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NATURE AS LOCAL HERITAGE : PATRIMONY, CONSERVATION AND TERRITORY IN AFRICA

### NATURAL PATRIMONY AND LOCAL COMMUNITIES IN ETHIOPIA

# Advantages and limitations of a system of Geographical Indications

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#### ABSTRACT

Among various processes of recognition and development of local know-how related to biodiversity, the protection systems based on Geographical Indications seem to open up interesting perspectives for the countries of the South. Ethiopia is on the way to endowing itself with such a tool.

In this paper we will first emphasize that this country offers an exceptionally good terrain for setting up such a mechanism. It has many products derived from exploitation of biodiversity by a wide variety of human cultures. Many of these products already have reputations linked to their origin; the existence of competitive national and international markets requires labels and protection systems.

Nevertheless adoption of Geographical Indications system, is not without its problems: the specific circumstances of the Ethiopian context, social, institutional as well as environmental, raise questions as to the limitations and possible risks of such a system: unequal development of certain components of biodiversity, standardization and loss of knowhow, modification of current territorial subdivisions and the corresponding social and administrative organizational structure.

#### RESUME

## Patrimoine naturel et communautés locales en Ethiopie : avantages et limites d'un système d'Indications Géographiques..

Parmi les processus de reconnaissance, de valorisation et de protection des savoirfaire locaux sur la biodiversité, les systèmes d'indications géographiques semblent ouvrir d'intéressantes perspectives aux pays du Sud. L'Ethiopie est en passe de se doter d'un tel outil.

Il sera d'abord montré en quoi ce pays offre un champ d'application tout à fait exceptionnel à ce type de dispositif : de nombreux produits issus de l'exploitation de la biodiversité par des cultures humaines très variées, jouissent déjà de réputations liées à leur provenance; l'existence de marchés concurrentiels nationaux et internationaux rendent judicieux la mise en place de labels et de protection.

Cependant l'adoption d'un système d'Indications Géographiques n'est pas sans présenter certaines difficultés. Les spécificités du contexte éthiopien, aussi bien sociales, institutionnelles et juridiques qu'environnementales, amènent à s'interroger sur les limites, voire les éventuels risques, d'un tel système : valorisation inégale d'éléments de la biodiversité, normalisation et appauvrissement des savoir-faire, remise en cause des découpages territoriaux actuels et des organisations sociales et administratives correspondantes. In international talks on protection of biodiversity, the last five years have been particularly marked by a focus on "knowledge, innovations and practices of indigenous and local communities".<sup>1</sup> It is of course difficult, perhaps illusory, to define such complex and controversial notions in few simple terms. But once past this obstacle, the fundamental aim is to find new pathways for conservation, by strengthening the ties between human societies and the natural environments that surround them. Another aim is to find new ways to enhance the value of biodiversity and to share the benefits that can be drawn from it. Protection of ecosystems, species, plant varieties and animal breeds goes hand in hand with recognition of the knowledge and know-how of the societies that use them. Initially tools of sustainable management, this knowledge and these practices become in turn a heritage that must be inventoried, maintained, protected and brought to fruition (Cormier-Salem & Roussel, 2002).

From this point of view Ethiopia is an exceptionally rich example. This vast territory in the Horn of Africa (see map) offers remarkable biological diversity<sup>2</sup> alongside a wide range of human cultures, often implanted at quite ancient sites. Well known for its divers mountains ecosystems, Ethiopia is also a major world center from which cultivated plants originated (Engels *et al..*, 1991 ; Zemede Asfaw, 1997). It is thus not surprising that Ethiopia, strongly implicated in international talks, has emerged as one of the essential players in elaborating positions that are common to all of Africa, in international bodies such as the Food and Agriculture Organization (FAO) or the Rio Convention.<sup>3</sup> The "African model law" setting forth rules of access to biological resources and protection of farmers' rights was drawn up in Addis Ababa, seat of the Organization for African Unity (now the African Union) (Ekpere, 2001).

This text is the first African response to the Convention's requirement that signatory countries adopt legislative instruments to protect biological diversity. It aims to be a solution that is adapted to the needs of rural African communities in terms of legal recognition of collective rights to living organisms and practices pertaining to them. The authors of this model law see it as an alternative to the World Trade Organization's TRIPs agreement which is in their view too heavily based on recognition of private, individual and exclusive rights (patents, for instance).<sup>4</sup> The African proposal pertains above all to issues of access to genetic resources and protection of plant and animal-based products derived from these resources. The proposal focuses specifically on gaining recognition of collective property rights for African smallholder communities, but it makes no pronouncement on the legal arrangements described in section 3 of the above-mentioned TRIPs agreement. The latter aims to ensure recognition and protection of Geographic Indications; such a system which has been applied in Europe for the past century appears to be in many ways usable for protecting and enhancing the value of local products, know-how and diversity of biological features (Bérard & Marchenay, 1994). Even if such a tool is to be used cautiously<sup>5</sup> and needs to be adapted when

<sup>&</sup>lt;sup>1</sup> These are the exact terms of the Convention on Biological Diversity (Rio de Janeiro, 1992), specifically section j) of article 8 (*In situ* Conservation). Since 1996, and the Conference of the Parties in Buenos Aires, the issue of naturalist "traditional knowledge" is found on the agenda of all its negotiations, and a permanent *ad hoc* working group has been created. The group meets regularly (Madrid, 1997; Seville, 2000, Montreal, 2002...) and its analyses and recommendations can be found on the Convention website (<u>http://www.biodiv.org</u>).

<sup>&</sup>lt;sup>2</sup> From temperate highlands to tropical lowlands, dry coniferous forests to humid forests of coffee trees and arborescent ferns; from mountain prairie to savanna to desert.

<sup>&</sup>lt;sup>3</sup> Thanks in particular to Tewolde Berham, Gebre Egzabier, director of the Environmental Protection Authority (EPA) who is an especially charismatic figure.

<sup>&</sup>lt;sup>4</sup> The agreement on Trade-Related Intellectual Property Rights (TRIPs) is contained in annex 1 C of the Marrakech Agreement that instituted the World Trade Organization (15 April 1994). It includes a section 3, within chapter II, dealing with geographical Indications considered not only as a "indication of source "but also as a quality sign (appellation of origin)

<sup>&</sup>lt;sup>5</sup> Several papers focus on limits and difficulties of such systems as efficient tool for biodiversity and local knowledge protection and valorization. Bérard and Marchenay (2003) write "application of such a system is federative and bring coherence in production systems. Left to market laws this kind of products would be even more vulnerable. Yet, the protection procedures must not contribute to limiting the present diversity by

transferred out of European contexts, there is currently a strong demand about it from southern  $country^6$ .

Geographical Indications systems have been recently set up in Thailand, Andean Community or India... Some products from South countries are already identified by Geographical Indications belonging to a Northern system. These designations are very often attributed by European certification bodies.<sup>7</sup> because more often institutions of this type are steel scarce, outside of the industrialized countries of the North. In Africa, except for South African wines, it seems there is not yet such systems. **For** this reason the steps taken recently by the Addis Ababa Environmental Protection Authority are innovative and welcome. Working with French partners,<sup>8</sup> this authority has begun elaborating a project to set up a legal and institutional mechanism in Ethiopia for the recognition and protection of geographic indications and signs of quality.

The first objective of this paper is to examine the ways in which Ethiopia can provide a favorable terrain for application of this type of mechanism. Many products that make use of natural biodiversity already have reputations linked to their provenance. Do these reputation correspond to specific local know-how, environmental conditions and particular element of biodiversity so that it is worth protecting and valorizing it by Geographical Indications as mentioned in the Trips agreement? The second part of this paper is devoted to a series of related questions, focusing on the specific features of circumstances in Ethiopia, social, institutional and legal and well as environmental, that may impose limitations on the adoption of a system of Geographical Indications. This analysis looks closely at the possible effects on biodiversity conservation, social and environmental sustainability.

### The Main Issue: Is Ethiopia a favorable terrain for application of a Geographical Indication System ?

Many agricultural, food and handicraft products have long been designated by a geographic name: Ceylon tea, Ethiopian coffee, Cognac brandy, Havana cigars and Bohemian crystal, among others. Since the early 20<sup>th</sup> century France monitors and controls quality of the country's wines and spirits, enhances their value and protects them from competition and counterfeiting by mean of an Appellation of Origin system. While it has been extended to other products, notably poultry and cheese, it became in 1935 the system of "Appellations d'Origine Contrôlées (AOC) The European Economic Community adopted and enlarged the concept in 1992, in regulations governing Geographical Indications. Two years later this regulation model was mentioned by WTO into the TRIPs agreement.

Amongst the existing Gis all over the world, the European one is the oldest and one of the more diversified. In order to make understand in what such GI systems consist in, let us examine their mains features through the European exemple. Tree points are developed: a description of various types ; an elicitation of rationale underlying principals governing GI in general ; at last, a brief description of GI's implementation.

simplifying, stabilizing, formalizing and freezing - all this terms being antinomic to the very notion of diversity". <sup>6</sup> See for instance : OUA : "rapport final de la première réunion d'experts chargés de préparer le congrès

*culturel panafricain* (16 – 18 decembre 2002 Nairobi, Kenya): chapter 62, related to traditional knowledge "A geographical indication system may be used for general knowledge and patent for individual innovations".

<sup>&</sup>lt;sup>7</sup> For example, certain Tunisian wines are Certified Designation of Origin (*Appellation d'Origine Contrôlée* - AOC - the French equivalent of European Protected Designation of Origin, PDO). Shan Tuyet tea from Moc Chau (Solagral, 2000) and *nuoc mam* from Phy-Quoc, are two Vietnamese products for which registration applications as *AOC* were compiled by the National Interprofessional Bureau for Cognac.

<sup>&</sup>lt;sup>8</sup> This collaborative effort involves various research institutes, including the Institut de Recherche pour le Développement (IRD) and the Muséum National d'Histoire Naturelle (MNHN) for France, IBCR and EPA for Ethiopia. The project, entitled "Ethiopian gardens: enhancing the value of practices, production and biodiversity conservation *in situ*" has been successfully submitted to the French Global Environment Facility for funding.

#### Description

The European Gi system includes three kinds of quality signs (EEC, 1992): PGI, PDO and TSG.

- A Protected Geographical Indication (PGI) identifies an agricultural product or foodstuff with a place (most often a region, less commonly an entire country) where the product is grown, raised or elaborated.

- Protected Designations of Origin (PDO), which are specific cases of Geographical Indications, have the most explicit ties to place, as production and elaboration must take place within the specified geographical area. All product characteristics and its essential features are considered to be the outcome of both natural and human characteristics in the place it comes from. Well-known European "regional specialties" (*produits de terroir*) can be readily classified in this category, as they are the product of complex ties between environmental features, biological resources, traditional know-how, cultural identity and claims to a heritage (Bérard & Marchenay, 1994).

- The Traditional Specialty Guaranteed (TSG) label links the quality and specificity of a product to a tradition that is not necessarily related with a specific location. The tradition may regard as well methods of production or transformation, as the way to product raw materials and ingredients (Bérard & Marchenay, 1998, p. 169).

#### Rationale

At least for the two first cases the system basically aims to make existing links between a place and properties of products formally recognized. Specificity of such a labeling system is to give central role to place and correlatively to induce a very specific intellectual property right. "Place" is not defined on a land tenure basis. A Geographical Indication is always attributed to a group of local growers of the product at that place; it is a **collective intellectual property right.** It can't be attributed to a company or a single individual. It has three other properties: it is inalienable but transmissible to next generation and imprescriptible. This has very specific implications.

None member of the group can sell or transmit the right per se. One can sell or transmit a land located in a place, which allows to get access, under additional conditions defined by specification (see here under), to the right. To produce within the place is clearly a prerequisite to benefit from GI's related rights.

Moreover, not only product but also producers' groupment must remain closely related to the place: contrarily to corresponding know how which might be adapted somewhere else by all or some members of groupment, the collective intellectual property right that is a PGI or a PDO can't be transferred elsewhere. By definition it is linked to the place, and a place can't be moved out. Because of the same tight link with place, it can't be sold separately as well, contrarily to a patent.

Lastly, because of its imprescriptibility the right is necessarily transmitted over time and only on a collective basis: while individuals are temporary entities, place as well as place's people, in other words 'local community', will keep staying there overtime. Actually, it looks as if the place was the real owner of the right of which humans related to were only beneficiaries of the usufruct. Of course law does not say that explicitly. This formulation rather sums up logical reasoning underlying the four principles governing this intellectual property right that legal expert consider as very specific<sup>9</sup> However, it might be a commonly spread mode of socialisation of nature. Very similar treatment of natural objects can be observed in quite different cultural contexts. That is the case with *chagga* people's home gardens in Tanzania: a home garden becomes *kihamba* when it is considered 'mature' that is, from the one hand, including all required natural components and more specifically old big trees and on the second hand, having been inherited one time. Instead to be an individually owned capital the *kihamba* comes to be a collective patrimony: the one who inherits can

<sup>&</sup>lt;sup>9</sup> See Hermitte M.A., 2001

benefit from during his life time but can't sell and has to transmit it to next generation maintained or improved  $^{\rm 10}$ 

However, the place we are dealing with cannot be reduced to its geographical or environmental characteristics alone. While the product qualities are associated, in full or in part, with a geographical origin and in most cases, the product name includes the place name, the place in question is not merely a locality, in that sense of a set of coordinates in space. In the anthropological meaning of the term, a place is also a construct, both material and symbolic, of the space and its resources by a group that identifies with it.<sup>11</sup> In present case the construct consists of organizing relationships between natural and social aspects, to ensure a durable coexistence.

The producers' association, indeed the group associated with the place, guarantees the know-how embodied in the product and is accountable for product characteristics. In sum, the renown and market value of the product are based on this relationship, and not only on given cultivars or species, under given environmental conditions. On the one hand, continuity in products' characteristics is due to a codified treatment of natural resources. On the other hand respect of the same codified know how regarding natural components make producers share a common relationship pattern with the place, as both a set of resources and a territory. In turn, place becomes a main feature of local group identity. Even more, one might say this relationship is what defines a "local community" whatever indigenous or not its members could be. This type of social construct we have called 'place' after de Certeau and Augé, is an exemplification of those "spatial devices anthropology uses to study" (Augé ibid. p. 58) and general property of which is to articulate identity and relationship. But the so defined 'places' have an other property: they are historical in that sense they are subject to new interpretation and rebuilding according to contextual changes.

#### **Practical implementation**

GIs labellisation requires spelling out some norms concerning the product. They are listed into a text called "specifications<sup>12</sup>" which are drawn up in the request for registration of a Geographical Indication. Producers' association that is requesting the label elaborates this text and will be the owner of the Geographical Indication that is, as mentioned here above, a collective right.

Specification describes in detail conditions for production, harvesting, processing and transformation. This document can also contain information about plant species and varieties, animal breeds, ecology and geography: specific boundaries of production zones, list of eligible villages, etc. The "personality" of the regional specialty is thus spelled out, but it is always possible to amend this definition by introduce other types of criteria in order to match with market or social and environmental sustainability or to fulfill requirements for organic and fair trade label. The specification can be revised at any time but only at the request of the producers 'association involved.

Gis labellisation process requires the settlement of institutions insuring compilation registration applications, label delivering, following up and control of production conformity.

To conclude about these three points it may be useful to underline main interesting properties of GI systems :

- first, they are a mean to enhance market value of local productions but because of the link they make between product quality and a very place they become a multi purpose tool that can be used notably to address environmental issues as protection of biodiversity<sup>13</sup>;

- second, they are flexible : they can be modified overtime to take in account a large variety of concerns, not necessarily economic ones;

<sup>&</sup>lt;sup>10</sup> See Verdeaux 2003

<sup>&</sup>lt;sup>11</sup> See M. Augé (1992) and M. de Certeau (1990).

<sup>&</sup>lt;sup>12</sup> The french term "cahier des charges" is often employed.

<sup>&</sup>lt;sup>13</sup> Let us notice that Ethiopia emphasizes that facets of this tool by choosing to put Gis system setting up under Environmental Protection Authority.

- lastly, as we are going to see in a part dealing with their adaptation to Ethiopian context, they are both a collective and a bottom up process requesting willing and full involvement of local communities.

#### PRODUCT MARKETING AND PROVENANCE IN ETHIOPIA

Are there products in Ethiopia that fit into this conceptual framework? A few hours in the big market places of Addis Ababa, the famous *Mercato*, *Shola* or *Shiromeda*, gives ample proof of this. These markets of course exist to supply city consumers, but they are also major trading hubs where wholesalers deal in products from all of Ethiopia. They thus provide a good lookout point for observing trade in agricultural commodities and foodstuffs.

The market products whose commercial reputations are linked to a geographical or cultural provenance are too numerous and diverse to be listed here. We will simply choose some examples that demonstrate the existence of potential geographical indications and regional specialties at both national and international level. In Ethiopia such products come from livestock and animals (meat, butter, honey, leather, among others) as well as from plants. All of our examples come from the latter category, however. Our aim is to illustrate the ties, which link a place with those products..

#### National level

In Abyssinian marketplaces, fruit and vegetable stalls have the particular feature of being more or less completely specialized in a certain type of product. Some stalls consist of large open sacks from which customers dish out grains and cereals (*ehel*), whole or ground into flour, and various condiments and spices (*kemam*).<sup>14</sup> Other stalls sell fruit, vegetables, leaves, coffee berries and beans (*atakelt*) displayed in carefully calibrated piles. Some stalls sell only condiments or bales of *khat*. Lastly, others are specialized in perfume plants (myrtle, mugwort), and aromatic resins and barks such as incense and myrth.

All of these stalls offer some products for which provenance is advanced as a selling point. A grain vendor in Addis Ababa will justify the high price asked for a measure of *tef* by specifying that the grain comes from the Debre Zeit region : this particularly with teff is said to be "kings tef". Oils and oilseed plants from the northern Shoa district, particularly safflower (*suf*), sesame (*sälit*) and guizote (*nug*) are graced with favorable reputations.<sup>15</sup> It is more difficult to find a "regional specialty" effect for legumes and the highly popular coral-lentils (*messer keq*<sup>16</sup>) which are generally sold without any reference to place of origin.

Among spices and condiments, good housekeepers in Addis Ababa especially seek out long pepper (*temez*) and *kororima* malaguetta (malaguetta pepper, grains of paradise or Guinea grains).<sup>17</sup> They can choose among several principal provenances for the latter (Kaffa, Ilubabor and Welega). The provenance can be distinguished in the product itself: pods from Kaffa smell of smoke and are pierced with a hole at the top, signs of the way they are dried.

<sup>&</sup>lt;sup>14</sup> It is not easy to find equivalencies for these different plant categories in Amharic. E. Chouvin (2003) notes that *ehel* covers a group of sown plants from which fruits and grains are harvested: these include grains such as *tef* (*Eragrostis tef* (Zucc.)Trotter), barley and maize, as well as legumes (*Pisum, Lens, Vigna*) and oilseed plants such as safflower and sesame. The term *atakelt* designates hill-drop sown plants or line-planted vegetables (garlic, onion, cabbage, tomato, etc.) and fruits (oranges, peaches, apples, bananas, papaya, etc.) Coffee and certain stimulant plants like *khat* (*Catha edulis*) are also in this group. *Khat* is sold in highly specialized commercial circuits, and special places are reserved for it in marketplaces. Two other types of plants have a fundamental role in the daily life of Ethiopians: condiments and spices (*kemam*) and perfume plants (*etan*).

<sup>&</sup>lt;sup>15</sup> Respectively *Carthamus tinctorius* L. (*Asteraceae*); Sesamum indicum L. (*Pedaliaceae*); Guizotia *abyssinica* Cass. (*Asteraceae*).

<sup>&</sup>lt;sup>16</sup> These are the pinkish-orange cotyledons of the seeds of *Lens culinaris* Medik. (Fabaceae) from which the outer coat has been removed.

<sup>&</sup>lt;sup>17</sup> This Zingiberaceae, *Aframomum corrorima* (Braun) Jansen, is gathered in forests, and also grown in gardens. It is a basic spice in Ethiopia, used to *flavor* coffee and as an ingredient in various widely used condiments (*berbere, mitmita, awaze*, among others).

As for pepper in bunches, <sup>18</sup> housekeepers often prefer long exotic pepper to the local variety; it must be said that the latter, gathered in humid forest areas, is often musty, poorly dried and full of miscellaneous debris.

Shops and stalls specialized in aromatic plants offer a wide variety of products, in particular a great many resins and gums for incense. These are used in *zar* rituals, as well as for perfuming, cleansing and protecting the places of worship of the Abyssinian Church. They are often burned in private homes, notably during the "coffee ceremony" (Pankurst, 1997). Five or six different kinds of myrrh (kerbe) are found in the markets, with varied scents and colors: the most commonly found varieties come from Tigre, Ogaden and Asmara, according to Goettsch (in Engels et al., 1991). The reference to geographical origin does not appear to be an essential selling point, however; according to vendors the different qualities, which are recognized by the scents and the way the resins burn, are related to the kinds of trees which produce them.<sup>19</sup> Along with myrrh vendors propose incense (*etan*), resin exuded from trees of the Bostwellia genus (etan zaf) which grow just about everywhere in the lowlands of Ethiopia. Specific provenance is not referred to at the time of sale, although the Harar region, a major producer, is often mentioned. Inversely, *etan* is an ingredient used in an aromatic mixture which has specific geographic origins. This is the product called *misketi*, traditionally made in Dire Dawa. It is particularly appreciated by Ethiopian Muslims who burn it during khat consumption gatherings. It contains various ingredients (cf. Goettsch, op. cit., p. 117); in addition to incense there is sugar and benzoin, called lubanja or *libanja*, an imported resin.<sup>20</sup>

This inventory would not be complete without mention of two stimulant plants that are very popular in Ethiopia: *khat* and coffee. They have many uses, in particular medicinal and ritual uses: Radt (1971) like Mercier (1980-1982) emphasizes the links between coffee, *khat* and *zar* cults. Regarding *khat*, aficionados can find a range of qualities in the markets, with such distinct effects and tastes that astute consumers can make up their own personal blends.<sup>21</sup> Amare Getahun and Krikorian (1973, p. 361) cite seven "market types" for the city of Harar, in the heart of the oldest producing and consuming region. The "market types" are recognized by their appearance, which reflects environmental conditions as well as agricultural practices and the season of harvesting. For their part growers distinguish between different cultivars: *dimma* (red khat), *dallota, mohedella* (which are all green types of *khat*, *ahde*), among others.<sup>22</sup> But no mention of any local influence has yet been noted in Ethiopia. There is nothing comparable to the situation in Yemen, for example, where different varieties are named after places. It should be mentioned however, that the data are not recent: the current boom in consumption and extension of *khat* growing in many regions of Ethiopia could well have induced local particularities in *khat* quality (van der Vossen, 2002).

Now is the time to take a closer look at coffee. The species *Coffea arabica* L. originated in Ethiopia, contrary to what the name that Linnaeus gave it might lead us to think, and coffee consumption is a very ancient practice there. Unlike coffee brews in western

<sup>&</sup>lt;sup>18</sup> Three species of pepper in bunches (Piperaceae) grow in Ethiopia. *Piper umbellatum* L. is American, and grows in forests which have been more or less disturbed (we have seen it near Bona, in Kaffa); its fruit is not eaten. Inversely, *Piper longum* L. and *Piper capense* L. f. are much appreciated: the first, originating in India, is an imported product which is abundant in the markets. It also appears to be grown along with coffee trees in certain big plantations in Ilubabor (Edwards *et al.*, 2000). The second variety is very common in the undergrowth of humid forests in Kaffa where it is actively gathered (Feleke Woldeyes, 2000).

<sup>&</sup>lt;sup>19</sup> These are various species of *Commiphora* (Burseraceae), see Hedberg & Edwards, 1989, p.446.

<sup>&</sup>lt;sup>20</sup> A sample of *lubanja* was examined by Esther Katz of IRD. The sample is a piece of "gum benjamin", benzoin incense bloc made (in Java, Sumatra ou Singapore) from pressed benzoin resin (*Styrax* paralleloneurum Perk *et* S. benzoin Dryand) blended with *damar* resin (*Shorea sp.*) and other ingredients. The examined sample was probably made in Singapore (it was pressed on a newspaper in English) and traded through Dubai. According to Ethiopian informants, *lubanja* trading networks all over Est Africa are mainly in the hands of Arab merchants. *Lubanja* derives from *luban jawi* (Sumatra frankincense), the name for benzoin in Arabic. Arab traders started importing benzoin from Sumatra at the end of the Middle Age (Katz *et al.*, 2002)..

<sup>&</sup>lt;sup>21</sup> *Khat*, or *kat*, *Catha edulis* (Vahl;) Forsk; ex Endl, is a shrub in the *Celastraceae* family: the green leaves and fresh young shoots are chewed for their stimulant and euphoric effects.

<sup>&</sup>lt;sup>22</sup> See Radt (1971) p. 44; Amare Getahun and Krikorian (1974) p. 361; van der Vossen. (2002).

countries where just the beans are used, in Ethiopia the leaves and the husks of coffee berries are used as well. Both are used in teas or decoctions, notably in the coffee producing regions (Mercier, 1980-1982, p. 146). The husks and beans can also be mixed with butter, honey or rough salt, to be used in making flat cakes, dumplings and porridge.<sup>23</sup>

The most widespread and emblematic mode of coffee consumption in Ethiopia is a process of three successive boilings of green coffee beans that are cleaned, then roasted and ground just before being thrown into a coffee pot where they boil for a few minutes. The decoction is then served in cups where it can be flavored in various ways, with *kororima* malaguetta, Ethiopian rue or cloves. This "coffee ceremony" with strong religious connotations is an essential moment in social and family life (Pankurst, 1997). This explains the particular care that housekeepers devote to the choice of beans; a purchase of coffee from Harar, Sidamo or Kaffa, the three main producing districts, may be a question of fashion, but it often reflects the regional origins of the family. However that may be, in city markets coffee beans are identified and distinguished by their geographic origin.

#### **International level**

This initial survey of the significance given to the origin in trade of Ethiopian products must include also a look at the international market. In this arena, a certain number of products originated from Ethiopia are very highly regarded. We could of course point out the great esteem that major European perfume manufacturers have for musk of the Abyssinian civet cat. In the realm of plants, let us note that Ethiopia, with South Yemen and Somalia, dominates the world market for myrrh and incense. Ethiopian resins are also actively exported to all the surrounding countries in the Horn of African and the Arabian peninsula. However Ethiopian production is not always thought to be the best: on the international market, Ethiopian incense does not have the reputation of incense from Oman or even Somalia.<sup>24</sup>

Coffee is clearly the emblematic product of Ethiopian exports. Although this country accounts for only a medium-sized share of the four million metric tonnes of Arabica produced annually worldwide, it is nonetheless the largest producer in Africa.<sup>25</sup> Ethiopian coffee varieties have long enjoyed a reputation for excellence. From the 1930s to the 1950s two major commercial classifications were used for Ethiopian coffee. Harar, also known as "*mocha* Harar" coffee beans came from plantations in the region of the same name.<sup>26</sup> "Abyssinian" beans came primarily from wild forest stands or semi-cultivated trees, but also from gardens and plantations, in the southwestern regions of the country: the provinces of Kaffa, Ennaria (Sidamo), etc. (Coste, 1961). Fifty years later, Ethiopian producers offer nine different provenances on international markets. Harar are still considered to be among the best dried coffee beans in the world, and Yirga Cheffe one of the best types of washed coffee beans.<sup>27</sup> In addition to indication of their origins, coffee exported from countries that are members of the International Coffee Organization, including Ethiopia, are graded according to

<sup>&</sup>lt;sup>23</sup> In certain Oromo groups: Mercier (1980-1982) p. 145-146; Chevalier (1929) p. 5.

<sup>&</sup>lt;sup>24</sup> Ethiopian incense comes mostly from Boswellia papyrifera (Del.) Hoschst. Somali and Arabian types of incense are derived from B. sacra Flück

<sup>&</sup>lt;sup>25</sup> Coffee growing occupies 400 000 hectares in Ethiopia and total production is in the vicinity of 230 000 metric tonnes, over half of which is consumed domestically. Overall coffee (cultivation, harvest, trade, processing) provides a living for 10 million people (Wiren, 2002).

<sup>&</sup>lt;sup>26</sup> The term *mocha* comes from the name of the port in Yemen through which Arabian and Abyssinian coffee was shipped. Now this term designates a special taste for connoisseurs, highly appreciated for "espresso" coffee. Ethiopian coffee varieties are often globally described as mocha (*mocha* Sidamo, Ethiopian *mocha*); Harar beans, however, are considered to have the most typically "*mocha*" taste.

<sup>&</sup>lt;sup>27</sup> These provenances are: Jimma, Lekempti-Gimbi, Sidamo, Yirga Cheffe, Ilubabor, Harar, Limu, Tepi et Bebeka (Wiren, 2003). According to the Coffee and Tea Authority (www.ethcoftea.org) Ethiopia exports comprise 70% dried coffee and 30% washed coffee. Preparation of coffee beans by washing is the process that best conserves their aroma: first the beans are depulped in water (yielding parchment coffee, the beans still enveloped in a thin shiny film), and then further washed to obtain stripped beans ("washed coffee"). Drying is the process most commonly used by smallholders in Ethiopia, who spread their harvest to dry in the sun, to obtain first husk coffee, and then after shelling "natural coffee".

quality. This very precise grading goes from 1, the best, to 5, the most ordinary. Categories 3 and 4, the most commonly encountered, are often called UGQ, for Usual Good Quality. Five types of washed Ethiopian beans are exported with the grade 2; dried beans are graded either 4 or 5.

The role of provenance in marketing cannot be discussed without evoking, in conclusion, the distribution of the value generated by these products, and above all by coffee. Even as Ethiopian coffees are more and more in demand,<sup>28</sup> prices have fallen steadily and drastically over the last ten years. Prices paid to producers went from US\$1.39 to \$0.51 per kilogram between 1998 and 2000<sup>29</sup>. Where Ethiopia took in US\$400 million for its coffee exports in 1999, today it receives only \$160 million for a slightly lower quantity. The different quality label schemes that can be envisioned, Protected Designations of Origin and others such as environmental certification, offer a way to inform consumers of what coffee roasters in the major importing countries already know and recognize, i.e. the superior quality of the different types of Ethiopian Arabica.<sup>30</sup> In the meantime, it can only be observed that this recognition of quality on the part of national buyers and international professionals is in no way reflected in the New York market that plays the role of the world trade exchange for Arabica.

#### LABELING OF ENVIRONMENTAL AND CULTURAL ORIGIN

Market studies alone are not sufficient to satisfactorily explore the issues surrounding regional specialties and traditional know-how. We must also look at the conditions of production. What meaning can be attached to the places referred to in mentions of provenance? What territories do they correspond to? In light of the objectives for implementation of such a tool– conserving and enhancing the value of biodiversity and naturalist knowledge– two other sets of questions must be raised. Do commercial provenances correspond to specific features of biological resources? Are they correlated to distinctive local know-how?

The examples we have listed above cover a range of highly diverse situations. The provenance "Debre Zeit" indicated for *tef* sold in Addis Ababa corresponds to a place near Addis Ababa from which most of the *tef* sold in the market comes, because this place is located in a band of altitude that is favorable for this crop. The grains are quite possibly of good quality, but the link with a particular variety or with distinctive agricultural practices is not clearly established. It appears each trade center, each market will thus have one or more preferential sources of supplies: for *tef*, these are areas of middle altitude, the *waynä däga*, where temperature and water conditions are most propitious for this crop.<sup>31</sup>

The example of *kororima* malaguetta presents a quite different situation. The products from the two main source regions (Kaffa and Gamo-Gofa) are readily distinguished in their final form, and correspond to very different practices which in turn are shaped by distinct environmental factors. Kaffa malaguetta (more precisely the product from Bonga and environs, i.e. the coffee forest zone) is pierced to allow smoke drying: long necklaces of pods are suspended above the household hearth. The very humid climate of this region means that sun drying of the product, spread directly on the ground, is not always possible. Furthermore, work by Feleke Woldeyes (2000) has clearly shown that this highly prized spice has a pivotal place in the distinctive production system set up by the *Kefficho* people. This system closely links home gardens (*daadegoyo*) with different types of forest, more or less managed.

<sup>&</sup>lt;sup>28</sup> Currently the greatest rate of growth is seen for Jimma UGA destined for the United States.

<sup>&</sup>lt;sup>29</sup> See Wiren 200

<sup>&</sup>lt;sup>30</sup> Id, 20033.

<sup>&</sup>lt;sup>31</sup> To understand representations, exchange and management of farm operations it is essential to take altitudinal divisions into account. The *wayna dega* corresponds to altitudes between 2 000 and 3 000 meters above sea level, depending on the site. Here are found the conditions most suited to "temperate" crops like *tef*; these altitudes are often thus often the most heavily populated (Chouvin, 2003).

Malaguetta, like long pepper, is generally harvested in community forests (*kubbo*), under spontaneous-growth coffee trees which are themselves exploited. But malaguetta is also transplanted into gardens, indeed like coffee trees, notably when forest cover is sparse or too far away. A "Kaffa" designation of origin could provide a way to enhance the value of these three products, coffee, malaguetta and long pepper, and help preserve a mode of production that rests on an interesting feature of biodiversity. The famous coffee forest, with its numerous varieties of coffee, is vaunted by botanists; its horticultural diversity<sup>32</sup>, some 170 species identified by Feleke Woldeyes (2000) is also exceptional. Regarding the biodiversity of malaguetta itself, there are no studies in the literature that establish a difference between plants from the two producing regions: Gamo-Gofa malaguetta belongs to exactly the same botanical species as Kaffa malaguetta. But the former are generally bigger and plumper than the latter: is this variation due the fact that they always come from cultivated plants, or to a genuine varietal difference? It is impossible to say, for the time being.

With coffee the situation is quite different. The broad diversity of varieties is evident, even if it is not yet thoroughly understood (Tadess Woldermariam Gole *et al.*, 2002, pp. 237 and 247). It is generally not known whether the distinctive nature of a provenance is due to the genetic make-up of the coffee trees involved,<sup>33</sup> to environmental factors in the place of production, or to cultivation practices or processing of the harvest. As far as coffee growing goes, there does not seem to be much difference from one producing area to another, nor are practices particularly homogenous within growing regions. Under the same provenance is found plantation-grown coffee, coffee harvested from spontaneous-growth trees, and garden coffee.<sup>34</sup> Commercially speaking the preferred treatment is wet processing (washing), a recently introduced process that does not stem from local tradition.

Finally, we would like to point out that the correspondence between currently recognized provenances and territorial subdivisions are not well defined. Some provenances are clearly ancient centers of production, such as Harar. Others correspond to specific environments, for example Kaffa and its coffee forest. Still others, like Yirga Cheffe, appear to designate the territory of specialized village communities and dynamic producers that have joined to form well organized associations. The territorial and "cultural" insertion of each of these provenances remains to be spelled out. If the notion of "designation of origin" is applied to Ethiopian coffee, the crux of the problem will lie in drawing up Terms of Reference (specification) for each provenance. These terms will have to define and reflect the biological, environmental, cultural and territorial identity of each provenance, and adapt to market requirements.

In the face of competition from Yemen and more recently Madagascar, will the authorities of Ethiopia, officially a *khat*-exporting country, want to enhance the value of Ethiopian products with a geographic label? *Khat* would seem to lend itself to this approach: a range of recognized and appreciated provenances, varietal diversity, deep-rooted cultural and environmental insertion in a multitude of forms. In southeastern Ethiopia there is truly a landscape of *khat*. This precious shrub, with relatively high water needs, is grown by smallholders grouped in communities around sources of water. A spectacular example of this is found in the Harar mountains where kilometers of terraces climb up the slopes to the highest springs where water is captured by a system of channels and conduits and brought to the foot of each shrub (Amare Getahun & Krikorian, 1973). But is it appropriate to give a further boost to a crop that already tends to spread excessively, and to a plant that has undeniable negative social consequences when consumed?

<sup>&</sup>lt;sup>32</sup> More broadly, Ethiopian home gardens offer a large crop diversity (Zemede Asfaw, 1997) with. They will most certainly provide majority of products likely to be labelised as "local speciality".

<sup>&</sup>lt;sup>33</sup> According to Mesfin Ameha, for Harar coffee alone there are over four different cultivars (in Engels *et al.*, 1991, p. 355).

<sup>&</sup>lt;sup>34</sup> Current Ethiopian production is derived for 50% from forestry coffee trees, 40% from garden trees and 10% from plantation trees, according to *Robera Coffee Exporters* (www.coffemocha.com)

Turning now to oilseed plants, we find another configuration.<sup>35</sup> Ethiopia is the original source of nug (Guizotia abyssinica), and a center of varietal diversification for safflower and sesame: a distinctive genetic identity is thus certain. Work by Chouvin (2003, pp. 154-155) shows that in the region of the central Abyssinian plateaus (Shewa), raising plants for oil is an ancient activity, calling upon sophisticated agronomic practices and distinctive modes of processing (extractions and blends). Longstanding territorial specialization is found. In the Aliyu Amba, region there are genuine "lands" (the Amharic term is agär) whose distinctive traits lie in the production of certain oilseed crops: the corresponding village communities base their identity on this specialty. There are "safflower lands", "flax lands" that possess know-how and products whose nature and quality are recognized in markets, at least on a local scale. These "lands" correspond to local vicinity territorial units that hark back to earlier subdivisions: parishes (mandär), estates of imperial dignitaries, etc. Today's administrative units, the *gäbäle*, are an outgrowth of the most recent agrarian and land reforms: they underpin application of agricultural policy and aid to farmers, and the corresponding local communities are structured into a similar number of farmers' groups (gäbäre mahebär). These qäbäle rarely coincide with the agär (Chouvin, op. cit., p. 158), which will not make it any easier to implement Protected Designations of Origin.

In conclusion we mention other Ethiopian products: aromatic resins and shelled lentils (*messer keq*). Both of these have the particular trait of not being associated, as things now stand, with any specific territory, landscape or cultural group. Regarding myrrh and incense, we recall that these products do not have a particularly good reputation, excepting the *misketi* blend, traditionally made in Dire Dawa. This blend cannot benefit from a PDO because it is made using ingredients imported from abroad (benzoin, for example). By contrast, it could easily be protected and its value enhanced by a Traditional Specialty Guaranteed label. As for coral lentils, which are grown and processed throughout Ethiopia, a simple PGI could be used to promote the provenance "Ethiopia" on the world market, which is particularly buoyant right now. Nutritionists and gourmets with a penchant for "world food" are enthusiastic fans of this foodstuff, which comes primarily from the Middle East and India (under the name *dahl*).

#### THE UNKNOWNS OF AN INSTITUTION TRANSFER

Agricultural development projects are most often conceived in terms of technology transfer, be it introduction of new plant varieties, tools or production techniques, better management of water resources or preservation of soil fertility. The introduction of a system recognizing Geographical Indications is in outline the symmetrical inverse of these approaches, insofar as it aims, not to produce differently, but on the contrary (at least in theory) to recognize and enhance the value of products derived from existing resources and know-how. If there is a transfer here it is more along the lines of a transfer of an institution.

Transposition of a legal and institutional mechanism from a European context to Ethiopian circumstances is not without difficulties. The notion of endowment building that underlies recognition and claims for regional specialties has a strong cultural dimension that calls for reinterpretation, modulation and adjustment in adapting from one context to another. Designation of Origin systems are institutional and legal mechanisms that came into existence in a specific socio-historic context, that of western European societies in the first half of the 20<sup>th</sup> century. They have evolved over time, demonstrating their flexibility and adaptability to changing social and economic conditions. Simple trade protection tools at the outset, today they are likely to be assigned the role of preferred instruments for building up an endowment of natural resources and local knowledge (Bérard & Marchenay, 1994). The Convention on

<sup>&</sup>lt;sup>35</sup> We remind readers that the international market in oilseed foodstuffs is growing rapidly, and that western demand for new and healthy products (rich in essential fatty acids, omega 3 etc.) is increasingly strong. In these circumstances sesame and safflower oils are in particularly high demand.

Biological Diversity and the recent recognition granted by the European Union and the World Trade Organization testify the raising interest for Geographical Indications.

For one thing, it is not sure that the twin functions associated in the Northern Countries with Designations of Origin, which are to enhance the value of local products and know-how while protecting biodiversity and related practices, will be both maintain in Ethiopian context. For instance, in the case of a designated provenance for coffee, some stakeholders could see the opportunity to develop plantation's coffee to the detriment of garden and forest coffee. Including precise descriptions regarding conditions of production into specifications could possibly counteract this type of drawback.

A successful valorization of a product may lead to threaten some biodiversity elements, for instance some varieties or species that are not include within the specification. This negative effect could be corrected by setting up within concerned areas, biodiversity conservation instruments– seed banks, botanical gardens – in parallel with each Geographical Indication. These instruments would conserve the genetic resources that support the labeled products, but also the resources potentially jeopardized by over-exploitation of the former.

Insofar as these problems can be anticipated, we examine here three type of difficulties that might well be encountered in setting up this mechanism: institutional difficulties in creating producer groups; the need to bring in stakeholders and facilitate relations between their networks; and lastly steps to ensure market value by informing distributors and final consumers of specific product features.

Registration of a Geographical Indication is a form of intellectual property right that is very different from a patent: it is a collective, inalienable, and imprescriptible right. It enables a community of producers related to a define area to obtain an exclusive right covering their knowledge and know-how concerning some elements of nature. This assumes, of course, that adequate national legislation is in place, containing specific protection measures. These measures have not yet been adopted in Ethiopia, but compared to patent law it would be relatively easy to set them up (Solagral, 2002).

A Geographical Indication mechanism must be supported by strong institutions. The first condition is a national quality-label institute that ensures certification, the equivalent of the *Institut National des* Appellations d'Origine, INAO, in France. Above all communities of producers must be robust, because they will be the ones to apply for the label, draw up the terms of reference, ensure traceability of their products and, at least in part, bring the products to market. This is undoubtedly where the greatest difficulties will arise. In Ethiopia official farmers' association abound (*gäbäré mahebär*), corresponding to entities that are spatial, social and administrative, the *qäbäle*. These jurisdictions do not necessarily coincide with earlier territorial and social units, nor to subdivisions corresponding to potential regional specialty products, as we have seen for oilseed plants.<sup>36</sup> Where coffee is concerned, and perhaps *khat*, today's farmers' associations seem to have a long history of organization around their production (F. Bart, *in* Tule *et al.*, 1994). Consequently these groups should logically be appropriate interlocutors for eventually setting up Geographical Indications. For other products that have up to now been marketed locally, such as malaguetta or long pepper, producers' groups will most likely have to be informed, assisted, or even elicited.

The success of a Geographical Indications mechanism is dependent on its economic and social success. All stakeholders must benefit. For producers the outcome at stake is to preserve their distinctive ways of life, retain control of their practices and resources, while extracting greater profit from their products by minimizing price depletion trend of World Trade Exchange. Local and regional specificities recognition are fully compatible with the

<sup>&</sup>lt;sup>36</sup> Recent administrative subdivisions sometimes take distinctive features of local production into account. Chouvin notes that a new district was created in 1996, the special *wäräda* at *Gačene*, near Aliyu Amba, that corresponds to the territory of a group, the Argoba, which possesses a distinctive system of production based notably on irrigated cotton crops (Chouvin, 2003, p. 168).

policies of decentralization, regional autonomy and consideration of cultural and even ethnic concerns pursued by Ethiopia, which became a federal State in 1992 (Gascon, 1995).

For buyers, the objective is to obtain from farmers the quality and regularity of supply they need. This means setting up instances for coordination between the different stakeholders, not only for drawing up the terms of reference at the beginning of the process, but also farther down the line, to stay in tune with market requirements.

And lastly, there must be demand from distributors, and final consumers. The existence of GI mechanisms that guarantee product personality could provide strong selling points for the promotion of Ethiopian products in international markets. To start with, it is known that there is a demand of GI for coffee. This indication would help fight mixing of Ethiopian coffee with coffee from elsewhere.<sup>37</sup> Furthermore, to specialists the designation and promotion of new products and quality guarantees appear to be good ways to counter falling prices and climb out of the world crisis. Ethiopia is indeed one of six African countries forming the African association of quality coffee that aims to develop production of fine coffees and promote labeling by provenance (Wiren, 2003). Two types of certification stand out among the most promising options: the "fair trade" label and "organic" foods. Geographical Indications follow a similar line of reasoning: they are based on traceability of products and can provide better remuneration to producers. Regarding "organic" certification, it can be easily integrated into the terms of reference for regional specialties.

#### CONCLUSION

Ethiopia would without a doubt be a particularly favorable terrain for a Geographical Indications system. Likewise, there is no doubt that a transfer of this institutional mechanism for endowment building, designed in the North for the countries of the North, would have to be adjusted to fit the circumstances of Ethiopia. The most obvious of these necessary adjustments would be integration of farming communities within the mechanism set up to enhance product value. Geographical Indications require the existence of strong and wellinformed producers' groups that are active in the sales and promotion chain. This supposes dedicated financial resources, training and eventually mediation (through NGOs initially, later under professional bodies). Though, implementation of GI is at local level, they need a strong support from central State bodies. Another difficulty would seem to lie in the articulation between enhancing the value of products and practices, on the one hand, and conservation of the biodiversity of the resources and natural environments involved. This second aim is at risk of not being always well received by farming communities. What is more, an excessive emphasis on certain products may run the risk of freezing up dynamic situations, or disturbing a delicate balance. Will this process create sufficient added value to fund compensation for conservation, requiring mechanisms that are often unwieldy and costly?

For all these reasons, the innovative action of the Environmental Protection Authority which has originated this transposition project merits attention and a meticulous follow-up. The lessons learned from this experience will allow us to take stock of the problems that arise in setting up this kind of mechanism and highlight the adaptations needed if the experiment is to be repeated elsewhere.

It should not be forgotten, however, that while Geographical Indications mechanisms have proved themselves in terms of conservation and extracting greater value from local knowledge and biodiversity, originally they haven't be created for that and they have limitations. They involve only certain components of useful natural resources, and lend themselves less easily to consideration of other components of the natural environment. Recourse to other systems can help complement the action of GI mechanisms. Environmental certification, or quality labels, linked to reserves and natural parks could bind conservation more closely with development of communities adjacent to protected areas. And lastly,

<sup>&</sup>lt;sup>37</sup> PGIs are automatically covered by article 22 of the WTO TRIPs agreement, providing a legal instrument to combat fraudulent use of the indication.

systems to protect and increase the profits small farmers gain from plant production would help strengthen bonds between farmers and ecosystems and species that they have improved, and even domesticated, as in frequently the case in Ethiopia. In this way the Konso people will be able to maintain and make the most of the identity that ties them to their celebrated *shelaqta*,<sup>38</sup> a tree "of many uses" that they in all probability domesticated, and which is the emblematic resource of their production. (Demeulenaere, 2001).

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<sup>&</sup>lt;sup>38</sup> Moringa stenopetala (Bak. F.) Cuf., Moringaceae

#### **BIBLIOGRAPHY**

- AMARE GETAHUN & A. D. KRIKORIAN, 1973.- Chat : coffee's rival from Harar, Ethiopia. I. Botany, Cultivation and Use. *Economic Botany* 27 : 353-377.
- Augé M.,1992.- Non-lieux Introduction à une anthropologie de la surmodernité. Le Seuil, Paris, 150 p.
- BÉRARD L. & P MARCHENAY,., 2003 "Diversity, protection and conservation :conservation: local agricultural foods and foodstuffs", in :in G. SANGA G. ET & G. ORTALLI (dir.), Nature Knowledge, Ethnoscienceethnoscience, Cognitioncognition, and Utilityutility. New-York, Oxford : Berghan Books, PP. 366-379.
- BÉRARD L. & P. MARCHENAY, 1994.- Ressources des terroirs et diversité bio-culturelle. Perspectives de recherche. Journ. d'Agric. Trad. et de Bota. Appl., nouvelle série, Vol. XXXVI (2) : Paris, 87-91.
- BÉRARD L. & P. MARCHENAY, 1998.- Les processus de patrimonialisation du vivant et leurs conséquences. In POULOT D. (Ed.), *Patrimoine et modernité*, Paris, L'Harmattan, 159-170.
- CEE, 1992.- Règlement N°2081/92 du Conseil du 14 juillet 1992 relatif à la protection des indications géographiques et des appellations d'origine des produits agricoles et des denrées alimentaires. Journal Officiel des Communautés Européennes, N° L 208/1.
- CERTEAU M. de, 1990.- L'invention du quotidien. 1 Arts de faire. Gallimard, «Folio-Essais », Paris.
- CHEVALIER A., 1929.- Les caféiers du globe fascicule I, Généralités sur les caféiers. Paris, Paul Lechevalier éd. Paris, 196 p.
- CHOUVIN E., 2003 Gestion des ressources végétales et pratiques paysannes en Ethiopie Centrale. Le cas des oléagineux. Mémoire de thèse de doctorat du MNHN, Ethnobiologie, Paris, 395 p
- CORMIER-SALEM M.C. & B. ROUSSEL, 2002.-.Patrimoines et savoirs naturalistes locaux In J.-Y. Martin ed. "Développement durable ? Doctrines, Pratiques Evaluations, IRD Editions, Paris, 126-142
- COSTE R., 1961.- L'Ethiopie in Les caféiers et les cafés dans le monde. Tome second. Edition Larose, Paris, 493-497).
- DEMEULENAERE E., 2001.-Le Moringa stenopetala est-il l'arbre des Konso (Sud-Ouest de l'Ethiopie) ? In CORMIER-SALEM M.C., D JUHÉ-BEAULATON, J.B BOUTRAIS.& B. ROUSSEL. Eds, 2002.- Patrimonialiser la nature tropicale. Dynamiques locales, enjeux internationaux. Coll « Colloques et Séminaires », IRD, Paris, 467 p.
- Edwards S., MESFIN TADESSE, SEBSEBE DEMISSEW & I. HEDBERG I., 2000- Flora of Ethiopia and Eritrea. Vol.2. Part.1. National Herbarium/Department of Systematic botany. AddisAbaba-Upsala, 532 p.
- EKPERE, J.A., 2001.- The African model law. The Protection of the Rights of Local Communities, Farmers and breeders and for the Regulation of Access to Biological Resources. An explanatory booklet. Organization for African Unity, Addis-Ababa, 78 p.
- ENGELS J.M. M., J.G. HAWKES & MELAKU WOREDE, eds., 1991.- Plant Genetic Resources of *Ethiopia*. Cambridge University Press, 383 p.
- FELEKE WOLDEYES, 2000.- A study on biodiversity management in daaddegoyo (traditional home gardens) by Kaficho people of Bonga Area (Southwestern Ethiopia) : an ethnobotanic approach. Master thesis of Sciences. Biology Department, Addis Ababa University, 89 p.
- GASCON A., 1995. La grande éthiopie, une utopie africaine. Coll. Espaces & milieux, mémoires et documents de géographie, ed. CNRS, Paris 246 p.

- HEDBERG I & S. EDWARDS, 1989.- *Flora of Ethiopia. Vol.3*. National Herbarium/Department of Systematic botany. Addis Ababa- Upsala, 659 p.
- HERMITTE M.A., 2001 Les appellations d'origine dans la genèse des droits de propriété intellectuelle. In *Etudes et recherches sur les systèmes agraires et le* développement, 32 : 195-207
- KATZ, E., GARCÍA C. & M. GOLOUBINOFF. 2002 "Sumatra Benzoin (Styrax spp.)". In Guillen A., Laird, S., Shanley P., Pierce A (eds), Tapping the Green Market. Certification and Management of Non-Timber Forest Products. WWF/ UNESCO People and Plants/Kew Gardens, Earthscan, United Kingdom, pp. 182-190.
- MERCIER J. 1980-1982.- Un mythe éthiopien d'origine du café et du kat. In *Abbay ; Cahiers d'études éthiopiennes 11* : 143-179 CNRS Meudon
- Myers N., 1988.- Threatened biotas: 'hotspots' in tropical forests. *Environmentalist*, 8(3), 1-20.
- PANKHURST R., 1997.- The coffee ceremony and the history of coffee consumption in Ethiopia.
- *In* Katsuyoshi F. Eisei K. and Masayoshi S. eds, *Ethiopia in broader perspective* vol II Papers of the XIIIth International Conference of Ethiopian Studies, pp. 516-539.
- RADT C., 1971.- Contribution à l'histoire ethnobotanique d'une plante stimulante : le kat. Le kat en Ethiopie. *Ethnographie n°56*, Paris, 37-65.
- ROUSSEL B., 2002.- Biodiversité. De la conservation des espèces à la protection des savoirs. Naturellement n°73 "De Rio à Jo'Burg. MNLE, Paris, 18-19
- SOLAGRAL, 2002.- Biodiversité Savoirs protégés, savoirs partagés. 6 fiches pour comprendre, anticiper Débattre. Ed. Solagral, Montpellier, 60 p.
- TADESSE WOLDERMARIAM GOLE, M. DENICH, DEMEL TEKETAY & P.L.G. VLEK, 2002.- Human impacts on the Coffea arabica genepol in Ethiopia and the need for its "in situ" conservation. *In* ENGELS J.M.M., V. RAMANATHA RAO, A.H.D. BROWN & M.T. JACKSON Eds, Managing Plant Genetic Diversity, IPGRI, Roma, 237-247.
- TULET J.-C., B. CHARLERY, F. BART & J.PILLEBOUE, 1994 Paysanneries du café et des hautes terres tropcales ed. Karthala, Paris 368 p.
- VAN DER VOSSEN, H.A.M., 2002.- Catha edulis (Vahl.) Forssk. Ex Endl. [Internet] Fiche de Protabase. Oyen, L.P.A. 1 Lemmens, R.H.M.J. (Editors). Plant Resources of Tropical Africa, Wageningen, Pays-Bas.
- VERDEAUX F., 2003.-De la forêt en commun à la forêt domestique. Deux cas contrastés de ré appropriation forestière (Côte d'Ivoire et Tanzanie) in *Bois et forêts des tropiques* numéro spécial '*Forêts détruites ou reconstruites* ?, 278 : 63-74
- WIREN R., 2003.- Le café, un don de l'Ethiopie au monde. Les Nouvelles d'Addis, n°32. 15 novembre 2002 15 janvier 03. 5-10.
- ZEMEDE ASFAW, 1997.- Survey of indigenous food crops, their preparations and home gardens. Ethiopia. Indigenous African food crops and useful plants; Ed. United Nations University/INRA Ressources Utilisations. Series N° B.6, Nairobi/Accra, 66 p.
- HERMITTE M.A., 2001 Les appellations d'origine dans la genèse des droits de propriété intellectuelle. In *Etudes et recherches sur ls systèmes agriares et le développement*, 32 : 195-207



Annexe 3 - Carte de situation géographique des sites d'études