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Relevance of a Geographical Indication for salt from Senegal's Pink Lake

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Acronyms and abbreviations

AFD	French Development Agency
ASPIT	Senegalese Agency for Industrial Property and Technological Innovation
CIRAD	International Cooperation Centre on Agrarian Research for Development
CNTIG	National Technical Committee for Geographical Indications
CTA	Technical Centre for Agricultural and Rural Cooperation
FAO	Food and Agriculture Organization of the United Nations
GI	geographical indication
GRET	Technical Exchange and Research Group
OAPI	African Intellectual Property Organization
PAMPIG	Support Project for Establishment of Geographical Indications
ROPPA	Network of Farmers' and Agricultural Producers' Organizations of West Africa
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WFP	World Food Programme
WHO	World Health Organization

1. A favourable context for developing geographical indications

In 2007, FAO launched the "Quality & Origin" Programme, which seeks to provide support to member countries in the development of specific policies regarding origin-linked quality (voluntary standards, including geographical indications [GIs]) that will promote sustainable rural development in economic, social and environmental terms. In this context, a number of case studies were undertaken throughout the world on products with high potential for recognition as GIs.

Since the Bangui Agreement was revised in 1999, the member states of the African Intellectual Property Organization (OAPI) have equipped themselves with a legal framework for GI protection. A phase of awareness-raising, the training of institutional and technical stakeholders, and the identification of products with GI potential has been supported by bilateral and international partners.[1] The Support Project for Establishment of Geographical Indications (PAMPIG), financed by the French Development Agency (AFD) and implemented by OAPI with technical support from the International Cooperation Centre on Agrarian Research for Development (CIRAD),[2] enabled three African GIs to be registered and recognized by the 17 OAPI countries in 2013: Oku honey from Cameroon, Penja pepper also from Cameroon and Ziama Macenta coffee from Guinea.

More recently, the African Union Commission, with support from the European Union and FAO, has sought to develop a continental strategy to facilitate the development, promotion and protection of GIs in Africa.

Against this background, in November 2012 Senegal established a National Technical Committee for Geographical Indications (CNTIG) within the Senegalese Agency for Industrial Property and Technological Innovation (ASPIT), composed of representatives of government departments and the private sector. ASPIT organized a national tour by CNTIG in October 2013 to raise awareness among stakeholders concerning GIs and to identify pilot products that might be eligible for GI registration. The products identified were honey from Casamance, yetts (marine molluscs living in mangrove zones) from Joal-Fadhiout, goat cheese from Keur Massar and salt from the Pink Lake.

This study on salt from the Pink Lake was therefore carried out by FAO in 2015 in order to:

- feed into the Quality & Origin Programme and help spread knowledge about GIs;
- contribute to the identification of pilot products as part of the African Union's continental strategy on GIs; and
- examine CNTIG's proposals in greater depth by analysing the advantage and feasibility of registering this product with a GI.

[1] The French Development Agency (AFD), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO), the Technical Centre for Agricultural and Rural Cooperation (CTA), the International Cooperation Centre on Agrarian Research for Development (CIRAD), the Swiss REDD Training and Consultancy Organization, the Technical Exchange and Research Group (GRET) and the Network of Farmers' and Agricultural Producers' Organizations of West Africa (ROPPA).

[2] http://afrique-centrale.cirad.fr/recherche-en-partenariat/principaux-projets/appui-a-la-mise-en-place-des-indications-geographiques-pampig

2. Senegalese salt

2.1 SENEGAL, PRIMARY PRODUCER OF AFRICAN SALT

World salt production, dominated by China and the United States, was 264 million tonnes in 2013. Senegal, Africa's foremost salt producer, produces more than 450 000 tonnes a year, which is sold mainly in the subregion (60 percent of production) but also in Europe (Emergent Senegal Plan,[3] 2013). Although its share of world production is small (less than 1 percent), it does contribute quite significantly to the generation of extra income for both rural and urban inhabitants through production, collection, transport and export operations. The main salt production zones in Senegal are the regions of Dakar (Pink Lake, Sangalkam Commune), Saint Louis, Kaolack, Fatick and Ziguinchor (mangrove salt). Between 1996 and 2005, salt production more than doubled, rising from 196 763 tonnes to 427 453 tonnes (Kaolack Regional Trade Service, 2007). This increase in market share came about through the introduction of a salt iodization process for the sake of public health. Nearly 90 percent of the salt exported is produced by industrial units (the Sine Saloum salt works in the Kaolack region and Sel Sine in the Fatick region). Paradoxically, Senegal imports refined salt, paying out CFAF 2 billion, or about 3 million euros,[4] in 2013.[5]

Salt production from the Pink Lake averages 38 000 tonnes a year and accounts for 10 percent of national production (Malan, 2015).

2.2 IODIZATION OF SALT, A PUBLIC HEALTH ISSUE

The Senegalese state works to boost the iodization of salt[6] through its Malnutrition Control Unit, which is supported by international programmes (UNICEF, WFP, the Micronutrients Initiatives NGO, the Global Alliance for Improved Nutrition etc.). Training sessions have thus been organized for producers, and iodization units, complete with the necessary materials and suitable packaging, have also been made available to them. Iodization as recommended by WHO is in fact needed to prevent and treat iodine deficiency.[7] There is a national-level quality control mechanism run by the Domestic Trade Service in collaboration with other control bodies such as the customs service, the police and health services. Staff have been trained and provided with iodine testers.

[3] Senegal has adopted a new development model to accelerate its progress toward emergence. The Emergent Senegal Plan is the reference point for economic and social policy until 2035.

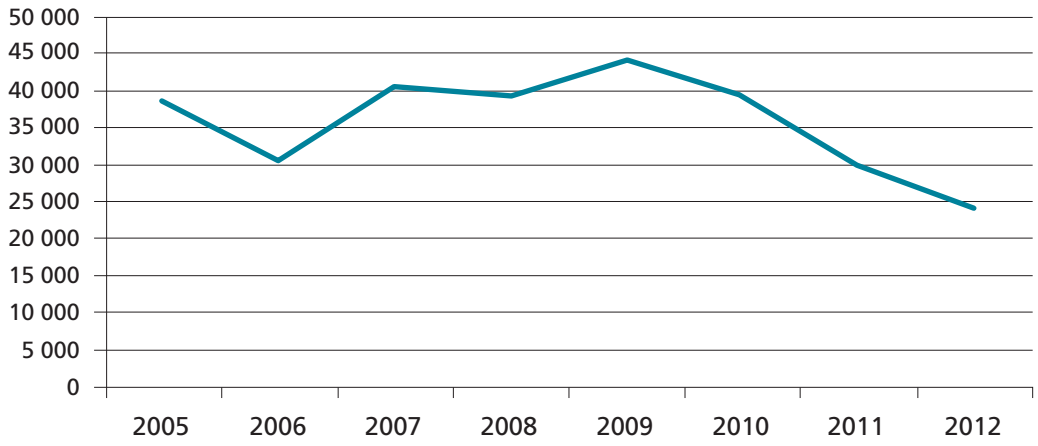
[4] €1 = CFAF 656.

[5] *Chronique des matières premières*, RFI, 30 October 2013.

[6] Various decrees and interministerial orders ensure the health safety of salt in Senegal (Decree 2000/1154 of 29 December 2000 on the compulsory iodization of salt; and Interministerial Order 14613 of 15 September 2014 on the iodine content of salt sold in Senegal).

[7] Iodine deficiency in children is the main cause of avoidable cerebral lesions. Its most damaging effects occur during foetal development and the first years of life. In 2015, the Malnutrition Control Unit declared that 59 percent of pregnant women in Senegal suffer from iodine deficiency. In 2013, the consumption rate of iodized salt by households was only 41.3 percent, despite the country's adoption of a universal salt iodization strategy in 1994.

Salt production from the Pink Lake between 2005 and 2012 (Tonnes)



Source: C. Malan, 2015.

3. Pink Lake salt, a typical but little-known Senegalese product

3.1 THE PINK LAKE OR LAKE RETBA

Lake Retba, better known as the Pink Lake because of its colour, is one of the coastal lakes situated along Senegal's north coast. It is located 40 kilometres from Dakar in Sangalkam rural commune and covers 330 hectares, measuring 5 kilometres by 1.1 kilometres and with a depth of between 90 and 150 centimetres.

With an initial area of 32 square kilometres in the nineteenth century, the lake has since shrunk to 5 square kilometres as a result of a combination of years of drought and advancing dunes that have blocked off the link that previously existed between the lake and the sea.[8]

3.2 SPECIAL EXTRACTION TECHNIQUES FOR A SPECIFIC PRODUCT

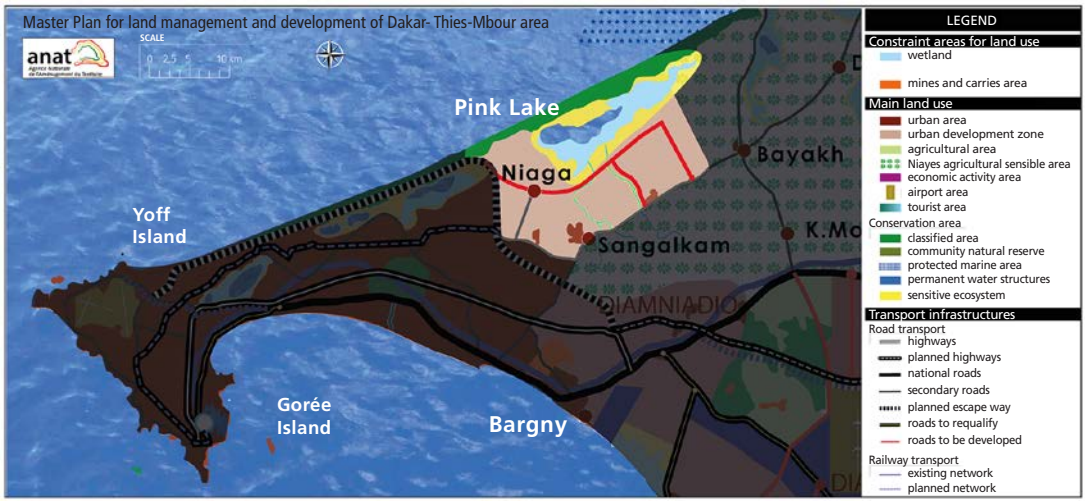
The specific quality of Pink Lake Salt is due mainly to its manner of production, which is unique in Senegal, using wet extraction and drying. Wet extraction is carried out by men, who use shovels to break the crust caused by sedimentation of the salt at the bottom of the lake and fill dugouts, which are then dragged up onto the shore. Between 1 and 1.5 tonnes of salt are unloaded by young people from each dugout and then carried by women to basins for the drying phase.

The tools used are traditional and the production methods are artisanal, which has allowed preservation of the resource and the environment. The extraction of lake salt started more than 40 years ago.

Even though it has yet to be demonstrated by chemical analysis, the consumers in the region and the traders who obtain supplies from the site believe that salt produced from the Pink Lake has a more concentrated salty taste that makes it unique. The link between the production technique, the natural resources and this sensory characteristic has yet to be established.

[8] Fresh water is also present a few metres from the lake at a depth of 50 centimetres. It comes from a network of surface water aquifers known as sand sheets, which are present along the northern coast from Saint Louis to Dakar. This water is used by market gardeners (Sow, 2001).

The Pink Lake pole



Source: Pôle du Lac Rose, ANAT,[9] 2015.

The specific nature of Pink Lake salt is also seen in its colour, which is a pale pink when it is extracted wet but then turns snow white during drying after three to five days' contact with sun and wind (Malan, 2015). An analysis of the lake water and the salt crystals from it in the Ministry of Trade's laboratory has shown that the colour of the lake is due to a pink species of salt-loving cyanobacteria that is able to withstand very high concentrations of salt.

3.3 THE PINK LAKE SALT VALUE CHAIN: STAKEHOLDERS AND COLLECTIVE ORGANIZATION

Extraction of Pink Lake salt began in the 1970s. Between 2 500 and 3 000 people are involved in the production and marketing of salt from the lake, some carrying out the extraction, others the unloading and others the packaging in bags etc. In particular, women carry the salt and lay it out for drying. Middlemen purchase the salt on site and resell it to wholesalers or directly to retailers.

These stakeholders come mainly from six villages around the lake, but also from other parts of the country. The extraction of salt is open to all, even people not from the traditional villages around the lake. Some producers come from Burkina Faso, Gambia, Guinea and Mali and take part in exporting the salt to their countries.

All those involved are organized around a management committee, whose main role is to manage iodization of the salt produced from the lake and to ensure health and safety on the site. The committee provides iodization and packaging services thanks to semi-industrial units supplied by technical partners. It also plans extraction in order to limit pressure on the resource. Another task is that of maintaining social harmony on the site, given the variety of nationalities present. Therefore, while the management committee was initially set up to handle issues of public health connected with iodization, it now plays a wider role.

Various bodies provide support to the value chain, including the Unit to Combat Malnutrition, the Regional Trade Service and the Micronutrients Initiatives NGO.

The majority of the salt from the Pink Lake is sold in markets in the Dakar region by various locally established supermarkets.

The World Food Programme plays an important role in the marketing of iodized salt in Senegal, with annual purchases from small-scale producers estimated at 10 000 tonnes between 2003 and 2011, at an overall cost of CFAF 500 million (or €762 000). This salt was then distributed to Cabo Verde, Chad, Côte d'Ivoire, Guinea, Haiti, Liberia, Mali and Sierra Leone.

[9] ANAT: National Land-Use Planning Agency.

3.4 A REPUTATION TO BE BOOSTED

Despite the national and international reputation of the site associated with the colour of the lake and with tourist and sporting events,[10] the continued use of an artisanal production method (wet extraction) and the special colour and taste of the salt, Pink Lake salt does not yet benefit from any special reputation with national and foreign consumers. The origin of the salt from the Pink Lake is very seldom indicated and all the salt produced here is marketed anonymously under the national designation "iodized salt" along with the logo of the Malnutrition Control Unit.

[10] The shores of the Pink Lake marked the finishing line of the Paris–Dakar Rally from its creation in 1978 until its suppression in 2008. Since 2009, another car-motorcycle-truck rally known as the Africa Race and later as the Africa Eco Race has left from Marseille to finish at the Pink Lake. Other motor sport or cultural events have also been organized at the lake.

4. Challenges connected with Pink Lake salt

4.1 THE IMPORTANCE OF CONTROLLED IODIZATION

The preparation process to qualify Pink Lake salt for GI registration has never really got underway, although steps have been taken to improve its hygiene and health quality. However, while iodization is systematically monitored at industrial units and produce designated for export, weaknesses can be seen among small-scale producers who have little interest in respecting iodization since they cannot afford the cost of doing so.[11] "Iodization is perceived as a constraint in terms of cost by certain salt producers. Only those who sell salt for export are more receptive," stresses the head of the Kaolack Malnutrition Control Unit (Malan, 2015).

4.2 THE CHALLENGE OF PRESERVING THE LAKE

One of the main challenges is preservation of the lake ecosystem. The main threats to the ecosystem come from human activities:

- overharvesting of salt, the result of the considerable number of extractors from other less profitable rural sectors (agriculture, fishing);
- felling of the double belt of trees known as filaos (Casuarina equisetifolia or beach she-oak) that were planted in 1963 and 1979 to fix sand dunes and stop the sea from advancing inland; this logging activity could lead to the disappearance of the lake;
- industrial exploitation of the sand dunes, entailing levelling by private property companies; and
- urban expansion of the city of Dakar through various real estate projects, by both the state and private entrepreneurs, including a full-scale urbanization project intended to cover 6 570 hectares.

[11] Iodization accounts for between 37 and 51 percent of the total production cost.

4.3 GREATER OPTIMIZATION OF THE PRODUCT AND BETTER WORKING CONDITIONS

The economic sustainability of the value chain will require an improvement in the quality of the product, especially by acquiring more efficient iodization units, which should have a larger capacity, carry out more consistent iodization and be better suited to local conditions. Improvements will also be needed with regard to packaging and storage. Diversification of the range produced, by developing such products as fine table salt and salt with ginger or other local aromatic herbs, is also an interesting possibility, as well as boosting access to niche markets.

With regard to the social aspect, working conditions at the lake must be improved in order to ensure the health and safety of workers exposed to conditions that lead to skin and eye problems.

Moreover, the decision-making process within the value chain and especially within the management committee should involve women more fully, since they share the work with men and are present in considerable numbers in the value chain, especially in the production and marketing phases.

5. Relevance of a GI to respond to these challenges

5.1 FEASIBILITY OF A GI

Analysis carried out using a web tool developed by FAO[12] to help identify the link with the terroir shows that there is a link between Pink Lake salt and its origin and that a strategy based on the virtuous circle of origin-linked quality can be developed in order to establish a GI. This analysis needs to be complemented by a more thorough study.

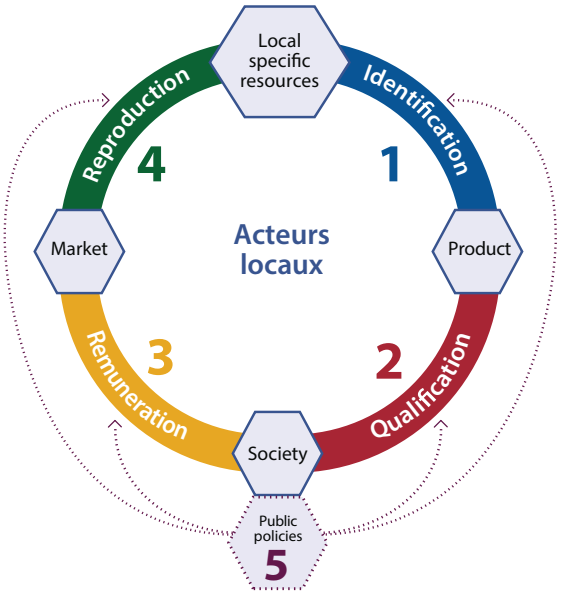
In particular, the effect of the human element (e.g. production method) and the *terroir* (e.g. characteristics and components of the soil on the floor of the lake) on the unique quality of the product has yet to be fully demonstrated.

The interest of economic stakeholders in obtaining a Pink Lake salt GI or any other kind of labelling has yet to be established because of a lack of information and awareness-raising. At present, there is a clear divergence in the perception and interest that stakeholders show in this GI project (Malan, 2015). While the producers are aware of the advantage that a certification of origin could bring, initially for protection of the resource, and thus their activity and then for economic optimization of the product, the interest of traders is less apparent. This could be because they are able to market the product with little difficulty and they also carry out several other market activities.

While the establishment of a GI requires a good capacity for coordination among local economic stakeholders, this is partly covered by the existence of a lake management committee. The committee has instituted rules of procedure (in place since 1994) and a lake management plan (providing for biological recovery periods), which are important steps toward defining specifications. However, more precise definitions are required with regard to production practices (respect for the environment and for biological recovery periods etc.) and product quality (especially hygiene and health quality, iodization, NaCl content, texture/crystallization, colour etc.).

The value chain already has the benefit of a country-wide quality control system regarding iodization (using the Malnutrition Control Unit logo). In the framework of a Pink Lake salt GI, the technical and organizational capacities of the lake management committee would need to be boosted. The committee is already working on this so that it will be in a position to set up a traceability system covering the whole value chain.

The origin-linked quality virtuous circle



Source: FAO, 2010.

[12] http://www.fao.org/in-action/quality-and-origin-program/en/

5.2 ACTION ALREADY UNDER WAY

The lake management committee is the dialogue partner of CNTIG and ASPIT in awareness-raising activities regarding GIs. In this context, a meeting was organized by ASPIT in 2013 to raise stakeholders' awareness about the role of GIs. Two other information meetings were held as part of the study of the value chain commissioned by FAO in 2015.

5.3 EFFECTS ON THE PRODUCTION SYSTEM AND THE VALUE CHAIN

Establishment of a GI for Pink Lake salt would enhance the value of the product for national consumers and for export, thereby allowing it to emerge from anonymity in a market where there is very little differentiation and where the product suffers from the image of being a basic commodity. This could encourage producers to invest more in product quality, including iodization, and therefore incentivize local stakeholders and civic authorities to preserve the resource and the socio-economic activities associated with the production site (local tourism). To achieve this, many steps still need to be taken with regard to the coordination of stakeholders, improvement in quality (generic and specific), raising consumers' awareness and recognition, and credibility of the monitoring and traceability system.

6. Conclusion

Given the challenges highlighted with regard to the Pink Lake salt value chain, particularly concerning pressure on the resource (pressure on the regeneration of salt sediments) and threats to its ecosystem (urbanization, exploitation of the belt of trees and of the sand dunes), would establishment of an "environmental label" be beneficial? This type of quality label would make it possible to establish that a product, service, stakeholder or group of stakeholders has a reduced impact on the environment. However, would the pre-established specifications for this type of label make it possible to overcome the many challenges facing Pink Lake salt?

Another possibility would be to have the site included in UNESCO's World Heritage list.[13] In this context, local stakeholders would have to make a strong case, backed up by a network of supporters both nationally and internationally (civil society, experts, scientists and elected officials).

However, registration of a GI remains an attractive option, which could be developed on its own or together with the two lines of action suggested above. A GI could in fact boost the mobilization of stakeholders around both the challenges of protection of the ecosystem (salt extractors, tourism stakeholders, local communities, public services etc.) and the structuring of value chains, while also including a social dimension. Nevertheless, a more in-depth analysis needs to be carried out involving all the stakeholders concerned in order to define the strategic plan for development of the Pink Lake salt GI value chain.

The Pink Lake salt GI could be a major asset for a territorial strategy of sustainable development of the Pink Lake region, in line with the policy of decentralization and local development promoted by the State (cf. Act III of Decentralization).

[13] Senegal ratified the Convention Concerning the Protection of the World Cultural and Natural Heritage on 13 February 1976. The Pink Lake was entered on the Tentative List (nomination for inscription) in 2005.

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Relevance of a Geographical Indication for salt from Senegal's Pink Lake

Geographical Indications (GIs) now benefit from a favorable context, both at the international level and in Africa. Senegal, a member of the African Intellectual Property Organization (OAPI), has a potential of traditional products which quality is linked to their origin.

Pink Lake Salt, a typical Senegalese product which production remains traditional, would benefit from a strategy based on the virtuous circle of origin-linked quality, in order to enhance the value of the product for national consumers and for export, and allow it to emerge from a poorly differentiated market.

This approach could also help to preserve the Pink Lake ecosystem, improve the working conditions of the value chain stakeholders and strengthen collective action.

To this scope, certain steps still need to be taken with regard to the coordination of stakeholders, the improvement of quality (generic and specific), the awareness raising of consumers, the recognition and the credibility of the monitoring and traceability system of the product.

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