

Frankincense Geopolitics, Trade and Transparency, Part 1

In a comprehensive overview of the frankincense industry, the authors discuss the global trade in frankincense and its sociopolitical impact.



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***Editor's Note:** This article is part of a two-part series on the world of frankincense. Part two will explore discussions on frankincense varieties and habitats, which you can read in the digital edition of *Perfumer & Flavorist*. Please visit the September issue on PerfumerFlavorist.com.



Part one of our article describes the status of the global trade in frankincense, one of the most ancient and important aromatic plants used in the fragrance and flavors industry. During the last 25-30 years the world of frankincense has undergone dramatic and profound changes. Not only has there been a worldwide boom in demand; which has put great stress on the frankincense supply chain, but also the structure and geography of the market have undergone a major transformation. These changes, sadly, have taken place against a background of a deteriorating socio-economic and political situation in many of the major producing countries. Few people in the industry are aware that a large proportion of the frankincense they buy comes from areas where poverty, lawlessness and drought are the norm. The challenge that faces this trade today is how to sustainably channel some of the gains made through the massive growth in demand for frankincense back to those who harvest, grade and collect this fabled ancient commodity.

New Trends in Trade

As with all commodities, trends change. The traditional Arab market for frankincense for chewing use and for such functions as fumigating clothes and in traditional medicine has certainly declined due to Western-style education and economic growth. While the practice of burning incense, particularly on special occasions, does not seem to have declined much, in the cities traditional incense burners are being replaced with air fresheners and electrically operated diffusers. Modern alcohol-based perfumes using frankincense oil and extracts are largely replacing traditional attars, and home prepared bokhuur (fragrant incense balls) and unsi (prepared incense).

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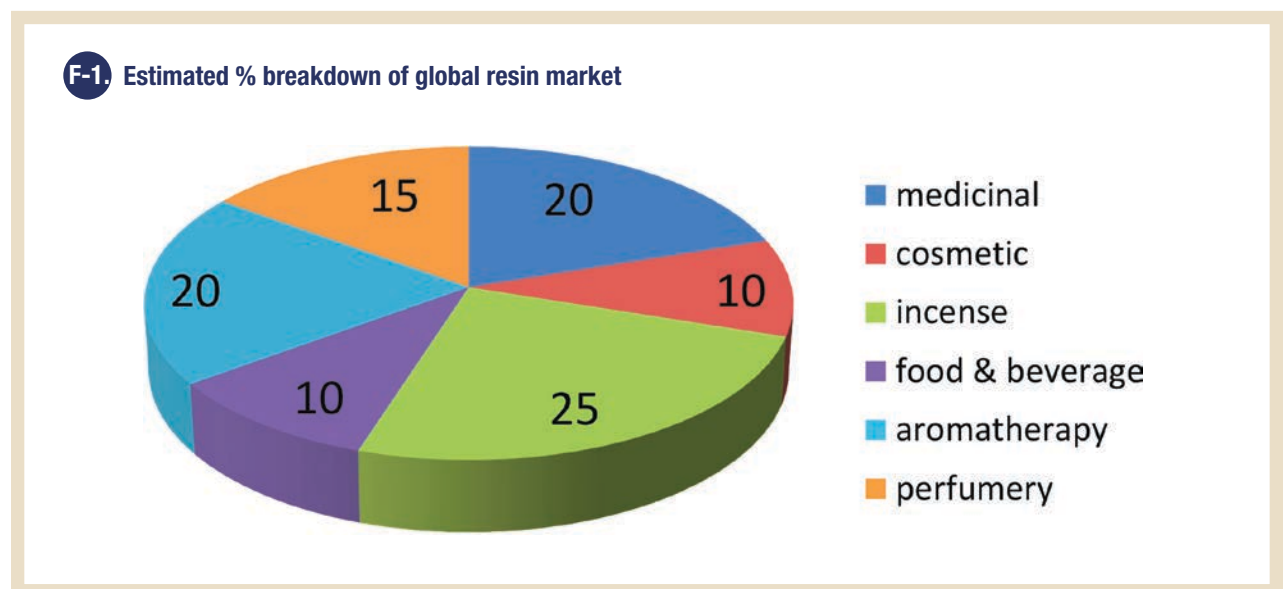
While attendance at mosques and Coptic Christian churches in both the Horn of Africa and the Arab world seems to be stable or expanding, the decline in attendance at European Catholic, Greek and Russian orthodox churches has had a major downward impact on demand. Moreover, it is reported that the quality of the resin used by places like the Vatican has also declined as prices of frankincense resin have risen! Please see **F-1** for an estimated breakdown of the global resin market. Against this downward pressure on global demand, three major new markets have emerged in the last 20 years:

1. **Cosmetic and skin care products** – Use in frankincense oils and extracts have boomed during this period. Companies like UK-based Lush Cosmetics and Neal’s Yard Remedies produce an increasingly wide range of products using frankincense resin extracts in various forms.
2. **Aromatherapy and spa and wellness** – This sector has seen spectacular growth. Frankincense is one of the top oils used by aromatherapists and multi-level market giants like DoTERRA and Young Living have set up their own supply chains for this raw material reportedly using dozens of tonnes of frankincense oil a year. These two companies alone have recently become some of the dominant buyers of the resin and oil in the world.
3. **Boswellic acid extracts** – The other growing new market are chemical extracts from the resin, particularly Boswellic acids, which are found in the non-volatile components of frankincense in varying amounts. Through a

few human clinical trials and many in vitro and rodent trials, Boswellic acids and related chemical components have been shown to have high medical potential in the treatment of such conditions as rheumatoid arthritis, osteoarthritis, low back pain, soft tissue rheumatism, myositis, fibrositis, chronic colitis, ulcerative colitis, Crohn’s disease, bronchial asthma and peritumoral brain edemas.

Frankincense—Not Quite a Cure for Cancer

The discovery by Hostanska and others in 2002 that Boswellic acids produced in vitro cytotoxic activity in malignant cells caused an earthquake in the frankincense market. The misguided cancer claims that followed this and other research on cytotoxicity of Boswellic acids sent the frankincense essential oil market skyrocketing, whether or not the species distilled contained any Boswellic acids. Between 2008 and 2010, a series of articles appeared online and in various newspapers in UK, USA and across the Arab World raising the promise that frankincense could help cure cancer, particularly ovarian and bladder cancer. Most of the articles related to the activity of the chemical substance 3-acetyl-11-keto-beta-boswellic acid (AKBA) led to a boom in demand for all types of frankincense resin regardless of whether the species traded contained Boswellic acid or not. Aromatherapy experts like Robert Tisserand, founder of Tisserand Aromatherapy and other essential oil experts tried to educate the public that frankincense essential oil contains no AKBA or Boswellic acids whatsoever (this molecule is too heavy to be volatile and hence is not carried over into the essential oils during hydro or steam distillation) but still the hype has continued.





Oceanic fogs in the Cal Madow mountains, Sanaag region, Somaliland. These fogs sustain the frankincense trees and other flora, providing much needed water and nutrients. Photos courtesy of the authors.

So widespread and convincing were these announcements that both the Federal Drugs Administration (FDA) in the USA and the National Health Service (NHS) in the UK had to issue special notices warning the public that such research was no means proven and much further testing needed to be done before any claims could be made. FDA was furthermore forced time and again to state publicly that they had not approved frankincense as a drug for any specific disease or therapeutic indication. These warnings were largely ignored by the public and the leading product producers so much so that the FDA in 2014 were forced to issue warning letters to both Young Living and doTERRA to stop making unsupported claims and remove all reference to cancer-curing activities of frankincense.

There is no doubt that despite these warnings and indeed perhaps because of the controversy over the cancer claim, demand for frankincense has continued to boom for the last 10-15 years in the Western world. A host of web sites still promote the use of frankincense against not just cancer in humans but in animals as well.

Conflict Resins?

While the boom in demand for frankincense was taking place riding on the misguided anti-cancer cure bandwagon, few if any of the journalists writing about this product were aware of the often-appalling conditions under which this product was harvested, stored, graded and shipped. Yet the fact is that much of the frankincense used in the fragrance and cosmetic industry comes from areas where war, drought, famine and political instability have become the norm and where espoused claims and good intentions of ethical and sustainable sourcing are often a far cry from reality.

Wars, Wars and Yet More Wars

Over the past 30 years, African supply chains have experienced repeated disruptions. Throughout the 1980s and into the 1990s, Ethiopia dealt with a near-perpetual state of war against multiple popular uprisings, especially in Tigray and Eritrea, the two major production areas for frankincense. The Second Sudanese Civil War raged for even longer, from the 1980s until 2005, largely centered in

TROUBLED FRANKINCENSE HARVEST ZONES		
Country	Main species	Political Situation
Kenya	<i>B. neglecta</i>	Northern border insecure
Puntland/Somalia	<i>B. sacra</i> , <i>B. frereana</i>	Insecure
Somaliland	<i>B. sacra</i> , <i>B. frereana</i>	Relatively stable
Ethiopia	<i>B. papyrifera</i>	relatively stable & secure
Eritrea	<i>B. papyrifera</i>	Now stable
Sudan	<i>B. papyrifera</i>	Insecure
S. Sudan	<i>B. papyrifera</i>	Insecure
Yemen	<i>B. sacra</i>	Unstable & insecure
Socotra	<i>Multiple species</i>	Insecure
Oman	<i>B. sacra</i>	Stable & secure
Burkina Faso	<i>B. dalzielii</i>	Insecure along Mali Border
Mali	<i>B. dalzielii</i>	Insecure
Nigeria	<i>B. dalzielii</i>	Insecure in northern region

frankincense production areas. Somalia, for its part, represents a deeply conflicted and dangerous place. In civil war from 1988-1991, the country fell into chaos and warlord-ruled anarchy afterwards, and is still plagued by ineffectual government, warlords and terrorism. The frankincense-producing areas of northern Somalia were partitioned following the war into the territory of the autonomous Puntland region of Somalia, and the self-declared independent Republic of Somaliland. Much of the divided Sanaag region is claimed by both sides, and violent border clashes are frequent. Inter-tribal warfare and extreme skepticism of outsiders further increases the opacity of the frankincense territories. Multiple terrorist factions, most prominently the Al-Qaida-allied Al-Shabaab and the notorious Islamic State, have established theaters of support and operation in the northern mountains, frequently in territories that produce frankincense.

Instability in Sudan has been longstanding. The ultimate partition of Sudan and South Sudan drew a national border directly through the range of the *Boswellia* trees, with Sudan emerging as the major supplier. The recent fall of the Sudanese government threw further complications into the trade. As Professor Bongers points out in all three major production regions of Blue Nile, south Kordofan and Darfur war and fighting are big issues. There are poor access roads and thousands of refugees who need wood, not resin, to survive. Lack of any kind of data or statistical records means that data on resin harvest and trade has been all but non-existent for many years.

In West Africa, where *B. dalzielii* may become an important source of frankincense in the future, insurgencies and political instability currently plague the main producing regions of northern Nigeria, Burkina Faso and southern Mali. In Nigeria, Boko Haram has taken a heavy toll, especially in the northern provinces, and riots and kidnappings are common. In Burkina Faso, perennial insurgent activities and militant kidnappings are common, even threatening the relatively stable capital of Ouagadougou. Mali experiences the same activity, especially from Islamist insurgents in the north.

Lack of Transparency

This pervasive instability has made it difficult to access the source of some frankincense resins, do in-depth assessments of the full range and status of the trees or to make traceability an easy option. The origins of many resins on the market remain opaque. These frequent crises disrupt production and the trade routes used to move the resins.

With international market demand greater than ever before, this instability and opacity puts the frankincense trees in further danger. Sustainable management, by definition, requires trading one-time, short-term gains for long-term, continuous gains; for this to work, the harvesters need to be sure that they will have continuous, long-term access to the resource. In conflict situations, this assurance is seldom possible. Furthermore, increasing prices due to rising demand and falling supply conspire to incentivize unsustainable short-term management practices and a get rich quick mentality.

Frankincense the Cause or Effect of Crisis?

These situations also raise the question of whether frankincense is in itself linked to violence. Many of the belligerent groups operating in frankincense territories are local insurgencies, unlikely to have significant external support or sources of income to fund the fight. In these scenarios, frankincense may provide a much-needed source of revenue although this varies from place to place. In Yemen it is not significant but in parts of Somalia it certainly is.

It is not only frankincense which provides a source of income in resource-limited areas with active conflicts. The resin trade is often closely linked with the trade in weapons and drugs. In active conflict zones such as Somalia and Sudan, generalist traders will trade in frankincense and arms as well as anything else off of which they can profit. Khat is increasingly an epidemic in the harvesting regions, paid for by frankincense; trucks drive into villages loaded with khat, and drive out loaded with frankincense.

Frankincense Refugees

Wherever there is war and political upheaval, wherever there is a large number of dispossessed people desperate for money to survive, trade in guns, drugs and any other high prized small non-perishable commodity can flourish. Where there is war there are refugees. Also, with long porous borders, there is much formal and informal cross border trade in the region, e.g. across Puntland/Somaliland border, Kenya/Somalia, Darfur/ Central African Republic.

So, the sad fact is that the arid and semi-arid areas where much of frankincense grows have seen increased internal displacement, as well as influxes of refugees. Northern Kenya, central and northern Somalia, Ogaden, south Yemen, Darfur, South Kordofan are a few examples.

Internally displaced people and refugees have no access or entitlement to land and are often forced to rely on aid hand-outs, and/or legal or sometimes illicit trades to survive. Additionally, due to climate change and deforestation, arid and semi-arid areas are facing increasingly long and frequent periods of severe drought. Pastoralists and refugees often harvest non-timber forest products as well as wood biomass with little regeneration. While such harvest may provide valuable immediate income and firewood, it can also bring serious long-term problems for the indigenous populations and fragile arid local habitats. In Somalia, the trees are owned by specific clans and families, who carefully control access to and the health of the trees. When displaced people move in and harvest the trees illicitly, they

Ennolys

contribute to the breakdown of traditional practices and, in some cases, come into direct violent conflict with the rightful owners of the land. The resulting increased environmental degradation and drought can create a vicious cycle leading to further internal and cross-border conflict over scarce resources. Despite the well-known and pervading political instability surrounding trade in this commodity, it is surprising how few companies involved in the manufacture of frankincense products and few media articles make the direct connection between the fabled wealth, mystery and potential medicinal properties of frankincense and the harsh realities of poverty, instability and violence.

Conclusion: Blind Spots and Solutions

The prevailing idea that frankincense supply chains cannot be transparent is, we believe, a false assumption; although many in the industry adhere to this idea. By doing so and believing that

transparency and traceability is just “too difficult,” we allow more space and time for corruption and mismanagement of these trees to occur. This “blind spot” of not knowing where resins come from can be addressed in several ways. Firstly, many landowners are looking for committed buyers who offer fair, multi-year contracts that provide stability to the people who harvest the resins. This encourages long term care of the trees rather than a “casino economy” where harvesters extract as much resin as they can today because they don’t believe the buyer will be there tomorrow. With stability, landowners can commit to working collaboratively with the buyer to trace the supply chain, label bags appropriately and ensure mixing with non-traceable resins does not happen.

Secondly, new technology loosely referred to as block chain analysis can be adopted using smart phones and an application that uploads location and pictures of individual trees to a data cloud. This data is then shared between supplier and buyer and can be regularly monitored to ensure that best practices are adhered to both internally and by third parties along the chain.

Organic and Fair Trade certification has not so far proven sufficient to ensure sustainability in frankincense supply chains, mainly due to the high cost and insecurity on the ground. Actions such as block chain analysis that are low cost, must have incentives built into the process so that when harvesters collect resin, they are simultaneously encouraged to collect data. Regardless of whether the trees are owned individually, communally or government controlled, a strong, fair and ethical supplier-buyer relationship is the key to sustainability.

If nothing else, the aim of this article is to encourage all of us outside the countries where frankincense trees grow, and who profit from, buy, use and enjoy these aromatic ancient resins to educate ourselves and pay far more attention to how the resin is harvested, how it reached our hands and who benefitted. Purchasers all along the value chain need to ensure maximum direct support to all those who own and rightfully harvest the trees to have the means and incentive to take a long term view and to be able to protect and regenerate these precious and extraordinary trees and their gift to us.



Carteri overharvesting in Somaliland. Photos courtesy of the authors.

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Ethiopian women sorting *Boswellia papyrifera* frankincense in Benishangul-Gumuz province, Ethiopia. Photos courtesy of the authors.

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