

# The Sustainability Sweet Spot

## A strategy for naturals

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*This is the first in an occasional series of articles that will appear in Perfumer & Flavorist magazine exploring issues surrounding sustainable sourcing and natural ingredients.*

Will naturals become so rare and/or so expensive that they become the ultimate luxury in flavor and fragrance formulation? Such are the troublesome questions that emerge when shedding the sustainability spotlight on natural sourcing.

The world population is growing at a staggering rate. Pressure on the world's agricultural resources is unprecedented. The need for agricultural land has grown three- to fivefold in the last 10 years.<sup>a</sup> Our industry's natural raw materials are under unprecedented demand pressure, and supply cannot keep up. Prices of naturals have increased 25–35% in the last two to three years, while competition amongst flavor and fragrance houses to secure their needs of botanical ingredients is higher than ever. How can the industry adapt to this fast evolving business environment and—as corporate citizens—do its part to ensure that naturals do not become so rare and so expensive that they become luxury ingredients?

Going beyond mere supply and cost issues, the fact is that pressure for sustainability stewardship is starting to cascade down the supply chain: pressure from retailers onto consumer goods companies, and subsequently consumer goods companies onto their flavor and fragrance suppliers. Only the biggest players are starting to thoroughly manage sustainability, measuring the performance of their supply chain in sustainability awareness and improvements. Of course, swimming up the supply chain towards source, the pressure is next to nil. So, how does the industry converge toward the sustainable sweet spot in sourcing naturals, supporting the needs of society, environment and economy (F-1)?

The answer lies in many areas of sustainability management. Research programs in white biochemistry and green chemistry are key. Promoting value in use to perfumers and flavorists and optimizing the use of natural ingredients at a concentration no higher than



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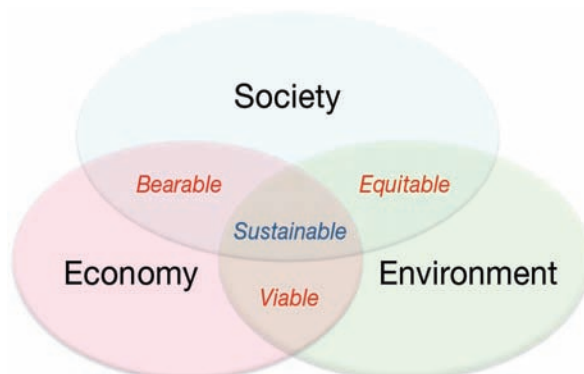
their effective threshold will also contribute to optimize the use of limited natural resources. Perhaps, the most tangible results will come from more thorough sourcing practices.

### Naturals: a Bucolic Business

Since the days of Virgil, the adjective “bucolic” referred to the romanticizing of the countryside. Of course, is there anything more romantic than sourcing lavandin oil in Provence? Spruce in the northern woods of Quebec? Buchu oil in South Africa? Yet bucolic also has a much deeper meaning, a pastoral ideal related in Virgil's stories of the shepherd and herdsmen. Under the sustainability spotlight, sourcing does indeed include pastoral and leadership duties.

#### The three pillars of sustainability

F-1



<sup>a</sup>See: The Global Supply and Demand for Agricultural Land in 2050: A Perfect Storm in the Making?; <http://ageconsearch.umn.edu/handle/100557>

The world is becoming flatter. Nowadays, with a smart phone, anybody can claim to be “sourcing” raw materials. So, motivated by farm-direct prices or sustainability-driven ventures, industry players are increasingly swimming upstream toward source, streamlining their supply chain. But with unprecedented access to the most remote corners of the world, and with great purchasing power, comes great responsibility: steadfast shepherdship in sustainable sourcing must demonstrate social relevance, environmental responsiveness and economic viability.

Sustainability shepherds are those industry leaders who lead a corporate evolution. Such companies have morphed in a continuum of self interest, where greed was somewhat balanced with charity. But today, corporate evolution is leading the most advanced of these most charitable corporations toward a new continuum that is beyond greed and charity—a new “common good” continuum in which achievement is balanced with contribution (F-2). Of course, this evolution of corporate citizenship toward the common good and sustainability is in its infancy. But momentum is clearly picking up with major retailers and consumer goods manufacturers. For example, Unilever reportedly transferred its procurement of Indonesian palm oil to a new, more sustainable source. In addition, major flavor and fragrance houses are widely advertising sustainability initiatives. Firmenich, for one, has declared, “Today sustainability is broader than a green strategy. It is a game changer.”

### A Strategy

So, if our customers are not the sole driving factors in infusing sustainable principles in everything suppliers do, where do organizations start? Do they just sit and wait, stuck in a greed continuum, awaiting consumers to find added value in a “sustainable-certified” fragrance or flavor, à la organic or fair trade? As corporate citizens, the industry’s evolution toward a common good continuum, in which achievement is balanced with contribution, must be pursued with no expectation of short-term return.

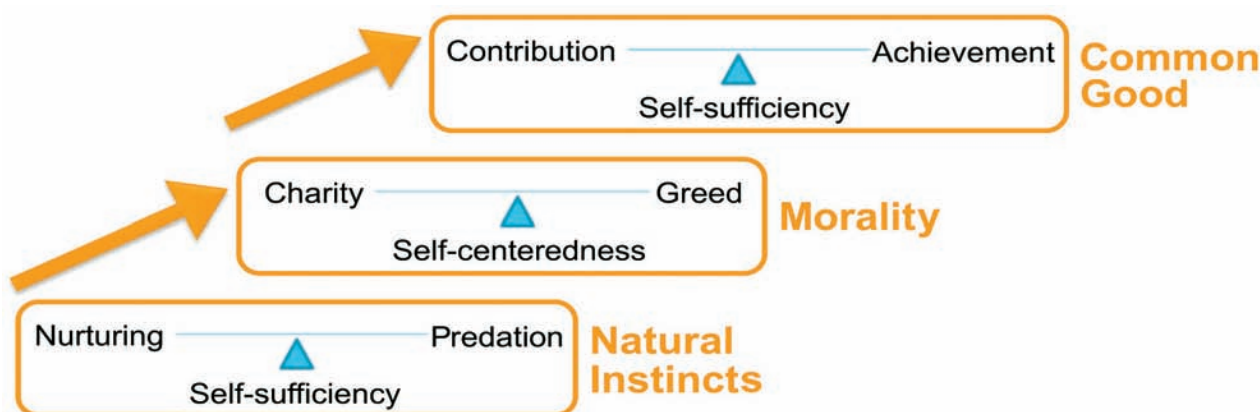
Under these principles, sourcing naturals must be founded on an unprecedented endeavor that starts from top management and trickles down through the entire organization. As even the biggest players in the industry do not have the resources to tackle hundreds of naturals head-on, the key will be to zero in on materials at greatest risk of unsustainability. This will require establishing much closer ties among select suppliers at source, turning them into real partners. Advanced sourcing management must tackle all pillars in details, relying on all skill sets of the corporation.

### Performance Indicators

An array of key quantifiable performance indicators for the assessment of progress on all three sustainability pillars must be developed. Scorecards must be drawn and benchmarks identified. Suppliers’ attention will then be drawn to areas of improvement with concrete quantifiable key performance indicator (KPI) targets. Such ventures must be supported by a monitoring/auditing organization. Clearly, supplier performance and track record of improvement must be integrated in the purchasing decision matrix. Purchasing personnel will therefore think in four dimensions—the three dimensions of price-quality-service, with the added dimension of sustainability performance. Perfumers and flavorists should be carefully kept in the loop to formulate at-risk naturals only at their threshold level so as to optimize value in use. Finally, because of the wide range of sophistication of sources, one must focus not exclusively on the “KPI grade,” but on the effort put into improvement. Continuous improvement should be the beating heart of the process. Commitment to global charts and declarations will further drive these projects. Experts will be drawn in to steer key initiatives, while joining forces with philanthropic partners at home and overseas. Independent validation and reporting will also secure the effectiveness of widely advertising milestones, as sustainability is bound to become a competitive advantage.

#### Ethical considerations within sustainability

F-2



## Society Considerations

Tackling the social pillar with the supplier-partner at source starts with the basics: health and safety. The classic KPI of safety management can be used here. The total reportable cases (TRC) and lost time case (LTC) rate quantify the numbers of accidents and numbers of lost hours per million man hours worked. Global benchmarks can be used to assess TRC and TLC scores, and provide targets for improvements. All other aspects of safety management should be audited and rated: protective equipment, respiratory safety, ergonomics, blood-borne pathogens, lock out/tag out and fire prevention. Clearly, such evaluation can be challenging in some remote distilleries, but never irrelevant, as safety and health should be the number one priority of any business. Social KPIs should quantify human resource matters such as working conditions, child labor, quality, and documentation of training or fair pay. The partners' awareness to special needs of the community should also be evaluated. In the third world, the lack of a basic social safety net opens wide the door to making a difference in access to medical care, proper nutrition, education and basic comforts such as arranging transportation for field and factory workers, or providing shelters and latrines in open field plantations. In the Western world, while supplier-partners may deliver very high grades on social KPIs, should they not be challenged also to be more sensitive to the needs of their community?

## Environmental Considerations

Moving on to the environmental KPIs, energy is the first one to tackle. What is the source of energy? Is it gas, oil, electricity, coal? What does that mean for the business? If energy comes from wood, is the source of wood sustainable? Consumption of energy should be quantified in joules, and suppliers challenged to produce more efficiently. KPI such as joules/tonne sold can be tracked. Finally, emissions of carbon dioxide and volatile organic compounds must be quantified and improved. Water management should also be a major area of focus—a fresh water access and consumption is the looming dragon of this century according to a sustainability expert. What is the source of water? Is it from a well, pumped or brought in from the local stream? Is the volume pumped in sync with the available resource? What's the quantity of water consumed? How can water consumption calculated in gallons/tonne sold be reduced? Last, but not least, companies must consider waste—a factor that can be very ugly in third world countries. What is the disposal process? What is the quantity of hazardous waste produced? What is the status of recyclables?

## Economic Factors

Moving on to the economic pillar, the obvious core focus of naturals will be to develop a series of KPIs measuring agricultural impact and performance. Foremost: is

the crop from wild plants or is it harvested? If wild, what is the impact on the environment? The preservation of the quality and integrity of the soil should also be measured. Basic KPIs must monitor the amount of pesticide, herbicide and fertilizers per acre. Soil nutrients should be routinely controlled, and crop rotation optimized to avoid nutrient exhaustion. Some farming operations may need to enhance productivity: tones/acres kg, harvested/worker, kg/hr worked. Perhaps a riper botanical will enhance quality? Can the raw material form be optimized for processing? Can the company assist in increasing extraction yields through a more appropriate selection of the raw material?

The industrial performance of extraction operations should also be monitored. How can the supplier assure the botanical has been efficiently and fully exhausted? Would better grinding of the raw material increase surface exposure and boost yields? What process controls are in place? Are equipment capabilities and design appropriate? Operator handling, solvent recovery systems and extraction times should be assessed. The number of process steps should be minimized to boost efficiency and reduce risk or error. Have critical control points been established? As for quality, how would we rate the quality system in place? And, finally, in finance, one must go beyond simply assessing the mere financial viability of our supplier-partner. Key issues such as fair/sustainable pricing and the need for crop pre-financing must be tackled.

## Conclusion

Sourcing naturals under the sustainability spotlight is indeed a bucolic business. It is romantic, of course. But much like a shepherd in Virgil's poems, a few industry players will demonstrate leadership. Advanced sourcing management is not about looking up one's next exotic supplier on Google, perhaps going through the effort of actually visiting them, getting one's picture taken in an exotic plantation, and then generously issuing a purchase order—never to be seen again. No. An evolution is underway. Motivated by a new continuum of common good, sustainability leaders are challenging themselves, partnering at source and integrating sustainable sourcing management techniques in procurement practices.

To those who wish to groom their sustainability footprint: there are too many naturals, too many sources, not enough time and not enough resources. Companies simply cannot tackle sustainable sourcing cost-effectively and fast enough all alone. Partnering with evolved suppliers to support one's sustainability agenda is crucial.

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