BIOSCIENCE AT A CROSSROADS: COSMETICS AND THE NAGOYA PROTOCOL*

PHOTOS: Shea butter processing plant, washing the shea / Centre: Ylang-ylang / Right: Shea butter and nuts

Cosmetics can be defined as "any substance or mixture intended to be placed in contact with the various external parts of the human body or with the teeth and the mucous membranes of the oral cavity with a view to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours." They are used for a variety of different applications ranging from hair care, perfumes and fragrances through to beauty and personal care, nutricosmetics, or beauty supplements, as well as the rapidly developing category of cosmeceuticals, which typically include bioactive compounds.*

The use of natural ingredients in the cosmetics industry has grown significantly over the past fifteen years, driven by growing consumer interest in health and well-being, as well as organic and fair trade products. This has led to increased demand for botanical ingredients. At the same time, this sector has experienced a substantial turnaround with regard to awareness in access and benefit sharing and commitment to ethical sourcing practices. Realizing this new-found awareness in practice, is however not always straightforward or simple.

Trade takes place in a similar fashion to that for the botanicals and food sectors and uses many of the same intermediaries. Many cosmetic and personal care products contain multiple ingredients, most of which are well known and do not contain active compounds. Some companies, however, are involved in both the direct use of raw materials through biotrade, as well as research-intensive activities to identify interesting biochemical properties. Traditional knowledge is also used to guide product development, especially because the "story" of different ingredients is a critical part of product branding and marketing.

1 This factsheet has been prepared by Rachel Wynberg and Sarah Laird. For more details and sources, see the policy brief on the cosmetics sector at https://www.cbd.int/abs/policy-brief/default.shtml/.

THE MARKET

- Global sales in 2011 for "natural cosmetics" comprised about US$26.3 billion, a small, but growing segment of the much larger personal care industry, estimated to be worth US$426 billion.
- The trend towards use of natural ingredients is not confined to the more pure "natural cosmetics" component of the market, but is now also widespread in conventional cosmetics, including those that are "nature-inspired". Such products incorporate a wide range of plant-based materials including oils, fats and waxes, essential oils and oleoresins, plant extracts and colourants.
- The United States and Europe account for almost 40% of the global natural cosmetics market.
- Ten companies represented nearly 50% of total market sales of personal care products using natural ingredients in 2010. However, a significant number of small- and medium-sized enterprises also exist.
- Sustainability and ethical questions have become central to the sector and have considerable marketing value but the extent to which companies embrace these approaches differs.

SCIENCE AND TECHNOLOGY TRENDS

An estimated $9 billion is spent each year on research and development (R&D) in this sector. Investments and approaches to R&D vary enormously, however. On one end of the spectrum, companies minimally process raw materials to produce simple products for local sale, others process plants and marine organisms into extracts or essential oils, some focus on time-tested formulations and do not have significant R&D, while at the other end of the spectrum are small- and medium-sized intermediary companies and large, multi-national companies with R&D budgets in the hundreds of

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millions of US dollars undertaking advanced research on new ingredients and delivery systems.

Key trends include the following:

- There is enormous pressure on companies to constantly innovate in order to differentiate products to attract new customers and gain a marketing advantage.
- Innovation does not necessarily imply entirely new ingredients and may, for example, focus on well-known ingredients already developed in the food sector but not yet incorporated in cosmetics.
- Delivery systems that stabilise, protect and enhance cosmetic activities on the skin are a growing and significant part of industry R&D today, and most are patented.
- There is increasing cross-over between cosmetics and other sectors such as biotechnology, pharmaceuticals (cosmeceuticals), and food (nutricosmetics).
- Cosmeceuticals are an important new market, incorporating products that include active ingredients with medicinal properties such as anti-oxidants, and products that slow the effects of aging.
- Nutricosmetics, or "beauty foods", are also emerging as a significant new market. Ingredients such as collagen, Aloe vera, grape seed and probiotics have all been used in food products with beauty claims, typically targeting skin issues from the inside out.

RELEVANCE OF THE NAGOYA PROTOCOL: RESPONDING TO SCIENTIFIC, TECHNOLOGICAL, POLICY AND MARKET CHANGE

The cosmetic sector has experienced a substantial turnaround with regard to awareness in access and benefit-sharing (ABS) and commitment to ethical sourcing practices. However, realizing this new-found awareness in practice is not always straightforward or simple. The implementation of the Nagoya Protocol provides an important opportunity to respond to some of the concerns raised in recent years:

Providing legal certainty and effective and streamlined measures – The Nagoya Protocol seeks to create an environment of legal certainty and mutual trust by requiring Parties to designate a national focal point on ABS that will make information available on procedures for obtaining prior informed consent (PIC) and reaching mutually agreed terms and one or more competent national authorities to grant access. The establishment of an ABS Clearing-House for sharing information will help to ensure transparency and enhance legal certainty.

Providing clarity on scope – The Nagoya Protocol covers genetic resources when these are utilized within the definition of Article 2(c) of the Protocol and does not cover genetic resources that are

accessed and used as commodities. Most cosmetics products use multiple ingredients, many of which are known ingredients with established supply chains that involve little R&D. Implementation of the Protocol can help to provide guidance to companies, researchers and indigenous and local communities about which resources and activities fall within its scope, thus providing surety and clarity about ABS implications and requirements.

Supporting sharing benefits from the use of traditional knowledge – The Nagoya Protocol can help to ensure that traditional knowledge associated with genetic resources is accessed and used with the prior informed consent of indigenous and local communities and that mutually agreed terms for benefit-sharing are established.

Improving monitoring of the use of genetic resources – Through the checkpoints described in Article 17 and the internationally recognized certificate of compliance, the Nagoya Protocol can help to monitor the use of genetic resources throughout supply chains and provide evidence that prior informed consent has been obtained and that mutually agreed terms have been established.

Building the capacity of governments, researchers and companies to engage with ABS and changing scientific and technological developments – Despite increased ABS awareness, there remains a great deal of uncertainty and absence of understanding about ABS in this sector. The development and use of voluntary standards, codes of conduct and best practices and guidelines can contribute to enhancing capacity and supporting compliance with ABS requirements in a sector with long-standing involvement in the use of such tools.

Developing regional ABS approaches – Many genetic resources and associated traditional knowledge used in cosmetics are widely distributed across political boundaries. Implementation of Article 11 on transboundary cooperation provides important opportunities to investigate common regional or sub-regional approaches for such resources and knowledge.

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