make orange-colored balls based on tamarind seeds, which are called **tombi**.
Street foods are always accompanied by beverages such as baobab, ginger or tamarind juice, hot tea or fermented drinks.
Whether savory or sweet, raw or cooked, all these foods reflect the most direct examples of African gastronomy. Street food helps you to learn about the culture of the country, particularly if you stop to talk and ask about the raw materials, processing and recipes. Once again women play a crucial role in preserving this ancient way of eating food.
With the development of tourism, it is now essential to focus attention on the hygiene of street food. A few simple, basic rules would be enough to assure a greater level of safety, while preserving an activity that provides families with a significant source of income.

4 – THE PROJECT *Promoting Origin-linked Quality Products in Four Countries*

The agrifood market in the countries of West Africa is characterized by a continual conflict between weak support for native products and small producers, and ever-increasing interest in importing foreign products from other African countries, the European Union, Asia and America.
It is an extremely complex situation. On the one hand an increase in imports reduces the costs of food products and makes them more immediately and continuously available, but on the other hand strong competition from imported products has an adverse effect on local products.
Attempts to protect, safeguard and promote local products will not achieve success in the short-term, but require longer-term work to obtain information and knowledge, spread experience and skills. The final aim is to promote a healthy balanced diet based on products of local origin, which definitely have greater agricultural, social and economic sustainability.
The project ***Promoting origin-linked quality products in four countries*** made it possible to complete a valuable inventory of species, breeds, varieties and products linked to the traditions of rural populations in four West African countries. After gaining familiarity with the areas and talking with native people, an inventory of 47 products was compiled.
Following mapping and cataloging, the information was evaluated in order to identify products in each country which would be supported and promoted by setting up a Presidium project.
These projects are examples of local small-scale economic systems which are virtuous and replicable. Promotional activities, differentiation and finding markets able to appreciate the importance of products from their places of origin mean there is greater awareness of the importance of "eating local". This is achieved in two areas: in rural villages, where the importance of local foods, their consumption and nutritional value is highlighted, thereby adding value to what were once only considered to be poor products; and in large cities, where contact with local products risks becoming less and less common, a situation that could lead to irreversible loss of biodiversity and more serious and widespread malnutrition.

To briefly summarize, the specific aims of the project are as follows:

- to promote initiatives aiming to preserve biodiversity and local traditions by identifying products linked to history and native culture in four West African countries (Sierra Leone, Guinea Bissau, Senegal and Mali);

- to apply the evaluation system developed by the Slow Food Foundation to identify suitable products for the creation of a Slow Food Presidium in each of the four countries;

- to help develop small-scale producer organizations which respect local sociocultural contexts, to describe cultivation and processing techniques (through production protocols) and where possible or necessary, to improve production techniques from an agricultural, hygienic and health perspective;

- to promote and help identified products to gain access to local markets within individual countries and, in some cases neighboring countries, and international markets;

- to improve local people's awareness of indigenous products, the importance of consuming them, the link between consumption, improved nutrition, biodiversity preservation and environmental protection.

Case studies - General Overview of the Four Countries

Sierra Leone

Sierra Leone, bordered by Liberia, Guinea Conakry and the Atlantic Ocean, is mainly flat in the west, while the eastern region has some hills higher than 1000 meters. It extends over an area of about 70,000 sq km, much of which is covered by forest; the coastal strip, containing many lagoons and swamps, is dominated by mangroves. The climate is tropical, with the wet season from May to November and the dry season from December to April; rainfall is abundant: the coast can receive 500 cm per year, decreasing to 200 cm inland.

There are around 20 ethnic groups inhabiting Sierra Leone: the Temne and Mende are the largest and are concentrated in the north and south-east of the country respectively; the Susu, Limba and Yalunka are located in northern districts, the Kuranko in the north-east and the Kono in the east. Other groups include the Sherbro, Bollom and Krio (descendants of the slaves deported to Jamaica) on the coast, while the Fula are scattered around the country.

Portuguese sailors established a trading post on the coast at the end of the 15th century, followed by the Spanish and Dutch, but it was the British who made Sierra Leone an actual colony. In 1787, through the initiative of a group of British philanthropists, the first settlement was created, which was intended to receive former slaves of African origin from America and the British Empire; some years later the British crown made the Freetown peninsula a colony and during the 19th century extended its control inland, with the country becoming a protectorate in 1896.

Independence was secured in 1961. Following a period of chaos in 1967-1968, Siaka Stevens came to power and used dictatorial methods of government until 1985; in subsequent years, the political and economic situation (already seriously mismanaged under the rule of Stevens) deteriorated further. In 1991 the country was invaded by the armed forces of the RUF (Revolutionary United Front), supported by the Liberian leader Charles Taylor, which started a civil war that only officially ended in 2002. The objective of the RUF leaders was to control the diamond mines, which they managed to do for several years. The war resulted in the death of about 50,000 people; there were hundreds of thousands of refugees and countless victims of violence, rape and mutilation.

Sierra Leone possesses considerable natural resources, particularly minerals (diamonds, bauxite, titanium, etc.), but they have paradoxically helped to make this country one of the poorest and most exploited in West Africa. Its resources (particularly minerals) are still exploited by foreign organizations which benefit from favorable government concessions, and its economy depends to a large extent on foreign aid.

Agriculture is the most important economic sector and accounts for more than 60% of the country's workforce. Most workers practice subsistence agriculture, or work for small farms with very little use of advanced agronomic techniques.

Coffee, cacao, palm oil, peanuts, kola nuts and ginger are the main products sold on local markets, with coffee and cacao in particular reaching international markets. Coffee is produced in the southeastern provinces and cacao in the east. Kola, generally harvested from wild trees, is widely consumed in Sierra Leone, but its production and commercialization is poorly organized.

Rice and millet are staples of the local diet grown for internal consumption, along with cassava, yam and corn, vegetables (particularly legumes and leaf vegetables), fruit (pineapple, coconut, citrus fruit), textile and aromatic plants. Several local crops are very popular: gombo, *egusi* (a sort of watermelon whose seeds are used to make a tasty nutritional paste), *jakato* (a variety of aubergine used in preparing various dishes), *bologi* (plant whose leaves are used in meat or fish dishes), and *tola*, *patmangi*, sesame and *neré*, very widespread condiments.

Livestock farming in Sierra Leone is practiced by the nomadic Fula people, who are mainly found in the north of the country. The life of the Fula is closely linked to their animals. Young brides, for example, receive a cow as a gift, and become the owners of its calves and milk. The Fula taught animal husbandry to the Mende, Yalunka and Susu people. The most common local breeds are *N'dama* cattle, *West African Dwarf* goats and *Djallonké* sheep. Through centuries of adaptation these three breeds have become immune to tsetse fly bites and are extremely resistant to adverse climatic conditions. Unfortunately livestock numbers have fallen dramatically as a result of the long civil war.

Families living in villages along Sierra Leone's Atlantic coast mostly make their living from fishing. In the province of Freetown (Kent), fishing is still a traditional activity carried out with respect for nature and marine resources. Men cast nets from their pirogue boats at night and draw them in next morning. The women process the catch using smoking or drying techniques. Many traditional dishes are based on fish, and over 70% of the animal protein consumed in the country comes from the sea.

The most common species include sardinella (*Sardinella aurita*), ladyfish (*Elops senegalensis*), lati (Ilisha africana) and bonga shad (*Ethmalosa fimbriata*). As in the rest of West Africa, the abundant fish resources attract large fishing boats which often fish illegally. They operate without permission in exclusive economic zones (areas where foreign fishing boats cannot fish without authorization) or use illegal practices such as trawling with fine mesh nets. This means they indiscriminately catch fish, mammals and sometimes birds, with serious damage for the ecosystem.

Guinea Bissau

Squeezed between Senegal and Guinea Conakry, Guinea Bissau extends from the foothills of the Fouta Djalon Mountains down to the Atlantic Ocean, its 200 km coastline cut by deep inlets and large estuaries. A few dozen kilometers offshore lie the 80 mostly uninhabited islands of the Bijagos Archipelago. The generally flat interior is composed of alluvial deposits with large rivers running through it; the ocean waters often penetrate many kilometers inland, creating large salt water basins which are an ideal habitat for mangroves. The typical vegetation of the interior is savanna, with grasslands punctuated by baobab trees (*Adansonia digitata*) and bamboo, acacia, palm, banana and more recent cashew plantations. The rivers are flanked by extensive evergreen forests, while the coastal zones, as well as estuaries, are bordered by dense vegetation mainly composed of mangroves.

Guinea Bissau has a hot and humid monsoon climate, with alternating dry (December to May) and wet seasons (June to November), with abundant average rainfall.

The name of the country derives from "Guinea", used by explorers and traders to refer to the coast of West Africa (probably from a Berber term meaning "land of the blacks") and the name of the capital Bissau, a probable corruption of the word "Bijago" describing the offshore islands and their inhabitants.

At one time part of the Malian empire, Guinea Bissau became an important centre of the slave trade during the 17th century, when the Portuguese began to have a more permanent interest in the coast; but colonization of the interior only happened much later, between the end of the 19th and beginning of the 20th century. The struggle against Portuguese domination led from the 1950s by Amilcar Cabral, ended in 1973, when Guinea Bissau and Cape Verde declared their independence, which was recognized by the new democratic authorities in Portugal the next year. However since 1973 the country has been repeatedly disrupted by coups, revolts and civil wars which have weakened the its economic and social fabric.

The more than 20 languages spoken in Guinea Bissau indicate its extraordinary cultural wealth: though its population is relatively small (about one and a half million), it has around 30 ethnic

groups. The two main groups are the Balanta and the Fula, who make up about half the population; followed by the Manjak, Mandingo, Papel, Bijago and many others, sometimes numbering only a few hundred individuals. The different groups live together harmoniously, frequently on the same land, though maintaining their own traditions and languages; they resort to Portuguese and Creole to communicate with members of other groups.

In the last 20 years the already difficult economic situation facing Guinea Bissau has been aggravated by extreme political instability, dominating in a civil war which in 1998-1999 damaged or destroyed part of the country's limited infrastructure. Guinea Bissau's economy is based on small-scale trading, with remittances from emigrants being an essential support for many families. The country imports oil products, vehicles, consumer goods and food (mainly rice); exports include modest amounts of fish, cotton, mango, banana, palm oil and vegetables, but enormous quantities of cashew nuts: Guinea Bissau is the sixth largest producer in the world and exports about 120,000 tonnes a year which are almost all purchased by India.
Cashew nuts were introduced recently, in the mid-1980s, at the expense of traditional crops, with serious consequences for the economy, landscape and people's lives. Guinea Bissau no longer produces sufficient food to satisfy the domestic market and has become increasingly dependent on imported food; its economy is also dangerously exposed to fluctuations in the price of cashew nuts and the success of harvests. There have been significant changes to the landscape: cashew plantations have given a uniform appearance to parts of Guinea Bissau, removing local distinctive features and reducing biodiversity. The lives of local people have also been affected by this monoculture: every year when the cashew crop ripens, all the available labor is diverted to the plantations and village fields are abandoned. Cashew nuts are not the only part of the tree to be harvested, the cashew "apple" (swelling of the peduncle to which the nut is attached) is also used to make a type of wine which has spread alcoholism in the country, even among the very young.

Agriculture is the main sector of the Guinean economy: it accounts for more than half of national GDP and employs more than 80% of the labor force. However most people practice subsistence agriculture and there is almost no mechanization.
Sheep, goat and cattle farming is mainly carried out by ethnic groups for whom it has always been a principal activity (Fula), or by groups wanting to sacrifice an animal as part of a rite of passage or traditional festival (Balanta). Pig farming is practiced particularly in the region of Bissau, while chickens are becoming more widespread throughout the country.
Industry plays a secondary role in the country's economy: there are only a few small operations, which are mostly involved in processing agricultural products; the lack of infrastructure and funding limits the development of mineral extraction and processing, though the country is rich in raw materials.

Rice is the main food staple among people living near the coast. Until the 1960s, Guinea Bissau produced sufficient rice for domestic consumption and exported the surplus. Some varieties, selected by the Balanta, were and still are cultivated in salt water, using sophisticated techniques to optimize the use of internal waters by building dams of earth and mangrove. The number of varieties has now fallen and production has collapsed: insufficient rice is grown to even satisfy domestic demand. The shortfall is covered by imported rice, but local families cannot afford its high cost.
In internal regions of the country, cultivation of other cereals—millet, corn, sorghum and fonio—takes the place of rice. Millet is the staple food in rural areas of the interior, where it is used instead of rice in traditional cuisine, and served with a large variety of sauces usually prepared with palm or peanut oil, tomatoes, onions and fish. The production of corn has developed relatively recently and in the last 30 years it has moved into third place after rice and millet. However, fonio, a traditional

food of the region, has declined significantly; the main reason for the ongoing abandonment of this crop is the complex and laborious processing required for dehusking.
Other widespread crops in Guinea Bissau, as in all West Africa, are sweet potato, cassava, yam and peanut: these products have high calorific value and are very popular. Oil palms are also widely grown and are an excellent example of multifunctional use: the fruit is used as a food or for extracting oil, the leaves are used for agricultural tools and equipment, the trunk for general carpentry.

Senegal
Senegal is an almost entirely flat country with an arid sub-Saharan region in the north, where annual precipitation ranges between 300 and 600 mm, and fertile southern region (particularly the Casamance, shared with Gambia and Guinea Bissau), with a tropical climate where average precipitation reaches 1200 mm per year. Studies of rainfall data shows there has been a significant decrease in rainfall over the country in the last 50 years: the consequences are particularly serious in the Sahel region.
Of the approximately 12 million inhabitants, more than a fifth live around the capital Dakar, and given that another fifth of the population is urbanized, there is a low population density in rural areas (fewer than 8 million people in an area of almost 200,000 sq km).
The population of Senegal contains many ethnic groups: the main ones are the Wolof and Lebou, with about 45% of the population; and they are followed by the Fula (25%), Séreer (14%), Mende (6%) and over a dozen other groups (such as the Joola, mainly present in Casamance, the Balanta and the Mankagne). Almost all the inhabitants of Senegal are Muslims.

The area in the north of the country was unified from the 13th to the 16th centuries under the Jolof empire, which disintegrated due to civil conflicts towards 1550. About a century later, Europeans (Portuguese, Dutch, French and British), who had already been sailing down the Senegalese coast in the mid-15th century and founding trading posts, began to create permanent settlements and compete for control of the land. The French prevailed and made the coastal towns of Senegal into important centers for the slave trade. During the 19th century with progressive colonization of the interior, France established intensive cultivation of peanuts, which Senegal has still not managed to recover from.
Independence from France was achieved in 1960. After the short-lived experience of the Mali Federation, which saw the two countries united for a few months, Senegal became an independent republic ruled for 20 years by Léopold Sédar Senghor, an intellectual who had already held important positions for the French government. In 1981 Senegal and Gambia united to form the Federation of Senegambia, which broke up a few years later in 1989.
Although the country has experienced difficult times marked by attempted coups or armed action by secessionist groups, Senegal’s political and economic situation has been more stable than that of other countries in the region such as Guinea Bissau, Guinea, Mali, or Sierra Leone.

For more than a century the Senegalese economy was dominated by the production of peanuts, a monoculture imposed by the French colonizers. Now the revenue from exporting hydrocarbons, phosphates, fish and mollusks is significantly greater than that from peanuts, but the latter are still grown in much of the country over a very large area—about a million hectares and alone account for more than 10% of Senegal’s exports. The sector has however faced serious problems for several years, partly due to the increasing irregularity of rain (the country's agriculture is still essentially dependent on rain and less than 5% of arable land is irrigated).
While peanuts are the most important commercial crop, more than half of cultivated land is used for producing cereals for domestic consumption: mainly millet and sorghum, followed by rice and corn. However the production of cereals is significantly less than the country's requirements, and each

year it imports almost two thirds of cereals consumed, particularly rice and wheat: since the early 1960s, cereal imports have risen from 5% of requirements to more than 60%.
In Senegal, particularly in the fertile Casamance region, significant amounts of fruit, vegetables and sugar cane are produced, consumed locally or sold on foreign markets (legumes, tomatoes, mangoes and melons). Other important crops include cassava, palm and coconut oil, bananas and various types of citrus fruit. Cotton, which is mainly grown in the southeast of the country, has a small, but not negligible, percentage of exports.
Agriculture is the sector employing the greatest number of people (more than half the active population) though only accounting for 13% of GDP: most agricultural production is used for self-consumption and only a smaller proportion is for sale.

Livestock farming is widespread but only practiced on a small scale. In rural areas many families possess a few cattle which are left to graze freely around the villages, and even in towns, families frequently have a few chickens. But in spite of the large number of animals in the country, Senegal imports several thousand tonnes of meat and milk per year.
Local animal breeds have adapted over the centuries to a sometimes challenging environment. In the north where the climate is drier, varieties of zebù resistant to drought are farmed, such as *Mauré*, whose coat is black or dark red with white patches, and *Goubra*, with a white coat and long horns. In the wetter southern regions the small *N'dama* cow is frequently farmed, popular due to its high resistance to disease and parasites (including the tsetse fly).
The sheep include the black *Djanlonké*, which is immune to sleeping sickness, the small *Peul-peul*, and *Touabire*, which is adapted to survive very dry environments and is popular for its meat, milk and skin.

Fishing is one of the main economic activities in the country: one worker in five is involved in activities directly or indirectly connected to it. Fish is one of the main products exported to international markets (about 30% of total exports are seafood products), but it is widely used for domestic consumption and is the main source of animal protein. Men and women are involved in fishing (women process the catch using drying or smoking techniques), but people in fishing communities along the coast learn to fish from childhood. Fishing trips can last several days and are usually carried out in long wooden pirogue boats. In the Casamance casting nets are still widely used, thrown by hand into the salty waters of the region's estuaries.
The diversity of Senegal's coastal landscapes is matched by a large variety of fish species in its waters; but as in many other African countries, the wealth of the seas has for decades attracted large foreign fishing vessels which illegally plunder resources. The economic losses for Senegal are estimated at several million dollars a year, but the damage caused by these practices also has consequences for the ecosystem as Senegal’s seas are being rapidly impoverished. The survival of fishing communities in coastal villages is at risk and for this reason it is all the more important to promote complementary, or even alternative, activities such as processing wild fruit and gathering honey.

In the last few decades Senegal has tried to stimulate the national economy by privatizing many bodies set up following independence to control primary activities (agriculture, fishing), commerce and mining. However this policy does not seem to have provided the hoped-for benefits. Public debt is increasing, there is an increasing dependence on imports and the importance of remittances from emigrants for the livelihood of many families are indications that the economy is in difficulty. There are many projects however aiming to revive the agricultural sector (such as a plan to guarantee irrigation for hundreds of thousands of hectares of arable land around the country) and the industrial sector (such as the development of infrastructure to guarantee adequate energy supplies).

Mali

Mali is one of the largest countries in West Africa, characterized by an extreme variety of climates, landscapes and cultures. The northernmost and southernmost point of Mali are separated by 15 degrees of latitude: this accounts for the variety of climatic conditions found in the country. From north to south there is a Saharan, a Sahelian and then subtropical zone; the Sahelian also contains the Niger delta area with its distinctive microclimate and more intense precipitation.

Mali has some of the main junctions on the ancient caravan routes, such as Gao, Djenné and particularly Timbuktu, whose strategic position on the border between the Sahara and sub-Sahara determined its destiny as a centre of commercial traffic. Mali is considered an ethnic and cultural frontier, due to the simultaneous presence of North African and sub-Saharan ethnic groups. The largest ethnic group (over 30% of the population) is the Bambara, traditionally engaged in agriculture and growing millet in particular. Other groups are the Fula (livestock farmers), the Songhai, with strong Berber characteristics, the Mossi, Senufo, and Dogon, who live in the mountains near the loops in the River Niger. Northern Mali is mainly inhabited by the Tuareg nomads of the Sahara desert.

The zone closest to the banks of the Niger has historically been one of the main areas of settlement due to the availability of water and the importance the river acquired over the centuries as a communication route. The arid northern regions are mainly inhabited by nomadic populations practicing pastoral farming.

Between the 4th and 16th centuries, Mali saw the rise and fall of three large empires which ruled over most of West Africa: the Ghana Empire, the Mali Empire and then the Songhai Empire, beaten by the Saadite armies from present-day Morocco at the end of the 16th century. Following this defeat the Empire was broken up into various principalities, some of which were again united in the course of the 18th and 19th century (kingdoms of Bambara, Macina and Toucouleur); the rapid French penetration in the last decades of the 19th century met resistance from the rising Wassoulou Empire, but by the end of the century the land corresponding to present-day Mali had become a colony for agricultural production, whose main exported goods were rice, peanuts and cotton.

After the failed attempt to create a federation uniting Mali and Senegal, in 1960 Mali obtained independence. In 1968 a coup deposed President Modibo Keïta and installed Moussa Traoré in power, who was in turn deposed in 1991. There followed 20 years of relative stability but in early 2012 some armed groups of Tuareg rose up and claimed autonomy for Azawad, the northern region of the country. In March President Amadou Toumani Touré was removed from his position in a military coup. Current developments are still uncertain.

Mali is mainly a desert environment: only 5% of the country's area is arable land, which is concentrated in the zones near the River Niger and the southern region of Sikasso on the border with Ivory Coast. In spite of the unfavorable climate and lack of suitable land for cultivation, agriculture employs most of the workforce (75-80%).

Millet is the main crop linked to local tradition, as it is the staple food in the diet of various native populations; another widely consumed cereal is rice, which is produced in large quantities particularly in areas around the Niger delta which are exposed to flooding: there are local varieties of rice which are perfectly adapted to rapid changes in water level during floods. Other traditional cereals are fonio and sorghum; the latter in particular is widespread throughout the country, even in the driest regions, thanks to its significant resistance to drought. Wheat was introduced towards the end of the 15th century due to the influence of the Moroccan Empire, and is used to prepare various types of pasta and bread, while corn appeared in relatively recent times but has rapidly become one of the most widely grown cereals.

There are large numbers of vegetables, legumes and fruit produced in Mali, with the following particularly for family consumption: cassava and yam, niebé bean, voandzou (similar to peanuts), onion, African aubergine, gombo, sesame, moringa, mango, guava, watermelon and African mango.

Among non-food crops there is cotton, the most important export product (due to textile multinationals) after gold. Foreign companies also control the production of peanuts, tea, sugar cane and to a lesser extent, tobacco. There is a significant and partly traditional use of forest resources; Wood is also sold abroad.

The lack of water resources in Mali has aggravated the frequent droughts, which are a threat not only for crops but also for livestock. It is not surprising that the most widespread sheep and cattle breeds are very resistant to climatic variations and are also farmed in the dry regions of the north. The sheep breeds include *djallonké*, which is resistant to parasites and disease, the *koundori* or Macina sheep (from the name of the region where it is most common), the only breed for producing wool in West Africa, and *bali-bali*, more vulnerable but particularly popular for its meat and high milk yields. Cattle include the very hardy *N'dama* cow, and zebù, especially used for working the fields.
Dromedaries and camels are mainly raised by nomadic herders in the regions of Mopti, Gao, Kidal and Timbuktu (central and northern Mali).
The River Niger is an extremely valuable resource for Mali as it traces its way across the country for much of its length. It supplies water for irrigating fields, acts as a transport route and is the main source of fish in the country. Large quantities of fish are found in the river and many fish are used in traditional Malian cuisine. They include *tineni* (*Brycinus leuciscus*), a small white fish which is eaten fresh or dried and is a source of oil, *sajegué* (*Gymnarchus niloticus*), *Pollimyrus petricolus*, also known as elephant fish due to its trunk-like mouth, *Chromidotilapia*, *Ctenopoma kingsleyae* and *manogo*, or the torpedo fish (*Clarias gariepinus*).
The Niger delta area is of enormous importance for the national economy. In a vast area between Djenne and Timbuktu, the Niger and Bani rivers split up into a multitude of channels and lakes populated by hundreds of birds and fish species. There is agriculture, livestock farming and fishing in the delta area: in the best years more than 100,000 tonnes of fish are caught. The wisdom and farsightedness of peoples such as the Bozo, the only ethnic group in Mali which has always only practiced fishing, has allowed the river's biological balances to be maintained: the Bozo only catch adult fish so they do not affect fish reserves for future generations. However the complex delta ecosystem is at risk from pollution, the ever-increasing exploitation of water and fish resources, and the growing environmental pressure from agriculture and livestock farming.

It is difficult to talk about an individual country without referring to the larger geographical area. Political frontiers do not define the boundaries of biological processes. West African countries have all had similar experiences with respect to the domestication of plants, development of crops and links to traditions. There are many examples of sophisticated agricultural techniques being developed before colonial times and before new crops were introduced from Europe. In Guinea Bissau, for example, some of the mangrove swamps at the mouths of rivers were transformed into a network of rice fields. The techniques used to build embankments, desalinate, earth up, and transplant preceded European influence.

The food traditions of this area involve a large variety of plant products: garden vegetables and fruit, grains, tubers and particularly legumes. Peppers, tomatoes, aubergines, cucumber, beans of all types, tubers, as well as tropical fruit trees and oil palms are all traditional features in the rural landscape of West Africa. They often have a long history through being cultivated in various countries and because they are used in various types of food dishes or processed after harvesting.

Apart from the economic interest in certain crops over the last 50 years, particularly in the post-independence period, (cashews in Guinea Bissau, peanuts in Senegal, cotton in Mali, cacao in Sierra Leone, etc.), the agricultural sector in these four countries is still traditional, diversified and mainly used for subsistence.

In the more urbanized areas, demand for food products is constantly increasing, but transport infrastructure is inadequate. The large river basins continue to be the most efficient way of transporting agricultural and commercial products from one part of West Africa to another.

This isolation has held back economic and social development, particularly in the rural areas which are furthest from major urbanized centers, but at the same time it has helped to protect a valuable wealth of varieties, processed products, recipes, and knowledge of the food and medicinal uses of wild plants. This is an agricultural and cultural heritage of priceless value which should be explored, studied, protected and promoted.

The recovery and promotion of plant and animal biodiversity—mainly linked to local consumption in marginal areas—inevitably requires investigation, monitoring, cataloging, and detailed study of different species, varieties, breeds, processed products and traditional recipes.
This study was set up with this focus and objectives. It aims to identify, describe and promote products which have a strong link with local areas of origin, a history based on local traditions and which are of great interest as food for indigenous people due to their nutritional value.

Profile Sheet – Fish

Atlantic Fish

Fishing is of fundamental importance throughout western Africa, particularly in **Senegal**, where it provides more than 70% of the population's requirements for animal protein (with an annual consumption of 30 kg per capita), employs more than 600,000 people and accounts for 30% of exports (mainly to Europe). In 2010, more than 8,500 boats (pirogues) operated in Senegalese waters (covering over 700 km of coastline as well as major rivers such as the Sénégal, Gambie, Casamance and Siné Saloum). Appropriately, one of the possible etymologies of the name Senegal is *suñu gaal*, which means "our pirogue".
The fish caught include the sardinella (*Sardinella aurita)* bluespotted seabream (*Pagrus caeruleostictus*), dolphinfish (*Coryphaena hippurus,* different types of grouper (dusky, golden, white, all of the genus *Epinephelus*), John Dory (*Zeus faber mauritanicus*), ladyfish (*Elops senegalensis*), yellowfin tuna (*Thunnus albacore*) and lobsters, shrimps, squid, octopus and mollusks such as yet (*Cymbium sengalensis*) toufa (*Melongena melongena*), which favors a marine environment with abundant mangrove roots.
Families living in villages along the Atlantic coast of **Sierra Leone** (extending for about 300 km) are also mainly involved in fishing activities. About 160,000 people are directly involved in fishing and many traditional dishes are based on fish. Fish provides more than 50% of the animal protein consumed (about 12 kg of fish per capita).
The most common species include sardinella (*Sardinella aurita*), ladyfish (*Elops senegalensis*), lati (*Ilisha africana*), bonga shad (*Ethmalosa fimbriata*), various species of barracuda (genus *Sphyraena),* silver scabbardfish (*Lepidopus caudatus*), and mackerel (*Scomber scombrus*), as well as crabs, octopus, lobsters etc.
Guinea Bissau has a 270 kilometer long coastline, more than 80 islands (in the Bijagos Archipelago), large estuaries and deep inlets which create a unique ecosystem where there is a continuous interaction between sea and land. For centuries the people living along the coasts such as the Manjaca, have fished from pirogues or other small boats using traditional techniques that respect the marine ecosystem. As in the past the men catch the fish (the types of fish are the same as described above for Sierra Leone) in the waters of the Atlantic Ocean and stretches of salty water that extend inland for many kilometers, while the women process it by using smoking or drying techniques, as well as collecting mollusks, which are the same as those found in Senegal but with different names: gandin *(Melongena melongena)* and cuntchurbedja (*Cymbium sengalensis*). However, fishing generally has marginal importance in this country, which has a very low annual consumption of 2.1 kg per capita and only 1,200 people directly employed in the fishing sector.
Coastal fishing is facing a very serious situation throughout western Africa. The rich waters attract large foreign fishing vessels (Chinese, Japanese, European etc.) which often fish illegally, operating in an exclusive economic zones (areas in which foreign fishing boats cannot fish without authorization from the country), or use destructive practices such as trawling with fine mesh nets. According to the Sierra Leone Ministry of Fishing, at least 25% of the fishing in their waters is illegal. Individual countries do not have the necessary means to either control the situation or take action. They frequently grant fishing licenses to the European Union or other countries in order to earn money or in exchange for infrastructure (for example, in a 2011 agreement, Guinea Bissau granted fishing licenses in its waters within 200 miles of the coast to trawlers and tuna vessels from EU member countries).
Fishing stocks are under pressure and consequently the survival of small-scale fishing communities is at increasing risk. For this reason it is also important to promote complementary or alternative activities, such as processing wild fruit or gathering honey.
In 2008 Slow Food set up a Presidium with the women of the Gandoul Islands (in the Saloum delta) aiming to complement the gathering of mollusks (particularly *yet*), by producing juices made from the island's wild fruit. Slow Food has also set up community gardens with fishing cooperatives in Senegal and Sierra Leone.

Freshwater Fish

Mali does not have access to the sea but fishing is an important activity in this country thanks to the River Niger—the most important water resource of western Africa—which winds through Mali for much of its course. It is the third largest producer of freshwater fish in Africa, with over 70,000 fishermen and 8% of the population engaged in the sector. The main fishing region is the Niger's vast central delta (between Markala and Timbuktu), followed by Lake Sélingué and Lake Mantanali. There are numerous secondary areas featuring an intricate system of lakes, rivers and stagnant water.
The river is a priceless resource. It provides water for irrigating the fields, it is a transport route used since ancient times, and it contains the country's main fish stocks. However pollution, the use of the river as a dump, forms of land grabbing (such as the Malybia project) and long periods of drought are adversely affecting the ecological balances which have been so far preserved thanks to the wisdom of the ethnic groups living along its banks.
The Bozo, the only ethnic group in Mali whose livelihoods solely depend on fish, have always had a very respectful attitude to the environment and fish resources (for example, they have always only caught adult fish so as not to damage future resources). The men of the tribe cast nets from their pirogue boats at night and draw them in next morning. The Bozo are migrant fishing people who have always played an important role in passing on their knowledge to other regions. Over the centuries they have brought their skills to Burkina Faso, Cameroon, Ivory Coast and Senegal. There are also other ethnic groups such as the Bambarà, who practice fishing (for their own consumption) to complement agriculture.
There is a vast variety of fish in the river and many of them are used in traditional Malian cuisine. They include robber tetras (*Brycinus leuciscus*, in the *Characidae* family), a small white fish which is eaten fresh or dried, and is used to produce an oil, African knifefish (*Gymnarchus niloticus*, also known as sodjégué, n'tigui, dodo, konkon, manoko and wouloudjegué), *Pollimyrus petricolus*, known as elephant fish due to its mouth resembling a trunk, *Chromidotilapia guentheri*, *Ctenopoma kingsleyae, Brycinus leuciscus* and *Hydrocynus brevis* (*Characidae* family*),* sharptooth catfish *(Clarias gariepinus),* various species of catfish *(*of the *Clariidae* and *Bagridae* families*)* and tilapia *(*including *Oreochromis niloticus, Tilapia zillii, Oreochromis aureus).* Freshwater fish is available on local, regional and national markets. The selling and processing of fish (drying, smoking) are generally done by women.

Profile Sheet – Livestock, Nomadic Herders and Animal Breeds

In western Africa livestock are mainly associated with two nomadic groups: the Kel Tamasheq (or Tuareg), present in the region between Sahara and Sahel (in Algeria, Libya, Niger, Burkina Faso and Mali) and the Fula (or Fulani, Fulbe, Peul), who live in an area extending from Mauritania to Cameroon.
These people still move from one country to another over an enormous area, seeking the greenest pastures with their herds of cattle, zebù, dromedaries, sheep and goats. Their survival depends on the health of their animals, adequate water and pastures. Their food habits depend on the stages of transhumance. Milk is their main staple, along with dairy products such as butter and dry cheese (*tikomart*). The gathering of plants and wild grains is of great importance for their diet and animals are only slaughtered for particular reasons, such as festivals, climatic or environmental difficulties.
It is very difficult to obtain information on the size of herds and there are no breed registers. But it is possible to mention some of the popular breeds used by local communities.
In Mali livestock farming—both sedentary and transhumant—is practiced almost everywhere, but mainly in the arid regions of the north, where it is a major economic activity.
The Né sheep, also known as local sheep or Djallonké, is the most common sheep breed. It is resistant to climatic variations and disease. The Bali Bali is farmed in the region around the cities of Gao, Timbuktu and Kidal. It has a white fleece and hanging ears. With its tasty meat and high milk yield it is popular, but very delicate.
N'dama cattle are trypanotolerant (immune to the bites of the tsetse fly), and have high resistance to disease and parasites. Zebù cattle are not kept for food purposes but as a beast of burden to draw ploughs etc. Dromedaries are only raised by the Kel Tamasheg, in the regions of Mopti, Gao, Kidal and Timbuktu. The Macina sheep is farmed in the region of the inner Niger delta, on either side of the river (Mopti, Macina, Gundam, Timbuktu) and in the Segou region. This animal is mainly important for its wool (used to make traditional blankets called "mopti", carpets and felt).
In northern **Senegal**, where the climate is drier, people farm the zebù—mainly the Mauré, which has small horns and a black or dark red coat with white patches, and the Goubra, with a white coat and very large horns. Both breeds are resistant to drought. In the south and the Casamance, it is more common to see the small N'dama cow, well known for its high resistance to disease and parasites (including the tsetse fly). Finally there is the Djakorè, a crossbreed of Goubra and N'dama cattle.
The main local breeds of sheep are the Djanlonké, which has a black fleece and is resistant to the tsetse fly, Peul-peul, with a dark coat and the large Touabire, appreciated for its meat and soft wool.
In **Sierra Leone** livestock are mainly tended by the nomadic Fula in the north. The Fula taught animal husbandry techniques to the Mandingo, Yalunka and Susu. The most common local breeds are N'dama cattle, West African Dwarf goats and Djallonké sheep. Livestock numbers have fallen dramatically due to the long civil war.
In **Guinea Bissau**, livestock farming is also associated with the Fula. Together with the Balanta, this ethnic group represents about half the population and they farm cattle, zebù, sheep and goats.
Milk is the staple food of the nomadic people (mainly eaten with millet couscous), along with other dairy products.
Sirimé and **naré** are traditional Peul products. Fresh milk is fermented for three days before being skimmed and shaken in a gourd for about an hour. Two products are obtained: solid butter, which is called *naré*, and liquid *sirimé*. Both the Kel Tamasheq and Peul still produce traditional **tikomart**, an ancient dry cheese created to preserve milk even when exposed to the high temperatures of the desert. This enables nomadic peoples to carry nutritional food during their long journeys or when other food is scarce due to drought. The cheese is produced by women using cow or goat milk, or a combination of the two. The milk is curdled in a wooden container with a piece of kid goat's stomach added. The resulting cream is dried in the sun on a mat and occasionally stirred. The cheese is then shaped by hand before being placed on racks of wild fennel branches. It is eaten after it is ground to powder, added to drinks or millet-based dishes.

Project activity

Planned activity for the project "**Promoting Origin-linked Quality Products in Four Countries**" (GTF/RAF/426/ITA) was divided into a series of phases. This involved a thorough consultation of the literature, visits to the four countries, a range of contacts with local actors, farmers, small-scale producers, traders and local administrators, which enabled products of significant interest to be identified.
Subsequent evaluation of these products was based on various criteria that Slow Food—through the Slow Food Foundation for Biodiversity—applies in order to launch local projects known as Presidia if suitable conditions exist.
There were four phases in the work:

1. **Mapping** - research and identification of local products of particular interest because they are closely linked to local customs and traditions;
2. **Cataloging** - preparing a list of local products with descriptive profiles. Wide-ranging and comprehensive, this list takes account of information obtained locally in meetings with small-scale producers and the inhabitants of rural villages (particularly women), exchanges of knowledge with people from different countries and institutions carrying out local work in the areas of cooperation and communication of knowledge. The information gathered was then compared with the information from a comprehensive search of the literature, covering both scientific and agricultural references as well as sociological, archeobotanical and geopolitical records;
3. **Selection based on a grid of criteria for setting up a Slow Food Presidium** - each product identified was then evaluated through a grid of criteria defined by Slow Food as useful for setting up Presidia;
4. **Launch of Presidia**: together with relevant local actors, a work plan was established for the selected products and candidates to become a Slow Food Presidium. This action plan was developed after evaluating the potential of each product in terms of protecting cultural, social and natural resources at international level.

Mapping work

Product mapping and cataloging is a fundamental activity in Slow Food's strategy. It is not a purely scientific exercise, but a preliminary step before setting up projects to protect and promote products which have been cataloged.
In Africa, the Slow Food Foundation is interested in two main categories of product: **products originally from Africa** (defined as *indigenous*) and **products originally from other parts of the world**, **but traditionally found in Africa** for many years (defined as *autochthonous*).

Products originally from Africa
Among the thousands of edible plant species that have fed Africa over the past few centuries, some originate from this continent. The highlands of Ethiopia, for example, gave us coffee (*Coffea arabica*), tropical West Africa is the home of African rice, palm oil, yams, cowpeas, bambarà groundnuts, black tamarind. Watermelons may have originated in the Kalahari desert (where they still grow naturally, as well as in Botswana, South Africa and Lesotho). It has also been recorded as growing in ancient Egypt more than 5000 years ago. In the mapping work, we are not simply interested in the type and the species, but want to further investigate and understand how they differentiated themselves into varieties and ecotypes following selection and characterization processes, their adaptation to an area, and different cultivation, farming and processing techniques.

Products originally from other parts of the world but which have traditionally been found in Africa

Some products which originate from other parts of the world (Asia, Latin America etc.) were introduced several centuries ago and have adapted to African climatic and geographical conditions. Tropical species such as corn, cacao, cassava, bananas and ginger have become an integral part of local ecosystems and Africa has now become an interesting secondary centre of biodiversity for some of them.

Products subsequently introduced to Africa through complex and extremely influential historical processes (migration of people, the slave trade, colonialism, etc.) are of interest when they take on their own phenotypical and genotypical characteristics, linked to particular places as the result of adaptation processes of varying duration. They then can be defined as native products (relative origin).

Through local environmental and human influences, these products have resulted in specific breeds, populations and ecotypes which are closely linked to the local culture of the indigenous people and differ significantly from the species that exist in their places of origin.

Product categories

The identified products belong to the following categories: cereals, legumes, fruit, vegetables, tubers, animal breeds, dairy products, aromatic herbs, spices, breads, pasta, couscous, honey, confectionery and pastries, beverages, oils, salt.

Some are wild products (directly taken from savanna, forests, lakes, rivers and sea), or cultivated or farmed. They may be fresh or processed.

Product identification

Slow Food's work has always revolved around food. Its reason for existing and its strategies have always been based on matters involving food, such as agriculture, livestock and the processing of foods. Issues involving agriculture and the environment have gained increasing importance, along with the social dimension, which also became an immediate fundamental priority.

Rediscovering and promoting the importance of cultural identity expressed in food, Slow Food promotes an idea of "virtuous globalization" or "food sociology", which links eco-gastronomy to responsible consumption and the defense of food biodiversity, based on the communities and contexts where products are produced.

From being a simple form of sustenance, food takes on a symbolic and political role in the development of the cultural identity of a region or place, which can become even more vital in periods of extensive social and economic change. Gastronomy, recognized as part of the local heritage, can drive the sustenance, development and promotion of economies which change and adapt to their communities and production locations.

Consequently, seeking out products starts with **food** and therefore particularly requires the involvement of the women who cook or process, and are custodians of traditions and production techniques. The objective is to identify local ingredients and raw materials which are often no longer used (or used less), because they have been replaced by other crops or imported products. This means finding out if a product is linked to local culture and has a history, who produces it, if it is still available on the market, if it is different from similar products in other geographical areas.

Local **markets** are particularly interesting places for identifying products. When visiting stalls it is useful to find less common products, to ask questions, to record the names of products in the local language and/or dialect, and to purchase samples of the most interesting products.

It is helpful to show the **samples** obtained at markets to other people (women, elderly people, technical experts, researchers), comparing the names used to identify them, find out if they are recognized as the heritage of a specific local community, collect information on their culinary or medicinal use, carry out comparative tastings with different samples of the same product.

It is essential to discover if the identified products are cultivated or processed in a **specific area** or if they are also found elsewhere. In the latter case, it is necessary to find out if there are sensory differences associated with different climatic and geographical conditions or different cultivation and/or processing techniques.
Another essential step is to carry out **cross checks** on the information gathered, by involving a large number of people.
Gathering information and **oral accounts** must be done through direct contact with **local actors** (small farmers, herders, fishers, cooks; with particular focus on women and the elderly). Through their memories and practical experience, these people can highlight the key features that define the importance of a product within the community and its relationship with the environment. It is of course important to check the accuracy of these accounts through contacts with local experts and consulting the available literature.

Profile Sheet - the importance of processed products

Processing techniques are a priceless heritage for local communities. They are the result of knowledge handed down over generations which was developed to preserve foods such as milk, fruit, leaves and flowers. Artisan processing gives raw materials a significant added value, because it creates distinctive products which reflect a local culture and allow producers to be less dependent on seasonal cycles and market fluctuations. Often it is only possible to protect ecotypes and local breeds if domestic consumption is complemented by a supply of processed products suitable for commercial trade (local and national) which can also ensure a small income. In Africa there are two issues involved. It is firstly essential to recover, collect and promote existing traditional techniques. Secondly it is also necessary to incentivize the processing of raw materials even if the process is not a traditional practice.
Throughout Africa, food is traditionally harvested and cooked or sold fresh. There is only marginal use of processed products, which are usually prepared so products can be preserved for a longer time, easily transported and commercialized. It is much more common, as in most of Asia, to cook and sell ready food to eat on the street.
Urbanization has caused many families to be uprooted from their rural areas of origin. This has caused estrangement from traditional preparation techniques and the adoption of low quality industrial products. There are often also affluent classes in the cities who purchase high-quality processed products, but of western origin. Even where the raw materials are African (argan, cacao, peanuts etc.) the processing is often carried out elsewhere, particularly in Europe. It is very important to protect traditional processed products and to promote local production of new products based on local raw materials. Furthermore, some forms of processing (for example pre-cooking cereals, slicing leaves, drying and processing fruit and vegetables, as in the case of Dogon onions) can facilitate and protect the consumption of products which would otherwise require lengthy and complex preparation.

5 – THE SLOW FOOD PRESIDIA

Before moving from the list of local traditional products (inventory) to selecting and identifying products which might become Slow Food Presidia, it is necessary to refer to a list of criteria. However, it is first of all important to examine how Slow Food defines the concept of **quality**. .

Slow Food's definition of quality: narrated quality
This is a complex and innovative concept which has matured over a period of twenty years through the practical experience Slow Food has gained in direct contact with hundreds of communities of small-scale producers around the world, and further refined within the African context between 2000 and 2010.
Quality is usually identified using chemical and physical analyses, tasting panels, and other measurable and definable parameters. This is a technical approach that is valid in a comparative, objective context, but does not adequately take into account everything that lies behind a local product and has developed over centuries of history.
In the Slow Food meaning, the quality of a food product is a **narrative**. It starts from the origin of the product (which according to circumstances may be the place where a species was domesticated or diversified; where a variety or breed adapted or naturally evolved; or where a cultivation or processing technique developed) and it then takes into account the characteristics of the environment, local knowledge, the fame enjoyed locally by that product, processing techniques, recipes, preservation and marketing techniques, environmental sustainability and sensory and nutritional characteristics. None of these aspects can be considered on its own. And there are no measurable and defined parameters (chemical and physical analyses, tasting panels, etc.) that can identify quality.

Different **tools** are used to construct a complete narrative.
- The collection of information and **oral accounts** from **directly involved actors** (farmers, herders, fishers, cooks, people selling on local markets), with a particular focus on women and the elderly. Through their memories and personal experience, directly involved actors can transmit the key features that define the meaning of product within the community and its relationship with the environment. It is of course important to check the accuracy of these accounts.

- **Tasting** – preferably comparative – is an essential tool for the qualitative assessment of products, but it is important to bear in mind that it is relative. Any tasting is always influenced by the taster's culture and customs.

- The involvement of **technical experts, researchers** and scientific institutes, and the consultation of **specialized literature**.

Selection criteria

A link with a LOCAL AREA (definition of "local")
A link with the local area is an essential criterion in identifying local quality products. An indigenous plant variety or native breed can reach its best potential in the place where it has acclimatized over the course of centuries thanks to human effort. A local area is not only considered in climatic or environmental terms, but is also a cultural and historical context. It is not only a question of "where", but also of "how". This concept embraces the physical space and its specific climatic and geographical nature, but always places it within a cultural space where traditions, community customs, spiritual or religious values, and culinary preparation play a fundamental and dominant role. In defining a local area we do not consider political borders (which do not reflect local cultures), but specific environmental conditions and the historical movement of peoples.

Depending on the circumstances, the suitability of an area may be very circumscribed (a region, island, course of a river etc.), or may be transnational, covering two or more modern states.

HISTORY and CULTURE, the product's link with local communities (language, rituals, artisan traditions, etc.)

Local quality products are an integral part of a community's **history** and **culture**.
They play an important role in local **gastronomy**, local **artisan traditions**, **rituals** and **language**, but above all they are an expression of the community and the links between its various constituents.
It is therefore essential to carry out the following tasks: to identify and describe traditional techniques of cultivation, farming, fishing or processing; to collect traditional recipes; to understand the meaning of products in the community's spiritual and cultural life (festivals, rituals, ceremonies, stories, myths etc.); to collect the different names for a product and the objects associated with it (containers, tools, etc.).
In cases where there is a **historical, traditional processed product**, it is generally easier to identify a defined production area.
For example: Fadiouth Island salted millet couscous, Koinadugu honey from a forested region in northern Sierra Leone, Wukro white honey in Ethiopia (whose distinctive sensory properties are due to the flowering plants in the arid and rocky Tigray region), Nzoia River reed salt in Kenya, Tuareg *tchikomart* cheese.
For several years Slow Food has focused on the link between food, agriculture and culture, seeing conviviality as the glue that provides the social cohesion which can transform consumers into co-producers.
The consumption of local products and recovering traditional knowledge are of great social importance and help community cohesion. The recovery of local quality products must be able to strengthen conviviality.
Example: the processing of karité butter in West Africa or argan oil in Morocco is time-consuming and demanding work carried out by women. The whole process is accompanied by songs which have been handed down through the generations. The rhythm of the work is synchronized to the music.

TASTE
A product's quality is mainly described by its sensory quality: an attractive product from a quality point of view is the product that consumers perceive as "good". The sensory properties of a food product are defined by: a) appearance; b) color; c) consistency (liquid, solid, crunchy, juicy, tender, oily); d) flavor (sweet, savory, bitter, acidic); e) aroma.

For example, in West Africa, local varieties of rice are preferred to hybrids or Asian imports although they are less productive, since their consistency is more suited to traditional recipes. Even when hybrid varieties are grown for commercial purposes, families in many rural communities continue to prefer growing local varieties for domestic consumption.
In another example, a comparative tasting of various samples of palm oil from Guinea Bissau (carried out by local and international tasters) revealed an enormous range of differences in color, consistency, flavor, aroma and fragrance. The colors of oil samples ranged from red to orange, and they showed considerable olfactory complexity, releasing scents recalling tomato juice and exotic fruit, as well as more refined notes of spices and bitter sauce. In the mouth, oils showed a fine delicacy and sweetness with a slight tendency towards bitter or smoky, with notes of cacao. These differences are due to various factors: the production area, palm variety, ripeness of kernels, processing times and techniques, extraction etc.

Nutritional characteristics
Many traditional African products have important nutritional properties which have few equivalents in non-native products. This is very significant in the areas where access to food is not always guaranteed and people's nutrition, particularly in rural villages, has always been at risk. The properties of some of the products cultivated and normally consumed are therefore of particular importance.
For example, the native bean, consumed in a sauce but also unprocessed, contains more than 200% of the daily recommended dose of vitamin A. Other plant substances with antioxidant, antiviral anti-inflammatory or fungicidal properties have also been identified in many traditional African products. These features have therefore been highlighted in the product descriptions so they can be taken into account at the evaluation stage before developing promotional strategies.

ENVIRONMENTAL SUSTAINABILITY: suitability and sustainability of farming methods
In identifying local quality products, particular attention was paid to environmental factors.
Farming methods must preserve **soil fertility** and hydrographic ecosystems, avoiding as far as possible the use of chemical substances, and maintaining traditional agrarian landscapes. Agricultural systems and processing sites must safeguard the **agricultural landscape** and traditional architecture.
Intensive monocultures (even when applied to traditional varieties and ecotypes) are excluded from consideration, as are intensive animal farming and unsustainable fishing techniques.
For example, fonio, one of the oldest indigenous species in West Africa, readily grows on eroded lateritic soils, and provides a “reserve” for many communities before the main crops are harvested (millet, rice).

SOCIAL SUSTAINABILITY: the role of local populations and the ethical status of production and distribution systems
One issue of particular interest in selecting products involves social equity. The products under consideration are the result of the efforts of communities of small-scale artisan producers. In all the stages of production they apply traditional knowledge which has been handed down within the family or learned from other producers in the course of years working as an apprentice. Individual producers are actively involved in running the farm, they are not peasant laborers or waged herders. Producers must be willing to collaborate in an organized form (through an association, cooperative, consortium etc.) or in an informal manner. The producer community must avoid any form of discrimination associated with social position, nationality, gender, political or religious belief, ethnic origins. It is not permitted to exploit child labor.

Untapped and undeveloped potential for FOOD SOVEREIGNTY and the RISK of EXTINCTION
Quality products are products with a little-recognized and undeveloped potential, whose promotion would make a crucial contribution towards the **food sovereignty of a country, region or community.** Africa has a wealth of food products which could assure food sovereignty based on combining biodiversity, social cohesion and health. Yet this potential is not only undervalued in public policies, but is increasingly endangered due to acculturation, the invasion of poor quality food products imported at low prices, and sometimes persistent armed conflict. The mapping work took account of these risks where possible.
For example, néré seeds (*Parkia biglobosa*) are boiled, fermented and mixed with okra (*Abelmoschus caillei*), to prepare a a very popular seasoning in many west African countries called *soumbalà*. *Parkia biglobosa* is a tree originally from the Sahel and Sudan. It provides many high quality nutrients (proteins, lipids, carbohydrates, iodine, various vitamins). In spite of this, soumbalà is currently threatened by the invasion of flavor enhancers such as artificial stock cubes

produced by globalized multinationals. For these reasons, the products considered, even if reasonably widespread among local communities, are being gradually squeezed out of the market and are at risk of extinction in the short or longer term. The risk of extinction may not only involve a product (plant variety, breed, processed product), but may affect a landscape, a social context or a technique (fishing, livestock farming, processing, cultivation).

Slow Food's approach to quality is **complex** and multifaceted, the result of a continuous exchange of information with many local people (producers, cooks, technical experts, researchers, journalists etc.).
None of the above criteria should be given priority over the others.

The Slow Food Foundation for Biodiversity, sometimes specifies additional criteria for strategic reasons, for example, prioritizing countries where the Slow Food network is stronger, or products with greater symbolic or political significance (this is the case for wild palm oil, which is in complete contrast in its environmental, cultural and nutritional characteristics to the familiar industrial oil available around the world).

In identifying products and organizing the Presidium's work, it is essential to closely liase with those carrying out the mapping work and with local communities in order to identify points of strength and weakness and to then develop an action plan for setting up the Presidium.

Monitoring and cataloging work provided complete descriptions of more than 47 indigenous products which had a significant agricultural, social and cultural role in the four countries examined.
An analysis of product characteristics according to whether they met the selection criteria described above showed there were several products suitable for creating a Presidium: Kenema kola nut (Sierra Leone), wild palm oil (Guinea Bissau), Fadiouth Island salted millet couscous (Senegal), Timbuktu and Gao katta pasta (Mali), Farim salt (Guinea Bissau). These are joined by products which were already supported by Slow Food Presidia: Dogon somè (Mali) and the Gandoul island wild fruit juices (Senegal). Other products could become suitable following further research: it would be of interest, for example, to identify a native lemon variety in Guinea Bissau and set up a Presidium based on the *vinagre* made from it. It could also be interesting to carry out work on traditional varieties of floating rice (Mali), but we do not have sufficient information. In the breeds category, the situation regarding Macina and Bali Bali sheep could be investigated, but at present the social conditions are not favorable as it has not been possible to identify farmers willing to collaborate.
Based on the project objectives, four products were selected, one from each country, focusing on those that satisfied the criteria most comprehensively.

It should also be mentioned that, using additional resources outside the present project, Slow Food also decided to set up a fifth Presidium to support the work of the Farim salt producers (in Guinea Bissau).

A more detailed description of the four Presidia included in the project is given below, taking account of the overall match with requirements, and highlighting their history and tradition, economic, social and cultural potential.

The Slow Food Presidia
Before presenting the four product profiles, an introduction is given to illustrate the nature of the Slow Food Presidia project.
The first Presidia were created in Italy in 1999. After cataloging hundreds of products at risk of extinction through the Ark of Taste, Slow Food decided to take a further step and engage concretely

with the world of production, getting to know the places, meet the producers and promote their products, work and wisdom. Over the years the Presidia project has become one of the most effective vehicles for implementing and demonstrating Slow Food's approach to agriculture and biodiversity, whether in the Global North or South.
The Slow Food Foundation for Biodiversity currently coordinates more than 400 Presidia in 50 countries in both the Global North and South.

The general objectives of the Presidia are numerous, complex and multifaceted, but can be condensed into four areas.
- **Environmental:** defending biodiversity, improving the sustainability of products.
- **Economic:** increasing producer incomes, developing locally-driven activities, increasing employment.
- **Social:** improving the social position of producers, strengthening their organizational capacity.
- **Cultural:** strengthening producers' cultural identity and promoting production areas.

The basic philosophy, objectives and approach are similar for all the Presidia in every part of the world. However projects are different and vary according to the geographical, social, cultural and economic context. The ability to adapt and assume different forms is in fact essential. Presidia change according to the relationships between environmental, technical, social and economic factors so they can make the most of the potentialities presented by the community and local area.
Presidia represent a model with the same basic recipe and ingredients, but the extent and methods of application vary according to the different situations encountered. The model is an example of virtuous production which can be applied to other products and other contexts.
By promoting a product with a strong identity, the Presidia help the local community to understand their local system and focus production in a different direction to that dictated by the principles of agribusiness.

The phases in starting and developing a Slow Food Presidium
Once a product has been selected, it is necessary to find out more about the production chain, meet producers and processors, and plan actions with local community involvement (in a bottom-up approach). The issues facing different localities and products vary enormously and resolving them requires specific measures, in agreement with local actors.
The Presidia do not have a fixed duration but continued to operate indefinitely.
Interventions have a strong technical component, which is the first step in communications between communities. Quality, as described above, is a final result of these projects (and not necessarily an initial condition) and the fact that it has multidimensional components means it will take time to achieve. The creation of a Presidium is based on recognition and respect for the differing needs of local communities. Activities are entirely managed by the local network, which is thereby strengthened and enhanced. Expatriate staff are not used at local level for coordinating or directing activities.

The first step in starting a Presidium is to prepare initial **production and/or processing rules**, together with project stakeholders. This protocol defines the production area, documents the product's historic background and gives a detailed description of all the phases of cultivation (or farming) and processing. It ensures that a traditional artisanal approach is adopted and product quality maintained. Where necessary, an improvement to some phases of the process strengthens producer commitment to improve product quality and sustainability.
It **boosts** producer **awareness:** frequently for the first time they discuss their processing techniques and put their knowledge in writing.

A Presidium helps producers to form an **association** (or cooperative, consortium etc.) with a shared name and trademark, or strengthens an already existing association. An association strengthens producers and facilitates relationships with institutions, intermediaries and consumers.

Training is one of the most important Presidium activities and has a range of objectives. It aims to improve product quality, enhance the sensory capabilities of producers, promote contact among producers, introduce eco-sustainable packaging suitable for the promotion and sale of products.

The following instruments are used to train producers:

- tasting - comparative tasting of samples enables Presidium producers to detect and eliminate any processing defects and improve the sensory properties of their products;

- visits by technical experts - through its international network, Slow Food can put producers in contact with technical experts throughout the world to discuss and resolve technical and organizational problems;

- meetings between producers - meetings between Presidia enable producers to consider similar agricultural and artisan experiences, find solutions, and identify possible promotional and commercialization approaches which can be applied in their country;

- training seminars - the Slow Food Foundation for Biodiversity regularly organizes training seminars for Presidia producers in various categories (cheese, fruit and vegetables, meat etc.);

A Presidium does not restrict itself to improving production processes and strengthening producer organization. It also dedicates significant effort on **promoting** products, identifying possible new market opportunities. Thanks to its network, Slow Food can bring Presidia producers into direct contact with consumers through events and fairs, assisted by the involvement of chefs and restaurants; it also organizes certain types of direct sale (such as farmers' markets and purchasing groups).

Participation in events - the participation of Presidia in international events organized by Slow Food (Salone del Gusto, Cheese, Slow Fish, Terra Madre etc.) is essential. Events customarily set aside a specific area for Presidia and the Slow Food Foundation for Biodiversity. On these occasions producers can not only sell their products but more importantly can achieve visibility, have contact with journalists, purchasers, food lovers and other producers.

Cooks are valuable ambassadors: they can promote Presidia and local products in general. One of the main Presidium activities is to try and make a direct contact between producers and restaurateurs.

In considering quality as a narrative, Slow Food pays particular attention to certain types of **communication**. Presidia are described and narrated (in national magazines, newsletters and on websites) through direct accounts, stories of producers and areas, descriptions of traditional techniques. Documentary videos are produced for some Presidia.
The Slow Food press office regularly provides articles and features on Presidia for mainstream Italian and international media, publications, television and radio.
The Slow Food Foundation for Biodiversity website (www.fondazioneslowfood.it) provides significant coverage to the Presidia. In addition to the general project, each individual Presidium is described in detail and contact information for local coordinators is given .

Slow Food and the Slow Food Foundation for Biodiversity issue annual publications for Italian and international Presidia. The Slow Food Foundation for Biodiversity also publishes an annual Social Report which gives detailed information on projects, the use of funds raised and the results achieved. These publications can be downloaded from the Foundation's website (in Italian and English).

Descriptive profiles of four Presidia

Wild Palm Oil Presidium – Guinea Bissau

Oil palms (*Elaeis guineensis*) originated thousands of years ago in the forests of Western Africa. Still today, Guinea Bissau is home to many wild palm trees (of the dura type). Communities harvest the big bunches of red fruits from the wild trees and process them artisanally, obtaining a dense, orange-colored oil with scents of tomato, fruit and spice. Men traditionally pick the fruits, while women are in charge of the long and laborious processing. Techniques vary slightly depending on the region and the ethnic group (such as Balanta or Manjaca), but certain steps are essential to obtaining a high-quality final product.

The bunches are left for a few days covered by banana leaves until they soften and the fruits become easier to remove. They are then dried in the sun for one or two days before being boiled in a cauldron of water for a long time.

This phase is followed by a long and painstaking manual operation: the women's separate the kernels from the fruit pulp, hot and cold water is added alternately to the pulp to facilitate extraction of the oil and women squeeze the pulp by hand. As the oil rises to the surface, they collect it and separate it from the water. This process is repeated several times. Palm oil is an essential ingredient in traditional cuisine, cooked with meat, fish, vegetables or rice.

Artisanal palm oil is a wholesome and important part of African diet (which is mainly based on cereals and vegetables) and excellent for infants: it contains carotenoids, vitamin E, and vitamin A precursors—with concentrations 15 times greater than carrots and a hundred times greater than tomatoes.

This product bears no resemblance to the industrial palm oil for international food markets, which is described as “vegetable fat” and contained in a great many processed products such as biscuits, ice cream, snacks or chocolate. In the case of chocolate there are a large number of intermediate processing steps before it reaches the consumer. Refining includes removing substances which would cause unwanted foaming during frying, then bleaching to remove the natural orange-red color which would be too intrusive for salads and fried foods. The product is also deodorized before being finally fractionated. The solid fraction is excellent for baking as a margarine substitute, while the liquid fraction is ideal for frying. Refinement not only removes various defects of the palm oil (oxidized, degraded and malodorous substances), but also the beneficial carotenoids and vitamins.

Industrial palm oil differs from its African precursor in terms of environmental sustainability as well as taste and nutritional properties. The oil palms in Guinea Bissau grow in the forest and are harvested sustainably, respecting the environmental context. This is the complete opposite to what happens in areas providing the vast majority of world production.

International demand for palm oil-which is easy to produce, versatile and profitable-grew during the Industrial Revolution. Far East countries began investing in the product from the end of the 19th century, and by 1966 Malaysia and Indonesia had surpassed Africa's total palm oil production. The two Asian countries are still the world's leading producers, controlling 90 percent of global production with an output of over 45 million tons. In the last 20 years, the surface area dedicated to palm oil cultivation has tripled, and millions of hectares have been deforested to make way for intensive monocultures.

In 1960, 82% of Indonesia was covered in rainforest. In 1995 the percentage had fallen to 52%. At the current rate, Indonesian forests—which are second only to the Amazon forests—will have been destroyed by 2022. The amount of greenhouse gases emitted to the atmosphere will then be close to total global emissions.

On the one hand we have the original palm oil—a product with a long-standing history, closely linked to a particular area, extracted from fruits which ripen in the forest without destroying it, processed by women with great care and respect, cooked in recipes which enhance its color, flavor and aroma, rich in essential vitamins to supplement the African diet based on cereals and

vegetables. On the other hand we have a global product—a colorless, odorless and flavorless commodity without soul, which destroys the environment, costs very little and fills everyday food with saturated fats.

The Presidium
The Presidium was started in 2011 and began working with a cooperative in the north of the country, but the aim is to expand it to other parts of the country, promoting artisanal palm oil from Guinea-Bissau at an international and national level. The oil, made only from wild "dura" oil palms, is produced in perfect harmony with the environment, and helps protect the forests and the local culture.
A qualitative standard has been established with assistance from an agronomist expert in oil. Information has been collected on current practices to define proper methods for harvesting, processing and preservation to produce high-quality palm oil.

Production Area
The Slow Food Wild Palm Oil Presidium was started in the region of Cacheu, in northern Guinea Bissau, but aims to expand to other parts of the country. The agro-ecological conditions are similar and there is only one species (the dura oil palm). There are no significant differences in production techniques, so the area of origin can be considered to cover the whole country.

Producers
The Slow Food Wild Palm Oil Presidium involves 224 producers from 6 communities.
All the producers are members of the Agro-Pecuária de Jovens Quadros de Canchungo Cooperative (COAJOQ). The cooperative, assisted by technical experts, has prepared a draft production protocol.

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Timbuktu and Gao Katta Pasta Presidium – Mali

Positioned on the border where the lands inhabited by humans, plants and animals end, and the immense desert of the Sahara begins, Timbuktu evokes the mystery of ancient times.
The art of writing has been known to this capital of glorious empires for over a millennium, and precious manuscripts are stored in libraries and the houses of every family.
Timbuktu's culture is inextricably linked to certain factors: trade, for example (located between the desert and sub-Saharan Africa, it was a crossroads for the salt, gold and textile trades) as well as the important role of women (its magnificent sand mosque was funded by a pious and rich woman). The Timbuktu area was also part of the Songhai Empire between the 14th and 16th centuries, bringing an Arab-Islamic influence.
The local food is also an expression of this unique culture, with very refined dishes compared to the rest of the country's cuisine. Timbuktu women make different types of bread: wadjila, tukasu (steamed) and takula (flat loaves cooked in earth ovens found near the entrance to the houses). They also produce luttre, beef sausage with garlic and spices.
Local wheat flour is used to make katta, a very unusual kind of pasta, shaped into thin, short threads. To obtain these tiny noodles, the women form a ball of dough and then tear off small pieces and roll them between two fingers, almost like spinning wool. The pasta threads are left to dry in the shade for a day, then toasted in a frying pan until they turn a brownish-yellow color. If not eaten immediately, they can be stored in bags or jars. Katta is traditionally cooked for a few minutes in a sauce based on dried fish, tomato, spices and mutton or beef, diluted with water. This sophisticated dish is prepared by women for important guests and on special occasions, especially Muslim holidays like Ramadan, Eid ul-Fitr and Mawlud (the celebration of Prophet Muhammad's birthday).

The Presidium
The Presidium was set up to promote the production of katta pasta, but the overall project has a number of objectives. Firstly it aims to create a women's cooperative in Timbuktu, bringing together producers of katta as well as other artisanal products, especially different types of bread.
The Presidium will also work on the whole chain of production: identifying local wheat varieties, involving growers, mapping informal groups of katta-producing women already found in Timbuktu and Gao, creating suitable packaging and marketing katta at a local and national level.
Project activity has been affected by the delicate political situation in Mali.
These towns are in the Azawad region of northern Mali where the Tuareg and MNLA (Mouvement National pour la Liberation de l'Azawad) are claiming independence.
Katta pasta is made by women in Timbuktu, some living permanently in the town, others Tuareg or Songhai nomads. Since March/April 2012, many women producers belonging to the Presidium have fled and are now living in refugee camps in Burkina Faso and Mauritania. The two Presidium coordinators are also temporarily abroad, but regularly return to Mali and meet the remaining women.
Paradoxically the civil war has also had a small positive outcome. The production of katta (made by the women who remained) has increased, possibly doubled, because the population has had to stop eating rice, sourced from the south, and flour can be easily obtained from Algeria (currently neither wheat nor flour is produced).

Presidium coordinator Almahdi Al Ansari reports:
“Due to the Islamist rebellion and infiltration of Al Qaeda terrorist groups among the Tuareg population, women in Timbuktu are currently suffering restrictions on their liberty: they cannot leave home if not accompanied by their husband or man in the family and they have to be completely covered by a veil”. “Units of the Malian army have grouped in the town and of course suspect those with “pale skins” easily identified of Arab origin. Where possible, people fled as soon as war was declared or at the first signs of hostilities. This includes some of the women belonging

to the katta pasta Presidium who are now in refugee camps in Mauritania and Burkina Faso. The nomads have disappeared to the surrounding area because they are in constant danger of raids. All economic activity has stopped and there is no fuel. Agriculture has been destroyed, nothing is being planted or harvested".

Production Area
Timbuktu and Gao, northern Mali

Producers
Through the Presidium 36 producers in Timbuktu formed two groups (at present informal) and have drawn up a draft production protocol.

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Fadiouth Island Salted Millet Couscous Presidium – Senegal

The first cereals destined for human consumption were harvested on the African savannah, the most likely birthplace of man. Still today, more than sixty varieties of wild cereals are harvested and consumed as well as many domesticated cereals such as sorghum, millet and fonio (a cereal with small brown grains like sand, which is considered the oldest cereal of Africa, ma was abandoned for many years due to its demanding processing).
Salted millet couscous from Fadiouth Island is the result of bringing together traditional cereals, cultivated since time immemorial on the inland areas, and the sea.
Joal-Fadiouth is linked to Dakar (about 150km to the south) by a long road protected by impressive baobab trees on one side and the sea on the other, passing through the main tourist towns along the 70 km of sandy coastline in the Petite Côte region (from Saly to Mbour).
Joal is a fishing town, the second port in the country after Dakar, and birthplace of ex-President Léopold Sédar Senghor. Fishing is an art and a ritual: children learn to handle the sea from a young age. The decorated wooden pirogue boats leave every morning and return in the evening, travelling from Mauritania to Sierra Leone. The fish is then sold on the beach by firelight.
Joal's twin town of Fadiouth straddles the land and the sea. Built on an island between the Atlantic Ocean and the first channels of the Saloum River delta, it is connected to the mainland by a long wooden bridge. Completely made of seashells—from the roads to the houses and cemetery—the island is surrounded by mangroves, a favored habitat for nesting turtles and wild oysters. The symbolic product of this village—where there are no cars and Christians and Muslims live peacefully together—is salted millet couscous.
The Seerer, the indigenous people who live here, have always been the main producers of sunnà millet and make their living from agriculture and fishing in the sea and lagoons.
The local preparation of salted couscous is long and laborious, requiring at least two days to obtain a quality product. After finishing their domestic chores, the women come together towards the evening to prepare the millet to make the flour: the grain is husked using a wooden mortar and pestle, sifted and washed in the sea. It is then ground (using electric mills or by hand) and the resulting semolina is wet with seawater and worked by hand to transform it into tiny couscous pellets (covered with dry semolina to keep them from sticking) that are then sifted.
This process continues until all of the semolina has been transformed into tiny couscous beads. At this point, the product is stored in traditional gourd containers, covered with a cloth and left to ferment overnight. In the morning the women add powdered leaves of baobab - used as a thickener - and start cooking.
Signs of cultivation can be seen everywhere in Fadiouth: in the church (where the tabernacle is made from old gourds), in the fields, where old barns on piles can be seen in the distance from the cemetery (accessible by boat), on the roofs of the oldest building. When you arrive in Fadiouth and cross the bridge, it is not unusual to see women in their colorful clothes, washing millet in the sea.
Fadiouth couscous is only consumed or sold locally, mainly for reasons of freshness. The most typical dish of the town is salted couscous with a sauce of mangrove flowers, peanuts and meat or shellfish.

The Presidium
Created in 2011, the Presidium preserves a long-standing production process that connects the land and sea. The objective is to promote a revival in cultivating and consuming local sunnà millet, which has decreased significantly in recent years, and to raise awareness among local people of why it is important to keep marine waters and beaches clean and unpolluted.
The Presidium has identified a core group of 20 women producers who have been brought together in a local economic group (GIE) Mbel Saač.

In addition to cultivating millet and processing it into couscous, the women are involved in various social activities: they raise environmental awareness (a clean marine environment is essential) and help children to become literate.
The Fadiouth local authority procured, and restored to working order, a building on the island where the women can work together.
In 2011 the producers took part in two training workshops run by Aziz El Yamalahi (an expert on cereals and couscous production) to define the Presidium production rules and improve product packaging and labeling.
These efforts to improve the hygienic/sanitary conditions for processing and preserving the couscous and the restoration of the building have enabled the Presidium producers to obtain authorization from the Ministry of Commerce to sell the product on the national market.

Production Area
Fadiouth Island, Joal-Fadiouth Municipality, Fatick Region

Producers
20 women gathered in the Mbel Saač GIE *(see Annex)* who have jointly prepared a preliminary draft production protocol with the assistance of a food technologist.

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Kenema Kola Nut Presidium – Sierra Leone

The kola nut's name might recall the world's most globalized beverage, but the two have little in common. The kola nut is the fruit of the kola tree, which belongs to the same family as cacao, *Sterculiaceae*. The tree is native to the tropical forests of West Africa, and still grows wild in Sierra Leone and Liberia. There are around 140 species of kola, but the most widely consumed in Africa are the wild Cola acuminata, also known as small or bitter kola, and the cultivated Cola nitida, known as big kola or kola nut. Cola acuminata is brown, while Cola nitida can be of different colors, ranging from yellow to pink to red when fresh and from brown to dark red when dried. The fruits contain caffeine, kolatin, theobromine and tannins. For centuries this fruit has been a vital part of different areas of daily life and given it important symbolic meaning; it is used in religious practices, as a sexual stimulant and in social customs.

In Sierra Leone, kola nuts are consumed during rites and ceremonies, to welcome guests, as a symbol of friendship, to seal an agreement or to mark a reconciliation. During Ramadan, soft drink producers make a kind of ginger ale with water, ginger, kola, chili and sometimes sugar. They use white kola, because oddly its juice is darker red in color than other types of kola nuts.
Kola is used in traditional medicine; chewing a piece after meals helps digestion, and the caffeine in the fruits aids concentration. It is also used to reduce hunger pangs. The Mandingo and Temne ethnic groups also use the nuts as a brown dye for fabrics, after they have been ground and soaked in water.
In the southeastern regions of Sierra Leone (Kenema and Kailahun districts), Cola nitida is grown intercropped with coffee and cacao, smaller plants that like the shade cast by the large kola tree. The fruits are picked twice a year, between May and June and November and January. After the harvest the fruits are cut open to extract the nuts.
One fruit contains 8 to 10 nuts, each protected by a yellow skin. To remove this, the nuts are laid out on the ground on a mat, covered with banana or mango leaves, and soaked with water. The skin rots in about a week, making it easy to remove. The nuts are then washed with fresh water before being stored in baskets or sacks lined with fresh mango leaves. The humidity of the leaves is essential to stop the nuts drying out, and thus the nuts can be kept for more than six months and easily transported. Kola nuts from southeastern Sierra Leone are known for their flavor and texture (crisp rather than fibrous), and many traders come to Kenema from as far away as Senegal, Guinea and Mali.

The Presidium
The country's civil war tragically struck down an entire generation and caused a collapse in cola production. An entire generation of expert farmers has disappeared or migrated, abruptly interrupting the transmission of traditional knowledge from one generation to the next. As a result the cola cultivation is not well looked after and the trees produce fruit late and erratically.
The Presidium involves 48 small-scale producers in the villages of Dalru and Gegbwema (in southeastern Sierra Leone near the Liberian border) and has been established with the aim of promoting the cultivation, processing and marketing of the kola nuts. Thanks to a collaboration with Baladin, a well-known Italian artisanal beer and beverage producer, and the Slow Food Foundation for Biodiversity, in 2012 the drink Cola Baladin was launched on the market. The drink contains extracts of Kenema kola and natural ingredients. Part of the revenues goes towards supporting Slow Food projects in Sierra Leone (both Presidia and community gardens).

In recent years producers in Europe, and particularly Italy, have been offering traditional non-alcoholic beverages such as lemonade, ginger ale and similar drinks. There has been a focus on recipes and raw material origins: only natural ingredients are used and no preservatives or colorants. Launching a natural cola product is a challenge but has great potential. It involves transforming the

most standardized beverage in the world into a product which is based on a particular area and supports a social project.

Production Area
Kenema district, southeastern Sierra Leone, near the Liberian border.

Producers
Through the Presidium the 48 kola producers are members of the Kenema kola nut producers' association *(see Annex)* and collaborated in preparing a draft production protocol.

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6 – PROMOTIONAL ACTIVITY

Promotional activity focused on the four new Presidia, but also included other traditional products in the inventory. It aimed to generally promote a culture of eating local food, cultivate and produce healthy, sustainable food, and safeguard agricultural biodiversity handed down through the generations.
As mentioned above (Chapter 5 – The Slow Food Presidia, p. 32) product quality is seen from a particular perspective, as a combination of various features (local area, history, language, religion, community, environment, flavor, wholesomeness, fair remuneration etc.) and as a narrative describing these features (not a list of objective measurable parameters).
Consequently communication and promotional activities play a crucial role.

Communication material

The main activity was the publication of **four booklets**, one for each country, containing descriptive profiles of the traditional products, plant varieties and native breeds, main recipes and contact information for purchasing some of the products locally.
The booklets (in 165x155 cm format) were published in the official language of each country and include color photographs taken in the various countries.
The titles are as follows:
Guiné-Bissau. Da terra à mesa. Produtos e pratos tradicionais, 36 pp
Mali. De la terre à la table. Produits et plats traditionnels, 40 pp
Sènègal. De la terre à la table. Produits et plats traditionnels, 52 pp
Sierra Leone. From Earth to Table. Traditional Products and Dishes, 40 pp
2,000 copies of each booklet have been printed and they are available at some events or sent to local Slow Food coordinators. Some of the booklets will be distributed in Turin at the Salone del Gusto and Terra Madre 2012, an international event involving the participation of 300 African delegates with 50 exhibition stands. The stands will also include the 4 Presidia and 15 communities described in the booklets.
A pdf version of each booklet has been put on the Slow Food Foundation for Biodiversity website and can be downloaded.

Four **posters** have been created (one for each country) to promote a culture of eating local, highlighting the country's main traditional products.

Various communication tools have been planned for each Presidium:
- **a descriptive profile** with photographs and contacts published in Italian and English on the Slow Food Foundation for Biodiversity website;
- **brochure** with 4 panels in color, containing a description of the product and project with contact information, photographs; published in Italian and in English (2,000 copies each language);
- **labels** with detailed information on each product;
- **professional photographic features** on products, producers and areas of origin;

Articles have been published in magazines and the Slow Food websites; press releases have been sent by the Slow Food press office to a range of **international media**.
Documentation in Italian and English has been prepared for journalists on Kenema kola.

The Slow Food Foundation for Biodiversity website now has a dedicated **web page** for the project in Italian and English, with an introduction, links to the four Presidia profiles and downloadable pdf booklets.

Links to the project **web pages**:
http://www.slowfoodfoundation.com/pagine/eng/pagina.lasso?-id_pg=131
http://www.fondazioneslowfood.it/pagine/ita/pagina.lasso?-id_pg=131
http://www.slowfoodfoundation.com/welcome_en.lasso?-id_pg=1

Links to other articles on the project published on the Slow Food Foundation website:
http://www.fondazioneslowfood.it/pagine/ita/news/dettaglio_news.lasso?-idn=109
http://www.fondazioneslowfood.it/pagine/ita/news/dettaglio_news.lasso?-idn=83
http://www.slowfood.it/terramadreday/pagine/ita/dettaglio_mappa.lasso?-id_evento=4081
http://www.slowfood.it/terramadreday/pagine/ita/dettaglio_mappa.lasso?-id_evento=4489
http://www.slowfood.it/terramadreday/pagine/ita/dettaglio_mappa.lasso?-id_evento=4391
http://www.slowfood.it/terramadreday/pagine/ita/dettaglio_mappa.lasso?-id_evento=4082

The Fadiouth Island Salted Millet Couscous Presidium has been selected as a pilot project and virtuous example of a new model for cooperation as part of the project Four Cities For Dev. (http://www.4cities4dev.eu/eng/adozioni/progetto/3/slow-food-fadiouth-island-salted-millet-couscous-presidium). The European Union has funded a **video documentary** illustrating the Presidium's unique location and its distinctive production technique. The video, subtitled in Italian and English, will be officially presented at the Salone del Gusto and Terra Madre 2012 (October 25-29, Turin). Additionally, from December 16 to 19, 2011 representatives from the Turin local authority and Slow Food visited the producer community. The mayor and local authority of Joal Fadiouth welcomed their Italian guests who then visited the community and couscous producers on the island.
This visit enabled the Turin local authority representatives to fully appreciate the project and visit construction works to build a facility for processing and storing millet.

Mapping and promotional work in the four countries proceeded with the help of Presidia and communities involved in the Slow Food project **A Thousand Gardens in Africa**.

From 2010 to 2012, Slow Food set up a thousand gardens in 25 African countries (including the four countries of this project).

The Slow Food Gardens follow an exact philosophy: they bring together and promote the capacities of each member of the community: they recover elderly people's knowledge and utilize the energy and creativity of young people; they are based on observation and knowledge of the local area; promote local biodiversity; they are sustainably cultivated; seed selection and propagation is carried out by the communities themselves; they are classrooms in the open air and regularly host food education activities to promote local seasonal food.
In Guinea Bissau 71 gardens have been set up; in Mali 60, in Senegal 40; in Sierra Leone 60. This activity is an important tool in mapping products of the 4 countries, as well as promoting them.
For further information on the Thousand Gardens in Africa project:
http://www.fondazioneslowfood.it/pagine/eng/orti/cerca.lasso?-id_pg=30

Other communication tools
Kenema kola has been selected as the main image for the Slow Food Foundation's "5 per mille" campaign.
Some images of salted millet couscous have been included in a short promotional video (again for the Slow Food Foundation's "5 per mille" campaign).

Promotional events

Salone del Gusto and Terra Madre (Turin, October 21-25 2010)
In an area dedicated to Africa at the Salone del Gusto, space was reserved to present the project and display products from the four Presidia and some food communities. The producers were joined by two assistants for the duration of the event to manage technical/logistical issues and liaise with the public. A roll-up banner was produced to present a project.

18 producers from the four countries attended as delegates to the Terra Madre event (a world meeting of food communities held at the same time). At the end of the event the producers were hosted in Bra (Cn) take part in a training seminar on mapping traditional local products and strategies to develop the markets and consumption of local products.
A conference was held during Terra Madre to present the current state of the project. Its details were as follows:
Products of Origin: An Opportunity for African Agriculture**,** *Friday October 22, 3pm*
The Slow Food Foundation, in collaboration with the FAO, is mapping the traditional products of four African countries: Mali, Senegal, Sierra Leone and Guinea Bissau. The producers themselves will present the biodiversity of their homeland at Terra Madre, from baobab fruit to fonio, from kola nuts to kram kram. The conference was attended by about 100 people from various countries.

A preview of the new Wild Palm Oil Presidium (Guinea Bissau) at the dinner of the Porto San Giorgio Alliance (FM) – 15/07/11
On Friday July 15, the atmospheric beach chalet of Damiani and Rossi Mare's trattoria in Porto San Giorgio (FM), hosted a dinner of the Alliance between Italian chefs and Slow Food Presidia.
Chef Aurelio Damiani's menu included 13 Presidia, 11 Italian and 2 African: Mananara Vanilla (Madagascar) and a preview of Wild Palm Oil (Guinea Bissau).
The Alliance project was created to promote and spread awareness of Slow Food Presidia products. It originated in Italy, where it involves 270 chefs but is also starting in other countries (Netherlands, UK, Morocco).

Meeting in Senegal – 30/10/11
A training meeting on sustainable agriculture and local food was held in **Mbour** (south of Dakar) from **October 27** to **29** with 50 Slow Food representatives from Senegal, Benin, Burkina Faso, Ivory Coast, Guinea Bissau, Madagascar, Mali, Morocco, Mauritania and the Democratic Republic of Congo.
Participants discussed the need to raise community awareness on the importance of diversifying production and particularly to cultivate and consume local products, which are more environmentally sustainable, more nutritious and more respectful of local culture. Participants included chef Bineta Diallo, who in her Dakar restaurant "Le point d'Interrogation", promotes local cereals and chef Abdon Manga, who in his restaurant "Berço do Rio" in Buba (Guinea Bissau) promotes local products and dishes.
The meeting concluded with visits to Kaydara, an agroecological farm in the village of Keur Samba Dia, and the school garden in Mbour, and a tasting of traditional dishes from Senegal and Guinea Bissau, prepared using local products and some Slow Food Presidia products from the two

countries, particularly Fadiouth Island Salted Millet Couscous and Saloum Island Wild Fruit Juices (from Senegal) and Wild Palm Oil from Guinea Bissau.
The Timbuktu Katta Pasta Presidium displayed its product.
The tasting was also attended by some FAO delegates from Dakar.

Terra Madre Day 2011 in Mali, Guinea Bissau, Senegal, Sierra Leone – 10/12/11
On December 10 each year, the worldwide Terra Madre network (composed of farmers, herders, fishers, cooks and students) organizes a day to celebrate local food in various places around the world.
In 2011 the community networks from Mali, Senegal, Sierra Leone and Guinea Bissau organized an event in each country to promote the four Presidia in the project and the importance of eating local food. During the events the network chefs organized tasting sessions to promote local foods. The producer communities were able to discuss the importance of protecting and promoting traditional products and occupations. The public could also meet producers in person and take part in educational and workshop activities.

Four African Presidia at the 23rd session of the FAO Agricultural Committee in Rome – 22/05/12
On Tuesday May 22, the four African Presidia were presented (Kenema Kola from Sierra Leone, Wild Palm Oil from Guinea Bissau, Timbuktu and Gao Katta Pasta from Mali e Fadiouth Island Salted Millet Couscous from Senegal) together with the books *From Earth to Table*, with traditional products and dishes from Guinea Bissau, Mali, Senegal and Sierra Leone. The event also offered an opportunity to sample other Italian and international Presidia products: from high mountain honeys to Tuscan Sea palamita, from heritage Piedmontese apple juices to Rimbàs black pepper (Malaysia) and Taliouine saffron (Morocco).

International commercial partnerships

The Kenema Kola Presidium (Sierra Leone) is involved in a significant commercial collaboration with the Italian company Baladin (an artisan brewer and producer of quality beverages).

In recent years producers in Italy, have been offering traditional non-alcoholic beverages such as lemonade, ginger ale and similar drinks. They have focused on recipes and raw material origins: only natural ingredients are used and no preservatives or colorants. A well-known artisan brewer, Le Baladin, is one of these companies (it is of Piedmontese origin but now present throughout Italy and in the United States). In early 2012 it launched a natural cola made using an extract of Presidium kola nuts, transforming the most standardized beverage in the world into a product which is based on a particular area and supports a social project.

Baladin will purchase the kola directly from the Presidium producers to produce a natural beverage (colored red like the kola nuts), also using a percentage of sales revenue to support the future development of the Kenema Kola Presidium. In 2012 Le Baladin purchased 200 kg of kola nuts, with the Slow Food Foundation managing importation and shipment. Baladin cola is available throughout Italy on tap and in 25 cl bottles.

Baladin cola is sold throughout Italy at Eataly and Baladin outlets, as well as other retailers.

Le Baladin expects to reach a target of 5 million bottles within three years.

Apart from the significant economic benefits from purchasing nuts at a fair price and the annual contribution for the project, this collaboration will enable awareness of kola nuts and their origin to

be spread widely. It will be an important way of promoting Sierra Leone and its agriculture. In order to optimally coordinate communications and reach the largest number of people, the Slow Food Foundation Communications Office, the Slow Food Press Office and Baladin Communications office have worked together. Various communication materials have been prepared and published: brochures, press packs, websites and communication on social networks. A joint calendar has been established, culminating at the Salone del Gusto and Terra Madre (when kola, together with the other Presidia set up as part of the FAO project, will be officially presented at a public conference). The product has received coverage in a number of publications (the daily newspaper La Stampa, MondoBirra.org, Papillon, the international gourmet magazine Cook_inc, Paladar etc.), and a presentation has been prepared describing the characteristics of kola nuts.

During 2012 Baladin cola was presented at the following events:

March 10-12: TASTE (Florence)

March 11: FUORI DI TASTE – evening event organized by Baladin in collaboration with Rolling Stone magazine in Florence as part of TASTE.

March 25-28: VINITALY (Verona)

March 30 - April 1: FA' LA COSA GIUSTA (Milano)

April 2-3: MEETING OF ALLIANCE CHEFS (Alberese, Grosseto) – cola was presented to about 60 chefs from around Italy (with guests from the Netherlands and Venezuela): these included two star chefs known throughout the world: Massimo Bottura (Osteria Francescana, Modena, Italy), and Carlos Garcìa (Ristorante Alto, Los Palos Grandes, Caracas, Venezuela)

April 28 – May 1: BALADIN OPEN DAY (Piozzo/Farigliano, Cn); brewery inauguration/event

May 7-10: CIBUS (Parma)

June 15-17: C'E' FERMENTO (Saluzzo, Cn)

July 24-29: MUSICA E DINTORNI (Piozzo, Cn)

October 6-7: FIERA DELLA ZUCCA (Piozzo, Cn)

October 18-21: FIERA DEL MARRONE (Cuneo)

October 25-29: SALONE DEL GUSTO (Turin).

November 9-12: MERANO WINE FESTIVAL (Merano)

7 – CONCLUSIONS

The work carried out for the project ***"Promoting origin-linked quality products in four countries"*** has highlighted the Slow Food Foundation for Biodiversity's approach to local traditional products, and the process for selecting and setting up a Slow Food Presidium.

In summary, some **key points** of the **model** used in the Slow Food Presidia project are as follows:

- Traditional quality products become a driver for the **local economy**. They strengthen the production chain, but this is just a first step in a process that can develop in various directions. It can promote associated artisan products (both agricultural and non-agricultural), it can be used to promote tourist activities, and it can promote educational activities.
- Traditional quality products have a strong **identity** and give local communities a true sense of the value of their work in the local area. They also encourage **pride** in preserving and passing on traditional knowledge. Pride, **social strengthening** and self-esteem are essential factors in providing a future for production. This can motivate young people who do not see agricultural work as an inevitable choice, or something to be rejected, but a possible source of social prestige and gratification.
- The same basic formula (or rather a different formula according to each case, but based on the same principles: the ingredients are the same but the recipe changes) is used in very different geographical contexts and applied to very different products. The basic principle is a **focus on diversity** (environmental, social and cultural), the ability and willingness to **communicate** with producers (particularly with women and the elderly), to collect information, to **learn and listen**, before making proposals or teaching anything.
- Implementation of activities, support and control, is guaranteed by a **local community** which shares the key values of Slow Food philosophy and then over time, by a local Slow Food network (which gradually organizes and consolidates, starts new projects and puts them into contact with each other). This does not require expatriate staff to be present. Each project has a **local coordinator** who is selected from the producers (and is therefore not a project leader who receives specific payment to supervise project activities) and some support personnel who collaborate on a voluntary basis. The producers only receive payment to carry out specific activities (for example, to set up a workshop, purchase equipment, provide packaging, organize promotional activities etc). They do not receive a daily allowance to attend training courses or seminars.
- **Training** is a fundamental part of project activities. It aims to improve the production chain and strengthen producer organization, as well as **strengthening the political and social position** of producers. They should become active stakeholders who are able to make proposals, discuss, reorganize activities if they are ineffective, structure and adapt them for the context.
- The relationships which are created and strengthened during the project do not flow in one direction between those developing projects and the beneficiaries, but is in the **form of a circle**, where everyone becomes a beneficiary by helping to implement activities. The relationship between Slow Food and beneficiaries is one of **exchange** (of knowledge, information and solutions). The communities involved in projects become an integral and active part of Slow Food in their local area and as the local Slow Food network grows, they can gradually take on political roles within the association (at local, national and international level). For example, the Guinea Bissau chef Abdon Manga (identified through the mapping project and involved in organizing awareness-raising and promotional activities) became leader of the local Slow Food No Po' de Buli Convivium in Buba and then a Slow Food International Councillor; Leandro Pinto

Junior, coordinator of COAJOQ, the Agro-Pecuária de Jovens Quadros de Canchungo cooperative in the north of Guinea Bissau, became coordinator of the palm oil Presidium and coordinator of the Thousand Gardens in Africa project for Guinea Bissau. Patrick Mansaray, coordinator of the Kenema Kola Presidium, became national coordinator of the Thousand Gardens in Africa project for Sierra Leone.

- Full inclusion of producer communities in the Slow Food network means that activities are not interrupted, but there is international support for communities and promotion of their products regardless of the formal conclusion date of a project, which continues **indefinitely**. This mechanism benefits existing projects as well as new activities (new Presidia, educational activities etc.).
- Work to **promote** a sustainable agricultural product and raising awareness of the importance of "eating local" not only benefits the producers, but the **entire community**. In the same way, being part of a community enables individual producers to work in marginal areas, and solve the problems of physical isolation which would otherwise make it difficult to gain market access.

All these factors help to ensure the continuity and sustainability of project activities.
Starting a Presidium never marks the end of a process, apart from research and involving producers, but **opens new opportunities and new issues**. For example, it is necessary to ask how much a Presidium should focus its development on exports, how it might be possible to create local networks of consumers, starting with local restaurants, what might be the best instruments for starting local marketing.
Slow Food's job is to highlight a product's commercial potential without encouraging impossible expectations. In the case of Sierra Leone cola for example, it was clear from the beginning that the Presidium could possibly develop through international channels. This was achieved by identifying Baladin as a very constructive partner which could help to launch a natural beverage based on kola nut. For Fadiouth Island salted millet couscous, however, it was necessary to expand awareness and consumption at a local level.

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