

LABELLING OF THE KPONAN YAM FROM BONDOUKOU (CÔTE D'IVOIRE): CONSUMERS' VIEWS

Kouakou Philipps Kouakou
Université Alassane Ouattara/
Centre Suisse de Recherches
Scientifiques en Côte d'Ivoire
CÔTE D'IVOIRE
Philipps_k@yahoo.fr

Kouassi Paul Anoh
Université Félix Houphouët-Boigny
CÔTE D'IVOIRE
anohpaul@yahoo.fr

ABSTRACT

Labelled products generally only take their first steps towards success in the local market where they are beginning to develop. Reaching the larger scales is the result of long-term promotion. This study is to assess the level of ownership of the Bondoukou *Kponan* yam labelling process by Ivorian consumers and their consent to pay. It was conducted among 411 people from 18 towns. The data reveal that Bondoukou *Kponan* yam is highly prized by consumers for its typical taste and culinary versatility. Its labelling is therefore supported by all (95.5% of respondents), with willingness to pay ranging from 5% to 50% depending on social strata and level of attachment to this variety of yam. This project should resolve the issue of availability, which is a major concern for consumers living far from Abidjan and Bouaké, the main storage areas.

Keywords: *Kponan* Yam, Consumers, Geographical indication, Labelling, Bondoukou.

INTRODUCTION

With the growing interest of consumers in quality products (Oger et al., 2010), several territories are seeking to enhance their cultural specificities by opting for labelling approaches (M. Fournier, 2014), a new reference framework for territorial action (Bénos & Milian, 2013). The label is a sign of communication that promotes the act of purchase or transaction between a supplier and a consumer (Sautier, 2018). It informs and reassures the consumer on several quality parameters (Dufeu et al., 2014) and positively influences consumption preferences (Dekhili & Achabou, 2013). With the label, the consumer best appreciates the market logic of ethics (Duong, 2006). Among the many labels used to value and differentiate products on the market, Geographical Indications (GIs) tend to become a privileged development tool proposed to territories undergoing change (Anthopoulou & Kaberis, 2013) to the extent that they are based on a sustainable production and consumption system. Indeed, GIs allow to ensure a sustainable territorial development, through the creation of added values, the mobilization of employment and the preservation of local natural and cultural resources (Anthopoulou & Kaberis, 2013).

The GI process is also a voluntary and collective action (S. Fournier, 2008; Giovannucci et al., 2009). It implies a synergy of action between several actors, the main ones being the producers who initiate the process, the consumers who agree to pay more, and the State which provides institutional support by guaranteeing the right of ownership of the product registered or to be registered (Hadjou et al., 2013).

After the revision of the Bangui Agreement of March 2, 1977, establishing an African Intellectual Property Organization (OAPI) (OAPI, 1999), several actions have been carried

out in favour of GIs in the OAPI space. Sponsored for the most part by the Food and Agriculture Organization of the United Nations (FAO), OAPI and the World Intellectual Property Organization (WIPO), the main objective of these actions was to promote local products through the GI label. They have thus led to the formal registration of three GI products (Oku honey and Penja pepper in Cameroon, and Mount Ziama coffee in Guinea) and the identification of several others (Bohoussou, 2020).

Like many countries in the OAPI space, Côte d'Ivoire has a rich variety of quality products linked to origin. These include attiéké from Grand-Lahou, Kent mango from Korhogo, rice from the mountains (Man), *Kponan* yam from Bondoukou, etc. (FAO, 2012). In general, yams rank first among Ivorian food crops, with production in 2019 of 7,176,762 for 1,287,087 hectares of cultivable land (FAOSTAT, 2021). Production is concentrated in the northern half of the country, which has more favourable phytogeographic characteristics. Several cultivation zones are registered in this geographical area, and each of these zones presents a kind of varietal endemism (Doumbia, 1995; Mahyao et al., 2007).

Varieties such as *Bétébété*, *Krenglé* and *Lopkpa* are specific to the Centre (Bouaké), while *Assawa*, *Logôbrê*, *Florido* and *Kponan* are grown in the Northeast (Doumbia et al., 2006). With an annual production of 134,951 tons, the *Kponan* variety (*Dioscorea cayenensis-rotundata* with two harvests) is chemically composed of water (50-80%), carbohydrates of which the main constituent is starch (90% of dry matter), protein (5% of dry matter), mineral elements (1%) and fiber (0.5%). It is therefore a high-energy food, low in fat and the richest in protein of all tubers (Herzog et al., 1993). Yam contains small amounts of vitamin B1 and vitamin C (Bergeret, 1957) and is also a good source of iron and niacin (Coursey, 1967).

Bondoukou *Kponan* yam production is ensured out in the second half of north-eastern Côte d'Ivoire, where plots are developed on low-slope sites covered with wooded savannah (Chaléard, 1998). The activity mainly occupies two peoples, namely the Lobi and the Nafana (Kouakou & Anoh, 2019), both from the large Gour group (Aka, 2009). While the Nafanas have an important cultural and culinary link to *Kponan* yam, this is not the case for the Lobi, for whom production is for commercial purposes.

Kponan yam is appreciated by consumers (Nindjin et al., 2007) and has enormous potential to be labelled as a geographical indication (Bagal & Vittori, 2010), although the factors underlying this appreciation have not been highlighted.

Also, the level of appropriation of such an approach by local consumers (consumers in Côte d'Ivoire), particularly those in the cities, is not known. This raises the problem of consumers ownership of the labelling process (for Bondoukou's *Kponan* yam).

Indeed, the viability of any GI product depends first and foremost on the market strength of the local market (Giovannucci et al., 2009); in this case the Ivorian market. Reaching larger scales is the result of long-term promotion and marketing.

This study aims to assess the level of consumer ownership of Bondoukou's *Kponan* yam, and their willingness to pay more for this variety of yam in the context of GI labelling.

METHODOLOGY

Kponan yam from Bondoukou is produced in the northeast of Côte d'Ivoire, but the commercial destinations are the major urban areas (Kouakou et al., 2019; Mahyao et al.,

2007), with Abidjan being the main one (Kouakou et al., 2019). Thus, the data for the study were collected through a consumer survey of 411 individuals from 18 cities across the country (Figure 1).

The survey primarily targeted consumers in the Abidjan district where 76% (about $\frac{3}{4}$) of Bondoukou's *Kponan* yam is marketed (Kouakou & Anoh, 2019). However, the perception of consumers in other cities were important in a holistic analysis logic. The minimum size of the individuals surveyed was calculated according to the following formula for a non-exhaustive independent sample (FAO, 1992): $\frac{t^2(1-p)x^2}{e^2}$

The data collected was cleaned and analysed using SPSS Statistics 20 software to consider only the forms that were carefully filled out. The statistical analyses were of a descriptive type, for the most part centred on the calculation of the headcount, frequency, and the crossing of variables.

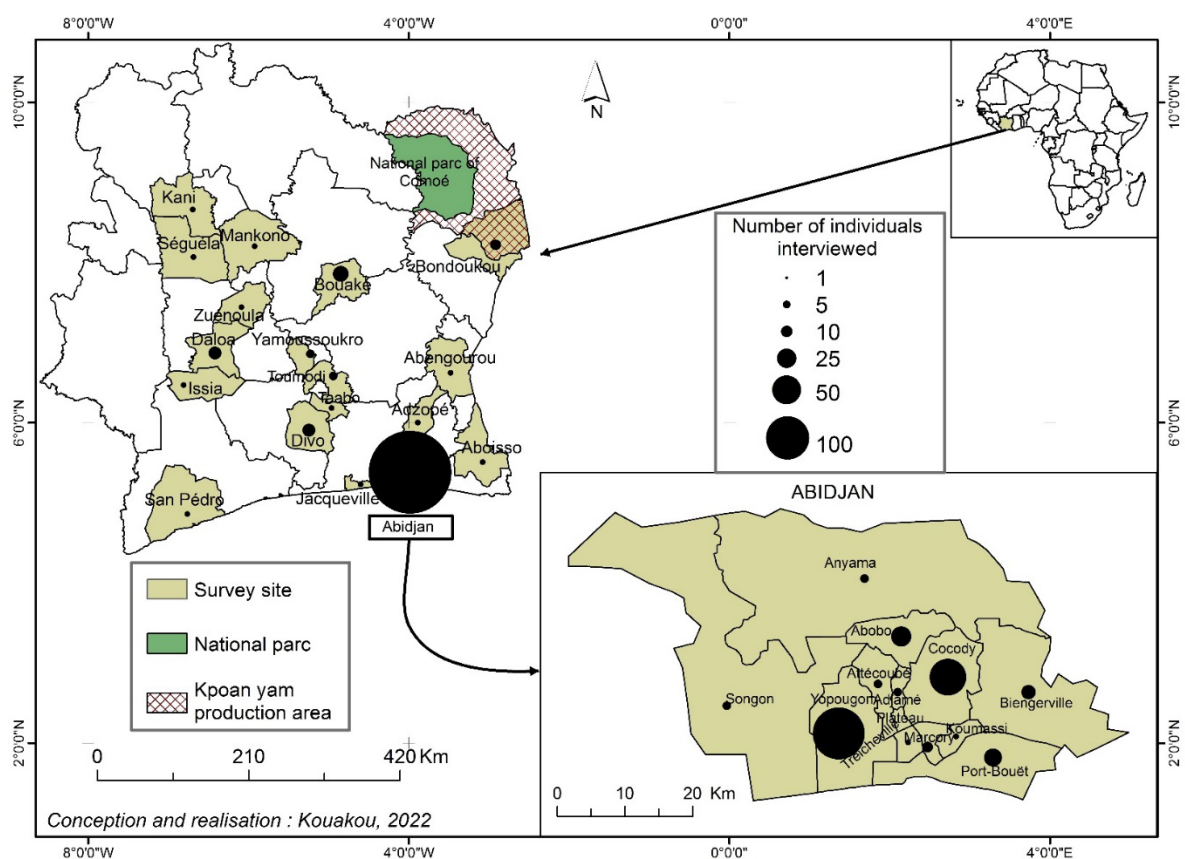


Figure 1. Study area.

RESULTS AND DISCUSSION

The analysis will focus on the reputation and consumption preference linked to the origin, and the appropriation of the labelling process and the consent to pay.

Reputation and consumption preference linked to origin

The reputation of a GI product refers to a positive consumer opinion of the product, opinion that is strongly associated with the geographic area from which the product originates (FAO, 2012).

In this study, 97.8% of consumers surveyed consume yam. The *Kponan* and *Bêtêbêtê* varieties are the most solicited (97.74%), followed by the *Florida* (70%), *Krenglê* (63.15%)

and *Assawa* (40.6%) varieties.

In terms of consumption preference, *Kponan* yam from Bondoukou is preferred by 72.9% of consumers, followed by *Bétébété* (14%) and *Krenglê* (10.2%). In addition, among those individuals who have a consumption preference for *Kponan* yam, 87.4% consume other yam varieties only if compulsory.

The preference for eating *Kponan* yam is also expressed through scores ranging from 0 to 10 with organoleptic qualities as evaluation criteria. It appears that 40.3% of the interviewers gave *Kponan* yam a score of 10/10, while 31.1% chose a score of 8/10. Consumption preference for *Kponan* yam is better expressed in Abidjan (42.7% of consumers give it a rating of 10/10; 35.9% give it a rating of 8/10) than in the other cities of Côte d'Ivoire (32.3% give it a rating of 10/10 and 32.3% a rating of 08/10). Several factors explain this fact: the typicality of the taste; the culinary flexibility; the shelf life; the origin.

The taste of the *Kponan* yam from Bondoukou remains one of the major qualitative factors. This taste contains a certain number of elements, including the sugar content, which facilitates its consumption without ingredients, and its softness of the tuber (when cooked), which is like that of a potato, thus facilitating its digestion. Depending on the climatic conditions of the production area (the temperature precisely) (Coursey, 1967), this sugar rate also has the advantage of enhancing the gustatory effect of the tuber with a taste considered excellent.

The preference for *Kponan* yam from Bondoukou is also justified by the fact that it is a flexible yam for all culinary forms (*foutou*¹, *foufou*², boiled, fried, stew, mashed, braised), in addition to the other factors mentioned above (taste judged to be typical, quality and flavour). This is in line with the results of the study conducted by Nindjin et al. (2007) This study on the determinants of yam consumption in urban areas showed that *Kponan* yam is the most popular in all culinary forms.

In addition, consumers who prefer the *Kponan* yam from Bondoukou feel that it keeps better (long shelf life) than the *Assawa* variety, which is also a sub-variant of early yams with two harvests and the same production cycle as the *Kponan* variety. In the open air, the well-matured *Kponan* yam tuber can be stored for more than three months, which is not the case for the *Assawa* variety, which does not exceed two months. It should also be noted that the organoleptic qualities of *Kponan* yam from Bondoukou are not affected over time.

Kponan yam from Bondoukou is finally a product of known origin that gained the loyalty of 83.6% of consumers. Indeed, a significant proportion (72.3%) of consumers are aware of the origin and quality of the products they consume and attach value to them; these are the fundamentals of their consumption choices. For these consumers, any doubt about the origin of the *Kponan* yam they consume is virtually eliminated, as yams from Bondoukou largely dominate the market. The study by Kouakou et al. (2019) reveals, for example, that 93.3% of the *Kponan* yam sold on the Abidjan market comes from the Zanzan region (Bondoukou-Bouna), while Doumbia et al. (2006) indicate that the Bondoukou-Bouna circuit is the only one that supplies Abidjan with *Kponan* yam.

¹ Solid and tender paste made from plantain or tuber boiled and pounded in a mortar.

² Edible paste made from boiled and crushed plantain or yam tuber, mixed with palm oil (red oil).

It is therefore clear that the *Kponan* yam from Bondoukou is the most popular yam variety among Ivorian consumers; it thus enjoys an important reputation.

Ownership of the labelling process and willingness to pay

Consumers' attachment to *Kponan* yam from Bondoukou is also reflected in their desire to see it promoted through GIs. Indeed, 95.5% of consumers are in favour of its labelling. However, this approach should take into account four fundamental criteria: quality (taste, flavour, colour), availability, accessibility and resistibility (resistant to rotting after harvest), in order to meet a minimum of food safety, nutritional and health requirements (Delisle, 1998; Klennert, 2006).

Quality here refers to the taste, flavour, and flesh colour (to some extent) of *Kponan* yam. Overall, the level of satisfaction with this parameter is satisfactory for 60.5% of consumers. However, 39.5% of them want to see an improvement; the same is true for the resistibility, which remains a requirement expressed by 34.9%.

In fact, faced with soil depletion and the scarcity of labour, some *Kponan* yam producers resort to chemical products such as herbicides, which sometimes affect the quality of the yam (Kouakou & Anoh, 2019), whereas GI labelling requires the maintenance of original agricultural practices, free of any chemical inputs.

Availability and accessibility remain the main concerns for consumers as they occupy 64.3% and 55.8% of requirements, respectively.

In terms of availability, *Kponan* yam covers less than six months, unlike varieties such as *Bétébété*, which is sometimes available all year round.

As for accessibility, it is required in terms of spatial distribution or market supply of *Kponan* yam in all geographical districts. Indeed, the marketing flow of *Kponan* yam from Bondoukou is oriented towards the large cities, especially Abidjan (Demont et al., 2003; Doumbia et al., 2006; Kouakou & Anoh, 2019); other localities are sometimes harmed even though this reveals the high market value of *Kponan* yam from Bondoukou (Bagal & Vittori, 2010).

The price of *Kponan* yam varies between 350 and 1000 FCFA per kilogram (FCFA/Kg), depending on the period and the locality. This price is much higher than that of the *Krenglê/Assawa* (250-400 FCFA/Kg) and *Bétébété* (200-300 FCFA/Kg) varieties. In Abidjan, the lowest prices are recorded in the communes of Abobo, Adjamé, Attécoubé and Yopougon, where the main wholesale markets are located. In the months of abundance, the final selling price to the consumer is set at 350 FCFA/Kg. This is not the case in the communes of Cocody, Plateau, Marcory and Treichville, where these same periods record 400-600 FCFA per kilogram. In periods of scarcity, a kilogram of *Kponan* yam can reach 700 FCFA/kg in Treichville, 800-1000 FCFA in the communes of Cocody and Plateau, while it is traded between 400 and 500 FCFA/kg in Abobo, Attécoubé and Yopougon. The price of *Kponan* yam is relatively higher in the communes of Cocody and Plateau because of the standard of living, which has an impact on the factors influencing price setting. In addition to the price per kilogram, some of the consumers interviewed buy *Kponan* yams in heaps, at prices that range from 1,000 to 2,000 FCFA depending on the volume. This is the case for half of the consumers interviewed in the other cities of the country.

The large number of retail markets in Abidjan's neighbourhoods means that most consumers buy their supplies from them. They are supported by a subgroup of actors called street traders. Unlike the retail markets which are fixed, itinerant traders go to consumers houses. In general, the price charged by this category of trader depends on the volume of yam and this price is always negotiable.

The study also reveals that, apart from consumers in Bouaké, Yamoussoukro and San-Pedro, the rest of the consumers obtain their *Kponan* yam from Abidjan. The main reason cited was the unavailability of *Kponan* yam on the local market in their localities, which confirms that a large portion of Bondoukou's *Kponan* yam is marketed in or from Abidjan (Kouakou & Anoh, 2019). Apart from some markets in the production area, the localities whose markets are supplied with *Kponan* yam are mostly supplied from direct or indirect circuits supplied from Abidjan.

From the above analyses, the selling price of *Kponan* yam is higher than that of other varieties. However, 59.1% of consumers find it good for its quality, 2.9% find it cheaper, 35.8% find it expensive and 2.2% have no opinion (Table 1).

In Abidjan, the proportion of consumers who were in favour of the price is about 64% (61.9% for the [good for its quality] and 1.9% for the [cheaper]). In the communes of Abobo and Yopougon, which are home to the main wholesale markets for *Kponan* yam in Abidjan (Kouakou & Anoh, 2019), the satisfaction rate in favour of the price of *Kponan* yam is 66.7% and 71.8% respectively, which is justified by the law of supply and demand. Indeed, some consumers buy directly from wholesale markets, which charge relatively more affordable prices than retail markets.

As for consumers in the other cities for the country, 50% appreciate the price of *Kponan* yam for its quality and 6.3% find it cheaper, for a total of 56.3% of consumers who are in favour of the selling price of *Kponan* yam.

Table 1/Price appreciation level of *Kponan* yam

Place of residence	No opinion	Good for the quality	Expensive	less expensive	Total
Abidjan	6	195	108	6	315
	1.9%	61.9%	34.3%	1.9%	100.0%
Other cities	3	48	39	6	96
	3.1%	50.0%	40.6%	6.3%	100.0%
Total	9	243	147	12	411
	2.2%	59.1%	35.8%	2.9%	100.0%

Source: Survey, June 2020

As regards consent to pay, it is assessed at various rates. On analysis, 58.2% of consumers are willing to pay 5% more per kilogram of *Kponan* yam, 27.6% are willing to pay 10% more, 4.5% willing to pay 15% more, 3% willing to pay 20% more, 1.5% willing to pay 30% more, 0.7% willing to pay 40% more and 4.5% willing to pay 50% more. The *Kponan* yam from Bondoukou thus has a strong local market for its GI success.

The crossing between the occupational status and willingness to pay does not necessarily follow a structural or socio-economic logic. For shopkeepers, they are all willing to pay only 5% more. With pupils and students, 53.2% are willing to pay 5% more, 29.8% are willing to pay 10% more, 4.3% are willing to pay 15% more, and 4.2% are willing to pay between 20

and 30% more. Although students are not very willing to pay 40-50% more for Bondoukou *Kponan* yams in the context of labelling, their proportion who are willing to pay this rate is higher than other social classes. As for civil servants and private sector employees, they are registered on several rates, but so disproportionately. The majority (63.4%) are willing to pay 5% more than the current price of GI-labelled *Kponan* yam and 23.9% are willing to pay 10% more. Margins of more than 10% are concentrated in a small number (8.4% for 15-20%; 4.2% willing to pay 40-50% more).

Far from the general trend, consumers in small occupations, workers, and housewives are mostly willing to pay 10% more.

Contrary to Tchagnao & Bayale, (2021), the consent expressed here may therefore not take too much account of consumers' occupational status, but rather reflects a kind of idealism expressed towards the Bondoukou *Kponan* yam labelling process.

Furthermore, it appears from this analysis that the cities in the interior of the country are higher bidders in terms of consent to pay (Figure 2).

This is explained by the fact that 70% of Bondoukou's *Kponan* yam is marketed in or from Abidjan (Kouakou & Anoh, 2019). As a result, the product is not widely available in most cities, so consumers are willing to invest more, depending on the law of supply and demand. Indeed, only 38.7% of consumers are registered at the 5% rate. The rest (61.3%) opted for rates ranging from 10 to 50%:

- 42% willing to pay 10% more;
- 3.2% willing to pay 15, 30 and 40% respectively;
- 9.7% willing to pay 50%.

The cities of Bouaké, Daloa and Yamoussoukro stand out, with respectively 20, 25 and 50% of consumers saying they were willing to pay 50% more for Bondoukou *Kponan* yam under the GI label. They are followed by Divo, where 50% of those respondents are willing to pay between 30 and 40% more. In the communes of Abidjan, only the commune of Cocody had a few consumers (8.3%) willing to pay 50% more; the rest were mostly willing to pay between 5 and 10% more.

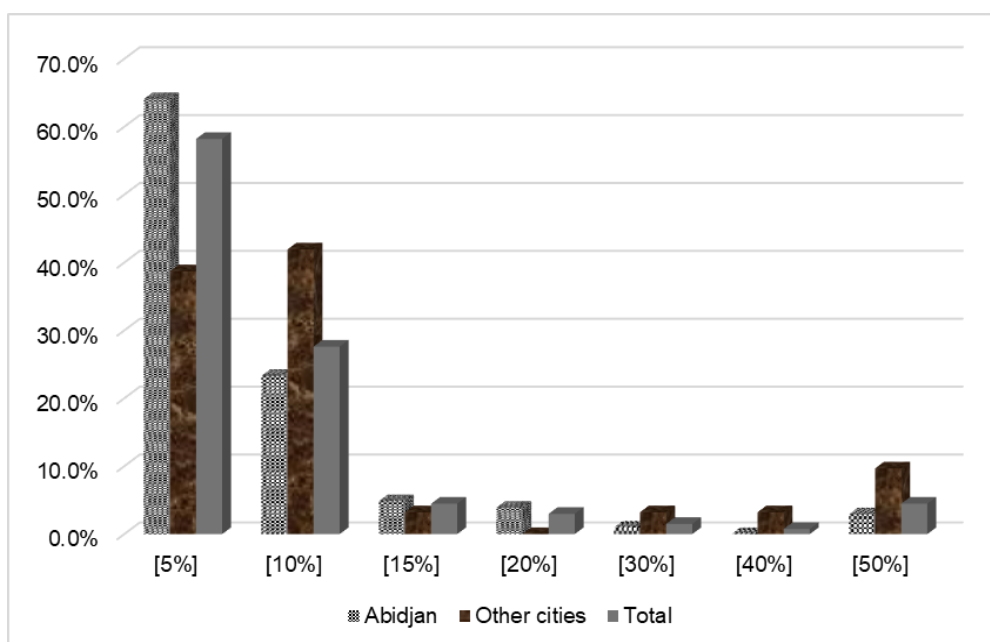


Figure2/Consent to pay for *Kponan* yam from Bondoukou

CONCLUSION

The *Kponan* yam from Bondoukou is a quality product whose development through Geographical Indications can help revitalize its area of origin. The product is highly prized by consumers and enjoys a very high reputation. On the market, its selling price is higher than that of other yam varieties, but consumers do not complain because of its quality. They are even willing to pay more at rates ranging from 5% to 50% in the case of labelling. All this reinforces its GI potential.

ACKNOWLEDGEMENTS

This study was realized with the financial support of the Programme d'Appui Stratégique à la Recherche Scientifique (PASRES) and the institutional assistance of the Centre Suisse de Recherches Scientifiques en Côte d'Ivoire (CSRS) and the Université Félix Huphouët-Boigny, Abidjan, Côte d'Ivoire.

REFERENCES

1. Aka, K. (2009). Traditions musicales chez deux peuples Gour du nord-est de la Côte d'Ivoire cas des Nafana et des Dégha de la région de Bondoukou. Musée royal de l'Afrique centrale.
2. Anthopoulou, T., & Kaberis, N. (2013). Indications géographiques et dynamiques de développement territorial. Le difficile passage des coordinations tacites aux démarches collectives de valorisation patrimoniale (Grèce). *OPTIONS*, 44.
3. Bagal, M., & Vittori, M. (2010). Les indications géographiques en Côte d'Ivoire, produits potentiels et cadre juridique pertinent. ACPEU TradeCom Facility in the Context of the ACP Regional Workshops on Geographical Indications, 43.
4. Bénos, R., & Milian, J. (2013). Conservation, valorisation, labellisation: La mise en patrimoine des hauts-lieux pyrénéens et les recompositions de l'action territoriale. *VertigO-La Revue Électronique En Sciences de l'environnement*, Hors-série 16.
5. Bergeret, B. (1957). Teneur en acide ascorbique de quelques aliments du Sud-Cameroun: Etude critique des différentes méthodes de dosage. *Médecine Tropicale*, 17(2), 266–275.
6. Bohoussou, D. L. (2020). L'Organisation africaine de la propriété intellectuelle: Un organisme de dimension régionale. *Réalités Industrielles*, 81–105.
7. Chaléard, J.-L. (1998). La société lobi (Nord-Est de la Côte d'Ivoire), mobilités et mutations agricoles. *Le Voyage Inachevé...* AJoël Bonnemaïson, Edited by Dominique Guillard, M. Seysset, and Annie Walter, 479–485.
8. Coursey, D. (1967). Yam. An account of the nature, origin, cultivation and utilisation of the useful members of the Dioscoreaceae (Tropical agriculture series). *tropical products institute*.
9. Dekhili, S., & Achabou, M. A. (2013). Pertinence d'une double labellisation biologique-écologique auprès des consommateurs. Une application au cas des œufs. *Économie Rurale. Agricultures, Alimentations, Territoires*, 336, 41–59.
10. Delisle, H. (1998). La sécurité alimentaire, ses liens avec la nutrition et la santé. *Canadian Journal of Development Studies/Revue Canadienne d'études Du Développement*, 19(4), 307–329.
11. Demont, M., Houedjoklounon, A., Hounhouigan, J., Mahyao, A., Orkwor, G., Stessens, J., Tollens, E., & Toure, M. (2003). Etude comparative des systèmes de commercialisation d'igname en Côte-d'ivoire, au Bénin et au Nigéria.
12. Doumbia, S. (1995). Les déterminants agro-écologiques et socio-économiques de la production et de l'offre en igname en Côte d'Ivoire. Document de Travail, 4.

13. Doumbia, S., Touré, M., & Mahyao, A. (2006). Commercialisation de l'igname en Côte d'Ivoire: État actuel et perspectives d'évolution. *Cahiers Agricultures*, 15(3), 273–277.
14. Dufeu, I., Ferrandi, J.-M., Gabriel, P., & Le Gall-Ely, M. (2014). Multi-labellisation socio-environnementale et consentement à payer du consommateur. *Recherche et Applications En Marketing (French Edition)*, 29(3), 34–55.
15. Duong, Q. L. (2006). Etude du consentement à payer des consommateurs pour une labellisation sociale des offres commerciales: Une application au cas de produits textiles [PhD Thesis]. Rennes 1.
16. FAO. (1992). Conduite de petites enquêtes nutritionnelles: Manuel de terrain (Food&Agriculture Org., Vol. 5).
17. FAO. (2012). Qualité liée à l'origine et Indications Géographiques en Afrique de l'Ouest et du Centre (p. 50). Fao. Fao.org
18. FAOSTAT. (2021). <https://www.fao.org/faostat/fr/#data/QCL>
19. Fournier, M. (2014). Labellisation et mise en marque des territoires (Vol. 34). Presses Universitaires Blaise Pascal.
20. Fournier, S. (2008). Les Indications géographiques: Une voie de pérennisation des processus d'action collective au sein des Systèmes agroalimentaires localisés? *Cahiers Agricultures*, 17(6), 547–551. <https://doi.org/10.1684/agr.2008.0250>
21. Giovannucci, D., Josling, T., Kerr, W., O'Connor, B., & Yeung, M. T. (2009). Guide des Indications Géographiques/ Faire le lien entre les produits et leurs origines. Centre du Commerce International (ITC).
22. Hadjou, L., Lamani, O., & Cheriet, F. (2013). Labellisation des huiles d'olive algériennes: Contraintes et opportunités du processus? *New Medit*, 12(2), 35–46.
23. Herzog, F., Farah, Z., & Amado, R. (1993). Nutritive value of four wild leafy vegetables in Côte d'Ivoire. *International Journal for Vitamin and Nutrition Research*, 63, 234–234.
24. Klennert, K. (2006). Assurer la sécurité alimentaire et Nutritionnelle. ImVent. Stuttgart, 303.
25. Kouakou, K. P., & Anoh, K. P. (2019). Géotraçabilité de l'igname Kponan de Bondoukou. *Revue Des Sciences Sociales Du PASRES*, 23, 62–82.
26. Kouakou, K. P., Kouassi, C., & Anoh, K. (2019). Le Marche De Gros De L'igname Kponan A Abidjan (Côte D'ivoire). *European Scientific Journal ESJ*, 15(26), 218–238. <https://doi.org/10.19044/esj.2019.v15n26p218>
27. Mahyao, A., Doumbia, S., Zohouri, G. P., & Zoungrana, P. (2007). Rentabilité des investissements dans le commerce de gros des ignames en milieu urbain: Cas des grossistes d'Abidjan en Côte d'Ivoire. *Annales Des Sciences Agronomiques*, 9(2).
28. Nindjin, C., Konan, G., Agbo, N., Otokore, D., Bricas, N., Farah, Z., & Girardin, O. (2007). Les variétés d'igname (*Diocoreasp.*) rencontrées sur les marchés en Côte d'Ivoire et leur préférence culinaire. *Annales Des Sciences Agronomiques*, 9(2). <https://doi.org/10.4314/asab.v9i2.4323>
29. OAPI. (1999). Accord portant révision de l'Accord de Bangui du 02 mars 1977 instituant une Organisation Africaine de la Propriété Intellectuelle. Collection des lois accessibles en ligne (CLEA).
30. Oger, R., Krafft, A., Buffet, D., & Debord, M. (2010). Geotraceability: An innovative concept to enhance conventional traceability in the agri-food chain. *Biotechnologie, Agronomie, Société et Environnement*, 14(4), 633–642.
31. Sautier, D. (2018). Mission auprès de l'OAPI pour le Projet d'Appui à la mise en place des Indications Géographiques dans ses Etats membres – PAMPIG2 (p. 103). <https://agritrop.cirad.fr/>

32. Tchagnao, A.-F., & Bayale, N. (2021). Déterminants de la dépense domestique de la consommation d'électricité des ménages au Togo. *Repères et Perspectives Economiques*, 5(1).