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giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Co-financed by:



In Cooperation with:



MAPs AND ESSENTIAL OILS FROM NEPAL

Market Analysis And Market Entry Strategy
In the German Market



Imprint

Published by

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany

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As at

June 2017

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This publication is a part of 'MAPs and Essential Oils from Nepal - Market Analysis and Market Entry Strategy in Five Selected Markets' Find the full version of the report in: <https://www.giz.de/en/mediacenter/publications.html>.

GIZ is responsible for the content of this publication.

On behalf of the
German Federal Ministry for Economic Cooperation and Development (BMZ)
Alternatively: German Federal Foreign Office

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Scope of the Study

Based on the Nepal Trade Integration Strategy (NTIS) 2010, a proposal in implementing the NTIS in the sector of Medicinal and Aromatic Plants (MAPs) was submitted to the Enhanced Integrated Framework (EIF) by the Government of Nepal (GoN). The Implementing NTIS in Medicinal and Aromatic Plants (IN-MAPs) Project, with the objective to strengthen the capacity of the MAPs actors in coordination and implementation of the NTIS is financed by the EIF, the German Federal Ministry for Economic Cooperation and Development (BMZ) and Government of Nepal (GoN). On behalf of the BMZ, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports the Ministry of Forests and Soil Conservation (MoFSC) to execute the IN-MAPs project.

CLOSE SYNERGIES was built with the Nepali-German Trade Promotion Programme (IN-MAPs TPP) and the Nepali-German Inclusive Development of the Economy (INCLUDE) Programme focusing on the implementation of the NTIS and providing support in the MAPs sector in Nepal. The IN-MAPs Project Collaborates extensively with the PAG and other Development Partners involved in the MAPs sector.

To facilitate this activity of the IN-MAPs project, an in-depth study to analyse the main markets for MAPs and Essential oils and preparation of Market Entry Strategies was needed being the basis for further export promotion intervention of the MAPs sector in Nepal.

The research objective of this study was to identify the size and opportunities in five selected markets for eleven selected MAPs, Essential oils and Commodities that are locally collected and processed in Nepal.

The selection of the markets and products was done in two steps:

1. Discussions with stakeholders to identify current markets, desired markets, main current products and future products in Nepal during visits from between 1 - 6 November 2015.

2. Presentation of the summary of the study in the core group meeting on the 6th of November - see Annex 8.

Markets: The USA, Germany, France and India were the most desired markets among the stakeholders and companies. China was chosen because of its size and fast growth. Besides, it is geographically close to Nepal.

Products: The priority products were Timur, Mentha, Asparagus, Cinnamon and Chiuri which are the main products in the six target districts of the Nepal-German INCLUDE programme in the Mid-Western

and Far-Western regions of Nepal: Banke, Kailali, Pyuthan, Surkhet, Dang and Kanchanpur - see Annex 9. The other products were selected through discussions and suggestions by JABAN, NEHHPA and other relevant stakeholders during the meeting.

The study provides recommendations to comply with the strict market access requirements, develop options to access the five selected markets, and gives recommendations for an overall global market access strategy. This is done by providing relevance on:

- How to enter these markets with the best opportunities for the selected MAPs products from Nepal.
- How to comply with market access requirements in the USA, Germany, France, China and India and recommend how to enter these markets, providing addresses of potential trade partners, useful organisations and trade fairs in each country.
- Giving the best recommendations for a global market access strategy for Nepali companies and suggest how to move forward to reinforce the MAPs sector in Nepal in a sustainable manner with the support of governmental institutions, trade associations and NGOs.

The main topics in the second part that is covered in Chapter 3 and were further discussed during the validation workshop on 22nd of August 2016 with the stakeholders include:

- Current situation of the MAPs/Essential oil sector in Nepal.
- Choosing the best of the five markets for Nepali exporters based on market size and detailed trade statistics.
- Global Trends in ingredients in the three key segments (flavour, fragrance, medicinal) and opportunities for the eleven selected products from Nepal.
- How to comply with Access requirements (Legislative, Quality and Voluntary).
- How to jointly apply for Organic Labelling (e.g. by organic growers group).
- Dealing with competitive countries and how Nepal can differentiate by a USP (Unique Selling Proposition).

- Recommended strategy to strengthen the sector in Nepal to the benefits of all actors in the value chain to encourage collaboration on all levels and to attract foreign companies for sustainable sourcing to gain more security in supplies, fair prices and know-how for farmers, collectors, cooperatives and exporters.
- Enhancing the marketing skills by companies and cooperatives by taking a more customer oriented approach by using marketing mix (product, price, distribution and promotion strategy).

Methodology for the study

EXTENSIVE DESK RESEARCH was conducted where all available secondary source information was accessed. A thorough search was made using official statistics (ITC, Eurostat), research databases, market reports - including from Euromonitor, trade press, trade associations/web portals (COSSMA, Food Navigator, Food for Trade, Food World, Organic-Bio etc.), company information sources, governmental and non-governmental trade information as well as other information via the internet.

FIELD RESEARCH was done at international shows (Food Ingredients in Paris 2015, Biofach in Nuremberg in 2016) and through discussions and face-to-face and skype/phone interviews conducted with buyers, technical experts in the field and relevant consultants between November 2015 and March 2016.

Limitations

The scope of this study is primarily on the development and potential in exports markets in terms of significance (market size), key segments and market opportunities. The current situation of the MAPs sector in Nepal is briefly reviewed and issues like production capacity of the exporting companies but policy making were not requested in the ToR.

However, some recommendations are given in Annex 8 based on the results of the validation workshop with the stakeholders.





Acknowledgement

This market study was made under the Nepal-German Trade Promotion Programme (TPP) led by the Ministry of Commerce (MoC), Government of Nepal and with Technical Assistance by the the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). I especially would like to thank Mr. Durga Datta Regmi as well as Dr. Peter Richter, Ms. Himadri Palikhe, Ms. Safala Shrestha, Ms. Jannu Chudal, Mr. Pankaj Kumar Das and Mr. Robert Glass of GIZ for their support.

I am also grateful to various stakeholders who have provided me valuable input for this study, notably, Mr. Marco Valussi (Officina Lessinia), Mr. Khiledra Gurung (HBTL), Mr. Kailash Dixit (Arya Aroma), Mr. Govinda Ghimire (NEHHPA), Mr. Yubraj Subedi (NEHHPA), Mr. Ishwari Prasad Poudel (MoFSC), Mr. Rakesh Agarwal (HEAN), Mr. Toya Narayan Gyawali (MoC), Mr. Chhabindra Parajuli (MoC), Mr. Rajdev Prasad Yadav (DPR), Mr. Sanjeev Kumar Rai (DPR), Mr. Phadindra Prasad Pokharel (DoF), Mr. Bimal Kumar Nepal (TEPC), Mr. Ishwari Prasad Ghimire (TEC), Mr. Puspa Ghimire (ANSAB), Dr. Sundarshan

Khanal (ANSAB), Ms. Aruna Shukla (JABAN), Mr. Samir Dhungel (Khaptad Aroma), Mr. P.K. Sharma (Gyan Herbals), Mr. Sanjay Jain (Bahubali Herbal Essences), Mr. Jagannath Koirala (HPPCL), Mr. Jan Pieter Servaas, Mr. Ian Liddell and - last but not least - my wife Jacqueline for all her support.

I sincerely appreciated the spirit of cooperation and openness of all.

It has been a great challenge to make this study and having more insight in the complex but very interesting world of MAPs and Essential oils. I sincerely hope that this market study will be a good reference tool for all stakeholders and will contribute to further development of the MAPs sector in Nepal.

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ABOUT 3,000 SPECIES OF MAPs ARE TRADED INTERNATIONALLY AND
2,000 IN EUROPE (GERMANY, SWITZERLAND, FRANCE). MAPs ARE
MOSTLY USED IN THE PHARMACEUTICAL INDUSTRY FOR TABLETS,
CAPSULES, POWDERS AND EXTRACTS. THE GLOBAL MAPs IMPORT
ROSE BY +3% SINCE 2010 AND REACHED IN 2014 A VOLUME OF
673,564 TONNES, VALUED AT US\$ 2,724 MILLION.



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

PRODUCT AND COUNTRIES

This market study covers 11 selected MAPs and essential oils from Nepal and a number of other relevant types. These are: Timur (*Zanthoxylum armatum*), Mentha (*arvensis*, *cornmint*), Asparagus, Cinnamon (*Cinnamomum tamala*), Butternut (*Diploknema butyracea*) Spikenard (*Nardostachys jatamansi*), Chamomile (*Matricaria chamomilla*), Soapnut (*Sapindus mukurosi*, Wintergreen (*Gaultheria fragrantissima*), Anthopogan (*Rhododendron anthopogon*), Ginger (*Zingiber officinale*). Others are Citronella, Palmarosa, Lemongrass, Valerian (*Valeriana officinalis*), Turmeric (*Curcuma longa*), Large Cardamom, Sweet flag (*Acorus calamus*) and Yarshagumba (*Ophiocordyceps sinensis*). The covered export markets in this study are: USA, France, Germany, China and India.

GLOBAL SCENARIO

About 3,000 species of MAPs are traded internationally and 2,000 in Europe (Germany, Switzerland, France). MAPs are mostly used in the pharmaceutical industry for tablets, capsules, powders and extracts. The global MAPs import rose by +3% since 2010 and reached in 2014 a volume of 673,564 tonnes, valued at US\$ 2,724 million. **Supplies of MAPs by Nepal** was just 0.2% of global imports most of which were destined for India and China, although exports to China significantly dropped (yarshagumba). In 2015, MAPs exports by Nepal were 3,172 tonnes valued at US\$ 4.7 million.

Global production of essential oils was estimated at over 160,000 tonnes in 2014. By volume, the ten most common oils take up 80% of the total world market. Brazil, India, USA, China, Egypt, Mexico, Guatemala, Morocco, Indonesia and Vietnam are main exporting countries. Particularly Indonesia, Sri Lanka, Vietnam expanded their exports and invested in scientific and technical training.

Twelve large flavour and fragrance houses dominate the global essential oil market with a sales value of US\$ 2.3 billion in 2014. Their value chains are well integrated with the top industry players. In order to produce oils of a constant quality, they work with loyal and reliable raw material suppliers and have their logistics operations well organised. Future prospects for essential oils are bright.

Exports of essential oils from Nepal are very small, but are on the rise. Between 2010 and 2015, exports of essential oils rose by a CAGR of 11% from US\$ 974 to 1,626 thousand. By volume, exports rose from 21 to 37 tonnes. The USA has become the largest destination (by value), followed by France, Belgium, Germany, UK and Canada, while exports to India dropped by 30%. Most Nepal oils are limited supply oils. The best opportunities for MAPs and oils from Nepal are in three following key segments: premium flavour (natural health food and organic food), premium BPC (Beauty and Personal Care) products and Pharmaceutical (herbal traditional medicines).



THE STUDY PROVIDES RECOMMENDATIONS TO COMPLY WITH THE STRICT MARKET ACCESS REQUIREMENTS, DEVELOP OPTIONS TO ACCESS THE FIVE SELECTED MARKETS, AND GIVES RECOMMENDATIONS FOR AN OVERALL GLOBAL MARKET ACCESS STRATEGY.

APPROACHING THE SELECTED MARKETS

FLAVOUR: Premium flavour is the largest key segment where sales are expected to be US\$ 93,156 million by 2019. In the USA, this segment is expected to reach sales value of US\$ 59,378 million. Especially millennials and baby boomers, recognise that unprocessed fresh food or organic food is healthy, tasty and can help to slim down. In France and Germany, consumers prefer fresh food of a good quality even if they can buy this less frequent due to a limited budget. Driven by popular reality TV competitions and more immigrants (Germany), people become more open to cuisines from other countries. There is a trend towards organic beverages with typical (spicy) tastes and herbal teas rather than sweet carbonated drinks. Interesting Nepal oils in the premium flavour segment are:

- **Timur and curcuma** can be used in exotic dishes having new exciting tastes and are good for health (digestion, immune system, performing well etc.).
- **Ginger and cinnamon** could be used in the drink industry especially in the healthy fresh drinks, as it provide good taste as a compensation for reduced use of sugar.
- **Timur, curcuma, ginger, cinnamon** can be used in new natural herbal teas in mixture blends or with hot milk cappuccino-alike drinks ("Tea -Latte").
- **Wintergreen** having many different uses such as in sugar confectionery (candies, chewing gums), bakery products, frozen dairy, soft drinks and alcoholic drinks.

Spices and taste enhancers in organic dishes or vegetarian dishes definitely gain more ground in the Western market. In China organic food is still something new, although fresh healthy food is growing.

Further reforms in the Chinese economy, will further generate a middle class population that is expected to reach 854 million people by 2035. China shows the largest growth rates in all segments and premium food sales is expected to reach US\$ 61,401 million by 2019, being larger than the USA.

FRAGRANCE: Sales is expected to reach US\$ 46,555 million in 2019 where the USA and China will be the main markets. In the premium BPC segment, concern about side effects of synthetic ingredients makes the industry go "greener" Interesting Nepal types of oils in the premium BPC segment:



- **Rhododendron** is used in skin care, shampoos, bath gels/soap, because of its fresh, sweet floral aroma. Evoking sympathy in the world of New Age and yoga, rhododendron will be interesting in women's perfume (typical floral note). It can be used, as well, in air fresheners in China or India.
- **Ginger** is used in men's aftershave creams/lotions, men's perfumes and in skin and hair products for both women and men. Ginger has multi-functional properties.
- **Jatamansi has anti-aging properties**, is a natural deodorant, and can be used in hair loss and hair colour restoration - an issue among the ageing populations in the USA and in Europe.
- **Jatamansi, ginger and timur** can be used in men's perfumes including in the popular Oud and woody based types among affluent men. This also applies for cinnamon.
- **Butternut** can be used in skin care as a moisturizer, in shampoos and shower gels as an alternative to shea butter from Africa.
- **Palmarosa** used in perfumes with its sweet, rose like scents. Other uses include soaps, lotions, facial steams and hair treatments.

In the **premium fragrance** segment, the perfume culture stays in France and Germany, while the US market has quickly become mature due to an overkill of celebrity perfumes. China shows the largest growth rates in the premium BPC segment. The middle and western part will develop and the baby & childcare category will further rise (two-child policy).

India accounted for 84% of Nepal exports in 2015 most of which are MAPs. The majority of Indian people are poor and wages per day are much lower than in Western countries or in China. MAPs from Nepal will be still required for hand soaps, fabric wash, talcum powder, oral care products, shaving creams and oil products traditionally used in hair care, skin care and Ayurvedic health care products. Along with the expected population and (slowly) rising middle class population, demand for premium flavour and premium BPC products will grow as well as the traditional products.

PHARMACEUTICAL: In health care and dietary supplements, curcuma is discovered as one of the new herbal medicines. The popularity of traditional

Chinese medicine is rising as in the USA with the expansion of Chinese pharmaceutical companies that also target American people looking for alternative medicines. **Aromatherapy** continues to be popular driven by active promotion, direct selling via social media, the awareness and popularity of aromatherapy is still rising, and this form of self-medication is moving more to the mainstream market. Common uses of essential oils are for well-being, healing purposes (respiration, digestive, immunity, anti-oxidant) and reduction of stress.

DIFFICULTIES FOR NEPAL TO OVERCOME

- **A weak infrastructure** where MAPs need to come a long way on foot from remote villages in the mountains. There is a lack of proper packaging material and limited access to electricity.
- **Nepal's landlocked position**, its lack of fuel and raw materials needed for manufacturing. The economy is closely tied to India or China. The open border with India giving room to smuggling.
- **Exports of MAPs/oils by Nepal are largely overshadowed by India.** Indian traders buy MAPs direct at low prices for the production of oils in India, promoted as Indian or Himalaya products.
- **Low recognition.** Many people in Western markets know Nepal as a country, but in essential oils there is no clear recognition between oils from Nepal or from India. In addition, the image of Nepali oils might be affected, if some Indian companies sell adulterated oils.
- **Farmers or collectors usually have no clear idea** about the consumer taste of particular essential oils, specific seasons or shortages/movements in demand or the purpose of use.

MARKET ACCESS REQUIREMENTS

Legislative requirements are mandatory and subject to penalties if they are ignored, especially in Europe and USA. These are related to environmental protection, food safety for consumers and hygiene. The regulatory barriers to enter the USA market are lower than Europe. In Food legislation, HACCP rules must be respected and a Certificate of origin must be submitted. In Europe, there are regulations on MRLs,

OBTAINING ORGANIC CERTIFICATION IS HIGHLY RECOMMENDED AS THIS WILL CONTRIBUTE TO ENHANCE THE QUALITY OF THE MAPS SECTOR.

traceability and a phytosanitary certificate is required.

Cosmetic regulation. In the USA, the FDA requires that every ingredient must be substantiated for safety before going to market. In Europe, a cosmetic safety assessment must be carried out and regulations regarding herbal traditional medicines are extremely strict. The best option is to export the MAP or oil as a herbal food supplement. Much care must be taken regarding claims.

Recommendations to improve the quality include:

Use the best plants; motivate collectors; use same plants from same harvests; minimize the time between harvesting and distillation and keep the oil glass bottles, aluminium or steel drums in clean places. Organic certification is highly recommended and will contribute to enhance the quality of the sector. Procedures for MAPs and Essential oils can be done by Nepali companies, or jointly as an OGG (Group of Organic Growers).

RECOMMENDATIONS FOR THE MAPs SECTOR

- **Make Nepali MAPs and essential oils more visible** by clear positioning that conveys the ‘purity of Nepal oils coming from the roof of the world’ and differentiates with oils from India
- **Collected from the wild** in an ultra-clean natural environment is unique to Nepal e.g. timur, asparagus, wintergreen, jatamansi, picrorhiza or calamus. These exclusive limited supply oils have strong therapeutic properties and are multi-functional having many different applications in fragrance, flavour and aromatherapy.
- **To overcome the difficulties in cultivating MAPs** for exports, the following steps can be taken:
 1. Strengthening exports and production of essential oils. Upgrading technology and distillation units in Nepal and an accredited laboratory with chemical analysis facilities.

2. An improved sense of collaboration in the value chain. Like in other developing countries, collaboration between actors, and a better relationship with the final customers should strengthen the chain. Now, farmer, collectors and traders see themselves just as a part of a chain. People are primarily interested in the high demand of a herb/plant and the price they can get for it, regardless the quality. Little knowledge about (fluctuating) prices, malpractices of buyers/traders and prioritizing food crops affect motivation among farmers and collectors.

3. An encouraging and stimulating ‘mentor’ on the spot providing information and training to farmer and collectors, stimulate them by incentives, help them in troubleshooting.

4. Encourage investment by foreign companies e.g. by PPP partnerships. This is a win-win situation as more companies commit themselves to sustainable sourcing strategies. Each collaboration should be reviewed periodically to ensure fair benefits on both sides.

5. Develop a wider customer base. Relying on only few customers reduces product innovation, quality and differentiation from competitors.

6. Developing a marketing strategy where the sector, or companies individually think in terms of product, price, distribution and promotion to organise and structure their activities.

THE GLOBAL TRADE HAS BEEN RISING EACH YEAR SINCE 2010 AND
THE TOTAL MAPs IMPORTS REACHED A VOLUME OF 673,564 TONNES
IN 2014, VALUED AT US\$ 2,724 MILLION. SPECIAL AND HIGHER
PRICED PLANTS WERE USED IN NATURAL MEDICINES AND IN
PERFUMERY, WHICH HAS INCREASED BY A HIGHER AVERAGE VALUE
OF +8% OF IMPORTED MAPs IN THE WORLD.



GLOBAL SCENARIO OF MAPs AND

**GLOBAL SCENARIO
OF MAPs AND
ESSENTIAL OILS**

1.1 Production and Trade in the world

MAPs

There are 250,000 - 500,000 of the plant species in the world. China, Indonesia and USA have more than 20,000 species with differences in the number of medicinal plant species as in shown in Table 1. It is no surprise that about 5,000 plants with medicinal properties, are found in China and 3,000 in India.

TABLE 1: HIGHER PLANT SPECIES AND MEDICINAL SPECIES IN THE ASIA AND THE USA

Country	Higher plant species	Medicinal plant species	share
China	26,092	4,941	18.9%
India	15,000	3,000	20.0%
Indonesia	22,500	1,000	4.4%
Malaysia	15,500	1,200	7.7%
Nepal	6,973	700	10%
Pakistan	4,950	300	6.1%
Philippines	8,931	850	9.5%
Sri Lanka	3,314	550	16.6%
Thailand	11,625	1,800	15.5%
USA	21,641	2,564	11.8%

Source: Institute of Natural Medicines - Japan (2008)

In Nepal, 700 species are in use for the Ayurvedic, Unani and Siddha medicines. Out of the total, 250 species are traditionally used as medicines and more than 100 species are commercially collected from the wild and exported in raw form mainly to India. A smaller part is processed to essential oils.

Wild collection versus cultivation. The majority (70 - 90%) of MAPs in China and Nepal is wild collected. In Europe, around 200 species are cultivated on a large scale, mostly in France (38,000 ha), Austria (24,000 ha), Germany (10,500 ha), UK (10,000 ha) and Spain (10,000 ha). In Germany, around 1,000 ha are organically cultivated (Source: European Herb Growers Association - Europam, 2013).

Trade. About 3,000 species of MAPs are traded internationally and 2,000 in Europe (Germany, Switzerland, France). MAPs are mostly used in the pharmaceutical industry for tablets, capsules, powders and extracts.



In Nepal, **700 species** are in use for the Ayurvedic, Unani and Siddha medicines.

The global trade has been rising each year (+3%) since 2010 and the total MAPs imports reached a volume of 673,564 tonnes in 2014, valued at US\$ 2,724 million. Special and higher priced plants were used in natural medicines and in perfumery, which was illustrated by a higher average value of +8% of imported MAPs in the world. The main importing countries are USA, Germany, Japan, China and Singapore, while by volume China, Hong Kong and Taiwan were major importing countries.

Nepal's exports of MAPs valued at US\$ 12.9 million and represented 0.44% of world exports ranking no. 37. Around 3,308 tonnes went to India led by rockfoil, timur, cinnamon tamala, persea and more than 60 other species. Between 2010 and 2014, exports to China rose enormously from 23 to 947 tonnes which was mainly attributed to the popularity of yarshagumba.

In 2014, the average value of exports to China was US\$ 8.35 - almost ten times higher than the value of exported MAPs to India, US\$ 0.90. Other high value MAPs went to UAE - 21 tonnes valued at US\$ 305 with an average value of US\$ 14.50. By value, the UAE has become the 3rd destination for Nepal.

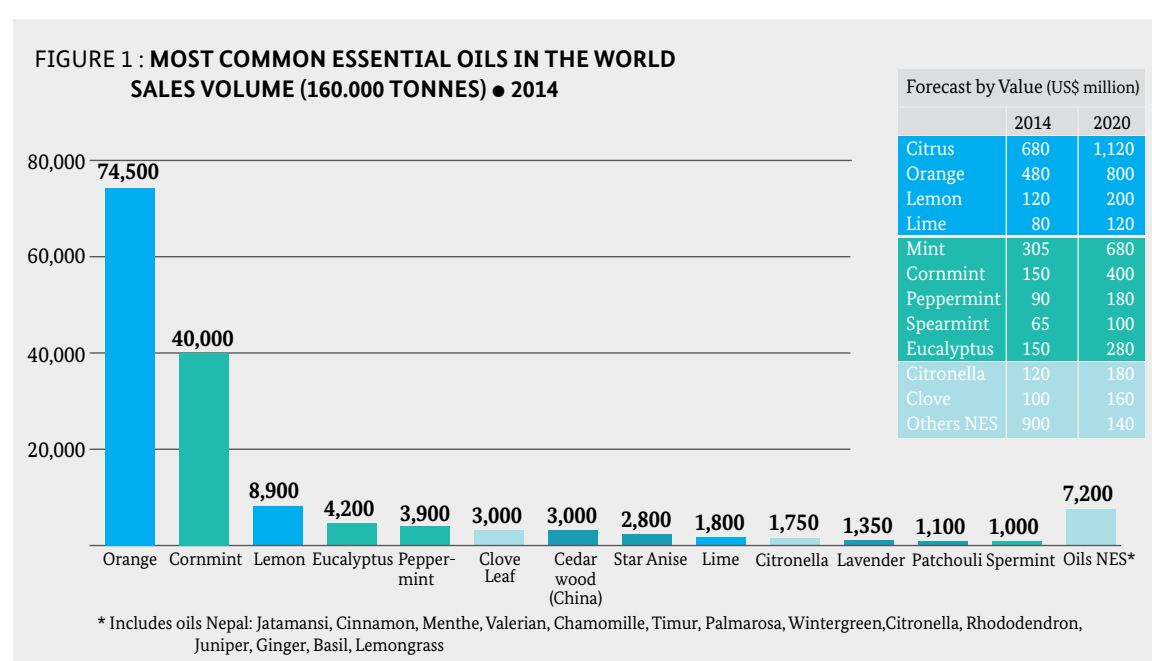
Essential oils

Global production of essential oils was estimated at over 160,000 tonnes in 2014. By volume, the ten most common oils take up 80% of the total world market.

The essential oil mostly produced and traded are:

- **Orange oil** is a by-product of orange production. More than 74,000 tonnes comes from Brazil, USA (Florida), Argentina, Dominican Republic, Australia and Italy and there are many uses.
- **Cornmint oil** (*Mentha arvensis*), estimated at 40,000 tonnes and comes mainly from India (north of Delhi), China, Brazil, Paraguay and Thailand. Most common uses are in toothpaste,

ABOUT 65% OF THE WORLD PRODUCTION COMES FROM DEVELOPING COUNTRIES BECAUSE OF THE AVAILABILITY OF RAW MATERIALS. MOST OF THE ESSENTIAL OILS TOP PRODUCERS ARE DEVELOPING COUNTRIES WITH LOWER LABOUR COSTS THAN IN WESTERN COUNTRIES.



Source: IFEAT, Grand View Research (2016)

- mouthwash, chewing gum, food (confectionery) flavouring, cosmetics and tobacco. Other uses - see also Annex 3.
- **Lemon oil** (8,900 tonnes) coming from Argentina, Brazil, Italy, Spain, USA and Peru and being used as industrial solvents, fragrance for cleaning products and flavouring.
 - **Eucalyptus oil** (4,200 tonnes) is mainly from China, Australia, Austria, Brazil, India and used for cough/cold remedies, solvents, cleaning agents and flavouring.
 - **Lavender oil** are typically made in France (Provence, Rhone Alpes) and Bulgaria and used in fragrances, toiletries and is popular in aromatherapy. In 2014, 1,350 tonnes were produced, as shown in figure 1.

Oils that are typically used in the production of alcoholic perfumery include:

- **Patchouli oil** mainly produced in Indonesia
- **Clove oil** mainly from India and Indonesia
- **Vetiver oil** from Haiti and Indonesia (estimated production was 200 tonnes).
- **Ylang-ylang** from Comoros and Madagascar (100 tonnes).
- **Rose oil** a high grade essential oil used in fine perfumery, produced mainly in Bulgaria and Turkey with global production between 3 to 5 tonnes.

About 65% of the world production comes from developing countries because of the availability of raw materials. Most of the essential oils top producers are developing countries with lower labour costs than in Western countries.

The price gap between essential oils can differ enormously depending on the volume of flowers needed for 1 kg, scarcity of the flower, purity, labour intensity, availability or high seasonal demand. If the price of orange oil is estimated at € 6/kg, the price of the rose oil could range between € 6,000 and € 7,000/kg.

Global essential oils imports rose by 6.2% in 2013 and reached US\$ 4.1 billion in 2014. The USA, France, Germany, UK and China were the main importing countries with a considerable part of oils being re-exported by most of these countries.

Nepal's exports of essential oils was US\$ 1.5 million and represented just 0.04% of world exports ranking no. 67. Around 37 tonnes primarily went to India which was mainly oils NES (Not Exactly Specified) - including jatamansi, cinnamon, valerian-, mentha oil, clove oil, citronella and orange oil. Nepal exported smaller quantities of turmeric, lemongrass and palmarosa. By value, France was the main destination of oils NES (wintergreen, jatamansi, palmarosa, lemongrass, citronella). Hungary, Switzerland, USA, Belgium Canada, Germany and Australia were other main destinations of oils NES from Nepal.

1.2 Consumption of MAPs and Essential oils in the world

MAPs

At least 4 billion people use herbal medicines for their health care and 60% of the world's population depends on traditional medicine for their primary health care needs. In developing countries, this rate is 80%. Ayurveda and traditional Chinese medicines extensively use MAPs in their treatment. MAPs, increasingly referred to as Botanicals, are also used for aromatic and/or culinary purposes as components for health foods, natural cosmetics and other natural health products.

The rise in herbal health care. From the 119 plant-derived pharmaceutical medicines, 74% is used in modern medicine (source: Institute of Natural Medicines, Japan 2008). Major pharmaceutical companies do further research on the potential of plant materials gathered from the rain forests

and other places. Technological advances in herbal remedies are achieved that are driven by the popularity of homeopathy and oriental medicine. In addition to crude tablets or medicinal teas, standardized extracts are produced in modern pharmaceutical facilities and used in modern medical systems under a physician's supervision. Herbal medicines are more often prescribed by practitioners and sold OTC (over the counter).

Prospects are bright for herbal health care.

According to BCC Research, the global market for MAPs rose annually by 11% from US \$19.5 billion in 2008 to US\$32.9 in 2013. The rise in herbal health care formulations has also driven industrial demand in cosmetics and nutritional supplements. Following the tendencies in herbal health care research, the prospects of advancing the frontiers of knowledge in herbal medicine are bright.

The international market for MAPs is dominated by China, France, Germany, Italy, Japan, Spain, UK and the USA. Japan has the highest per capita consumption of botanical medicines in the world.

The global market for seasonings, spices and herbs is likely to exceed US\$ 6.5 billion per year in the near future. Supported by the growing demand in food service, home cooking and growing consumer fascination for different cuisines, the total flavouring markets maintain an upward trend in volumes and values.

Essential oils

Essential oils can be sourced from over 3,000 plants. In Western world, there are 50 essential oils of which 25 used in cooking and over 20 are used in cosmetics, massage, aromatherapy and other uses. Other oils are used to repel insects and other arthropods that are pests of humans, livestock and pets (mosquitoes, fleas, ticks, etc.).

The global market of Essential oils was estimated at US\$ 2.3 billion in 2014 as shown in figure 2 with the USA (22%) and European (21%) markets overtaken by the China, India and other Asian countries which - without Japan - accounted, in 2014, for 30% of the essential oil consumption. In fact, the use of oils in traditional medicines has been used for many years in Asian countries. Urbanization, growth of

disposable income among the growing middle class, availability of convenience goods coupled with growing health concerns are the main forces for further growth of the essential oil consumption in Asia.

USA and Europe. Despite a lower share, the US and European markets continued to grow since 2003. Consumers have become more interested in nature and well-being with influences from the Far Eastern countries. Awareness of ingredients, performance and health benefits of using 'natural' products increased over the years which have driven demand for essential oils. This also has its impact on the personal care and cosmetic industry.

In the 1990s, committed visionaries like Anita Roddick, Horst Rechelbacher, Liz Earle and others, were successfully selling natural and ethical cosmetics through well-recognised retail chains like the Body Shop, Aveda or Joe Malone. Their companies are now part of multinationals who have invested in branding, promotion and global distribution with now many of these retail shops/ companies becoming mainstream, whether or not with a commitment to nature and suppliers in developing countries.

In the past 50 years, cosmetic consumers are exposed to at least 60,000 new synthetic chemicals

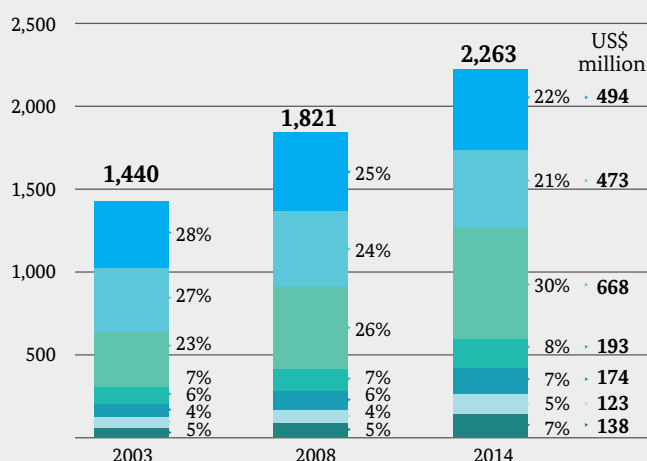
and it is no surprise that many are seeking out 'natural' ingredients in personal care products. Conscious consumers turned away from synthetic products that superficially enhance beauty but have no biological effects, to therapeutic products cosmeceuticals, which may repair damaged tissues, smooth, protect from the sun and moisturise. In addition to the essential oils, concentrates, concretes and absolutes were also more in demand.

China, India and other Asian countries have the largest share in the world population which continues to grow further. South Asian emerging economies (Vietnam, Indonesia, Thailand) recovered from the Asian crisis during the early years of the millennium and are predicted to grow in the coming years.

China's development towards a market economy, with the emerge of affluent consumers, has resulted in a fast rising demand for luxury goods including cosmetics and Western food, all of which use essential oils.

India has been traditionally a major consumer of essential oils, fragrances and flavours. In the 1990s, the Indian economy was liberalised and the market experienced a new growth period. For Nepal, India is a promising market with very large consumption of oils in all categories produced locally and oils

FIGURE 2 : GLOBAL ESSENTIAL OIL MARKET EVOLUTION
VALUE IN US \$ MILLION ● 2003, 2008 AND 2014



Source: KPMG, Seacore (2016)

imported from Nepal, China, other Asian countries, Europe and USA. Both India and China were not greatly affected by the credit crunch.

Latin America accounted for 7% of the global essential oil market (see figure 2). Trade liberalisation in the 1990s generated a significant growth in the cosmetics, food sectors and consequently has driven the consumption of essential oils, especially in the Mercosur Economic Community. On the other hand, local production of essential oils dropped because of replacement by oils being imported from foreign subsidiaries of the multinationals that expanded their operations in Latin America. Nevertheless, with the middle class population (Brazil, Argentina) being increasingly concerned about the environmental and social issues in their country, the prospects for natural ingredients and (local made) oils that are locally made looks good.

Middle East demand for essential oils is centred on fragrance oils mostly supplied in precompounded form. According to trade sources, affluent Muslim women in the Gulf States, USA and Europe spend at least € 200 - 300 per month on fashion and personal care products. However, they are more knowledgeable about essential oils, as they are also made in several Arab countries (Egypt, Morocco, Turkey etc.). Specific oils or spices such as cardamom, cinnamon, nutmeg, cumin etc. , remain popular in local dishes. Flavour oil consumption is largely in the soft drink sector.

According to projections of the Guardian, in 2010 there lived 321 million Muslims in the Middle East-North Africa. By 2030, they are estimated to be 439 million. This number is getting closer to the number of Europeans being 510 million in 2015.

There is a growing group of environmentally conscious (younger) people within the concept of the 'Green Muslim' being inspired by the vertical village and the newly built Halal Centre in Dubai, the largest human wellness centre in the world. This implies opportunities for natural ingredients.

A particular interesting segment for essential oils from Nepal are the 1 million Nepali migrants living in the Gulf States (500,000 in Saudi Arabia, 341,000 in Qatar, 200,000 in the UAE and 56,000 in Kuwait).

Industrial Use

The industrial use of essential oils can be subdivided into four industrial segments: flavour, fragrance, pharmaceutical and other industries as is shown in Figure 3.

Flavour industry

In the past decades, flavour oils such as citrus, orange, bergamot, lime, herbs, all sorts of spices, vanilla, garlic, onion, anise have experienced an increase in usage in prepared food, confectionery, soft and alcoholic drinks, dairy, bakery, processed meat, fish or animal feed. Oils are used as well by the processed food industry as flavouring, fixatives and food colouring.

According to IAL Consultants, the global sales in the field of flavours was around US\$ 11.6 billion which includes at least 20 different food ingredients with essential oils one of them.

The global market for flavours has expanded rapidly over the last 60 years because of the population growth and a demand for increasing variety of food products containing flavours (e.g. sweet or savoury sauces) and that can be kept longer.

Demand for oils in this sector is set to increase as drink manufacturers, taking up a large proportion of the market, continue to develop trendy fashionable drinks. New cuisines continue to develop in Europe and especially the Asian cuisine using many different spice oils.

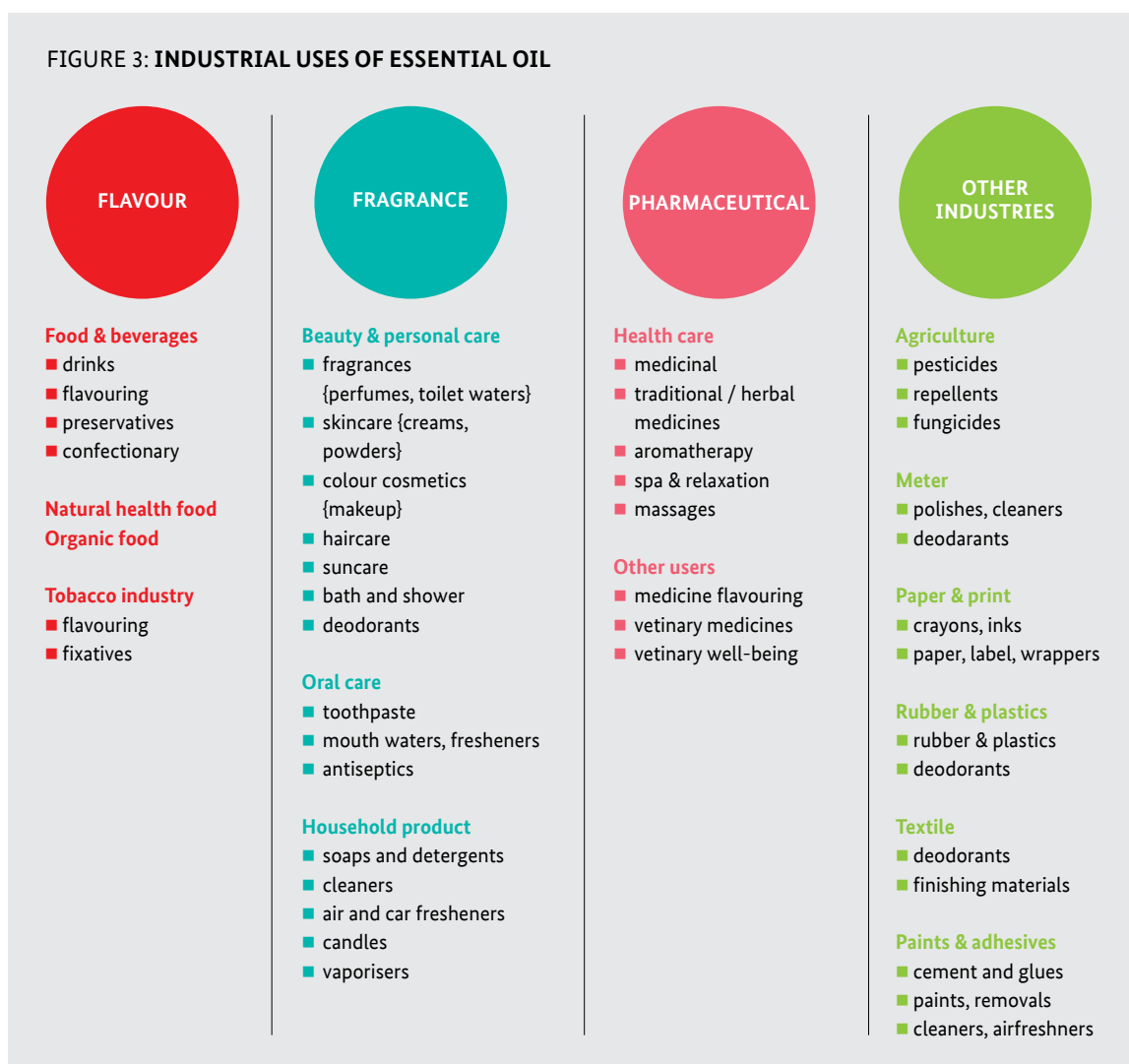
Another use in the flavour industry is to catalyse or isolate a pure aroma chemical for industrial use. For example, the isolation of eugenol from clove oil or cineole from eucalyptus oil. Through new applications of biotechnology, this market is expected to grow as well.

Fragrance and Cosmetic industry

The fragrance industry comprises the segments of beauty and personal care, oral care and household products as shown in Figure 3. The ingredients/raw materials might be of natural origin such as essential oils, or a composition of synthetic chemicals.

The natural product revival encouraged many cosmetic companies to use essential oils rather than

FIGURE 3: INDUSTRIAL USES OF ESSENTIAL OIL



Source: FAO, Seance estimates (2016)

compound fragrances directly into their products. This has become a growing niche market where lemon, orange, lime, mint, patchouli, rosewood, eucalyptus, jasmine, tea tree, ylang ylang etc. were the major beneficiaries and have become widely used fragrances. Europe represents 31% of the global perfume, cosmetics and toiletries market followed by the USA and Asia.

Europe is also the largest producer of cosmetic products, followed by the USA and Japan at a distance. Major EU producers are multinationals such as Unilever (Netherlands / UK), L'Oreal (France), Wella (Germany), Sanofi (France) and Beiersdorf (Germany). These companies have products that virtually cut across all essential oils' industries: pharmaceutical, chemicals, and food or household products.

Pharmaceutical industry

This segment is also dominated by multinationals with North America, Europe and Japan being the three biggest markets. Demand for essential oils grows less fast than the two other segments. Following the green awareness movements in



Europe is one of the largest producer of cosmetic products having multinationals like Uniliver, Sanefi, L'oreal, Wella & Beiersdorf.

Germany, Scandinavia and Switzerland in the 1990s, interest by mainstream 'personal care' product companies that use natural bio-active oils in shampoos and other related products, has driven demand for medicinal oils.

Some new oils for specific bactericide and fungicide treatments have made successful market entry although they are popular among a smaller group of conscious consumers. Companies are certainly interested in new oils with unknown properties. However, large companies want proofs of their effectiveness and constant and continued supplies. Nevertheless, there are opportunities for oils from Nepal.

Aromatherapy

Linked to the natural trend is the aromatherapy market, which has almost doubled in demand for natural ingredients since the 1990s in the Western world. Despite the regulation about claims for the efficacy of medical treatments, the use of essential



Europe represents **31%** of the global perfume, cosmetics and toiletries market followed by the USA and Asia.

oils has revived in recent decades with the popularity of aromatherapy, as an alternative medicine.

Due to the numerous health benefits of essential oils, they are increasingly being explored for the treatment of a variety of diseases including cancer, HIV, asthma, bronchitis, heart strokes, and many more.

Other industries

The agricultural industry is another important area for the application of essential oils, for example in pesticides using e.g. citronella oil. Essential oils with anti-microbial properties are also used in agricultural chemicals as fungicides. These products are organically certifiable and with the global growth in organic farming, markets are growing in this application. Further, new uses as plant anti-stress

agents are being developed. Uses for essential oils in other industries numerous as shown in Figure 3.

1.3 Global players in the flavour and fragrance sector

Essential oils are used extensively by flavour and fragrance houses which are specialised in the composition of both natural and synthetic aroma materials for a large number of industries.

Flavour & Fragrance houses can be categorized into:

1. Large global companies/houses with a sales turnover of over US\$ 2.5 billion selling multinational food, beverage, personal care and other industries. Their products include a great variety of ingredients ranging from sweeteners, flavour enhancers, cocoa ingredients, emulsifiers, preservatives, vitamins, minerals, proteins etc. Essential oils and MAPs (botanicals) are part of their product range, which is different for each company.

The four global players Givaudan, Firmenich, IFF and Symrise are together taking up around 57% of the global flavour and fragrance sales according to Xerfi.

The total market for flavour and fragrance has grown substantially from US\$ 15 billion in 2007 to US\$ 23.9 billion in 2014. There was more demand for diversified flavours in food resulting from a growing population, urbanisation, more convenience food,



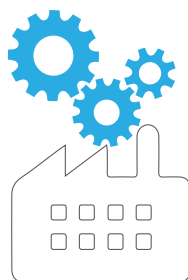
more awareness about health & well-being and a booming cosmetic market. As on a global level, the middle class population will continue to grow and similar demands will arise in China, India and other emerging economies in Asia and Latin America.

2. Medium sized global houses generate an average sales of US\$ 400 million - 2.5 billion. There are eight players who together accounted for 25% of global sales, of which Takasago and Hasegawa are mainly focussed on the Japanese market. The trend of mergers and

TABLE 2: WORLD LEADING FLAVOUR & FRAGRANCE HOUSES, 2010-2014, share based on sales in US\$ million

	COUNTRY OF ORIGIN	MARKET SHARE	TENDENCY 2010 - 2014
TOTAL SALES*			
Large houses			
Givaudan	Switzerland	19.4%	+0.9% ↗
Firmenich	Switzerland	13.6%	+1.4% ↗
International Flavour & fragrances (IFF)	USA	12.4%	+0.5% ↗
Symrise	Germany	11.3%	+1.8% ↗
Medium sized houses			
Takasago	Japan	5.0%	-1.0% ↘
International Wild flavours	Switzerland	5.0%	+0.8% ↗
Mane	France	4.1%	+1.2% ↗
Frutarom	Israel	3.3%	+1.2% ↗
Sensient Technologies	USA	2.9%	+0.3% ↗
Robertet	France	2.1%	-0.1% ↘
T. Hasegawa	Japan	1.7%	-0.6% ↘
Hubao	China (Hong Kong)	1.7%	+0.1% ↗

* Note: Sales of all ingredients for flavour & fragrance (synthetic and natural), Source: Leffingwell & Associates, Xerfi (2015)



Givaudan, Firmenich, IFF and Symrise are together taking up around 57% of the global flavour and fragrance sales according to Xerfi.

acquisitions continued in 2015 with the acquisition of Wild Flavours by ADM (USA) and smaller houses such as Diana by Symrise and Soliance by Givaudan.

3. Small and locally-based houses have a sales turnover of less than US\$ 400 million with the majority being small locally-based companies with sales between 1 -10 million. These houses make specialised flavours or fragrances for small local customers. This group numbers over 800 companies and makes up around 18% of global sales. Smaller houses are family businesses and have been existing since several generations, while other houses are set up by former employees of larger companies.

Major companies/brands operating in the global essential oil industry are Biolandes, HRF, The Lebermuth Company, Young Living Essential Oils, doTerra, Sydella Laboratoire, Farotti Essenze, Moksha Lifestyle Products, Falcon, Ungerer Ltd. and West India Spices Inc.

1.4 Future Outlook

New applications of essential oils are expected other industries e.g. sport equipment, disinfection, pet care, air fresheners, odour repellents, and insect repellents. Interesting oils could be citronella, lime, lemon, basil, chamomile and lavender.

Essential oils might find opportunities in household and cleaning products, especially those oils that have strong antibacterial and antiseptic properties. Regulations regarding product safety are currently more relaxed compared to the other segments (pharmaceutical, personal care and food and beverages).

China, India and other Asian countries continue to grow fast in the coming year which can be largely attributed to continued industrialization, urbanisation, rising income, growing awareness about health, growth in well-being (saunas and health centres) for the aging population in Europe and China. In addition, rising demand for food and drink - especially in China as it ends its one-child policy.

Prospects are bright for herbal health care.

According to BCC Research, the global market for MAPs rose annually by 11% from US \$19.5 billion in 2008 to 32.9 billion in 2013. The rise in herbal health care formulations has driven industrial demand for natural medicines, natural cosmetics and nutritional supplements.

With the current improvements in quality control and regulatory measures in Western countries, it is likely that herbal medicine will gradually be more integrated into conventional medical systems.

Future essential oil production is expected to reach 165,000 tonnes by 2020. Trends in production and domestic consumption in India and China has hugely affected the demand and supply for essential oils in the world. Both countries have enormous and growing populations. This is illustrated by a quickly rising demand for oils for Coca Cola and Pepsi Cola. If natural oils continue to be used in these popular drinks, it remains to be seen whether there will be enough supply of oils/plants in future. According to Grand View Research, the largest increases in citrus oils, mint oils, citronella, clove and other oils NES (Not Exactly Specified) - see Figure 1.

Aromatherapy growth. In Europe and USA, future growth of the trendy and competitive aromatherapy market will continue. However, along with market growth, the number of claims about therapeutic benefits of essential oils has grown as well. There are many new and different claims for one type of oil or for newly invented mixes. Some Internet sellers even suggest that the mixing of oils can be done by consumers themselves.

As there is no clear list of the benefits of essential oils and many consumers are still unfamiliar with the uses, regulatory authorities (REACH, SCCP) are expected to take a closer look at the safety of essential oils. This will slow down growth in the Western markets. In Asian markets, where consumers are more familiar with aromatherapy, continued growth is expected.

Traditional producers need to specialise. As the global essential oil market is expected to grow in the coming years, there are signs that production

no longer meets the demand because natural raw materials (MAPs) are becoming more scarce. Very often, traditional producers have difficulty to keep up with demand using their traditional techniques, unless they specialise in low volume niche markets.

Sustainability will be the buzzword in the next 10 years. Sustainability and environmental issues in the production of oils and reducing the depletion of rare MAPs continue to gain importance in the natural fragrance and flavour industries.

The multinational Firmenich makes a distinction in *natural commodities* which rely on industrial agriculture (e.g. orange oil, lemon oil etc.) and *natural specialities* that are linked to small-scale farming. The prices of both are increasing and for commodities new sustainable price levels (without speculation) may need to be found.

For *natural specialities*, Firmenich controls the sustainability of supply through its Natural Sourcing Sustainability Index (NSSI). This enables them to know their supply chain and provide clear information for customers about the sustainability of their products. Production Partnerships, that link quality suppliers at source with the flavour and fragrance markets, are proving to be more successful in future.



Future essential oil production
is expected to reach **165,000 tonnes** by 2020.



ACCORDING TO LEFFINGWELL & ASSOCIATES, THE GERMAN

FLAVOUR & FRAGRANCE MARKET WAS ESTIMATED AT US\$ 1.3

BILLION IN 2014 AND REPRESENTED 5.4% OF THE GLOBAL MARKET.

WITHIN THE GERMAN MARKET, THE FLAVOUR MARKET TAKES UP

MORE THAN HALF





MAPs AND ESSENTIAL OILS IN GERMANY

MAPs AND ESSENTIAL OILS IN GERMANY

Brief overview

POPULATION: 81 million; growth rate -0.17% (2015)

- 0-14 years: 12.9%
- 15-24 years: 10.4%
- 25-54 years: 41.4%
- 55-64 years: 13.9%
- 65 years and over: 21.5%

Urban population 75.3% of total

OBESITY RATE (adult prevalence): 29.7%

ECONOMY: GDP was US\$ 46,200 per capita
Unemployment rate 5.0% (2015)

53.7%

Women in
labour force

11.3% of GDP

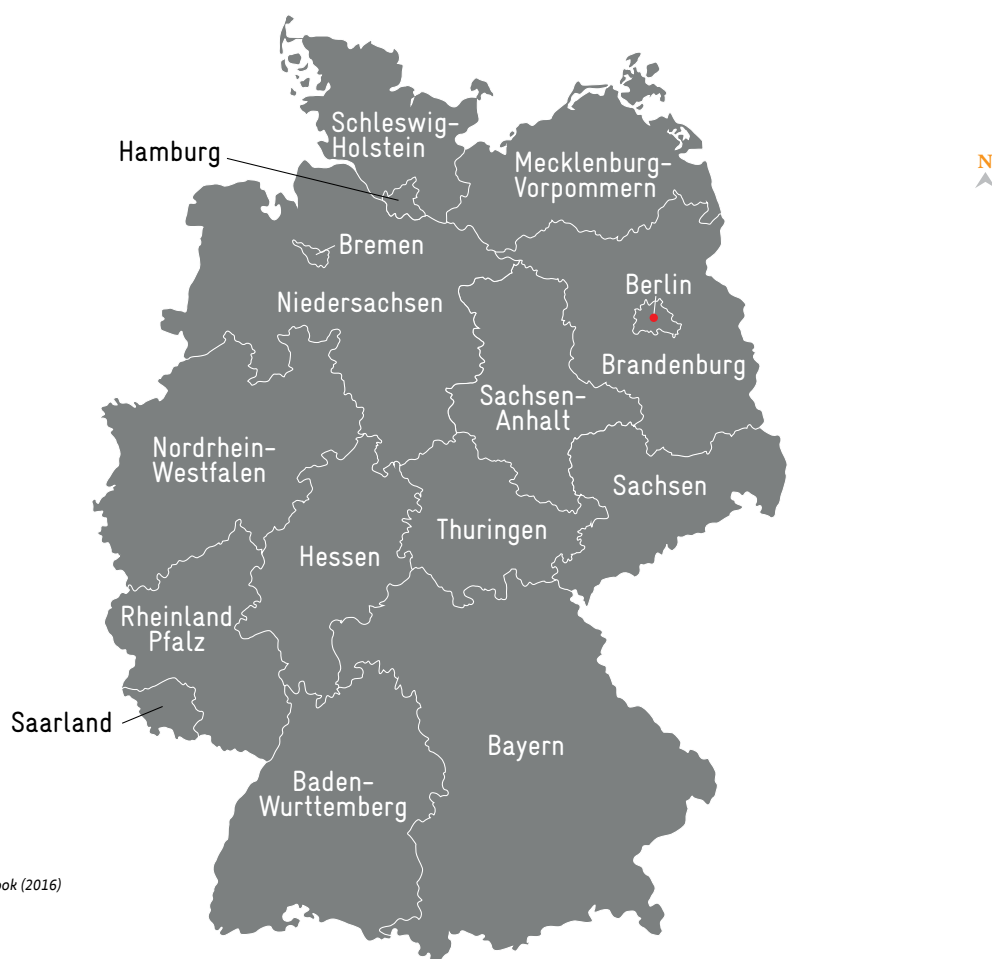
Health
Expenditure

3.89 per 1,000

Physicians
density

18,028 (لا)

Tourists to Nepal
in 2014



Germany

Source: The world Factbook (2016)

THE STUDY PROVIDES RECOMMENDATIONS TO COMPLY WITH THE STRICT MARKET ACCESS REQUIREMENTS.

2.1 Current size of the German market

The German economy has come out of the recession in 2012 and returned to a trajectory of growth in the past years stimulated by a growing domestic economy, positive consumer confidence and growing exports to emerging economies. Despite uncertain economic conditions in the coming years and a contraction of the population, Germany remains a 'green nation' where people love nature and are concerned about the planet. This consciousness is also found in the food, BPC and natural medicine market that continue to grow - slowly but steadily.

Germany is a pioneer country regarding organic principles coming from Rudolf Steiner (Switzerland) since 1900. Consumer sophistication and interest in all that is natural have been particularly a trend in the 1960s and 1970s. It remained actual among smaller groups of conscious consumers and has become widespread among younger people since 2000. Consumer awareness of ingredients, performance and health benefits of using 'natural' products have grown over the years and have sparked demand for essential oils.

According to Leffingwell & Associates, the German flavour & fragrance market was estimated at US\$ 1.3 billion in 2014 and represented 5.4% of the global market. Within the German market, the flavour market takes up more than half.

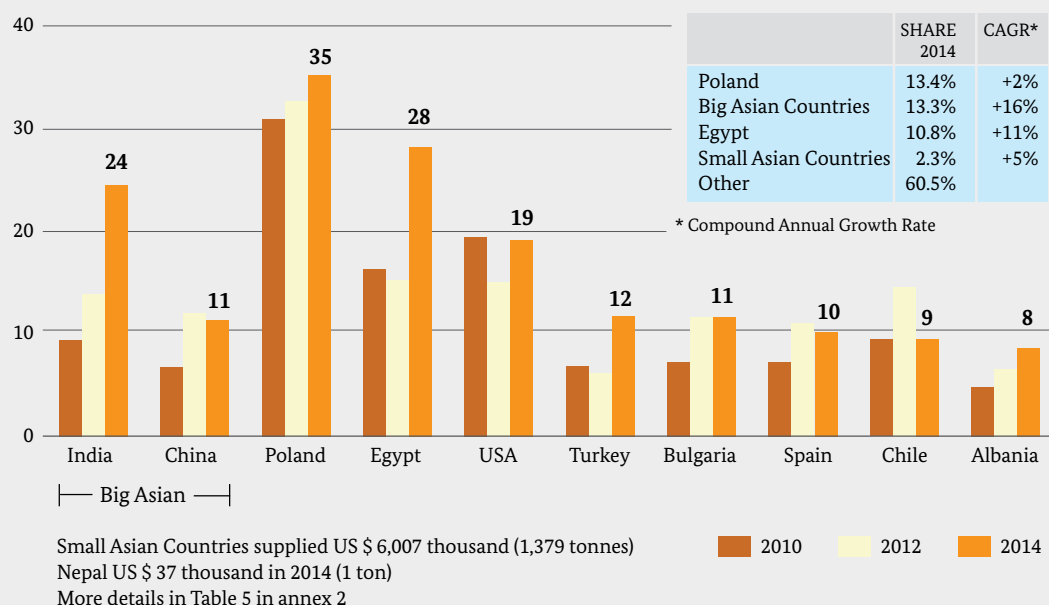
2.1.1 Consumption and Imports

MAPs

No exact sales figures are known about the market for MAPs in Germany. In terms of quantity, German imports of MAPs were more than three times the imports of essential oils. German imports of MAPs were \$US 260 million in 2014 and exports were \$US 162 million, which means that Germany is a net importer.

- **Germany imported more MAPs.** Between 2010 and 2014, imports rose steadily by a CAGR (Compound Annual Growth Rate) of +7.0%, from US\$ 189 to 260 million. Growth by volume was still +4.0% from 56,511 to 66,039 tonnes. This is very large compared to the other EU countries as Symrise is located in Germany and considerable volumes are traded to nearby Eastern EU countries, Austria as well as to Switzerland - where Givaudan and Firmenich are housed.
- **The average value/tonne of imported plants** for perfumery, pharmacy or other purposes (insecticidal, fungicidal) rose from US\$ 3,383 to 4,097. Poland, Egypt, USA and Turkey are the leading suppliers. For the flavour industry presumably thyme, rosemary, marjoram, basil, oregano come from Egypt and Turkey, both of which increased their supplies to Germany - see figure 4.
- A variety of MAPs were imported from Poland and idea can be obtained from a large exporting company Astex - see www.astex.com.pl/raw.php
- **German imports from India have more than doubled** from US\$ 9.4 to 24 million which were not specified, but presumably many of those MAPs that are found in Nepal as well.
- **The Big Asian countries** together accounted for 13.3% of the imported MAPs by value in 2014 and 12.1% by volume.
- **Small Asian countries** supplied US\$ 6 million of plants NES in 2014 and represented 2.3% of Germany imports (2.1% by volume). German imports from Thailand - the largest supplier in this group - decreased (-6%) - while Afghanistan (+170%), Cambodia (+175%), Pakistan (+17%), Malaysia (+57%), Indonesia (+11%) and Sri Lanka (+15%) increased their exports to Germany - see Annex 2 - Table 1.
- **Nepal quantity supplies** of plant NES to Germany were 7 tonnes in 2010, but dropped to 1 tonne in 2014 (US\$ 37,000). In 2014, Nepal ranked no. 85 in the supply of MAPs to Germany.

FIGURE 4 : GERMANY-IMPORT OF MAPS (121190) BY SUPPLYING COUNTRIES
VALUE IN US \$ MILLION • 2010-2014



Source: ITC Trademap • 2016

Commodities

- **German imports of ginger rose** by +9% from US\$ 27 to 42 million with China, Netherlands and Peru as main supplying countries. In 2014, Germany imported US\$ 11 of crushed/ground ginger.
- **Imports of seeds and nuts -including soapnuts** - rose by from US\$ 19 to 28 million mainly coming from Austria, France, China, India and Indonesia and trading countries such as Belgium and the Netherlands. Nepal was ranking no. 51 in this category.
- **Within the imported spices, curcuma** showed a negative trend (-4%) mainly from India and the Netherlands. Curcuma exports from Vietnam where small (4% of supplies), but increased in 2014 after a dip in 2011 and 2012. German imports of cardamom fell as well by -13% - mainly from Guatemala and the Netherlands. Nepal was ranking no. 8 in this category.

See also Annex 2 - Table 1

Essential oils

The German market for essential oils was estimated at US\$ 98 million in 2014 (excluding exports). Around 52% of the oils is used in the flavour industries - including household product industry, while 48% was used in the fragrance and pharmaceutical industries.



German imports of ginger rose by 9% from **US \$27 to 42 million** with China, Netherlands & Peru as main supplying countries.

TABLE 3: GERMANY - THE ESSENTIAL OIL MARKET, VALUE IN US\$ MILLION

	2003	2008	2014	increase 2008 - 2014
Essential oils (100% pure)	64	76	98	4.2%

Source: Searce estimates (2016)

Main essential oils used by German Flavour and Fragrance houses and industrial segments are citrus fruit which together took up one third of total German imports, most of which was orange oil. Mint oils (Peppermint and Mint NES) took up 11% of imports and oils NES (not specified) around 48%. Most oils came from Brazil, France, India, USA, China, Italy, Spain Indonesia, Mexico, UK, Sri Lanka and Austria. Within the EU, Austria is the 2nd largest producer of MAPs (mustard seed, caraway, poppy seed) and together with Switzerland, it is the closest trading partner with Germany.

Germany is the third largest importer (by value) - after the USA and France and is among the largest European producer of essential oils, particularly of green herb oils.

German Imports of Essential oils

In 2014, total German imports were \$US 308 million and as exports were valued at \$US 173 million, Germany is a net importer.

Imports of oils continued to rise substantially.

Between 2010 and 2014, German essential oil imports rose by a CAGR of +9%, from US\$ 202 to 308 million. Volume imports have more than doubled from 5,863 to 13,575 tonnes being largely attributed to rising imports of orange oil since 2011.

Germany imported higher valued oils NES

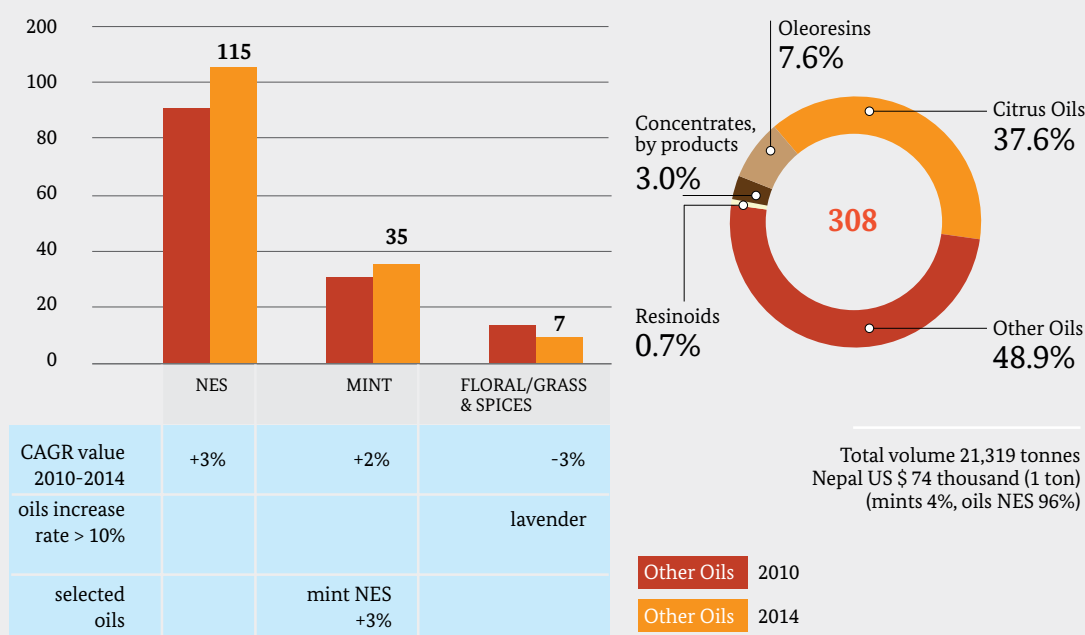
mainly coming from France (28%), China (16%), Indonesia (7%), India (6%), USA (3%) and many different other countries.

Floral/grass and spice oils was a small category

and were less in demand in Germany (-3% CAGR between 2010 and 2014). Imports of the two groups 'Clove, niaouli, ylang ylang' and 'Geranium and Vetiver' fell by -7% in the review period. On the other hand, lavender oil was more in demand (+16%) - see Annex 2 - Table 2.



FIGURE 5 : GERMANY IMPORT OF ESSENTIAL OILS (3301)
VALUE IN US \$ MILLION • 2014



Source: ITC Trademap • 2016

- **India's supplies of essential oils accounted for 11%**, although supplies fell subsequently since 2011 from US\$ 53 to 34 million. Particularly supplies of mints NES from India decreased to US\$ 6.8 million while supplies from the USA remained high. The main reason is that Germany imported more mint oils from China. Indian supplies of oils NES grew by 12%, from US\$ 4.9 to 7.7 million between 2010 and 2014. India exported more concentrates and by-products to Germany and supplies rose from 12 to 15 million in the review period. In most oils and concentrates, India had to deal with growing competition from Brazil, Sri Lanka, USA and particularly from China.
- **Other Asian countries. China supplied essential oils** valued at US\$ 26 million to Germany in 2014, a rise of 2% from 2010. China ranked no. 5 and mostly supplied oils NES (eucalyptus, cassia, citronella, geranium) and, to a lesser extent, mint NES, concentrates, peppermint and citrus oil.

- **Indonesia was another sizeable Asian supplier** of cinnamon, pepper, nutmeg, cardamom, clove and ginger and ranked no. 8. In 2014, German imports reached US\$ 7.9 million although the Indonesian supplies decreased since 2011. Exports of oils NES dropped by four times (from US\$ 8 to 2 million). On the other hand, supplies of concentrates increased from US\$ 0 to 5 million.
- **Nepal supplied 1 tonne of oils to Germany**, valued at US\$ 74,000 (0.07 million) in 2014 being mainly oils NES and mint oil NES. By value, German imports from Nepal showed a slight fluctuating pattern between US\$ 69 and 74 thousand between 2010 and 2014. Volume supplies decreased from 2 to 1 tonne in 2014, suggesting a higher average price of exported oils to Germany. In 2014, Nepal ranked no. 62 in supplies to Germany.

Detailed trade statistics can be found in Annex 2 - Table 2.

2.1.2 Production and Main players

MAPs

According to the FNR (Coordination R&D Institute Renewable resource), an estimated 12,200 ha was cultivated to grow herbs. In 2011, there were 125 growers in Germany, working on cultivation areas of 0.1 ha or more.

Most herbs are for culinary use. The most common herbs include flax, parsley (*Petroselinum crispum*), chives (*Allium schoenoprasum*), dill (*Anethum graveolens*), fennel (*Foeniculum vulgare*), marjoram (*Origanum majorana*), mustard (*Sinapis alba*), peppermint, cumin, thyme being among the twelve main Aromatic plants (Table 19). Other culinary herbs include chervil (*Anthriscus cerefolium*), sweet basil (*Ocimum basilicum*), celery (*Apium graveolens*), coriander (*Coriandrum sativum*) and caraway (*Carum carvi*).

Herbs are supplied mainly in dried form and a small amount in fresh form. Both forms are used in the food industry or are packed by processors in jars, small bags, jars on oil, or are sold in loose form at supermarkets, hypermarkets, grocery stores, organic stores, street market etc..

The main medicinal herbs produced in Germany are chamomile (*Matricaria chamomilla*), mint (*Mentha x piperita*), thyme (*Thymus vulgaris*), lemon balm (*Melissa officinalis*), St. John's wort (*Hypericum perforatum*), purple coneflowers (*Echinacea* spp.), valerian (*Valeriana officinalis*), narrow leaf plantain (*Plantago lanceolata*), sage (*Salvia officinalis*), fennel (*Foeniculum vulgare*), milk thistle (*Silybum marianum*) and seabuckthorn (*Hippophae rhamnoides*). Herbs are also wild collected but this is done on a small scale and the herbs are for specific purposes. The main geographical areas of cultivation in Germany are Brandenburg, Thüringen, Bayern, Hessen and Sachsen-Anhalt.

The majority of MAPs are still imported. As the supply cannot meet the demand for MAPs, 87% of the 15 most important medicinal plants was imported. With regard to herbs, German farmers are therefore in direct competition with Asia, North Africa and Eastern Europe, where labour costs and energy costs are significantly lower.

As the German flavour and fragrance industry has become more concentrated, companies ask larger batches to get lower prices. Besides, they use their buying power to pressurize German cultivators to get the shortest lead times.

TABLE 4: GERMANY - THE 12 MAIN MAPs IN HECTARES (HA) AND NUMBER OF CULTIVATED REGIONS

Crop	2003	2011	Number of regions	Share
Flax	914	2,585	4	21.2%
Parsley	1,748	1,843	8	15.1%
Chamomile (German)	980	1,155	3	9.5%
Chives	642	580	7	4.8%
Dill	508	557	9	4.6%
Buckthorn	206	552	6	4.5%
Fennel	201	426	8	3.5%
Marjoram	528	402	3	3.3%
Mustard	179	349	4	2.9%
Peppermint	269	312	7	2.6%
Cumin	136	283	6	2.3%
Thyme	141	174	7	1.5%

Source: FNR (2013)

FIGURE 6: PRODUCTION OF MAPs IN GERMAN



German production did not increase significantly in recent years because of the competition. Herb cultivation is very demanding activity. It is labour intensive and if done by machines, investments in specific machinery are required to collect the herbs. For example, chipping peppermint takes around 200 hours per ha. Special attention is needed for organic herbs with often the great deal of manual work, considered uses of natural pest control, insecticides and special attention is required to obtain the best yield.

In organic cultivation, treatment with herbicides or fungicides is possible, but the number of available resources is limited and the use is often only allowed with special permission. Despite these circumstances, the share of organically cultivated MAPs in German production has risen by 10 - 15% in the past five years.

There is obviously a high demand for local-made MAPs and the German industry is very positive

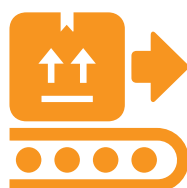
about growing them more domestically. The distances are short, herbs are better traceable and risks

of food scandals are minimal. Some companies like to diversify their sources of supply and offer premium herbs 'Made in Germany'.

To stimulate German agriculture and create employment (e.g. for immigrant workers) the German

government encourages local cultivation of MAPs as well. For the next few years, a goal was set to

cultivate 13,000 ha and to achieve a level of 20,000 hectares in 2020.



MAPs in German production has risen by **10.15%** in the past five years.

Essential oils

Only one third of all plant families is used for essential oils. The oils are processed from the leaves, flowers, bark, trunk, roots, fruits or seeds of the MAPs in Table 19. The contents of the parts of the plant to essential oils vary widely and affect the price accordingly.

Germany was at the beginning of the last century the leading nation in the industrial flavour production that was primarily based on natural essential oils. Today the extraction of essential oils in Germany is limited to larger companies, all having a well-organised value chains.

With the help of modern analytical methods, the harvest time is optimized and distillation regime to be fixed more precisely according the crop, part of the plant, its application, but also the increased blending of the natural oils with synthetic value-adding components. In this respect, German natural oils face competition from synthetic products.

Main Players

The extraction of essential oils in Germany is mostly done by 35 medium size and large companies (flavour and fragrance houses, processors, distillers). In 2012, they generated a sales turnover of US\$ 1,838 million with 4,377 employees. Symrise is the largest German company and accounted for 11.3% of the global market.



2.2 Consumption and trends in the 3 key segments

2.2.1 Flavour segment

Natural health food

The natural health food market valued US\$ 13.5 billion and grew year-on-year by +2.4% with the organic food market showing the largest CAGR rate

of +3.6%, as is shown in Table 20. Although, growth in organic food has slowed in the past few years as this category is well-established and German people have been more demanding and price conscious. Sometimes non-organic natural healthy food is preferred or private labelled organic food being largely available now at discounters (Aldi, Lidl) being lower in price. According to Euromonitor, private labels accounted for 20% of the German health food market in 2014.



Germany is the second largest market of organic food after the USA. German people know more regarding principles of organic agriculture and have become suspicious about health claims at organic products they buy at supermarkets. There is an abundance of different organic labels and health claims that are false or unproven by companies who want to benefit from the growing market.

Greenwashing practices and beautiful statements about sustainability - that nobody can verify - are more often communicated by (social) media. Therefore, the marketing promises by large companies and retailers are not taken for granted anymore. People take much more care now and try to find the best compromise between organic labelled food and natural healthy food. Besides the price level,

TABLE 5: GERMANY - SALES OF HEALTH FOOD, 2009-2019, VALUE IN US\$ MILLION

						FORECAST				
	2009	2010	2012	2014	2009/14*	2015	2016	2018	2019	2015/19*
Total	3,969	3,934	4,124	4,556	+2.8%	4,712	4,844	5,066	5,159	+2.5%
Dietary Supplements	2,909	2,884	2,999	3,337	+2.8%	3,461	3,569	3,745	3,815	+2.5%
Cough, Cold, Allergy	509	488	515	593	+3.1%	614	629	654	665	+2.0%
Topical analgesics	161	165	171	193	+3.6%	203	208	218	222	+2.3%
Medicinal Teas	97	102	111	122	+4.6%	125	127	130	132	+1.4%
Digestive remedies	121	117	114	105	-2.8%	102	101	103	104	+0.4%
Dermatologicals	92	90	96	96	+0.7%	96	97	97	98	+0.4%
Calming & Sleeping	33	41	65	52	+9.1%	51	52	56	58	+3.3%
Paediatric dietary	30	31	36	40	+6.1%	41	43	45	46	+2.9%
Smoking cessation	12	12	13	13	+0.4%	13	13	13	13	0.0%
Tonics, Nutritive drinks	5.2	5.2	5.6	5.6	+1.8%	5.6	5.8	6.1	6.2	+2.3%

Source: Euromonitor (2015)

* Compound Annual Growth Rate

they balance out freshness, health benefits, taste as well as the environmental and ethical concerns.

Significant trends in the natural health food market were:

- **Growing concern about the safety of food.** Consumers have recently experienced several food scares. Especially younger people are more critical and concerned about the safety of food and what ingredients are used. Criticism also comes up about large scale/intensive farming on the countryside using large quantities of pesticides having their negative effect on the environment. Therefore, legislation in Germany regarding food safety and organic agriculture is expected to be tightened.
- **New taste sensations to stay competitive.** In a competitive mature market, companies should come up with new products offering a different taste sensation. Inspired on reality TV cooking programmes and popular cooks in Germany new foreign and exotic dishes, especially Asian, are introduced either in a healthy fresh or convenient packaged form to get the interest of consumers. Ingredients come from developing countries where they are used for their healthy benefits e.g. anti-oxidant, stimulating digestion etc..
- **Exotic dishes for a diverse population.** In 2015, Germany housed around 1 million of asylum-seekers and war refugees from Syria, Iraq, Afghanistan and other central Asian countries, who all are of working age. Turkish people have been living in Germany since the 1960s, as well as many Italy, Greek and Eastern EU people. Around 20% (16.3 million) of people in Germany have an immigrant background.
- **More diverse cooking habits** and exotic food using different spices that will be increasingly offered at hyper/supermarkets and grocery stores. Besides, the immigrant population, these different ingredients are also exposed to German consumers who will become more familiar to foreign cuisine.
- **Growing concern about health issues in food** with consumers who want to stay more in control over their daily intake of fat, sugar and salt. The obesity rate was almost 30% which is among the highest in Europe. According to Euromonitor, the diabetic rate has reached 12% in 2014 compared

to 10% in 2009 and there are a rising number of cardiovascular diseases (e.g., heart attacks, stroke).

The German government encourages people to do more exercise and plans to prohibit energy drinks to consumers aged under 18 years and encourages fruit drinks (e.g. pure orange juices, mixed citrus or tropical mix juices). They also plan to limit the amount of sugar in breakfast cereals, energy bars, yoghurts/desserts that claim to be 'healthy' but contain too much sugar and/or chocolate.

2.2.2 Fragrance segment

Beauty & Personal care

In 2014, the German beauty and personal care was valued at US\$ 13.1 billion, of which 77% were mass produced cosmetic products often with synthetic ingredients.

The Premium BPC market consisted either of higher quality products - with added benefits e.g. multifunction or green products using natural or organic ingredients. In 2014, retail sales of the premium market have reached a value of US\$ 3.0 billion. The German premium BPC market is lower than in France where people spend more money on their looks (skin care, colour cosmetics) and on fragrances.

The Germany Beauty and personal care market is mature and dominated by two large international players - Procter & Gamble and L'Oréal - and by two large German players - Beiersdorf (Nivea) and Henkel. They all together represent 37% of the total German BPC market.



In Mass BPC, prices were under pressure due to more private labels from supermarkets, hypermarkets and discounters (Aldi, Lidl or Tchibo). In addition, more BPC was sold via the Internet especially colour cosmetics, fragrances and bath & shower products.

Nevertheless, the market has grown since 2011 driven mainly by consumer confidence and more considered marketing strategies. The premium BPC market was stimulated by innovative products that were more precisely targeted at specific consumer groups. For example, fashionable colour cosmetics for single women between 30 and 40, specific fragrances for young men, pomades for women in the menopause suffering from dry skin, natural soaps for children, or natural bath & shower products for use in sauna's at home.

Germany's leading position on Green Beauty. A most important niche is the natural BPC market or the 'Green beauty market'. Germany has the highest number of environmentally conscious people in Europe and - together with Switzerland - has been a pioneer in natural/green food and cosmetics.

In 2015 sales growth of natural cosmetics rose by 10% reaching almost US \$ 1.19 billion representing a share of 8.3% of the total German BPC market. Compared to other EU countries Germany is by far leading this market.

According to GfK and Naturkosmetik Verlag, the major boost to this niche market was the increased interest among younger people in natural cosmetics. This could be in either in the classical well-established brands since the 1970s (Weleda, Demeter, Kneipp), or in new natural brands such as - Dr. Hauschka, Lavera and many others.

The main retailers that sell natural cosmetics as percent of sales in 2014 were:

- Drugstores 39%
- Organic supermarkets 15%
- Reform houses 11%
- Pharmacies and online 11%

- Perfumeries 6%
- Super/hypermarkets and discounters 6%
- Others 12%

Organic supermarkets could hold their position in the market by offering more natural cosmetics.

Significant trends in the premium BPC (Beauty and Personal care) market were:

- **Serums that activate and rejuvenate the skin.**
As a lower cost and more natural alternative to plastic surgery, skin imperfections or damages can be treated by serums. In skin care, serums work at a cellular level to repair the skin's structure and then simultaneously improve the skins texture and tone on the surface. Anti-age serums are absorbed into the skin and work from the inside out to hydrate and nourish the skin. There are serums for hair, dry skins, oily skins, anti-wrinkle or against acne. These cosmeceuticals have biological effect contrary to the synthetic products that superficially enhance beauty.
- **A growing preference for premium brands** that have proven their quality in the professional world. For example massage bath & shower gels, scrubs, hand-made skin care cream or massage oils that are used in sauna's or health centres. This is part of a trend to use quality products at home rather than going to the health centres or professional beauty centres that are expensive and are time consuming. According to Euromonitor, the world of beauty and health treatment has become an affordable luxury that people can do at any time. This trend is also observed in hair products.
- **Consumers have become more critical about the functionality of products**, as there are so many brands that claim to be therapeutic or natural. Besides, many organic labelled products with similar claims have been on the German market for a while. The purpose and function, especially of skins care and hair care products must be clear, especially if products are high in price. If the product is natural or organic, people do not see this automatically as a guarantee that the product is effective. Consumers therefore are not really

THE SALES OF FRAGRANCES IN GERMANY HAVE GROWN BY + 1.3% IN THE REVIEW PERIOD, REACHING US\$ 1,435 MILLION, WHICH IS LOWER THAN IN FRANCE (US\$ 1,658 MILLION) AS PERFUMES ARE STILL REGARDED AS A PRESTIGIOUS LUXURY.

consistent. For example, they mix an organic skin smoothening pomade with a cheap standard night cream - or vice-versa - as long as it gives them the desired benefits at an affordable price level.

- **More education and demonstration via beauty corners.** As there will be a greater variety in products for different consumer groups or for specific use, companies need to inform consumers better (than the Internet) on which BPC product would work out the best for them. They have found accessible ways of educating consumers and to inform them how to use these products. There are beauty counters in department stores or specialist retailers e.g. Douglas having corners to 'educate' consumers or to offer them a trial treatment.
- **In the hair care segment, value growth was marginally between 2009 and 2014** due to private labels, decline in styling agents, and poor performance of hair colourants. For 2019, the market is forecast to slightly contract by -0.1%, reaching US\$ 146 million - see Table 6.

However, normal shampoos - the largest category - are expected to grade up to a premium level for use at home. For men, who regard personal appearance more important, and the growing elderly population, hair care products continue to offer good prospects.

Fragrance (perfumes)

The sales of fragrances have grown by + 1.3% in the review period, reaching US\$ 1,435 million, which is lower than in France (US\$ 1,658 million) as perfumes are still regarded as a prestigious luxury. The German market is largely driven by new products of fashion brands (Calvin Klein, Adidas, Hugo Boss, Jil Sander, Joop) and promotion campaigns using international celebrities.

Fragrances are a popular gift item for Christmas or birthdays. However, electronics or smart phone accessories have become more popular gifts recently. German people usually wear fragrances at special occasions and therefore use them longer.

TABLE 6: GERMANY - SALES OF PREMIUM BEAUTY AND PERSONAL CARE (BPC), 2009-2019, VALUE IN US\$ MILLION

	Value					Forecast				2015/19*
	2009	2010	2012	2014	2009/14*	2015	2016	2018	2019	
MASS BPC	9,409	9,572	9,869	10,062	+1.4%	10,104	10,152	10,266	10,332	+0.5%
PREMIUM BPC	2,735	2,796	2,960	3,036	+2.1%	3,072	3,107	3,171	3,202	+1.0%
Fragrances	1,342	1,364	1,437	1,435	+1.3%	1,447	1,461	1,488	1,502	+0.9%
Skin Care	703	721	744	770	+1.8%	781	790	807	816	+1.1%
Colour cosmetics	204	206	217	236	+2.9%	242	248	258	264	+2.2%
Hair Care	144	143	147	148	+0.5%	147	146	146	146	-0.1%
Bath & Shower	63	66	75	76	+3.8%	76	77	78	78	+0.6%
Deodorants	30	32	36	38	+4.7%	39	40	41	42	+1.9%
Baby & Child	24	24	27	31	+5.6%	32	33	35	35	+2.3%
Sun Care	24	25	25	24	+0.3%	24	23	22	22	-2.2%
Sets & Kits	201	215	252	278	+6.7%	284	289	296	297	+1.1%

Source: Euromonitor (2015)

* Compound Annual Growth Rate

Retro-scents of the 1980s and 1990s - mixed with modernity - are in vogue as many consumers still tend to stick to things they feel safe and familiar with. In this respect, companies have introduced a range of New Classic fragrances with a link towards perfumes that were popular in that period.

2.2.3 Pharmaceutical segment

Herbal / Traditional Medicines

Germany is one of the leading markets in herbal medicines. According to Euromonitor, sales of herbal/traditional products in Germany were stable and marginally rose by 0.3% from US \$1,548 to 1,554 million in the review period (see Table 7). As 'natural' is a big emotional hook, people like to find a moment of rest in things that are related to natural wellness and be a moment away from their hi-tech stressful lives. Thanks to this growing interest in natural products (food, cosmetics), people consequently have been receptive to herbal medicines as well.

Herbal/traditional cough, cold and allergy remedies (e.g. echinacea), immune system enhancers and herbal tonics have grown. This was mainly attributed

to the strong cold and flu season and a nasty gastrointestinal virus in 2014.

There are 50 different strong domestic and international players of which four German companies took up a share of 28% of the market: MCM Klosterfrau, Dr Willmar Schwabe, CFP Brands, Dr Soldan and Dr Theiss Naturwaren.

Significant trends in Herbal / Traditional medicines were:

- **Natural sleeping aids have been popular** as there are less side-effects and risks to become addicted. On the other hand, these aids are suitable for adults since they include alcohol for longer stability making them less suitable for children.
- **Busy lifestyles have their price.** Busy lifestyles and bad eating habits have generated new sicknesses such as allergies, low immunity, insomnia, depression or burnouts among others.
- **Natural medicines are recognised to have fewer side effects** - especially among people suffering from chronic illnesses. After several scandals with anti-depressants, medicines to slim down, or with medicines for animals, people became suspicious

TABLE 7: GERMANY - SALES OF HERBAL/TRADITIONAL MEDICINE, 2009-2019, VALUE IN US\$ MILLION

	Value					Forecast				
	2009	2010	2012	2014	2009/14*	2015	2016	2018	2019	
Total	1,548	1,536	1,517	1,554	+0.3%	1,582	1,599	1,625	1,639	+0.8%
Cough, Cold, Allergy	576	574	572	600	+1.4%	619	630	649	658	+1.5%
Dietary Supplements	478	460	443	430	-2.3%	426	422	418	417	-0.6%
Calming & Sleeping	167	169	172	183	+2.4%	188	192	198	200	+1.5%
Digestive remedies	132	130	128	130	+0.6%	135	137	138	139	+0.7%
Topical analgesics	94	94	95	97	+0.7%	98	99	100	101	+0.7%
Dermatologicals	29	29	29	31	+1.7%	31	32	32	33	+1.6%
Tonics, Nutritive drinks	82	80	78	83	+0.3%	85	87	90	91	+1.7%

Source: Euromonitor (2015)

* Compound Annual Growth Rate

	2014	2019
Dietary Supplements	430	417
Combination Herbal Traditional Dietary Supplements	52	49
Echinacea	41	37
Evening Primrose Oil	24	25
Garlic	47	40
Ginkgo Biloba	141	144
Ginseng	27	23
St John's Wort	14	13
Other Herbal/ Traditional Dietary Supplements	84	85

regarding the quality of the common OTC medicines and its chemical ingredients. Especially if these medicines were sold via the Internet or via pharmacies selling low cost private label medicines.

■ **Traditional Asian medicines are still unknown.**

Traditional Ayurvedic and Chinese medicines are available in Germany and appear to be growing in popularity. Still these therapies are not very common. Whilst acupressure, acupuncture and yoga are hot now, the Asian world of traditional healing remains a grey area for many people.

Aromatherapy

Along with the growing interest in natural medicines and well-being, German people have become more receptive towards aromatherapy in a very similar way as in the USA and France. Even if it works slower than OTC medicines, people can deal with daily problems by themselves or to treat/alleviate chronic illnesses with little side effects.

Processors/distillers/importers and other companies increasingly sell essential oils online. Specialised companies offer different essential oils offering ailments such as everyday colds, sore throat, headache, insomnia, fatigue, stress, joint pain or insect bites.

Similar as in herbal/traditional medicines, the awareness continues to grow and the image changes in a positive way. Universities do research on chemical profiles of oils coming from developing countries and their potential.

An overview of essential oils sold in Germany can be found at:

- Taoasis - <http://taoasis.com/en/products.html>
- Primavera - www.primaveralife.com/aromatherapie/gesundheit/aetherische-oele/
- Spinrad - [https://spinnrad.de/de/Etherische-Oele-](https://spinnrad.de/de/Etherische-Oele-und-Parfuemoele.html)

[und-Parfuemoele.html](https://spinnrad.de/de/Etherische-Oele-und-Parfuemoele.html)

- Dragonspice Naturwaren - www.dragonspice.de/naturkosmetik-htmlRohstoffe/Aetherische-Oele/

Awareness oils from Nepal

Awareness of essential oils or MAPs from Nepal is larger than in the US market with wintergreen, palmarosa, lemongrass, spikenard, rhododendron, ginger, basil and chamomile most often observed in German shops.

German people like nature and outdoor sports, Nepal is known for its natural beauty, trekking as well as its Oriental spiritualism among the open-minded. German people are a large tourist group with 18,028 visitors in 2014, although the number of visitors was declining. Nevertheless, German people have sympathy for Nepal, especially after the earthquake in 2015.

2.3 Market access requirements

2.3.1 Legislative requirements

The German market is very regulated and being an EU country, the requirements are the same as for the French market.

Before entering the German market, a close collaboration with importers/processors is highly recommended even if you supply the oils or MAPs in bulk. If you plan to export finished products, your product needs thorough inspection, testing and clear/transparent labelling. The main concerns are regarding product safety, unproved claims, poor quality and the growing number of adulterated oils that differ from what is mentioned on the product label.

RECALL OF PREPARATIONS WITH DICLOFENAC

In 2015, there were recalls of synthetic preparations with diclofenac, a non-steroidal anti-inflammatory drug used to treat mild to moderate pain, or symptoms of osteoarthritis or rheumatoid arthritis or to treat menstrual cramps or migraine. However, there was a

risk of fatal heart attack or stroke. Another fatal side effect could be intestinal bleeding. Such kind of risky side-effects has turned people towards more natural medicines and brands, especially within analgesics.

Legislative requirements such as CITES, HACCP, phytosanitary certificate are very similar as in the US market .

The following requirements for ingredients/raw material are additional for the German market:

Food → Legislative requirements

Ingredients that have not been used in food/nutrition need an official approval. There is a list of flavouring substances that are allowed in the EU. If not on this list, you need to prove - as a producer or supplier - that your new product is safe for human consumption. You also need approval for new product developments if it concerns a substitute for sugar. Even if you are a bulk supplier, you can expect questions from the processors, distillers or importers about this.

Pharmaceutical → Legislative requirements EDQM

The European Directorate for the Quality of Medicines and Healthcare (EDQM) is a leading organisation that protects public health by enabling the development, supporting the implementation, and monitoring the application of quality standards for safe medicines and their safe use in the EU Member States. The EDQM standards are recognised as a scientific benchmark world-wide and the European Pharmacopoeia is legally binding in Member States, which also includes France. See also - www.edqm.eu/en/european-pharmacopoeia-background-50.html

Similarly, the EDQM develops guidance and standards for consumer health issues amongst others.

As most natural medicines are not allowed or recognised in the EU, no specific EDQM standards are developed as they mostly relate to regular pharmaceutical medicines. More information can be found at www.edqm.eu/en/EDQM-mission-values-604.html

Information on requirements on Herbal/Traditional medicines are given later on in this section.

2.3.2 Voluntary requirements

Labels → Voluntary

Regarding organic labelling, the new EU-wide label that was introduced in 2010 for organic food can be also used in Germany if you are an organic certified producer. There is also a national “Bio”-label that is very popular in Germany. In addition to the EU label,



this label is widely recognised as it can be found on more than 63,000 products in German stores and is most used label for organic food in Germany. In 2012, around 4,000 companies used it on their products, and the number is expected to continue to rise. The popularity of the label is extending to neighbouring countries like Austria, Switzerland and France.

Products also use labels such as:

- aus kontrolliertem Anbau (from controlled cultivation)
- aus umweltschonender Produktion (using environmentally-friendly production methods)
- ungespritzt (not sprayed)
- naturrein (natural and pure)

Even if products do not meet organic standards and cannot command equivalent price levels as organic products, they do express a quality level. On essential oils ‘100% naturrein’ (100% pure) or ‘100% naturreines ätherisches öl’ can be often found, like on the lemon oil sold in Germany by Young & Living

Allergen labelling has become an issue where the source of harmful allergens are to be found

highlighted (usually in bold) within the ingredients list on food products. For packaged food, these indications should be mentioned in allergen boxes under the ingredients lists.

The best would be to discuss the best claim and the necessity of allergen boxes with your trade partner.

Beauty and Personal Care (BPC) → Voluntary requirements

For Natural cosmetics, several systems have been developed for labelling of natural cosmetics products that are based on different conditions.



There are 12 different certification systems of which the BDIH is the oldest and most recognised using the 'Certified Natural Cosmetics' label. See also at http://www.kontrollierte-naturkosmetik.de/e/index_e.htm

Certifications require that natural raw materials should be used from controlled biological or organic cultivation and products should be environmentally friendly. This at least means that products are free from synthetic colourant, artificial odours, ethoxylated raw materials, paraffin or other petroleum/artificial products.

The Natrue labels - <http://www.natrue.org/> - are also well recognised and provides three different labels:

1. **Natural cosmetic** (all ingredients must be natural but do not have to be organic)
2. **Natural Cosmetics with organic portions** (at least 70% must be from an organic origin)
3. **Organic cosmetics** (at least 95% must be from controlled organic cultivation)

Other certification systems include Lacon, Natural Cosmetics Standard, ICEA, Ecocert, Naturland, CSE and Demeter.

If cosmetics are called 'natural' without a corresponding label, it does not have to be an attempt to mislead customers. Some manufacturers have reasons to do so and because of the high cost for certification do not apply to one of the above organisations - even if their products meet the requirements. On the other hand, there are

fraudsters, freeloaders who mislead consumers and harm the image of natural cosmetics by green washing.

Herbal/Traditional medicines → Legislative requirements

The boom in medicines coming from developing countries is very restricted. Sales of

malicious medicines via the Internet have been

forbidden. The European Medicines Agency (EMA) and the MHRA now strictly control the ingredients and claims when herbal products are registered as a medicine. See also at www.ema.europa.eu/ema/



Depending on the classification of herbal

medicines in Germany, either they come under the same regulations/restrictions as regular pharmaceuticals, or they follow the laws and rulings for food. If products are classified as dietary supplements, there are not many packaging requirements, except for those that also apply to food - see the beginning of this section.





To comply with the pharmaceutical regulations, products using MAPs for the development of a pharmacological action have to be registered as a drug. That means many herbal products, which have been on the market as supplements, will need a registration. This is a very time and cost intensive procedure and only large and affluent companies will have the necessary financial background for such investments.

With regards to traditional medicines, the U.K. Medicines and Healthcare products Regulatory Agency (MHRA) recorded 187 traditional herbal applications, of which 84 have been granted.

So far, not a single product used in Traditional Chinese Medicine (TCM) or Ayurvedic medicine has been licensed, according to the Alliance for Natural Health.

A main hurdle for the registration of traditional medicines from Asia - often very complex mixtures - include the quality dossier requirement of

developing and validating a quantitative analysis to determine each active ingredient that is present in the finished product. This is quite impossible since many Ayurvedic or TCM herbal medicinal products contain 10, 20 or 30 active substances.

2.4 Opportunities and options for entry

The outlook for Germany is uncertain. Europe's biggest industry is taking a hit from sharply slowing demand in emerging markets. Confidence among German businesses is low, in large part because of worries about the Ukraine crisis, the immigrant crisis, geopolitical uncertainty in the Middle East and tensions with Russia.



The German organic and natural food market is expected to become more diverse:

- **Low-middle end organic/natural food market** that is dominated by private labels and products that claim 'free from', 'naturally healthy' or 'organic'. These health products are mostly sold at mainstream food retailers, discounters - all targeting a broad consumer group.
- **Middle-top end organic food market of**

conscious consumers considering the food they buy in a broader context looking at ingredients, production, packaging, retail outlet, brand identity, environmental and social aspects (e.g. fair trade, animal welfare, carbon-neutral production and supply chains). They are likely to buy at organic supermarkets/grocers or direct from producers in Germany or from cooperatives at affordable prices.



1. FLAVOUR

Uncertain economic conditions will put pressure on consumer spending. Besides, the German population is expected to contract with more elderly people. **However, older consumers are likely to spend more on healthy food** and organic food being low in fat, limited in sugar and salt content.

- **Healthier confectionery** where stronger/different flavours can (partly) serve as a substitute for sugar or give a different taste sensation e.g. ginger in cookies, timur in candies or jam, wintergreen in chewing gum etc..
- **New tastes in herbal teas** e.g. Matcha (green tea from Japan) or Indian Chai - black tea with spices like cardamom and milk (Chai-Latte) with new herbal blends that are good for body and mind.
- **Exotic ingredients that are 'real' and have a proven heritage** about their health properties are more convincingly than the health claims by large companies and retailers. Consumers are also more receptive to an authentic story about the special cultivation of an ingredient/herb/oil, traditional uses,

rarity etc..

- **The growing diversity in the German population** means more demand for spicy/exotic dishes. New traditional ingredients, spices and herbs become known in Germany. For example, curcuma that can be used as a spice in cooking and simultaneously is an anti-oxidant stimulating digestion and blood circulation among other health properties.

Food

Oils like ginger, timur or wintergreen could be used in healthy confectionery, while curcuma, cinnamon and cardamom can be used in the production of healthy exotic food.

Drinks

Oils with a potential for healthy soft drinks could be ginger, lemongrass, timur or chamomile. While for alcoholic drinks/liquors wintergreen, valerian, calamus or jatamansi (beers) could be an opportunity.



2. BEAUTY AND PERSONAL CARE

■ Focus on functionality and instant benefits.

Along with the growing diversification and new products/brands in the natural cosmetic market, consumers are exposed to even more new products some of which are organic, natural or using natural ingredients. Other new products are focused solely on functionality and technology. While certain consumer stick to their usual organic/natural products, other consumers are likely to mix organic with standard products e.g. multi-functional facial creams that are also expensive but give them convenience (time saving) and instant results.

■ In future, consumers will be more knowledgeable about the function, side effects (allergic reactions) and the ingredients that are used based on their own 'research' and on what they have found on the Internet or on blogs.

Rhododendron, palmarosa and butternut have a potential for use in new skin care products with multi benefits.

■ Popularity of serums. As cosmetic surgery is not new anymore, has its side-effects and is expensive, therefore serums are likely to stay popular. Here, the kind of ingredients that work actively to repair the internal skin structure at the cellular level should

become more known.

■ Professional products for beauty and well-being at home. If Germany will enter again in recession, people are likely to cut down their expenditure on visiting saunas, health centres, professional beauty centres and hairdressers. As health care, beauty care, relaxation/yoga and well-being remain important, demand for at-home beauty products is expected to continue. Skin care, Deodorants, Baby & child, Bath & shower and Sets & kits are the growth categories.

■ Anti-aging creams and hair loss treatments. In Germany the number of people of 65 years and older will rise to about 16 million by 2030 according to the Statistisches Bundesamt, there will be more older people who are worried about the signs of ageing, which implies opportunities for anti-age creams, multi functional facial creams, hair loss treatments.

Oils with a potential for hair care, repair and growing could be jatamansi, ginger, chamomile, rhododendron and calamus.

Soapnut can be used in natural household cleaning products

FRAGRANCE - PERFUMES

New scents are needed to drive the market. The fragrance market continues to be driven by the development of new (exotic) scents.

■ Perfumes with a special and strong scent.

Opportunities in fragrances can be found in perfumes with a very strong special scent and in perfumes for men, many of whom are less familiar to wear them. In general, people prefer perfumes of a well-known international brand or of a fashion brand. Oils with a potential for women's perfume could be all oils related to (exotic) flower and grass varieties such as rhododendron, citronella, palmarosa and new hesperidia tones e.g. timur.

■ Oud wood-based ingredients used in prestige fine and rare fragrances, have been a trend among affluent women and men. The Oud scent is very musky and animal-like. It comes from the Southeast Asian agar tree and is very expensive because of its rarity. In German fashion brand Hugo Boss launched 'Oud' for Men.

A perfume called Nepali Aoud is sold and uses Nepalese Oud combined with nutmeg, saffron, vanilla, leather and Musk sold at prices up to US\$ 170 for 100 ml - see <http://twistedlily.com/shop/france/nepal-aoud/>

■ Timur, referred in Germany as Szechuan pepper or Nepali pepper (*Zanthoxylum armatum* - *Z. piperitum*, *Z. simulans*, *Z. sancho* and *Z. schinifolium*), is a special ingredient currently spicing up fine and exotic fragrances. Mercedes-Benz VIP Club Infinite Spicy and Hugo Boss introduced fragrances with Nepali pepper accords in 2015. Other examples can be found at www.fragrantica.com/notes/Sichuan-Pepper-213.html

Oils for men's perfume could be ginger, cardamom, cinnamon or jatamansi (woody scent).

Please note possible legislation (allergies) for lemongrass, wintergreen, cinnamon and chamomile.

3. PHARMACEUTICAL

Herbal/traditional products are expected to grow at a CAGR of 0.8% between 2015 and 2019 with cough, cold remedies, sleeping aids and dermatological as the largest growth categories.

- **The herbal/traditional market will be driven by a growing number of consumers** becoming aware of them as a remedy or as prevention.
- **There will be a growing recognition that herbal medicines are less harmful to health** than OTC medicines. In this respect, new products without alcohol have a good chance to be successful.
- **More investment in R&D of natural medicines by large multinationals e.g. Bayer** who sees herbal/traditional products as a significant part of its business strategy. In July 2013, Bayer finalised the purchase of German company Steigerwald Arzneimittelwerk, which makes Iberogast, a treatment for digestive disorders made from a mix of herbs. This implies a treat for smaller companies.
- **Another important hurdle** is a further tightening of the current regulations both for herbal and especially for traditional medicines in order to protect the established pharmaceutical industry. In this respect, more competition from OTC medicines and further

growth in private labels of the big (food) retailers will be a big hurdle for further expansion of the herbal medicine market.

- **Sales direct to practitioners.** Even if herbal medicines or plant products derived from Ayurveda are not well known, they can be introduced by practitioners. There are definitely products that can increase one's resistance against allergies for example. Prescription or sales by practitioners will be a good option as German people are more receptive to alternative medicines than other Europeans.
- **Nutraceuticals.** Demand for natural ingredients for the nutraceutical market, taking up a quarter of the market, albeit growth will be slightly restrained for the coming years.

Aromatherapy

Oils from Nepal already used are wintergreen, palmarosa, lemongrass, ginger and basil, while chamomile, rhododendron, timur (insect bites), mentha, cinnamon, jatamansi, citronella, valerian and calamus could be other oils for Aromatherapy.



TABLE 8: GERMANY - SALES OF HERBAL/TRADITIONAL MEDICINE, 2009-2019, VALUE IN US\$ MILLION

Crop	Tonnes	Price/kg	Market size (US\$ million)
Peppermint	6,000	2.70 - 3.28	18.0
Chamomile	4,500	3.28 - 4.90	18.4
Fennel	4,000	1.65 - 2.20	7.6
Milk thistel	1,550	1.65 - 2.20	2.9
Anise	1,500	3.28 - 4.36	5.8
Melisse	1,500	2.70 - 3.28	4.5
Sage	1,000	3.28	3.3
Hawthorn	960	2.20	2.1
Valerian	910	3.28 - 5.45	3.9
Thyme	900	3.28 - 3.82	3.2
St Johns Worth	580	1.65 - 4.35	1.4
Echinacea	18	4.35 - 5.45	0.1
Others	6,090		15.5
TOTAL	30,758		84.0

Source: Meo Carbon Solutions GmbH (2013)

Based on the above opportunities in each key segment and the demand projections for herbs by the FNR (Coordination R&D Institute Renewable resource) - as shown in table 8, the following best five oils from Nepal are likely to have good chances for the German market.

TABLE 9: FIVE MAIN ESSENTIAL OILS FROM NEPAL WITH BEST OPPORTUNITIES FOR USE IN THE GERMAN MARKET

Flavour	Fragrance	Pharma	Aromatherapy
1. Ginger	Rhododendron	Mint	Cardamom
2. Timur	Ginger	Chamomile	Timur
3. Curcuma	Palmarosa	Valerian	Rhododendron
4. Cinnamon	Jatamansi		Calamus
5. Wintergreen	Calamus		Wintergreen

Source: Seance estimates (2016)

SPEAKING GERMAN IS A BIG ADVANTAGE

When doing business in Germany, speaking German with potential buyer or trade partners is crucial for success, even if English is spoken by many Germans. When dealing with small distillers, English might be a problem. In this case, try to find a translator preferably with some experience in the sector.



2.4.1 Germany - Potential trade partners and Useful addresses

The first place to look would be to contact the main trade association(s), followed by trade fairs, which tend to feature a list of exhibitors, many of which may be potential partners. The following companies and organisations may be worth looking at:



Flavour & Fragrance houses

SYMRISE	https://www.symrise.com/	https://www.symrise.com/contact/
PRIMAVERA	http://www.primaveralife.com/	http://www.primaveralife.com/kontakt/

Processors

DR. HAUSCHKA	https://www.dr.hauschka.com/en_DE/	https://www.dr.hauschka.com/en_DE/service/contact/ info@wala.de
VÖGELE	http://www.voegel-lauffen.de/en/home.html	http://www.voegel-lauffen.de/en/contact.html info@voegel-lauffen.de
LAVERA	http://www.lavera.de/en/	http://www.lavera.de/en/contacts/
LOGONA AND FRIENDS	http://logona-and-friends.de/logona-and-friends/	http://logona-and-friends.de/sonstiges/#kontakt
CMD Natur-kosmetik	http://www.cmd-natur.de/aetherische-oele/	http://www.cmd-natur.de/kontakt/
WILHELM REUSS	http://www.wilhelmreuss.com/index.php/en/industry	http://www.wilhelmreuss.com/index.php/en/contact
ABTSWINDER	http://www.abtswinder.de/content/index_eng.html	http://www.abtswinder.de/content/contact/index_eng.html info@abtswinder.de/

Importers

NATURWARENKAUFHAUS PURE NATURE	https://www.naturwarenkaufhaus.de/ http://www.purenature24.com/natural-cosmetics	https://www.naturwarenkaufhaus.de/contacts/ http://www.purenature24.com/purenature#59 info@purenature24.com
ZENTRUM DER GESUNDHEIT	http://www.zentrum-der-gesundheit.de/	http://www.zentrum-der-gesundheit.de/kontakt-shop.html service@fairtrade.ag
HERBAPACK LEMONAID	http://www.herbapack.de/ http://www.lemon-aid.de/en/	http://www.herbapack.de/produkte.html/ http://www.lemon-aid.de/en/trade-press/#contact/
BANANEIRA	http://www.bananeira.de/	http://www.bananeira.de/index.php/component/dfcontact/?view=dfcontact&Itemid=542
WORLEE	http://www.worlee.de/en/products/natural-raw-materials/products/product-overview/	http://www.worlee.de/en/contact/contact-form/

Trade Shows

FAIR HANDELN - INTERNATIONAL EXHIBITION

FOCUSING ON FAIR TRADE STUTTGART

31 March – 3 April 2016, Messe Frankfurt

<http://www.messe-stuttgart.de/en/fairhandeln/visitors/>

HI EUROPE & NI FRANKFURT, (HI-Health ingredients & NI-Natural Ingredients)

29 Novembre – 1 December 2016, Messe Frankfurt

<http://www.figlobal.com/hieurope/>

INTERNATIONAL GREEN WEEK BERLIN

20 – 29 January 2017, Exhibition Ground Messe, Berlin

<http://www.gruenewoche.de/en/AboutIGWBerlin/>

InternationalGreenWeek/

BIOFACH & VIVANESS NUREMBERG

15- 18 February 2017, Exhibition centre Nuremberg

<http://www.anuga.com/anuga/>

ANUGA COLOGNE

7 - 11 October 2017, Koelnmesse Cologne

<http://www.anuga.com/anuga/>

FI EUROPE FRANKFURT, (FI-Food ingredients)

28 – 30 Novembre 2017, Messe Frankfurt

<http://www.figlobal.com/fieurope/>

INTERNATIONAL GREEN WEEK BERLIN

19 - 28 January 2018, Exhibition Ground Messe, Berlin

<http://www.gruenewoche.de/en/AboutIGWBerlin/>

InternationalGreenWeek/

Trade Press

EUROPEAN COMMISSION-DG health and food safety

http://ec.europa.eu/health/human-use/herbal-medicines/index_en.htm

NATURKOSMETIK VERLAG

<http://www.naturkosmetik-verlag.de/de/>

FACHMAGAZINE FÜR NATURPRODUKTE

<http://www.biopress.de>

ZEITSCHRIFT VEGETARISCH

<http://vegetarischfit.de/>

GERMANBUSINESS DIRECTORY

<http://www.german-business-directory.com/>

COSMETIC DESIGN EUROPE - MARKET TRENDS

<http://www.cosmeticsdesign-europe.com/Market-Trends>

INTERNATIONAL NEWS & INFORMATION - COSMETICS & PERSONAL CARE

<http://www.cosmeticsbusiness.com/>

Trade Associations

VEREIN FÜR ARZNEI- UND GEWURZPFLANZEN

<http://www.saluplanta.de/>

GERMAN TECHNICAL COMMITTEE FOR MEDICINAL, SPICE AND AROMATIC PLANTS

<http://www.dfa-aga.de/?getlang=en>

VEREIN FÜR FÖRDERUNG, SCHUTZ UND VERBREITUNG DER AROMATHERAPIE, AROMAPFLEGE UND AROMA-KULTUR

<http://www.forum-essenzia.org/grobritannien-uk/mitgliedschaft/index.html>

EUROPEAN HERB GROWERS ASSOCIATION

<http://www.europam.net/>

EUROPEAN FEDERATION OF ESSENTIAL OILS

<http://efeo-org.org/>

A group of 47 participants from several European and non-European countries, representing the whole supply chain from producers to flavour and fragrance companies, founded the E.F.E.O. in April 2002. They were motivated by their concern about the impact the proposal to label allergens according to the EU Cosmetic Directive would have on Essential Oils.

E.F.E.O. now groups more than 150 companies in Europe through its founding national associations and 60 direct individual members companies from all industry levels, both within the EU and overseas. Austria, Belgium, Bulgaria, France, Germany, Ireland, Italy, Netherlands, Spain and United Kingdom represent the main producing and processing membership companies within the EU. Membership fees range from € 1,900 to 4,000 per year.

ASSOCIATION OF INDUSTRIES AND TRADING FIRMS

<http://www.kontrollierte-naturkosmetik.de/e/bdih.htm>

FOOD DRINK EUROPE

<http://www.fooddrinkeurope.eu/>

HANDELSVERBAND LEBENSMITTEL

<http://www.bvlh.net/>

ASSOCIATION OF THE GERMAN SPICE INDUSTRY

<http://www.gewuerzindustrie.de/en-index-gewuerzindustrie.html>

CERTIFIED NATURAL COSMETICS/GUIDELINES

<http://www.bdih.de/>

http://www.kontrollierte-naturkosmetik.de/e/guideline_natural_cosmetics.htm

WHEN DOING BUSINESS IN GERMANY, SPEAKING GERMAN WITH POTENTIAL BUYER OR TRADE PARTNERS IS CRUCIAL FOR SUCCESS, EVEN IF ENGLISH IS SPOKEN BY MANY GERMANS

THE GERMAN COSMETIC, TOILETRY, PERFUMERY AND DETERGENT ASSOCIATION
<http://www.ikw.org/ikw-english/>

VKE KOSMETIK VERBAND
<http://www.kosmetikverband.de/index.php?id=197>

GERMAN MEDICINES MANUFACTURER'S ASSOCIATION
<https://www.bah-bonn.de/about-us/>

THE GERMAN TEA ASSOCIATION
<http://www.teeverband.de/english/>

ASSOCIATION OF THE GERMAN CONFECTIONARY INDUSTRY
<http://www.bdsi.de/en/>

Fair Trade

FAIRTRADE DEUTSCHLAND
<https://www.fairtrade-deutschland.de/>

THE FAIR TRADE COMPANY
<http://www.gepa.de/en/welcome.html/>

WORLD FAIR TRADE ORGANIZATION
<http://www.wfto.com/about-us>

CERTIFICATION OF ENVIRONMENTAL STANDARDS GmbH
<http://www.ceres-cert.com/portal/index.php?id=7/>
http://www.ceres-cert.com/portal/index.php?eID=tx_nawsecuredl&u=0&file=fileadmin/downloads/qms/4.4.3_e_Standard-Insp-Program-Wild-Collection_Inf_08-12-30.pdf&t=1458660137&hash=f05117393ef1848a0f45c516b3cd5cbe

Other sources/Contacts

GREEN TRADE NET (Marketplace)
<http://www.greentrade.net/>

LACON INSTITUT GmbH
<http://www.lacon-institut.com/Pages/en/Lacon/Philosophie/Philosophie.aspx>

DEUTSCHE GESELLSCHAFT FÜR ERNÄHRUNG
<https://www.dge.de/>

MAX RUBNER INSTITUTE, Research for healthy and happy eating
<https://www.mri.bund.de/en/home/>

EXPORT HELPDESK

The European Helpdesk is a helpful interactive tool when you are exporting to the EU. Their extensive database offers information free of charge on all regulations and requirements on various MAPs, spices, herbs and essential oils to be exported to the EU. The Export Helpdesk offers information on:

- **Import-related conditions** (e.g. sanitary regulations, environmental requirements, technical standards, marketing regulations, specific import restrictions).
- **Special provisions** (e.g. agreement on preferential treatment of imports, rules of origin)
- **Standard tariff provisions** (e.g. customs tariffs, customs exemptions, import quotas). Note that most MAPs and essential oils are free from import duty as most products from Nepal fall under the GSP (General System of Preferences).
- **EU foreign trade statistics** (by country, product, transport direction, volume and value). Statistics for essential oils can be retrieved from the database with most HS codes up to 6 digits and of some oils up to 8 digits.

All information can be found on the basis of individual specifications. Export Helpdesk makes it easy to find out what absolutely must be observed when exporting a specific product in a particular EU country: simply enter the country of origin, the country of destination and the customs number (via the drop-down menu) of the product to be exported.

See also at <http://trade.ec.europa.eu/doclib/press/index.cfm?id=901>





MAPs IN THE LOWER/MID HILLS TO HIGHER MOUNTAIN RANGES
OF NEPAL HAVE HIGH MEDICINAL PROPERTIES. THEY PROVIDE A
SOURCE OF INCOME FOR LOCAL COMMUNITIES SELLING THEM TO
TRADERS WHO SELL THEM ON FOR EXPORTS MAINLY TO THE INDIAN
AND CHINESE MARKETS



GLOBAL ACCESS STRATEGY FOR MAPs

GLOBAL ACCESS STRATEGY FOR MAPs AND ESSENTIAL OILS

This section also includes the strategy for the USA, French, Chinese and Indian markets. References are made to the separate market studies for these countries published by GIZ.

NEPAL HAS 6,973 HIGHER PLANT SPECIES WHICH ARE VERY LARGE FOR THE COUNTRY'S SIZE WHEN COMPARING THE NUMBER OF SPECIES WITH NEIGHBOURING COUNTRIES, CHINA (26,092 SPECIES) AND INDIA (15,000 SPECIES).



3. GLOBAL ACCESS STRATEGY FOR MAPs and ESSENTIAL OILS

3.1 Current situation and SWOT Analysis

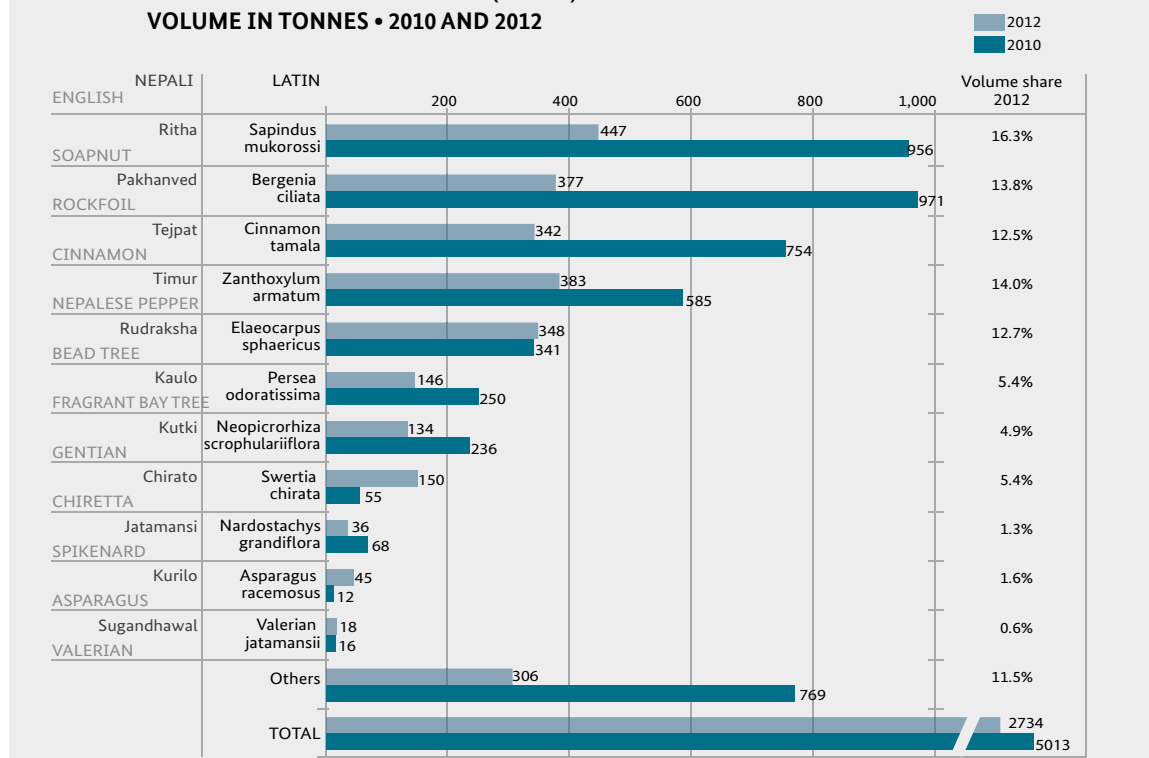
3.1.1 The sector of Medicinal and Aromatic plants (MAPs) in Nepal

Nepal has 6,973 higher plant species which are very large for the country's size when comparing the number of species with neighbouring countries, China (26,092 species) and India (15,000 species). The rich diversity of plants is because of its altitude of 70 metres in the South Terai up to more than 8848 metres in the Himalaya, its six floristic regions and climate influenced by maritime and continental factors with four distinct seasons.

Around 1,800 species are still used for Ayurvedic, Unani and Siddha medicines because people in Nepal and India have confidence in their efficacy. Besides, regular OTC medicines are not widely available in rural areas in the mountains. Plants with aromatic properties are used to make incense and for therapeutic remedies.

MAPs in the lower/mid hills to higher mountain ranges have high medicinal properties. They provide a source of income for local communities selling them to traders who sell them on for exports mainly to the Indian and Chinese markets. According to the NEHHPA, around 50% of local communities are involved in the collection and trade of MAPs or NTFPs. In 2012, 2,734 tonnes were exported of which soapnut, rockfoil, Cinnamon tamala, timur, persea (kaulo) and rudraksha seeds were the largest MAPs traded by volume.

FIGURE 7 : TRADE OF MAPs FROM NEPAL (121190)
VOLUME IN TONNES • 2010 AND 2012



Source: NEHHPA (2015)

A significant role in the economy. Even if the volume of exports decreased between 2010 and 2012, the trade in MAPs plays a significant role in the economy of which an estimated 5% contribution to the Nepalese GDP. Their collection and the required permits/ taxes to export MAPs/essential oils also contribute to the revenues of the Government.

About 85% of MAPs are collected from the wild which are mainly in the poor Far-Western and Mid-Western regions in Nepal. Within the selected products for this study jatamansi, picrorhiza, asparagus, timur, soapnut and yarshagumba are mostly collected in the wild. Butternut (chiuri) is largely available from the trees in the mid-western and far-western regions of Nepal with an estimated potential of 9,000 tonnes of butter for domestic consumption, soap making and exports.

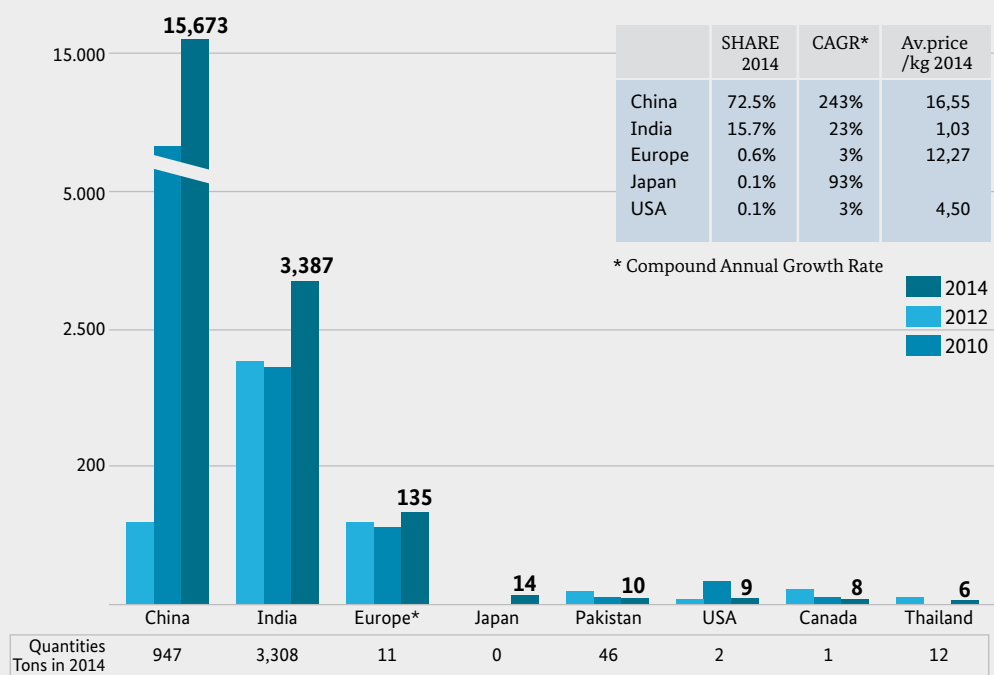
A number of MAPs are cultivated mostly in national and community forests and in private lands in lower hills (Terai) such as mentha, lemongrass, citronella, palmarosa, chamomile, cinnamomum tamala, timur, soapnut and asparagus. A rising number of MAPs species are cultivated.

There are many registered and unregistered producers, traders and companies involved in the trade of MAPs. The largest Associations in Nepal is the Jadibuti Association of Nepal (JABAN) with registered 300 members (producers, collectors, traders and exporters) located in Nepalgunj - being the main trading hub to India. In Kathmandu, the NEPPHA (Nepal Herbs and Herbal Products Association) is a large umbrella organisation with registered 52 members of which 70% are manufacturers and 30% traders.

Trade of MAPs

Around 160 different MAPs are harvested and traded from remote Nepali villages to trading centres in India and China (Northern and Southern borders). By value, the exports of MAPs rose by a CAGR of 66% between 2010 and 2014. This was largely attributed to the exports of yarshagumba to China for huge amounts of money. However, in 2015, exports to China dropped from US\$ 15,673 to 530 thousand and from 947 to 53 tonnes. By volume, India was the main destination with 3,308 tonnes in 2014. It should be noted that the illegal non-registered trade of MAPs is very big.

FIGURE 8: NEPAL - EXPORT OF MAPs (1211), MAIN MARKETS IN THOUSANDS US \$
VALUE INCREASED BY 66% FROM 3,648 TO 21,606 • 2010-2014



* Main exports to: France, Germany, Switzerland, Italy, UK.

Source: ITC (2016)

In 2015, total Nepal exports of MAPs were 3,172 tonnes valued at US\$ 4,681 thousand, a decrease by a value of 27% compared to 4,294 tonnes and a huge drop from US\$ 21,596 thousand in 2014. Although, in spite of the earthquake and the fuel crisis, Nepali exports to India just fell slightly to 3,101 tonnes and were valued at US\$ 3,919 thousand, according to the ITC. India accounted for 84% of Nepal exports in 2015.

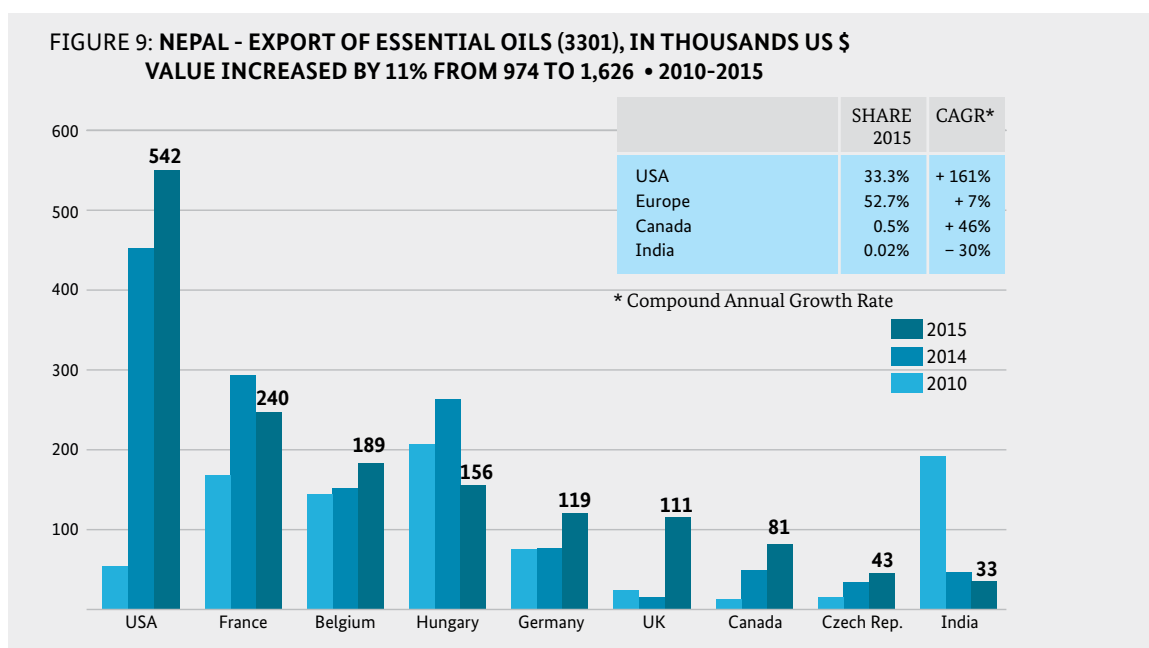
Trade of Essential oils

Around 10% of all MAPs are processed into essential oils, oleoresins or concentrates for the production of medicines, soap, oral care, incense or handicrafts (e.g. scented candles) in small workshops/factories. More than 20 domestic manufacturers were registered in the processing of MAPs and NTFPs (source: Khilendra Gurung, 2010), while Sawtee estimated the number of processing facilities at 77 in 2010. These companies buy raw MAPs from various community forest user groups (CFUGs) and co-operatives. Most oil exporting companies are located in Kathmandu, Nepalgunj or Krishnanagar. As more companies

recognize that processing of MAPs in Nepal is more beneficial than exporting crude MAPs, the number of Nepali processors is on the rise.

Between 2010 and 2015, Nepal exports of essential oils rose by a CAGR of 11% from US\$ 974 to 1,626 thousand. By volume, exports rose from 21 to 37 tonnes in the same period.

The USA has become the largest destination country by value. Exports rose by a CAGR of 161%, which was largely attributed to more exports of butternut and jatamansi oil, among others, to large companies such as dōTERRA and Aveda. Exports of oils to Europe and Canada rose steadily, while exports to India dropped by 30% from US\$ 193 to 33 thousand. The majority of oils were NES, although according to figures from JABAN, the most traded oils were cinnamon, mentha, valerian, chamomile, timur, palmarosa and citronella. In 2015, around 5% were essential oils of orange, which mainly went to the USA and China.



Source: ITC (2016)

As large parts of essential oils are exported to the Western countries, the trade of essential oils is better registered than MAPs.

Despite the rise in essential oil exports, Nepal still faced several problems:

- **The fuel crisis.** According to the Nepal Rastra Bank (NRB), exports of all goods to India dropped by half in the year 2015/2016 (from 23 billion to 14 billion NPR) owing to the obstructions at customs points including Birgunj. This has particularly affected companies in Kathmandu and in the south/middle/east part of the country. Exports to China have dropped by one third (from 1.4 billion to 0.5 billion RS).
- **The two large earthquakes in April 2015 with its ongoing aftershocks** affected the economy, infrastructure and the Nepalese farmers missed the planting season starting in May for rice. This, together with losses of food stocks and wheat and maize harvests, limited food supplies and income. Around two-thirds of Nepali people rely on agriculture for their livelihood.
- **A weak infrastructure** where MAPs need to come a long way on foot from remote villages in the mountains. There is often a lack of proper

packaging material in villages and there is limited access to electricity (source: Khilendra Gurung, 2010).

- **Nepal's landlocked position,** its lack of fuel and raw materials needed for manufacturing is coupled with the limited transport-links to the north. The economy is very closely tied to India or China. Nepal has an open border with India giving room to substantial smuggling.
- **Nepal exports of MAPs and oils being largely overshadowed by India.** Indian traders buy MAPs directly from small communities at low prices for the production of essential oils in India. Essential oils are exported and promoted as Indian products or as products from the Himalaya.
- **Low recognition.** Many people in Western markets know Nepal as a country, but less people are aware about the typical MAPs or essential oils from Nepal. They do not clearly recognise the difference between oils from Nepal or from India. Apart from the low awareness, the image of Nepali oils might be affected, if some Indian companies sell adulterated oils.

Other constraints in Nepali exports can be attributed to the rising inflation rate since October 2015 which was 12.1% in January 2016, making fuel, food and raw material more expensive.

NEPALESE FARMERS USUALLY HAVE NO CLEAR IDEA ABOUT THE CONSUMER TASTE OF PARTICULAR ESSENTIAL OILS, SPECIFIC SEASONS OR SHORTAGES/MOVEMENTS IN DEMAND OR THE PURPOSE OF USE.

3.1.2 The value chain

The vast majority of producers in Nepal are farmers using MAPs for own consumption and sell them in small quantities for extra income. MAPs are one of their different crops (multi-cropping). Barriers are low to stop if the price does not cover their cost and they need income. Their selling price is still a main determinant for them in what they grow.

Most farmers do have the traditional knowledge on which crop to cultivate during the year, to be sure that their income is maximized. However, when large numbers of farmers cultivate the same crop according to the usual traditional knowledge, dramatic increases or decreases in production can happen, which impacts on price levels. Large fluctuations in prices paid for their crop means large variances in income. A logical solution would be to cultivate different crops, according to the market demand, altitude and climate conditions.

Where crops are perennial, producers have no choice but to continue in the market and take what price is offered, unless they decide to switch to the production of commodities.

Farmers usually have no clear idea about the consumer taste of particular essential oils, specific seasons or shortages/movements in demand or the purpose of use. It is important to estimate the potential of a crop by knowing whether an essential oil is used for its chemical constituent or for its aromatic part. Farmers are often in remote places and sell a few kilos to collectors, who sell them to village or airport traders.

Collectors visit different farmers who buy small lots for cash. They make an export lot that is sold to exporters or buyers from either local processors or

local flavour and fragrance houses in the Kathmandu area.

These buyers have an inventory, know which crops/oils are in demand (and when) and their foreign customers. Besides, they are able to quote prices in US\$ or Euros, which is often impossible for local producers. They also know about export procedures and have contacts with shipping agents.

Traders also buy from farmers and sell them to companies in Kathmandu area or via Nepalgunj to Indian buyers in e.g. Lucknow, Kanpur and Dehli.

In both cases, the power of producers/farmers to influence the price in the market hardly exists as they are controlled by buyers from Nepal and India. This dependency leads to deliberate adulteration by some farmers, especially if no reasonable prices are paid. Such practices harm the quality of products from Nepal. In other cases, the quality is harmed when farmers compete - by quantity - against farmers from other geographical regions.

If the supply chain is very long (see Figure 13) the producer continues to act as a supplier and has little or no influence on pricing, crop variations and planning. In some cases, the supply chain can be manipulated by gathering stocks of particular MAPs or oils and wait until the price rises, and sell off stocks at large profits, often without letting farmers take advantage.

Direct purchasing through ethical supply chains.

Compared to the organisation representing the interest of traders, there are few organisations for the true interests of farmers and producers. On the positive side, the ethics of purchasing from producers and cooperatives in the supply chain becomes increasingly important. Smaller

processors such as Primavera Life (Germany), Vossen (Belgium), S&D Aroma (UK) and larger (multinational) companies, e.g. Nateva and Avituri - both from France, Aveda (Estee Lauder, USA) have set up community projects in developing countries - including in Nepal - with ethical supply chains and organically certified essential oils.

Some main problems in the value chain are:

- **Difficulty among producers and collectors to have a closer contract with potential customers** due to financial and logistical constraints. Many of them are illiterate and not familiar with computers. They rely on traders or exporters, who handle the paperwork, which is rather complex and time consuming in Nepal. This often creates an uneven distribution of benefits.
- **Low quality of MAPs or adulterated products** resulting from easy-going collectors or traders who want to get quick money. MAPs are mixed or are harvested too early or entire plants are destroyed, especially among those collectors who harvest illegally as they hurry for fear to be caught. According to Asia Network for Sustainable Agriculture and Bioresources (ANSAB), soil contamination, high moisture content, and low quality packaging have resulted in the deterioration of the quality. Storage facilities are not proper, leading to decline in quality with fungal contamination. The risk is high that foreign customers reject the MAPs/oils, as they do not comply with the HACCP regulation.

3.1.3 SWOT analysis

Strengths

- Nepal has a very rich diversity of herbs and medicinal plants used for many different applications.
- The MAPs collected in the mountains reflect strong therapeutic properties and 100% pureness.
- Production of essential oils is done in the traditional way, which is interesting for buyers who look for natural oils and want to contribute to the development in Nepal that they use for their own PR. Although for larger quantities, modern distillation units are required and already used by several Nepali exporters (e.g. HBTL, Gyan Herbal, HPPCL, Araa Aroma, Bahubali, Khaptad and others).
- The historical facts and the lives of women in the villages as a source for storytelling.
- The government has started to develop sustainable programmes (plantation, harvesting and production) of MAPs by using scientific forest management practices instead of improper practices which happened with yarshagumba or satuwa (source: Ansab, 2014).



ESSENTIAL OILS FROM NEPAL SUCH AS TIMUR, JATAMANSI, WINTERGREEN, GINGER, CARDAMOM RHODODENDRON, ETC. CORRESPONDS WELL TO THE NEED FOR NATURAL INGREDIENTS IN FOOD, BEAUTY & PERSONAL CARE, NEW OILS FOR AROMATHERAPY, EXOTIC AND RARE SCENTS IN HIGH CLASS PERFUMERY, AND THE TENDENCY FOR RELAXATION IN EXPORT MARKETS.

- The government has developed projects for the knowledge and technology transfer to local communities. Besides, there is more interest of the private sector in MAPs (source: Jadibuti, 2015)
- Affordable and reasonable price level of oils from Nepal for importers from Europe or USA.

Weakness

- Difficulty in sourcing good quality seeds of reliable suppliers (India and China). However, this could be partly solved by changing to organic cultivation, with farmers using own seeds from organic plants.
- A decreasing number of labour from Nepal - working abroad - who could give a helping hand during harvesting periods.
- Landlocked country with almost all transports to go via India. Exports to Western countries are overshadowed by India being the main customer and also competitor.
- The export of essential oils is still in its early stages in Nepal. Access to good quality oils differs per company and is not consistent due to various reasons.
- Complicated administrative procedures getting release permits and paying royalties to Nepali government agencies delay lead times being increasingly important among Western customers. These procedures maintain the role of middlemen as the illiterate farmers/collectors cannot deal with this; they even cannot register their company. Moreover, strict procedures may incite ignorance and more illegal trade - similar to what happens in China, India or in other developing countries.
- Struggling to start with modern technology and to combine this with traditional techniques.
- Limited production capacity, although this is also an advantage for making 'exclusive' oils.
- Little awareness and recognition of Nepal MAPs and oils among Europeans, Americans and Chinese.

- Difficulty to create a marketing strategy focussed on a selected key segment because each oil is having its different uses.
- Some companies depend on a few large foreign customers.
- Expensive and difficult to follow seasonal trends, particularly in fragrances.

Opportunities

- A large available area all over Nepal for cultivation of herbs with the possibility of mixed cropping.
- Essential oils from Nepal such as timur, jatamansi, curcuma, soapnuts, wintergreen, ginger, cardamom rhododendron, blue chamomile, calamus, picrorhiza corresponds well to the need for natural ingredients in food, beauty & personal care, new oils for aromatherapy, exotic and rare scents in high class perfumery, and the tendency for relaxation, health and well-being in export markets.
- Even if regulations protect the multinational OTC industry, the natural medicines market and people's self-medication is set to grow in the coming years. The populations are aging in Europe and the USA and house doctors are overcharged. There will be growing suspicion against regular OTC medicines having their undesired side-effects. Besides, cases of malpractices in the pharmaceuticals industry and politics, such as lobbying and shady practices by European politicians, are increasingly highlighted by (social) media and activist groups.
- Communicate the health aspects of timur, asparagus, jatamansi, soapnuts, wintergreen, ginger, curcuma, cardamom rhododendron, picrorhiza and calamus - not all of which are well known or recognized. However, claims should be made tactfully and carefully.
- Potential to join forces and sell under a common brand identity, either under a common Nepal (health or mountain related) brand or linked

to medicinal traditional know-how of e.g. the Tharu Taru people from the Terai or the Tamang community in the Makawanpur district.

- Symbolism in the Nepali culture and religion corresponds well to the popularity of yoga in Western countries, coupled with curiosity for exotic oils with different flavours (in Asian healthy dishes) or fragrances. Besides, there is more sympathy from abroad for Nepal due to the earthquake.
- Big potential in China as an emerging market with a fast growing middle class population and more interest in healthy food, skin care (multi-care), air care (pollution) and natural cough/allergic remedies.
- The activities done by craftsmen/women/handicapped people or refugees in rural areas correspond well to the concern about sustainability.
- Link up the fragrance of essential oils with fashion accessories from Nepal such as shawls (Pashmina, Cashmere), blouses or sweaters.

Threats

- A continued growth in number of legislative market access requirements in Europe and USA.
- Indian countries promoting 'essential oils from the Himalaya' makes it difficult for Nepali companies to stand out when making the same claim. The practice of adulteration by some Indian companies might harm the image of oils from Nepal.
- Growing competition from India, China, Indonesia, Sri Lanka, Vietnam and in Europe, Egypt and Eastern European countries that are important nearby suppliers of many green herbs including menha and chamomile.
- Growing use of synthetic aroma chemicals due to depletion of natural sources, achieving more consistency in e.g. fragrances, stronger scents and

lower prices, especially for mass BPC or household cleaning products. Although, in sophisticated BPC products or perfumes, natural scents are preferred.

- The growing localism and the environmental concern regarding importing product coming a long way. Especially for organic products, people tend to give preference to locally-made products or products coming from nearby countries.

3.2 Choosing your export markets

- **In 2014, the five focus markets** covered in this report represented together for MAPs an import value of US\$ 869 million and volume of 257 thousand tonnes led by the USA, China and Germany. About 28 thousand tonnes were imported by India, with Nepal as the third supplier after Vietnam and Afghanistan. India accounted for 84% of Nepal exports with a volume of 3,308 tonnes in 2014, which slightly fell to 3,101 tonnes in 2015.
- Within the essential oils imports - valued at US\$ 1,911 million, the USA was by far the main importer (44% share) followed by France (20%) and Germany (16%). Even if exports are high in the USA and France, the three Western markets are still net importers.

Catching up MAPs exports to India

- **The majority of Indian people are poor and wages per day are much lower** than in Western countries or in China. Average values of imported MAPs are half of those of Germany or France. Nevertheless, MAPs from Nepal will be still required for hand soaps, fabric wash, talcum powder, oral care products, shaving creams and oil products that are traditionally used in hair care, skin care and body care products. Along with the expected population, demand for these products will grow as well as the traditional Ayurvedic health care products that are natural, low in price and widely used in India.
- **The Indian population is set to grow by 1.4% per year** with a larger proportion of young people compared to the other markets. With the growth of Internet usage, young Indians are



In 2014, the five focus markets covered in this report represented together for MAPs an import value of **US\$ 869 million** and volume of 257 thousand tonnes led by the USA, China and Germany.

exposed to global trends in health food and BPC products. This is likely to generate a demand and more receptiveness for different types of flavour and fragrance products using natural/healthy ingredients. Colour cosmetics, hair care products using amla, shikakai and reetha are expected to be growth categories in mass BPC products - still dominant in the Indian market.

- **India's middle class was estimated at 30 million** people in 2012 and represented 3% of the population. As the Indian economy is growing, prospects are bright for the coming years and the number of double-income households will certainly increase. Along with the rise in disposable incomes, women and men will spend more on their looks and appearance.
- **The Indian Premium BPC (Beauty and Personal Care)** market is still a small niche market compared to the other selected countries with flavour and herbal traditional medicines as sizeable categories. Products of Western luxury brands using natural or organic ingredients are

affordable for affluent Indian people. However, Indian companies use marketing and social promotion in the local language and offer their health food and BPC products in small sized pack to make them affordable.

The three western markets as a springboard

- **The USA, France and Germany are the most interesting and lucrative markets with well-established suppliers setting International trends.** Despite the challenges to meet the strict market access requirements, they act as a springboard to other global markets:
 - A success in the USA leads to easier entry in the UK, other European countries, Australia, New Zealand, Japan and other Asian countries.
 - While a success in France leads to easier entry in all French-speaking countries (e.g. Canada), Japan, China, Malaysia and emerging Asian countries following the trends in perfumes/fragrances and the flavours in French cuisine as more French restaurants open up there

TO ACHIEVE AN INCREASE OF 15% BY VALUE AND VOLUME IN MAPs AND ESSENTIAL OILS, A RECOMMENDED APPROACH TO CHOOSE EXPORT MARKETS COULD BE THE FOLLOWING:

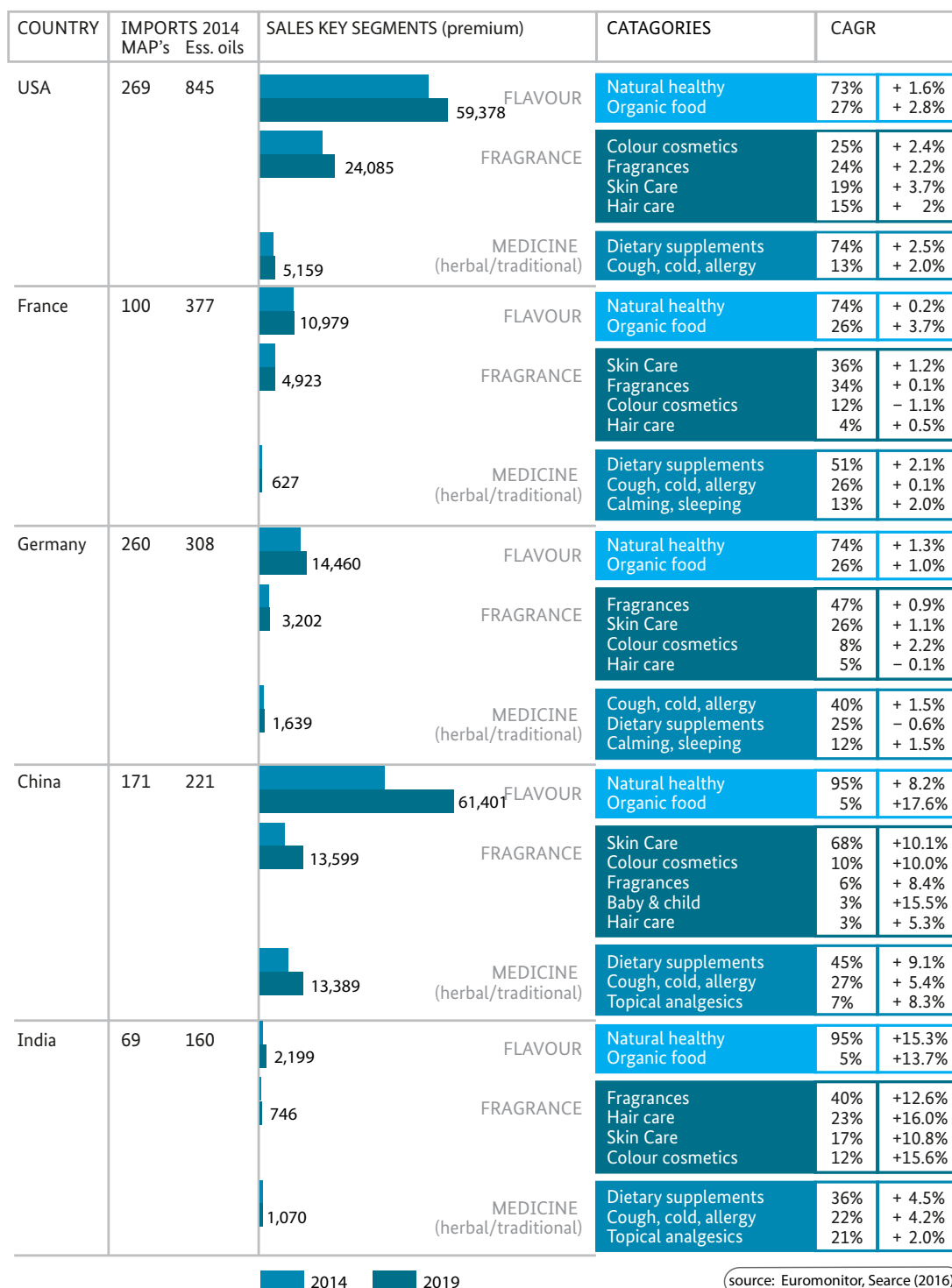
- CATCHING UP EXPORTS OF MAPs TO THE INDIAN MARKET
- EXPORTING ESSENTIAL OILS TO THE THREE WESTERN MARKETS USING THEM AS A SPRINGBOARD
- TAKE ADVANTAGE FROM THE SURGING CHINESE MARKET
- CATCHING UP MAPs EXPORTS TO INDIA



and the still growing numbers of tourists visiting France.

- A success in Germany enables easier entry in Austria and Switzerland.

FIGURE 10: **IMPORTS AND SALES FORECAST, US \$ MILLION**



- **The USA offers the best growth prospects in the three premium key segments.** Looking at the future development of the premium flavour segments, the USA market will reach a sales value of US\$ 59.3 billion in 2019.
- **In the premium flavour segment,** American people - especially millennials and baby boomers - started to realize that unprocessed fresh food can be healthy, helps to slim down and contains high proteins in order to perform well in their busy life. Organic food accounted for 27% of the premium flavour segment and is expected to grow steadily by a CAGR of 2.8% between 2014 and 2019.
- **In the three countries, cold organic beverages with typical (spicy) tastes and herbal teas** will be preferred to sweetened carbonated drinks that are more expensive due to the 'soda tax' or 'red bull tax' forcing manufacturers to develop drinks free from sugar or aspartame.
- **In France and Germany,** people prefer to buy fresh food and premium packaged food. Consumers who have a limited budget are still aiming to have food of a good quality even if they can do this less often. Driven by popular reality TV competitions, people become more open to cuisines from other countries. While Germany as a Green Nation, people are very much aware of what they eat, the kind of ingredients and health benefits. With a greater population diversity, German people will be increasingly receptive to exotic dishes.
- **In the premium BPC segment,** the demand for cosmetic ingredients is driven by a growing number of anti-aging products and new multifunctional product launches.
- **The chic-natural beauty trend in make-up and colour cosmetics** is likely to stay - being in contrast with the heavy make-up look. In the three Western markets, skin care is the best growth category. Skincare accounted for 36% of the BPC market in France and is expected to grow by a CAGR of 1.2% in the coming years. French media increasingly put the side effects of many of the artificial substances used in the manufacture of Mass BPC products under the attention. Germany is leading the Green beauty market as one of the pioneers in this field.



- **In premium hair care** particularly in the USA, there interest is rising in shampoos and conditioners that are less damaging to hair and enough caring. Medicated shampoos and hair oils are growing niches in France.
- **In the premium fragrance segment**, the perfume culture stays in France and Germany. Fragrances accounted for 47% in the German premium BPC market in 2014 and are expected to grow by 0.9%. While fragrances take up a smaller part (24%) of the US market which has quickly become mature due to an overkill of celebrity perfumes.
- **A successful scent in perfumes** will serve as a springboard to enter the fragrance segment for e.g. BPC products (bath & shower, shampoos) or for household cleaning products.
- **In the herbal traditional segment**, the expansion of Chinese pharmaceutical companies in the three Western markets will drive the popularity of traditional medicines from China as well as from other Asian countries. Curcuma is discovered as one of the new herbal medicines and used in many dietary supplements. It is included in food supplements for joint health, cholesterol management, liver support or used against inflammation.
- **Aromatherapy is likely to gain more ground along with the trend towards more self-medication and well-being.** Through promotion campaign and direct selling via social media, the awareness and popularity of aromatherapy will move more towards the mainstream market. Although there is a risk that the precious value of natural oils may be affected by adulteration and more use of chemical profiles in popular essential oils, which is increasingly offered by e.g. mass merchandisers.
- **A promising trend is the rise in sustainable sourcing strategies of Western companies** to meet growing concerns about the environment among their consumers. This trend goes hand in hand with more collaboration with producers in own country or in developing countries. Some companies also grow their own raw material to guarantee the origin and the constant quality of their natural ingredients.



Take advantage of the surging Chinese Market

Resulting from profound reforms in the Chinese export driven economy, the middle class has risen to 18% of the Chinese population. They are expected to reach 854 million people by 2035.

- **Growth rates of the Chinese flavour market** are larger than in Western markets, albeit the explosive Chinese market growth has slowed down since 2012. In the industrialised Eastern part, the Chinese are more receptive to upscale healthy food and drinks in order to stay fit and productive in an increasingly busy society. The organic food category is still small and new. The premium flavour segment in China is expected to reach US\$ 61.4 billion by 2019.
- **China shows the largest growth rates in the premium BPC segment.** The middle and western part will further develop and the baby & childcare category will grow, keeping the two-child policy in mind. China also has the largest herbal/traditionally medicine market. Import regulations of MAPs from Nepal for medicinal use are less strict than in Europe, and many sales go direct via practitioners. On the other hand, the Custom duties and VAT rates are relatively high.
- **A challenge will be to build up a long-term successful business with the Chinese** and care should be taken by both the Nepali and Chinese governments to severely control and **limit quantities of exported MAPs that risk depletion in Nepal or illegal trade** like what happened with yarshagumba.



The premium flavour segment in China is expected to reach **US\$ 61.4 billion** by 2019.

3.3 Global Trends in ingredients and Final consumers

The most relevant trends in the development of ingredients in the three key segments are:

Beauty and personal care (BPC)

More than 5,000 ingredients in the formulation and composition of cosmetic products are used. Demand by companies for new ingredients that are natural and give health benefits continues to grow. For example:

- **Algae**, which are known for their high concentration of vitamins, minerals, amino acids and antioxidants, marine extracts from macro algae (seaweed and kelp). The use of algae is further explored in skincare and hair care.
- **Multi-purpose oils**, for example oil from the Marula fruit, is a new ingredient used in both skin and hair care products and known for moisturizing, anti-aging, cleaning and defrosting.
- **Specific animal products** in Asian beauty treatments and skin care using secreting mucus of snails crawling around on faces. Based on this treatment, new anti-aging products such as Organic Doctor's snail gel, Dermarie Skin Tightening are introduced. The latest ingredient is an extract from starfish used in 'starfish cream' introduced by Mizon from Korea being also popular in China.

Fragrance

- **Timur or Nepali pepper is now** recognised as a special ingredient spicing up fine and exotic fragrances. Bright Neri by Ferrari, Clinique Aromatics in White, and Mercedes-Benz VIP Club Infinite Spicy are examples of fragrances with Nepali pepper accords. Other examples can be found at www.fragrantica.com/notes/Sichuan-Pepper-213.html. Timur may be a fad, but launches by big fashion brands certainly create opportunities for new unique spices or herbs in exotic perfumes and fragrances.
- **Oud wood-based ingredients** used in prestige fine and rare fragrances, have been a trend among

affluent women and men. The Oud scent is very specific coming from resin of old agar wood trees from Southeast Asian countries, including Nepal. The resin and distilled oil are called 'liquid gold'. Its musky, animal-like scent is very strong. Some people love it while others find it offensive and gross. Perfumes using oud is so expensive because of its rarity. Several leading fashion brands have developed perfumes based on Oud. It remains to be seen how long this trend will last.

- **Nepal Oud.** A perfume called Nepali Aoud uses Nepalese Oud combined with nutmeg, saffron, vanilla, leather and Musk sold at prices up to US\$ 170 for 100 ml.
- **New variations on successful scents.** Large flavour houses developing specific scents for the perfume industry, refine them further, and release new variations. Interpretations of roses can vary from Derrrose, Rose de Grasse, Swiss Rose Stem to exotic rose origins such as Bulgarian rose, Moroccan Rose, Rose de Damas or Wild Rose. See more on www.trendincite.com
- **Continued development of synthetic aroma chemicals within companies.** The major threat in fragrance regarding the use of essential oil and natural products is the continued development of synthetic aroma chemicals. Fragrance houses increasingly rely on reconstitutions of essential oils due to limited supply of natural oils. New sophisticated and sensitive analytical techniques enable laboratory staff of aroma manufacturers/fragrance houses to isolate molecules from essential oils and synthesize these compounds. Especially in lower cost functional fragrance applications such as household cleaning products, bath & shower, shampoos, albeit rare natural oils are still favoured in fine fragrances (perfumery).



Flavour

- **Coconut water, milk, and oil are all “it” ingredients with different applications, e.g.** in food, drinks and BPC products. Coconut milk and oil are stylish in bath & shower and hair care products for its emollient properties while coconut water is gaining ground as a healthy drink.
- **Activated Charcoal** is used in cold-pressed juices and as anti-aging skin treatment to draw out and trap impurities. It was used for many years in facial products such as masks, scrubs, and cleaners.
- **The ‘back to basics idea’ among consumers.** Fermentation trend - There is a strong consumer resonance with the ‘back to basics idea’. Instead of standardised chemical ingredients. There is a growing preference for products that are minimally processed and more easily digested.

Pharmaceutical

Opportunities in health care industry

- **More interest in natural health** care and growing recognition of harmony between mind and body has driven the market for natural medicines, essential oils in the past decades, although the development was often constrained by regulations or questions about their efficacy due to a lack of scientific proof in the Western world.
- **Several scandals, malpractices by internet sellers of regular medicines and by politicians,** sales of discounted medicines under private label, and undesired side effects, has generated more suspicion regarding the quality of conventional medicines.
- **There is a pill fatigue among the growing elderly population** that has created opportunities for innovation in new herbal medicines and aromatherapy giving more targeted and gentle solutions.

Final Consumers

The final consumers who are most likely to be interested in natural products from Nepal are:

The highly conscious consumers who mainly live in Germany, Scandinavia, Switzerland, the USA, France, UK and the Netherlands. They are 30-60 year-old women/men with a mid-high level education

TRENDY CONSCIOUS CONSUMERS MAINLY LIVE IN THE USA, UK, NETHERLANDS, FRANCE, SCANDINAVIA, GERMANY AND ITALY OF THE AGE GROUP 20 - 50 YEARS OLD.

and an average-high income. They have an interest and knowledge of the sustainable dimensions regarding the products they buy. Even if they now represent a small part of consumers, their number is growing because of more media attention on unethical practices in global business. They have a strong opinion about product benefits, impact on the environment and take decisions in a more considered way. For example, when buying a facial cream made with e.g. timur oil from Nepal, following additional values are important for them - apart from its functional properties and price :

Ingredients and material

- The use of natural ingredients and essential oils
- The use of re-cycled material that is used to make this cream.

Quality:

- High level of product quality for longer use.
- High-quality workmanship and well packed in boxes/jars of recycled material

Sourcing:

- Local sourcing of raw MAPs i.e. not coming a long way from other countries.

Social impact:

- Positive social/cultural impact in working conditions and wages.
- Corporate policies, cultural values and fair trade

conditions.

Transparency in how the cream is made and concerned about environmental and social issues and therefore they are likely to sympathise with Nepal.

Trendy conscious consumers mainly live in the USA, UK, Netherlands, France, Scandinavia, Germany and Italy. They are 20-50-year-old people looking for a warm social life and like to express their own personal style and show this to their friends/relatives. They have a low-average income (€ 1,500 - 3,500/month), admire creativity and craftsmanship. The main difference with highly conscious is that they are sensitive to (fashion) trends, new products with an attractive design and to stories attached to these products. In addition, their level of consciousness is not fully consistent and they can be fickle.

Because they are younger, they are open to new experiences, travel more and do not want to belong to the mainstream. This implies that they have quite a 'fresh view' on sustainability. They want to 'do good' but in a unique or light way. They inform themselves well and are open to natural/beautiful products that express the art of other cultures and the soul/spirit of its artist.



DIGITAL COMMUNICATION IS BECOMING INCREASINGLY IMPORTANT ALSO IN THIS SECTOR AND CONSUMERS ARE BETTER INFORMED

WHAT'S RELEVANT FOR YOU ?

TRANSPARENCY IS BECOMING VITAL FOR INDUSTRIES AND CONSUMERS

Digital communication is becoming increasingly important and consumers are better informed. Potential dangers of preservative parabens are now well-known because information goes quickly over the internet. Therefore, transparency and brand consistency are now vital for industries, retailers to keep up good relations with end consumers.

YOUNG CONSUMERS CONTINUOUSLY LOOK FOR THE LATEST PRODUCT INNOVATIONS

Many different personal care and fine fragrance products on store shelves—all trying to get consumers attention. New and unusual ingredients that deliver a specific benefit, demonstrate authenticity, or create interest are key in new product introductions. Driven by global society and shifting cultural demographics, consumer expectations for exotic and unique ingredients are increasing.

Nepali consumers living abroad

According to the World Bank, more than 2 million Nepal people lived abroad in 2013, which was mainly in Saudi Arabia and Gulf States (1 million people), Malaysia (56,000), UK (38,000), Bangladesh (38,000) and Australia (31,000). Within the selected countries the number of Nepali were:

India	There are no consistent figures. Data from the WorldBank (2010) and Wikipedia estimate that the Nepal-born in India ranges between 500,000 up to 5 million people.
USA	88,000 people
China	20,000 people (of which 16,000 in Hong Kong)
Germany	5,000 people
France	less than 5,000 people.

Nepali migrants are an interesting consumer group for essential oils and commodities as they are familiar with the specific MAPs from Nepal. In addition to buying products, they could act as ambassadors to explain the therapeutic benefits and the long tradition of oil production in Nepal. Communities in the selected countries, embassies or universities could be contacted.

3.4 How to comply with access requirements

Access requirements are all the requirements you can expect from your buyer. They can be divided into three groups:

Legislative requirements

Quality requirements

Voluntary requirements

Legislative requirements are mandatory and subject to penalties if they are ignored, especially in Europe and USA. These are related to environmental protection, food safety for consumers and hygiene. Voluntary requirements cover similar issues and are meant to improve good agriculture practices and to social issues. Last but not least, quality requirements must be met during the first export trials. In fact, good quality is the baseline for a successful business relationship.

3.4.1 Legislative requirements Legislation in Nepal

According to the GIZ INCLUDE study on essential oils of anthopogon, juniper and wintergreen by Khilendra Gurung (2010), the following document

and certificates are required in Nepal for the Customs Clearance:

- Certificate of industry registration/exporting company/firm
- Tax: Permanent Account Number (PAN) or VAT registration certificate
- Commercial invoice
- Payment certificate: Letter of Credit (L/C) or Advance Payment Certificate (APC)
- Certificate of origin
- Generalized System of Preference (GSP) form or form A
- Type copy of formatted application stating name and address of importer and exporter
- Packing lists
- Means of transportation and route
- Bio-safety statement/Material safety data sheet (MSDS)

Below is a list of 8 mandatory certificates and the issuing institutions.

CERTIFICATES/DOCUMENTS	AUTHORIZED ISSUING INSTITUTIONS
Release permit	District Forest Office (DFO)
Certificate of advance payment of L/C	Commercial Banks
Company registration	Department of Commerce (DOC), Department of Cottage and Small Industries Board (DCSIB), Office of Company Registrar
PAN/VAT registration	Department of Inland Revenue
Generalized system preference (GSP) form	Trade and Export Promotion Center (TPC)
Certificate of origin	Federation of Nepalese Chamber of Commerce and Industries (FNCCI), Confederation of Nepalese Industries (CNI)
Non-hazardous/Non-explosive	Exporting companies/ firms
Recommendation letter to Customs	Department of Plant Resources (DPR)

More details can be found in the report (Chapter 4) that can be downloaded from:
<http://www.includenepal.org/pdf/Sector%20Study%20of%20Essential%20Oils%20in%20Nepal,%20GTZ%20KG%202010.pdf>

Legislation in the five selected markets

USA and EUROPE

The regulatory barriers to enter the USA market are lower than Europe. In addition to the CITES regulations, the following legislation must be respected:

FOOD LEGISLATION

HACCP rules regarding safety and hygiene when the MAPs/oils are used in food must be followed and you must show a Certificate of origin as a proof that your shipment is free of injurious plant pests and diseases.

The HACCP rules should be respected in Europe as well.

COSMETIC REGULATION

The Food, Drug, and Cosmetic Act (FD&C Act) requires that every cosmetic and personal care product and its ingredients must be substantiated for safety before going to the market, and that they contain no prohibited ingredients. You will have to check if your MAPs/oils are on this ingredient list that can be found at www.cosmeticsinfo.org/cosmetic-regulation-us

Other legislative regulations to observe are:

- **Due to the absence of legal standards** for MAPs or essential oils, there is no clear definition of the product content, nor of the purity of an essential oil. Essential oils sold in the US market are sometimes contaminated with heavy metals or being mixed with conventional medicines. There

is also no legal standard in the other selected markets.

- **Botanical products are regarded as food supplements**, which also applies to MAPs and essential oils. They are not regulated as prescription or OTC drugs. But be careful with claims!
- **When making claims, make sure that they are verifiable** and cannot be defined as 'therapeutic claims' (i.e. treating a symptom or disease). If the company follows this rule, the product can be sold in the USA, unless someone can prove that it is

PLANT PRODUCTS THAT ARE IMPORTED FROM DEVELOPING COUNTRIES MUST PASS THROUGH DESIGNATED BORDER INSPECTION POSTS (BIPS) WHERE THEY ARE SUBJECTED TO A SERIES OF CHECKS

unsafe. In that case, the FDA can prohibit sales of the MAP or oil concerned because it could provide a significant risk of injury. Also in Europe, claims must be made in a considered way.

There are three forms of health claims:

- **Nutrition claims:** 'any claim that a food has particular nutritional properties due to: the energy it provides, the nutrients or other substances it contains'
- **Health claims:** 'any claim that a relationship exists between health and a food category, a kind of food or one of its constituents.'
- **Reduction of disease risk claims:** 'any claim that the consumption of a food category, a kind food or one of its constituents significantly reduces a risk factor in the development of a human disease'.



CLAIMS MUST NOT:

- be false, ambiguous or misleading create doubt about the safety and/or nutritional adequacy of other foods.
- encourage or ignore excess consumption of a food.
- state or imply that a balanced and varied diet cannot provide appropriate quantities of

nutrients (except for some specific national conditions).

- refer, in words or through pictures, graphics or symbols, to changes in bodily functions that could give rise to, or exploit consumer fear.

More details on USA regulations can be found in Chapter 2.5

EUROPE

When your MAPs or essential oils arrive at the first port of entry in Europe, there are the following checks:

EU import checks. Plant products that are imported from developing countries must pass through designated Border Inspection Posts (BIPs) where they are subjected to a series of checks. If passed they are allowed access to circulate freely to other EU Member States.

Phytosanitary Certificate. Compulsory plant health checks are carried out on all plants and plant products coming from non-EU countries in which MAPs and oils are included. The certificate that was issued in Nepal country is double-checked to ensure the consignment is free from harmful organisms.

Legal requirements are to guarantee consumer safety, preventing that substances that are dangerous to health enter the EU. If your MAPs/oils do not meet these requirements, they are not allowed on the EU market and you (or your trade partner) run the risk to get a penalty (up to € 70,000) if consumers make an official complaint. Food scandals in Europe underlined the importance of (legislative) requirements by supermarkets, grocery retailers and particularly by discounters being under a severe control from Ministries of Health.

Consequently, legal requirements that focus on hygiene, traceability and maximum residue levels for certain pesticides and contaminants that can be present in your MAPs, essential oils, concentrates, oleoresins etc. have been put in place to guarantee the safety to EU consumers.

FOOD LEGISLATION

- **The General Food Law** (Regulation (EC) 178/2006) which prohibits the introduction of unsafe food to the EU market and defines its **traceability** of its ingredients through all stages of production, processing and distribution. You or your importer/trade partner must be able to give clarification.
- **Hygiene of foodstuffs** (Regulations (EC) 852/2004; 853/2004; 854/2004) being based on the HACCP principles.
- **EU legislation restricting pesticides** and contaminants in EU food including MRLs, contaminants etc..

BPC AND COSMETIC LEGISLATION

Contrary to the USA, there is no clear EU regulation to define natural or organic cosmetics (dictated by the Department of Agriculture). However, there are regulations regarding product safety.

EU Cosmetic Directive on safety where you must be careful if cosmetic products using your MAPs/oils could harm someone's health when they use it. For example, if essential oils are directly used on the skin, they may cause allergic reactions. There will be legislation coming up for lemongrass, wintergreen, cinnamon and chamomile.

Product safety report and Product information file.

Before launching the final product in the market, the producer/processor/importer must have a cosmetic safety assessment carried out on the product, followed by the preparation of a cosmetic product safety report, and to prepare a product information file. This must be done by someone with a formal qualification, which could be (found via) your trade partner. The European Commission (EC) should be

notified via the Cosmetic Product Notification Portal at <http://ec.europa.eu/growth/sectors/cosmetics/>. Notification is free of charge.

The cosmos standard. Here you have to check if your essential oil is included in the 30 authorized oils by cosmos-standard that can be used in organic/natural cosmetics:

wormwood, basil methyl-chavicol, bay St Thomas, Roman chamomile, cinnamon (bark, leaves), cardamom, carrot seeds, cistus ladanifère, lemon, davana, galbanum, geranium, ginger, bitter orange, bay leaves, lavandin, lavender, magnolia, myrtle, neroli, patchouli, petit grain, black pepper, roses, sandalwood, soft schinus, tagete, white thyme and vetiver.

Fragrance (perfume)

New legislation about the composition of perfumes. The European Union currently develops with the Committee Scientific new legislation about the composition of perfumes. Avoid the use of atranol and chloratranol which are prohibited as they have allergic properties (skin irritation, asthma). Also, avoid the use of natural ingredients such as citral and the toxic coumarin that is found in lemon verbena oil and lemon grass. Other oils with potential risks for health can be found at <http://hopewelloils.com/pharmaceutical.php>

Herbal traditional medicines

Registration of medicines can be done under new European legislation specifically for herbal products with traditional use. But it will be difficult/impossible for you to show evidence that your herbal product has been effective for 15 years in Europe and for an additional 15 year in other countries. This registration involves much administrative work regarding the quality and safety of the product and requires the help of an expert and some investments.

The best option to go around this is to export as herbal food supplement. Herbal products could be also exported as herbal food supplements instead of a medicinal product. In this case, regulation is more relaxed and the product falls into a 'borderline' category.

REACH Regulation

To guarantee the safety of the MAP or oil sold in the European market, the REACH legislation on Chemicals - Regulation (EC) 1907/2006 – is the main regulation with the obligation to register the essential oils to determine the content of dangerous/toxic substances that are present in e.g. wintergreen of valerian, or to find out potential allergic reactions of oils (e.g. in palmarosa).

Since 2014, HICC (lyral), atranol and chloratranol are forbidden. Up to now, exported quantities below 1 tonne do not need registration.

From 2018, it is expected that all oils and other ingredients that contain substances posing a risk for consumer's health need registration in any exported quantity. At present 30,000 substances are registered. The costs (US\$) for REACH registration depend on the quantity and the size of your company and are given in the French Chapter 3.3.1

How to deal with REACH

Your trade partner (processor, importer, wholesaler etc.) is responsible to verify if your product contains lead, cadmium, nickel, azo dyes or other substances that are dangerous for the consumer's health. However, he definitely will come to you in case of problems.

- The best would be to be sure that your plant/herb or oil does not contain (chemical) substances that could generate allergic reactions. You could do an analysis in Nepal.
- On the website of the European Chemicals Agency (<http://echa.europa.eu/>), you can find out if the substances or uses in your inventory are exempted from the registration under REACH.
- If there are substances in your plant/herb or oil, discuss it with your trade partner. He should do the registration procedure of dangerous substances in your product at the European Chemicals Agency (ECHA). Therefore, he requires a clarification from you e.g. more details about the substances (name, characteristics, exported quantity/year, origin and final destination).

3.4.2 Quality requirements

The most important criteria for buyers are that the MAPs and essential oils are clean and bacteria free. They also look at the appearance, flavour, colour, volatile oil content, cleanliness and aroma.

In essential oils, the quality is related to its aroma and exact percentage of each natural constituent

in pure and unadulterated oils. These constituents include acids, alcohols, aldehydes, coumarins, esters, ketones, lactones, oxides, phenols or terpenes.

In general, the level of constituents that are present in the oil depends on:

- The quality of the soil where the botanical/MAP is grown
- The amount of rainfall
- The temperature/climate
- The altitude
- The way the botanical/MAP is harvested
- The way the botanical is stored prior to distillation
- The length of time that passes between when the botanical was harvested and when it is distilled into an essential oil
- The exact part of the plant used in the distillation of the oil

- The type of distillation equipment being used including the material it is made out of (i.e. copper vs. steel components)
- The storage conditions of the essential oil
- Any adulteration/tampering with the essential oil

Common ways that essential oils are adulterated are:

- Blending/combining other less expensive essential oils and fraudulently marketing the oil as pure, more costly oil. (e.g. lavender oil with linalyl acetate).
- Blending a higher quality essential oil with a lower quality version of the same species.
- Adding individual constituents, whether naturally or synthetically derived, to an essential oil.
- Adding synthetics to improve the aroma.
- Adding vegetable (carrier) oils and not disclosing the dilution to the end consumer. This can be easily detected by the consumer by simply placing several drops of the oil on a tissue or perfumery blotter and waiting for the oil to dry out. If an oily ring remains, the essential oil has been diluted with vegetable oils.

In quality control you should check the chemistry. Annex 6 gives a description of all selected oils from Nepal for this study. To improve quality control, think about the following:

+Jatamansi (nardostachys)	Important to guarantee that the roots are not adulterated with roots of <i>Cymbopogon schoenanthus</i> and <i>Selenium vaginatum</i> .
+Chamomile (matricaria)	It would be paramount to specify which chemotype is being distilled: there are at least six: CT B; CT C; CT D; CT E and CT F → See Annex 6 It is fundamental that the oil is protected from oxidation and direct light. Important to guarantee that it is not adulterated with oil from <i>Artemisia</i> .
+Gaultheria (procumbens)	Fundamental to ensure the oil is genuine and not synthetic methyl salicylate.
+Ginger (Zingiber offic.)	Important that it is distilled long enough to get the sesquiterpene fraction.
+Palmarosa (Cymbopogon martinii)	Gingergrass (<i>C. martini</i> var. <i>sofia</i>) is a very common adulterant. Others: turpetine, citronella and synthetic geraniol.
+Lemongrass (Cymbopogon flexuosus)	Extremely cheap, not adulterated.

A WELL-ELABORATED TECHNICAL DATA SHEET (TDS) CAN FACILITATE THE SOURCING PROCESS FOR BUYERS ENORMOUSLY BY MAKING IT EASIER FOR THEM TO DETERMINE WHETHER A PRODUCT'S QUALITY IS SUITABLE FOR THEM OR NOT

**Other suggestions for quality improvement:
USE THE BEST PLANTS**

- Verify well beforehand if the plants used for distillation are powerful. Use fresh and well-cleaned plants. Use plants of an identical quality. Sort plants according to quality level.
- Buy raw material from pest-free areas/sources and use IPM (Apply Integrated Pest Management) to avoid or stay below the allowed MRLs.

MOTIVATE COLLECTORS

- Prevent contamination by sand and undesired plant parts and inform/train collectors accordingly. They should use clean equipment. You could motivate collectors by giving them incentives.
- Monitor harvesting practices through regular inspections and by blending essential oils from different harvests (e.g. early and late harvests, or different areas).

USE SAME PLANTS FROM SAME HARVESTS

- Do not mix plants from different harvest and do not mix oils from different harvests.

MINIMIZE THE TIME BETWEEN HARVESTING AND DISTILLATION

- Try to do the distillation as short as possible after harvesting to keep the flavour/fragrance.

CERTIFICATE OF AUTHENTICITY

- Prevent adulteration and contamination by foreign substances. You could provide your customer a Certificate of authenticity regarding the chemistry of the oil.

KEEP THE OIL IN CLEAN CANS/DRUMS AND CLEAN PLACES

- The MAPs and essential oil must be kept in clean places in low temperatures. Use new or very well cleaned oil cans i.e. no cans in which other substances were kept in the past.

It happened that laboratories found residues of gasoline or even chicken feathers when analysing oils from developing countries!

You can also anticipate quality requirements by finding out properties of oils via ISO standards such as for:

- **Ginger oil** (*Zingiber officinale* Roscoe) - ISO standard 16928:2014
- **Wintergreen oil** - from China (*Gaultheria yunnanensis*) - ISO standard 21390:2005

For other selected oils, there are no specific standards. A general standard for essential oils is related to the determination of peroxide value - ISO standard 18321:2015

USE OF A TECHNICAL DATA SHEET

A well-elaborated Technical Data Sheet (TDS) can facilitate the sourcing process for buyers enormously by making it easier for them to determine whether a product's quality is suitable for them or not. You can download a manual to prepare a TDS for natural food additives at <https://www.cbi.eu/market-information/natural-colours-flavours-thickeners/technical-data-sheet-preparation-manual/>

LABORATORY TESTS

Several quantifiable tests exist that allow scientists, producers, suppliers and end users to be able to test their oils to determine quality and help to ascertain if an oil is pure and of the quality sought after for each particular plant, herb or oil. Buyers' own

LGC PHARMACEUTICAL IMPURITY STANDARDS, A CERTIFICATE OF ANALYSIS (COFA) CAN BE SUPPLIED THAT GIVES A GREATER ANALYTICAL FLEXIBILITY AND CERTAINTY.

laboratories or accredited laboratories will analyse your oils on the level of constituents, adulteration and the presence of MRLs or allergic compounds.

LGC Standard

LGC Standards is a leading measurement Institute for chemical and bio analytical measurements and leader in laboratory services based in the UK, USA and Germany. They have a network of 20 in 5 continents. Other services include providing measurement quality control standards (including ISO), reference materials, genomics and proficiency testing marketplaces. They manufacture over 3,000 pharmaceutical impurity reference materials in compliance with international regulations. LGC Standards covers an extensive range of pharmaceutical impurities and active pharmaceutical ingredients (API) reference materials along with custom synthesis capabilities.

In addition to the LGC pharmaceutical impurity standards, a certificate of analysis (CofA) can be supplied that gives a greater analytical flexibility and certainty. LGC Standards provides supplementary products such as secondary reference standards



which are compared to USP, EP or BP and accompanied with the advanced certificate of analysis.

More information can be found at:

- <http://www.lgcstandards.com/DE/en/About-LGC-Standards>
- Search for impurity standards

For applications of maps and oils in food: CODEX ALIMENTARIUS

The Codex Alimentarius or “Food Code” was established by FAO and the World Health Organization in 1963 to develop harmonised international standards related to food hygiene, maximum limits for food additives, residues of pesticides, veterinary drugs and maximum limits and codes for the prevention of chemical and microbiological contamination. Even if these standards are voluntary, they are used as a reference, especially for EU legislation of national legislation for the protection of consumer health. There are more than 200 standards, 70 guidelines and 50 codes of practices that can be found at www.fao.org/fao-who-codexalimentarius/standards/en/ For the selected products, following codex standards can be downloaded:

	DOWNLOADABLE STANDARD
Ginger	CODEX STAN 218-1999
Hygiene practice for spices and dried aromatic herbs	CAC/RCP 42-1995
Guide for the Microbiological Quality of Spices and Herbs Used in Processed Meat and Poultry Products	CAC/GL 14-1991
Standard for Labelling of and Claims for Foods for Special Medical Purposes	CODEX STAN 180-1991
Standard for Edible Fats and Oils not Covered by Individual Standards	CODEX STAN 19-1991
Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk	CAC/RCP 36-1987
Standard for Dried Edible Fungi	CODEX STAN 39-1981
General Standard for Food Additives	CODEX STAN 192-1995

Critical notes and discussion issues regarding the Codex Alimentarius

- The media and NGOs argue that guidelines of the Codex about health claims seem to be in favour of the pharmaceutical industry. These guidelines place severe restrictions on natural forms of healthcare. It are only pharmaceutical drugs that are allowed to make claims related to the prevention, alleviation, treatment and cure of diseases.
- Similar guidelines apply to health claims for balanced diet or ordinary foods which does not seem to 'supply adequate amounts of all nutrients'. The increasing demand for organic foods initially regarded a threat to the pharmaceutical and chemical industries; not only because organic foods promote good health, however, but also because they result in a lower demand for pesticides, veterinary drugs and GM foods – and thus lower profits for the pharmaceutical industry.

In this respect, the Codex Alimentarius should be seen as a voluntary standard that buyers use a reference for food safety and hygiene - similar as HACCP - and to improve the quality of exported crops such as ginger. More information can be found at:

- <http://www.fao.org/fao-who-codexalimentarius/standards/en/>
- <http://www.xcodex.org/>
- <http://www.fao.org/fao-who-codexalimentarius/faqs/rumours/en/>

SOME GENERAL TRENDS RELATED TO QUALITY AND BUYING BEHAVIOUR

- **Buyers still tend to stick to their current suppliers** to minimize variations in quality. The quality of essential oils can fluctuate. Clove oil or thyme, oregano, mint or citrus can oxidate rapidly which affects the taste, smell and viscosity. This is also critical in the increasingly standardized food production. A lack of stability means a strong competitive disadvantage. Buyers switch to another supplier or choose synthetic oils instead to limit the risk of oxidation.
- **Because the consuming industry** (e.g. drink manufacturer) **wants a consistent tasting cold drink**, either they, their flavour house or

processor, seek consistent quality oils that can provide certain flavours that are typical/unique for his drinks. This often means a buyer is likely to purchase oil from certain growers that have a history of producing consistent-quality.

- **In the fragrance market, a long shelf life is very important.** An estimated 90% of the market is supplied by synthetic oils or extracts. The usage of essential oils is limited to applications with a shorter lifespan such as fresh beverages.
- **Incomplete flavour profiles in oils limit applications.** Essential oils do not contain the non-volatile component of the plant. Therefore, the flavour profile is incomplete. This situation limits to use, for example, replacements of spices/herbs by spice extracts. Spice essential oils such as chili or thyme are available on the market, but there incomplete flavour profile induces a lack of bite, and oleoresins are preferred for these applications.

THE IMPORTANCE OF STORAGE

Proper storage of the MAPs or oils is also highly important as it can compromise quality. Storage materials should be opaque and should be glass bottles; aluminium bottles and drums (used for expensive essential oils); lacquered and lined steel drums; and, plastic drums in high-density polyethylene, which is less expensive than lined steel drums. Before they are stored for shipment, oils should be dried by filtration.

SAMPLES

Before buyers of essential oils and essential oil products make a full order it is normal procedure that a sample is first shipped to them for assessment and quality testing. The sample shipment should show the producer name, date, sample contents, batch number and quantity represented. Plastic bottles are not suitable. Individual bottles of each sample should be sent in plastic bags to avoid or isolate leakages.



An estimated **90%** of the market is supplied by synthetic oils or extracts.

In addition to the requirements in the previous section, some buyers may ask you for:

- Material safety data sheet
- Technical data sheet
- Pesticide residue analysis (related to the MRL legislation)
- GMO free declaration
- Declaration of non animal product derivatives
- For products used in the flavour segment, you may be asked to obtain a Kosher certificate even if this is mainly for animals.

QUALITY AND PURCHASING

According to Murray Hunters' Handbook for essential oils, the key factors that the industry reports as influencing purchasing decisions by professional aromatherapists are, in order of importance:

- Chemical analysis (GC/MS) available
- Organic certification
- Sustainably grown and harvested
- Traceability to show grown organically, but no certification
- Price
- Country of origin
- Plant at-risk status (endangered status)
- Age of oil
- Storage conditions used for oil
- Wild crafted

The list shows clearly that the primary purchasing criteria for users in the sector are the chemical composition of the oil, how the crop was cultivated with a very strong requirement for an organic cultivation whether or not actually certified under a formal scheme, and the sustainability of production.

LABELLING

Shipments of MAPs or essential oils should have the following on the labels (in English):

- Product name/INCI name
- Batch code
- Place of origin
- Name and address of exporter
- Date of manufacture
- Best before date
- Net weight
- Recommended storage conditions

Essential oils are regarded as hazardous chemical substances which must be clearly indicated on the packaging and labels and use the international recognized hazard symbols and safety phrases.

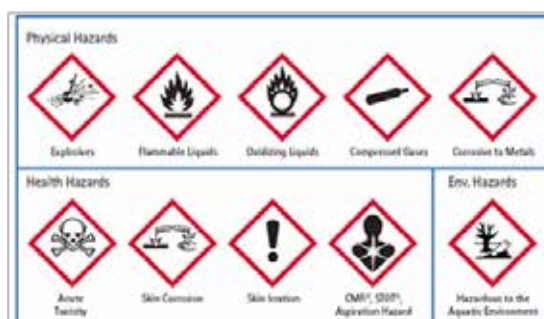
MATERIAL SAFETY DATA SHEET

A Material Safety Data Sheet (MSDS) is designed to provide people with the proper procedures for handling or working with a particular oil, oleoresin, extract etc.. These sheets include information such as physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures. These are of particular use if a spill or other accident occurs. This MSDS is basically not meant for consumers, but for those people working professionally and intensively with the material e.g. practitioners.

As a producer of essential oils, you should provide MSDS sheets for each of your oils. Importers, processors or flavour and fragrance houses do have sheets of the oils they sell. But if it concerns a new/unusual type of oil, they expect such sheets from you as a supplier.

See examples at:

- <https://www.essentialoil.com/pages/sds>
- <http://www.essentialoilsdirect.co.uk/msds.html>
- <http://www.camdengrey.com/MSDS/>



A booklet 'Material safety data sheet of essential oils from Nepal' was published in 2014 by the Ministry of Forest and Soil Conservation, Department of Plant Resources. The booklet gives material safety data sheets of chamomile oil, citronella oil, French basil oil, jatamansi oil, juniper oil, lemongrass oil, menthe arvensis oil, palmarosa oil, wintergreen oil

and zanthoxylum oil. *More information can be found from <http://dpr.gov.np/home>*

3.4.3 Voluntary requirements

There are several voluntary requirements with Fair Wild, FSC, Fair Trade reducing BIO piracy and being well recognised, as well as the cosmos standard (BDIH) or Natrue for natural cosmetics.

Convention on biological diversity CBD - <https://www.cbd.int/>

There is a growing recognition that biological diversity is a global asset of tremendous value to present and future generations. At the same time, the threat to species and ecosystems has never been as great as it is today.

Species extinction caused by human activities continues at an alarming rate all over the world.

In response, the United Nations Environment Programme (UNEP) convened working groups of experts to prepare an international legal instrument for the conservation and sustainable use of biological diversity. The experts were to take into account “the need to share costs and benefits between developed and developing countries” as well as “ways and means to support innovation by local people”.

The Convention on Biological Diversity was inspired by the world community’s growing commitment to sustainable development. It represents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

Nepal’s strategy to preserve its biological diversity

In the tenth meeting of Conference of Parties’ (COP-10) of CBD held in Nagoya in Aichi Prefecture in Japan in 2010, the Parties came up with a new plan and targets to conserve biodiversity and enhance its benefits to the people. The Strategic Plan for Biodiversity 2011-2020, includes a set of 20 ambitious so-called ‘Aichi Targets’.

As a Party to the CBD, Nepal has an obligation to prepare and implement strategies and actions to meet the Aichi Targets. Similarly, under Goal 7 of the MDGs (i.e. Ensure Environmental Sustainability), Nepal had moved to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources (NPC/UNDP, 2005).

In Nepal, systematic efforts to meet the Aichi Targets have begun with the development of the NBSAPs (National Biodiversity Strategies and Action Plans). The country has already made substantial progress in conservation and sustainable use of biodiversity through the formulation of enabling policies and strategies and the subsequent design and implementation of various programs, projects and activities that will contribute to meeting the Aichi Targets and relevant MDGs.

The efforts to meet the Aichi targets can be found in Annex 4 of the report ‘Nepal fifth National report to convention on biological diversity’ that can be downloaded at www.cbd.int/doc/world/np/np-nr-05-en.pdf

Cultivation/Wild collection protocol

The International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants, the so-called ISSC-MAP is designed to help those involved in the harvest, management, trade, manufacture, and sale of wild-collected medicinal and aromatic plant (MAP) resources to understand and comply with the conditions under which sustainable collection of these resources can take place.

The ISSC-MAP has 6 principles and 18 criteria, addressing ecological, social, and economic requirements for sustainable wild collection of MAPs. The proposed indicators are covered in Table 2 Annex 1 of the ICCS-MAP standard version 1.0 that can be downloaded from www.floraweb.de/map-pro/Standard_Version1_0.pdf

Other voluntary standards

Other social voluntary standards are Fair for Life, Rainforest Alliance, Ethical Trading Initiative or BSCI (Business Social Compliance Initiative) and several other standards with a plethora of related labels.

Apart from being overlapping, they create confusion and a growing scepticism among consumers.

The most important standard helping to improve the quality of MAPs and essential oils implementation is of the practice of Good Agricultural and Collection practices (GACPs) at the point of cultivation of medicinal and aromatic plants and good manufacturing practices (GMPs) during the process of manufacture and packaging of finished herbal products or oils, as well as post-marketing quality assurance surveillance. This standard is highly advised for the US market.

A guide of GACP can be downloaded at

www.herbal-ahp.org/06_1208_AHPA-AHP_GACP.pdf

Organic certification by Ecocert

An EU organic, USDA logo can be obtained via Ecocert in India. These logo's can be used in the EU market and the US market for essential oils sold to the flavour, fragrance, pharmaceutical (aromatherapy) and other industrial sectors.

Certification for MAPs and Essential oils can be obtained by Nepali companies individually or jointly as an OGG (Group of Organic Growers) by taking the following steps:



STEP 1	<p>Establish a group in Nepal of organic growers and appoint an inspector who controls each actor in the value chain - from farmers, collectors, producers, co-operatives, Nepali flavour & fragrance houses and exporters. The associations in Nepal could act as an OGG where a distinction/specification is required for MAPs and for Essential oils and application of each species of MAPs and application for each type of oil.</p>
STEP 2	<p>Decide more precisely who can be in the group. The appointed inspector should decide which farmers, producers, collectors etc.. are able to cultivate herbs according to the organic philosophy.</p> <ul style="list-style-type: none"> ■ Herbs should grow on 'clean ground' without pesticides and only natural pesticides must be used when growing them. ■ Herbs growing at high altitudes e.g. jatamansi, wintergreen, rhododendron are basically clean unless there are neighbouring farms that use pesticides in other crops. This risk is higher for herbs growing at lower altitudes - even if they are collected from the wild. Cultivation close to (polluted) rivers is also more risky. ■ Farmers who cultivate the herbs on land that were used before for other crops and where pesticides were used, should cultivate herbs for 2-3 years according to the organic principles. Afterwards, the harvested crops are clean and can be organically certified.
STEP 3	<p>Do a risk analysis. The appointed inspector should first do a risk analysis and identify all possible causes of contamination by pesticides or pesticide residues, pollution, dirt to harvested crops or oil (during transport, storage etc.). He could do this by himself or in collaboration with an Ecocert inspector from their India office in New Delhi.</p>
STEP 4	<p>Establish a control system in order to reduce the number of risks by:</p> <ul style="list-style-type: none"> ■ setting up a registration system for inspection/control ■ making a schedule when controlling each actor or group of actors ■ showing evidence that the value chain is transparent. ■ integrate own control system with the annual control system of Ecocert.
STEP 5	<p>Make a contact with Ecocert by filling out their application form where all details should be specified including the exact number of hectares, area covered under wild herbs, locations of wild collection sites, number and location of processing sites, number of MAPs and oils / extracts to be certified. Afterwards Ecocert India will send a quotation and procedure.</p>
STEP 6	<p>Annual control by Ecocert. Depending on the number of members in the group, Ecocert staff from India will visit Nepal once a year for inspection. The total number of members is divided by 12. If the group consists of 144 members, 12 companies will be selected for inspection. The costs for these inspectors are roughly estimated at around US \$ 400 per day.</p> <p>If inspectors can visit 2 companies per day, 6 days x 400 = 2,400 should be paid if things go smoothly and the distances between the members are not too large. Other costs might be involved and should be further checked with the Indian office after filling out their questionnaire.</p>
STEP 7	<p>Certification can be granted after 3 months after the commitment contract is signed. Afterwards each member can use the logo (EU organic and USDA organic) on their product package and on promotion material, provided that they mention the name of the OGG.</p>

Possibilities, procedures and tariffs for individual companies or grower groups should be further investigated with other agencies such as Ceres (China), Lacon (Germany) or One-Cert. Certification costs in China for organic labels (EU, USA and Chinese organic) are US\$ 3,000 per year plus US 182 for each herb or oil.

Note that the difference between organic and natural can sometimes be blurred. Natural products are not necessarily organic, but are always composed of plant-based materials which are lightly modified and produced with the maximum respect for the environment. Simple, natural products tend to be less expensive than organic cosmetics; therefore, they are more attractive to those consumers who might have trouble distinguishing the differences between organic and natural products.

3.5 Dealing with your Competitors and Positioning

Competitors

The major producers of essential oils are Brazil, India, USA, China, Egypt, Mexico, Guatemala, Morocco, Indonesia and Vietnam. All of them with the exception of USA are developing countries with low cost economies.

It is estimated that about 65% of world production of essential oils come from developing countries. Between 2010 and 2014, Indonesia, Sri Lanka and Vietnam have expanded their exports of essential oils to the USA, Europe, China and other international markets. Some oils are typical, for example patchouli oil from Indonesia, while other oils are low cost from developing countries known for their low labour costs.

Many of the major producing countries, e.g. USA, Brazil, Indonesia or Vietnam have large populations with a domestic market for essential oils. They have invested in scientific and technical training and have well developed export businesses. There are about twenty most utilised essential oils worldwide - see USA Chapter 2 -Table 5. The top 10 crops in terms of production account for about 80% of the total world market for essential oils.

Global essential oil market is dominated by 12 large flavour and fragrance houses (see Chapter 1 - Table 2) with the top industry players creating barriers for new participants. Producing oils of a constant quality production requires high capital investment with advanced equipment. Besides, companies are largely integrated into the value chain, have their loyal and reliable raw material suppliers have their logistics operations well organised.



Positioning

Many customers and end consumers cannot clearly distinguish oils from Nepal, from Indian, Sri Lankan or Indonesian oils. To create a clear image that sets MAPs/oils from Nepal apart from common oils from 'low cost countries' you could think of:

- **Making Nepali MAPs and essential oils more visible** by clear positioning that conveys the 'purity of Nepal oils coming from the roof of the world'. Rather than selling to mass key segments, the **premium market segments** can be recommended. Quantities are smaller and more manageable for a rather new sector that needs to be further developed in Nepal.
- **Collected from the wild.** Additionally the exclusiveness of a 100% pure oil clean gathered in the wild, or cultivated in an ultra-clean natural environment is unique to Nepal. For example, MAPs that are not regularly found in other countries such as timur, asparagus, wintergreen, jatamansi, picrorhiza or calamus.
- **Good quality, true skills and the new side of Nepal.** To differentiate from competitors, a clear image of Nepali MAPs and oils in terms of chemistry and improved quality control - see Annex 6. True skills in traditional steam distillation that is done for many years and should be preserved to avoid a loss of cultural heritage and to provide employment to people in local communities.
- **The oils have strong therapeutic properties and are multi-functional** having many different applications in fragrance, flavour and aromatherapy. Competitors will have difficulty to produce similar unique oils with the exception of mentha arvensis, chamomile, palmarosa, citronella and lemongrass.

3.6 Recommended strategy to reinforce the sector

The export market strategy should meet the key objectives in the Trade Policy to support economic development and poverty alleviation initiatives in Nepal. The Nepal Trade Integration Strategy (NTIS) aims to benefit from favourable market access opportunities and improve the trade capacity and trade performance of Nepal.

THE EXPECTED RESULTS AND OVERALL GOALS OF THE IN-MAPs PROJECT ARE:

- The value and volume of the exports of MAPs (Including essential oils) must be increased by 15%
- The income of MAPs farmers and manufacturers must increase by at least 15% each year.
- Increase in MAPs producers and exporters of which at least 33% are from disadvantaged groups.
- Increase of at least 10 types of products (new and adapted) for sale in the market.

Moving ahead to reinforce the MAPs sector in Nepal which could be achieved by:

1. Strengthening exports of essential oils
2. Improving collaboration
3. Developing customer relations
4. Meeting the standards
5. Developing marketing mix

1. Strengthening exports and production of Essential Oil

- **Focus on local processing and exports of essential oils** with more companies developing typical oils from Nepal with strong therapeutic properties and high quality. Essential oil business needs an investment (financial and know-how) but if done in the right way, it will be more rewarding than exports of crude MAPs. Instead of being a low cost supplier to India, further strengthening of essential oil production in Nepal should contribute to the further expansion of Nepal's role in the Beauty and Personal care, Fragrance and the future Natural health industry in the world.
- **Access to information.** Having access via co-operations, e.g., providing up-to-date price information will help each actor in the value chain. More transparency and better knowledge on international prices of oils/kg and the margin structure will provide more insight in the price structure and the effects of price fluctuations. Besides, it reinforces the role of farmers and collectors who now largely dependent on middleman or village traders who

MUCH PRODUCTION IS MOSTLY ON A CUSTOMERS'-REQUEST BASIS AND FARMERS ARE FORCED TO BORROW MONEY FROM INFORMAL SOURCES AT VERY HIGH INTEREST RATES IN ORDER TO MAKE INVESTMENTS TO MAKE A PROPER STORAGE PLACE, OR TO DEVELOP NEW VARIETIES.

use malpractices e.g. cheating in weighing e.g. to illiterate people, older people or children (source: Ansab, 2014).

Sources for up-to-date whole sales prices can be found at ITC Insider and Ultra International

■ **Upgrading technology and distillation units in**

Nepal with the establishment of two processing plants in Surkhet and Kanchanpur districts.

An accredited laboratory with quantitative and qualitative chemical analysis facilities will be established to set standardised methodologies in harvesting, pre-testing and processing of MAPs.

2. Improving collaboration

■ **An improved sense of collaboration in the value chain.** Even if there are many actors in the value chain, a better sense of collaboration between actors, and a better relationship with the final customers would strengthen the chain. Now, farmers, collectors and traders see themselves just as a part of a chain. People are primarily interested in the high demand of an herb/plant and the price they can get for it, regardless the quality. Malpractices of buyers/traders affect motivation among farmers to enlarge their MAPs business or to add value by offering good quality herbs/plants, clean handling or storage.

■ **An encouraging and stimulating 'mentor' on the spot.** Time and effort should be put into market development, and capable and stimulating person on the spot with a budget that is required to fulfil this function. Now much production is mostly on a customers'-request basis and farmers are forced to borrow money from informal sources at very high interest rates in order to make investments to make a proper storage place, or to develop new varieties. This mentor could make market information available to them in their own language as a start to develop their own market in

a considered way with a long-term view. A pilot could be done in one of the INMAPs districts.

■ **Encourage investment by foreign companies** (processors, distillers). The foreign distiller is sure about a source of supply for a low price - dealing direct with farmers, co-operatives or via Nepali processors/exporters. Such collaboration gives farmers and processors more security about the (annual) quantity required. They also can gain know-how on production, planning, organisation, proper storage, market needs, segments and insights how their oils are used.



CASE: USA COMPANY WORKS WITH FARMERS AND COLLECTORS IN CLOSE COLLABORATION WITH LOCAL PARTNER:

- dōTERRA in the USA is sourcing directly from developing countries to cut down the role of middlemen and have oils of good quality with their involvement. They want to pay fair wages to farmers, increase the transparency in the oils they sell and to communicate social involvement in their promotion strategy. In Madagascar this model is used for the production of Ylang Ylang oil, popular in aromatherapy for its mood lifting properties, in skin care products and in perfumes

In Madagascar, the company works with a local partner who has regular contacts with the growers and collectors, ensuring the empowering effects of partnership according to their Co-Impact Sourcing strategy. For the growers and distillers there is security of a guaranteed buyer (dōTERRA) for high quality Ylang Ylang oil. Before, they usually sold their oil to the highest bidder, which was coupled with fluctuations.

This was particularly hard for individual farmers.

Another advantage is that farmers could challenge to get an incentive (annual bonus) if they can demonstrate a continuous improvement in the quality of their flowers or oils. Farmers can also invest in expanding their production capacity by putting money in new distillation units and getting more growers into cooperatives so they can be better organized to reach higher production volumes.

TO MAKE A DISTINCTION IN QUALITY, YLANG YLANG OIL IS DIVIDED OUT INTO SEVERAL DIFFERENT PROFILES:

- Ylang Ylang I, II, III, extra, and complete.

This means that different weighted molecules come off during differing times in the

distillation process: top notes first, and bottom notes last. For dōTERRA, Ylang Ylang and the Ylang Ylang complete profile is used. They need the complete profile so that there is no separation of aromatic molecules, ensuring that they have the complete array of compounds produced by the delicate flowers for its full therapeutic benefit.

Perfumers, on the other hand, prefer separation for specific fragrance profiles. In perfumery making, ylang ylang has a very refined process of distillation. As the perfume industry needs very specific scents, a special method was developed unique to this oil.

The collection and production process of Ylang Ylang is labour intensive: Harvest time peaks from December to March. Before a tree can be harvested, it needs to grow for three to four years.

ONCE THAT AGE IS REACHED, THE PROCESS CAN BEGIN:

- Once the flowers become yellow with a red center, they can be picked. The trees must be harvested several times within a period of 5-6 weeks.
- Collectors pick the flowers and bring back their filled baskets to be weighed. A pile is created on a platform with their names next to their pile for record keeping and payment.
- The flowers go to a nearby distillery where they must be distilled within 24 hours.
- Like all flowers, ylang ylang must be distilled in a hydrodistillation process, meaning they are placed in water and boiled to create steam that contains the oil. This process takes 24 hours to complete, with workers keeping up hand-fed fires to fuel the distillation process.
- Ylang Ylang complete essential oil is then ready to be sent to dōTERRA.

Ideally, the company commits themselves to contribute to a community project. They provide start-up capital, technical assistance and basic distillery equipment and do the analytical testing. They could do this without a binding contract. However, this must be negotiated and clarified beforehand.

It is very important that the investor is a specialist and not a generic speculator. In addition, the collaboration with this foreign investor should be reviewed periodically to ensure fair benefits on both sides. A key question here is whether farmers/processors want to stay linked up to the foreign investor, as they probably cannot sell the oils to other customers.

Tax breaks to attract investment in this area could help to create more jobs within Nepal and in the long run increase overall government revenues from the increased employment (source: Ansab 2014) contributing to one of the IN-MAPs objectives, i.e. increased income by at least 5% of MAPs farmers in Nepal.

3. Developing customer relations

- **Develop a wider customer base** stimulating flexibility, know-how about potential applications, e.g., in food, fragrance or specific industrial applications each having its specific requirement. For example, constant quality control for oils used for aromatherapy is ensuring their therapeutic effect. To be sure, no residues of other oils are left in drums if oils are used for perfumery, etc.. Regular interaction with different customers will clarify what they need enlarging the experience. Relying only on few customers reduces product innovation, quality and differentiation from competitors.
- **Good communication and frequent contact with customers** who want small orders on a regular basis. Consumer behaviour is more fickle, especially in the USA, and stock levels should be kept minimal. Especially when dealing directly with industries, a good planning, flexibility and short lead-times and fast response times to customers are now required in the USA and Europe.

4. Meeting the standards

- **Challenging to meet market requirements and standards** in discussion with customers or trustworthy experts. The European markets are strict and hard to comply with - even for many European SMEs. But they can serve as a guideline to develop environmentally and commercially sound MAPs/oils, maintaining a constant quality. The proposed 'Cultivation Manuals/Handbooks' for selected species (timur, asparagus, menthe) proposed by Jadibuti will certainly contribute to Good Agriculture and Collection Practices.
- **Support from stakeholders (government, banks).** An enhancement of the sector in maintaining its traditional heritage in processing with further support from the Nepali government. For example, in the role of the Public Private Partnership (PPP) for more sustainability in the Nepali MAPs sector and alleviate poverty. In this respect, the partnerships between Nateva and HTBL, Vossen and Male have been successful. Through assistance to enhance traditional farming/processing practices and providing the right training, this encourages companies to jointly work towards more awareness of Nepali MAPs and oils and convey a positive image of typical products from Nepal. See also www.developpp.de having 1,500 projects worldwide.

5. Developing marketing strategy

See next section 3.7



3.7 Developing Marketing Strategy

The next sections will give suggestions on using and improving marketing mix instruments in order to export MAPs and essential oils successfully in the USA, France, Germany, China and India.

- PRODUCT STRATEGY
- PRICE STRATEGY
- DISTRIBUTION STRATEGY
- PROMOTION STRATEGY

Related to marketing strategy, there are several useful manuals and toolkits from Ansab available for companies and cooperative to develop organisational and marketing skills in a structured way. They can be used to improve business planning, entrepreneurship in small communities, develop MIS (Marketing Information Systems) etc.. Important tool-kits can be downloaded free of charge from:

www.ansab.org/publication/business-planning-for-community-based-natural-product-enterprises/

www.ansab.org/publication/marketing-information-system-for-natural-products/

www.ansab.org/publication/participatory-inventory-of-non-timber-forest-products/

www.ansab.org/publication/development-and-mobilization-of-local-resource-persons/

www.ansab.org/publication/entrepreneurship-development-of-natural-resources-dependent-communities/

3.7.1 Product strategy

The first question is whether new products should be developed for existing/new markets or existing products to be introduced in new markets.

New product development

New products could definitely be introduced in India and in China. Especially in India, people are familiar with Ayurvedic medicines, spices and commodities (soapnuts, butternut). If trade of yarshagumba is done in a controlled way, this could continue to be a novelty in the Chinese market. Other MAPs such

as *fritillariae thunbergii* or other phlegm dissolvers could be developed for the Chinese market.

In the mature Western markets such as the USA, Germany and France, different developing countries already sell their MAPs or oils. Particularly, India and China (jatamansi, timur), sell very similar products to the ones from Nepal.

Introducing new products might be a chance to stay away from tough competition or price cutting. In this respect, Nepal could be a good pioneer by introducing new varieties of medicinal plants, roots or herbs that are unknown in Western markets. Especially as there are so many species in Nepal. However, there are some important considerations:

- **It takes time and much effort in R&D and marketing** to convince first customers (processors, importers etc.) and afterwards to convince consumers about the properties, therapeutic benefits etc. and the related incompatibilities with prior experience with their usual products.
- **The risk of failure** which could be due to difficulty accessing the right distribution channels, wrong target groups, legislation, quality failure, pricing, weak promotion etc.. In Western markets, the failure rate of new products is about 80% (all products), compared to 45% in the 1960s.
- **Intellectual Property Rights**, patents, copy rights with new product that should be registered quickly before other companies register alike products as being 'invention' or 'origin'.
- **Constant innovation**. In the BPC, perfume and household products segments, large flavour and fragrance houses constantly need to innovate to stay competitive. For example, in skin care, new products have even more powerful/moisturizing/multi-functional properties that are based on the latest breakthrough technologies. For natural ingredients, it is hard to keep up with this tempo of innovations. Nowadays, BPC products have much shorter lifecycles, i.e., 2-3 years compared to 10 years in the 1980/1990s.
- **Test marketing through a limited number of processors/distillers** via a number of selected retailers should be undertaken before a wider launch is made. Afterwards, some refinements in the product can be made.

Existing products in new markets

Since some of the selected MAPs and essential oils from Nepal are still unknown in most Western markets, it would be a safer option to penetrate with existing products. Besides, there are several difficulties to overcome in the cultivation of MAPs and in the exports of oils being still new in Nepal.

Factors like availability of the essential oil, the right price, history of use in the country of origin (story telling) and quality (purity, no adulteration!) are of major importance to buyers in Western markets. Adherence to other policies or trade criteria such as organic certified, Fair Trade and FairWild is an added value to existing products that will strengthen the position for you as a Nepali exporter.

The importance of origin. Natural ingredients are commonly sold on the basis of their origin, i.e. where they grow in the wild or where they have been cultivated for many generations and where they have been used by local people in cooking and to stay healthy.

This origin should be adhered to when developing typical MAPs and essential oils from Nepal. It also is a way to stay exclusive and to differentiate from other countries that cultivate plants, herbs for exports e.g. the large-scale citrus fruit farms in Argentina, Brazil or large-scale mentha farms in India and China.

Differentiation by typical maps/Oils from nepal

The product/market combinations at the end of the country Chapters under ‘Options for Entry’ should assist Nepali companies and all actors in the value chain to develop MAPs or oils for these markets that are typically from Nepal. It is recommended to focus on products that are unique to Nepal such as jatamansi, anthopogon, timur, wintergreen, rhododendron, calamus or picrorhiza. Commodities such as chiuri and soapnuts are less typical to Nepal but have many different applications and are already exported in large volumes to India.

A differentiation can be made from other developing countries, notably India, China, Sri Lanka, Pakistan being known for their low labour costs. While Nepal should position itself in the higher and exclusive end of the market (premium segment) as a springboard for further expansion to other markets and other products.

Flavour

This is the largest key segment where sales are expected to reach US\$ 93,156 million by 2019 which is dominated by the USA (64% share). It is fast growing, especially in China.

- **In the premium flavour segment, timur and curcuma** can be used in exotic dishes that have unusual/new exiting tastes and are good for health (digestion, immune system, performing well etc.).
- **Ginger and cinnamon** can be used in the drink industry where manufacturers like for healthy fresh drinks that provide a good taste as a compensation for reduced use of sugar.
- **Timur, curcuma, ginger, cinnamon** could be used in new natural herbal teas in mixture blends or with hot milk cappuccino-alike drinks (‘Tea -Latte’).
- **Wintergreen** has many different uses such as in sugar confectionery (candies, chewing gums), bakery products, frozen diary, soft drinks and alcoholic drinks.

In flavour, there are many other possible uses of oils in order to enhance the taste of organic dishes or vegetarian dishes which definitely will gain more ground in France and Germany.

Figure 11 shows the potential use of five oils from Nepal that are based on country sections the overview of uses of the selected oils that is given in Annex 3 and the sections at the end in the country Chapters.

THERE ARE MANY OTHER POSSIBLE USES OF OILS OF NEPAL IN ORDER TO ENHANCE THE TASTE OF ORGANIC DISHES OR VEGETARIAN DISHES WHICH DEFINITELY WILL GAIN MORE GROUND IN FRANCE AND GERMANY.

FIGURE 11: SUGGESTED OILS FROM NEPAL IN THE 5 SELECTED MARKETS

KEY SEGMENTS / PREMIUM	SALES	MAIN MARKETS	MAIN OPPORTUNITIES	5 BEST POTENTIAL OILS FROM NEPAL
FLAVOUR 1 Natural healthy (anti-obesity) 2 Organic food	93,156	USA 64% Germany 16% France 12% China 6% India 2%	• Exotic dishes • Healthy confectionaries • New cold drinks • Herbal teas • Beauty from within • Organic food	Timur Curcuma Ginger Cinnamon Wintergreen
FRAGRANCES 1 Fragrances (parfums) 2 Skin care 3 Colour cosmetics 4 Hair care 5 Baby & child 6 Bath & shower 7 Deodorants 8 Sun care 9 Sets & kits 10 Air care	46,555	USA 50% China 30% France 11% Germany 7% India 2%	• Anti-aging • Moisturizers • Serums • Perfumers (flowers, woody, spicy) • Hair repair (oil), hair loss • Air care refill kits	Rhododendron Ginger Jatamansi Butternut Palmarosa
MEDICINE (herbal/traditional) 1 Dietary supplements (immune system) 2 Cough, cold, allergies 3 Topical analgesics 4 Baby & child 5 Calming & sleeping 6 Digestive remedies 7 Dermatologicals	21,884	China 61% USA 23% Germany 7% India 6% France 3%	• Dietary supplements • Aromatherapy • Natural sleeping aids (without alcohol) • More recognition via practitioners • Continuation traditional medicins (China, India)	Timur Wintergreen Calamus Rhododendron Cardamon* Yarshagumba* Valerian* Chamomille*

* for China

source: Euromonitor, Searce (2016)

Fragrance

The second largest key segment with expected sales of US\$ 46,555 million in 2019 where the USA and China will be the main markets. The premium BPC segment is less dominated by synthetic aroma chemicals. In the premium BPC segment:

- **Rhododendron** is used in skin care, shampoos, bath gels/soap because of its fresh, sweet floral aroma. Besides, the flower evokes sympathy in the world of New age and yoga as the sacred flower to Buddhist monks and Tibetans. Rhododendron will be also in demand for women's perfume as a typical floral note. It can be used in air fresheners in China or India.
- **Ginger** is used in men's aftershave creams/lotions, men's perfumes and in skin and hair products for both women and men. Ginger has multi-functional properties.
- **Jatamansi has anti-aging properties**, is a natural deodorant and can be used in hair care notably in hair loss and hair colour restoration which is becoming an issue among the ageing populations in the USA and in Europe. Jatamansi can be used in multi-functional products.
- **Jatamansi and ginger** can be also used in men's perfumes including in the popular Oud and woody based types among affluent men. This also applies for timur and cinnamon.
- **Butternut** can be used in skin care as a moisturizer, but also in shampoos and shower gels as an alternative to Shea butter from Africa which now has been discovered after many years. Butternut can be used in multi-functional products.
- **Palmarosa** used in perfumes with its sweet, rose like scents. Other uses include soaps, lotions, facial steams and hair treatments.



The second largest key segment with expected sales of **US\$ 46,555 million** in 2019 where the USA and China will be the main markets.

Fragrances in skin care products follow the lead of perfumes and colognes, with comfort scents, aromatherapy fragrances (e.g., lavender, jasmine, peppermint, etc.) and marine-related scents expected to increase further. However, in fragrances the product life-cycles are short. **Fragrance houses develop specific scents based on several criteria:**

- Their customer's special scent/odour in their product making them unique.
- Trends in fashion, food, colours, home interiors, entertainment and even in electronics.
- A positive result by the industries' consumer panel, who regularly test their products.
- If the fragrance is safe and complies with the increasing regulatory requirements related to the raw material used.

Medicine

This key segment is most important in China, which is expected to account for 61% of this market valued at US\$ 21,884 million in 2019 where the USA and China will be the main markets. The growing aromatherapy market will generate opportunities for unknown oils from Nepal with many different therapeutic properties. A variety of uses can be found in Annex 3.

Unusual/new types will be timur, calamus and rhododendron. Valerian is likely to be more in demand for natural sleeping aids.

Differentiation by typical MAPs/oils from a specific area in Nepal

Differentiation can be achieved through linking the essential oil with Nepal or a specific geographical area in Nepal. A combination of these MAPs that provide an activity and income to local communities would be ideal. Suitable cultivation areas at altitudes where most people live, i.e., up to 2500 metres should be sought, with relatively easy access and transport to trading centres in Nepalgunj or Kathmandu.

Other MAPs on higher altitudes have good export potential. They can be sustainably managed in the wild (e.g. rhododendron, timur). Some also have potential to be cultivated.

	Selected MAPs	Local name/ English name	Distribution	Altitude (m)	Traded part
1.	<i>Nardostachys grandiflora</i> (essential oil)	Jatamansi / Bhutle	WCE	3600 - 5000	Rhizome
2.	<i>Gaultheria fragrantissima</i>	Machhino/ Wintergreen		3600 - 5000	Leaves
3.	<i>Ophiocordyceps sinensis</i>	Jiwan buti/ Yarsa gumba	W	4200 - 5000	Whole part
4.	<i>Neopicrorhiza</i> <i>scrophulariiflora</i>	Kutki/ (Picrorhiza)	WCE	3800-4600	Rhizome
5.	<i>Rhododendron Sunpati</i> <i>Anthopogon</i>	/Rhododendron		3000 - 5000	Flower
6.	<i>Valeriana jatamansii</i>	Samayao/ Sugandhawal	WCE	1500 - 3000	Rhizome
7.	<i>Zanthoxylum armatum</i>	Timur	WCE	1000-2500	Fruit
8.	<i>Cinnamomum</i> <i>glaucescens</i>	Sugahdakokila	WC	1000 - 2500	Fruit
9.	<i>Cinnamomum tamala</i>	Dalchini / Tejpat	WC	450 - 2000	Leaf, bark
10.	<i>Sapindus mukorossi</i>	Rittha/Soapnut	WCE	600 - 2400	Fruit, seed
11.	<i>Mentha arvensis</i>	Pudinaa/Mentha		500 - 2500	Leaf
12.	<i>Matricaria chamomile</i>	Babunah/Chamomile		500 - 2500	Flower
13.	<i>Zingiber officinale Roscoe</i>	Shuth, Sonth/Ginger		450 - 2000	Root
14.	<i>Diploknema butyracea</i>	Chiuri/Butternut	WC	300 - 1500	Seed
15.	<i>Asparagus racemosus</i>	Satawari/ Kurilo	WC	150 - 2100	Root, tuber

source: NEHHPA (2015)

A priority list of MAPs based on demand, price, added value, cultivation and other parameters was made in a study conducted by the NEHHPA (Dipesh Pyakurel) with Timur, Valerian, Cinnamon, Jatamansi, Calamus, Asparagus and Chiretta scoring the highest on different parameters.

A Jadibuti study in the areas under IN-MAPs Project districts in Western Nepal in Pyuthan, Dang, Banke, Surket, Kailali and Kanchanpur was carried out in 2014. This study identified Timur, Asparagus and Mentha as species most suitable for further commercialisation. Trade promotion is based on possibilities for further cultivation and their market potential. Conversely, Timur and Asparagus are oils that are typical to Nepal and less affected by competition from India or China, as is the case with Mentha.

Geographical Indication for products from particular regions is a good opportunity to differentiate from competing countries. Further research about the

feasibility for selected MAPs and regions will be required. The principles and requirement can be found via the World Intellectual Property Organisation (WIPO) and the FAO from

http://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Tea/Documents/Wipo_FAO-IGGtea-GI-AO-mg-10-05-13.pdf

Which essential oils to develop?

Develop a few essential oils in order to reap the benefits of specialisation. These must be carefully selected most preferably from existing oils. The advantage of this is that it will present less problems for market access and technical difficulties that come with new production. The higher the cost of a plant, herb or oil, the greater the risk of unsustainable harvesting practices, like with yarshagumba or satuwa. Regarding volumes, you first could produce the minimum volumes to interest buyers in the short-term.

Differentiation by niches

Another differentiation from the large 12 large flavour and fragrance houses supplying MAPs and oils from all over the world to top industry players can be made by focussing on niche markets. Specific oils or MAPs from Nepal can be used in the following niches:

- The veterinary market with more use of essential oils for the well-being of cattle (thyme or rosemary oil)
- Oils as preservatives in cosmetics or flavour in food.
- Oils for simple scent diffusers (sponges - see photo)
- Oils or concentrates used as natural pesticides as the law for chemical pesticides will change from 2017 (law against use of 'Roundup'). Thyme oil is currently used in natural pesticides.
- Rudraksha for monasteries and Buddhism practitioners.



3.7.2 Price strategy

Developments in future prices

Buyers from flavour and fragrance houses are likely to buy oils from certain growers or companies because they want a consistent tasting, flavour or fragrance. As most houses create their outspoken product for their industrial customer, a consistency in quality is more important than slight changes in price. Although prices can drastically change or vary according to cultivation, climate conditions, speculations by traders or other circumstances.

The scarcity and price highly depend on the kind of oil and its availability. Figure 12 shows that oils or products from flowers in BPC products and perfumery will command high prices in the future as they become increasingly rare. This has its consequences for their price level.

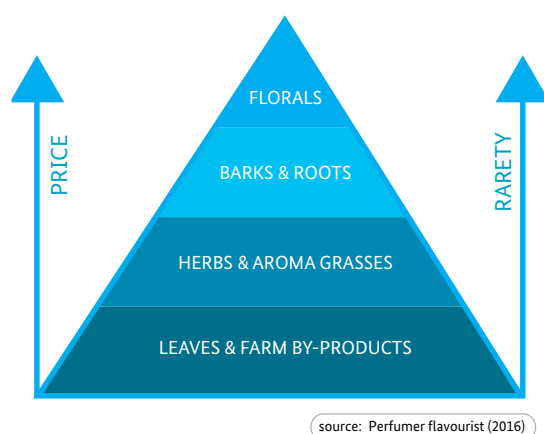
Florals: The florals, such as rose or jasmine, will become more expensive to grow and process as they require very large amounts of water, labour, fertilizer and other inputs. Besides, land, water and labour used, florals can also grow food crops in an increasingly overpopulated world. This will have an impact on the future prices of flower oils.

Barks and roots: The bark and roots of trees are the next rare group of natural ingredients as many of them come from ever endangered, slow growing hardwood trees. Only with cost effective agro forestry solutions there will be much chance that this category survives, unless it is for BPC products for exclusive use in the higher end of the market.

Herbs and aroma grasses: Cultivation of herbs and grasses has better prospects. Herbs are usually annual crops used for flavour, medicines and increasingly fragrance. They receive much higher R&D investment and have a more stable multi-sector market.

Furthermore, the cultivation, harvesting and processing methods are similar to those used in vegetable and oil seed production. In addition, the aromatic waste materials can be used for other agro-industries.

FIGURE 12: RELATION BETWEEN PRICE AND RARETY IN FRAGRANCE NATURALS PYRAMID



Aromatic leaves and twigs: All the aromatic leaves and twigs of trees, like eucalyptus, clove, orange and cinnamon, fall into this category, as do the expressed peels of almost all citrus. Here, there are still plenty of business opportunities to use waste, e.g., from peels of citrus or tropical fruits such as unknown citrus fruits, mangoes, passion fruit etc..

Finding prices for maps and essential oils

To establish your prices, buyers always closely follow the level of world market prices and follow the latest information on crop forecasts. The market prices serve as a reference, but still there is room for negotiation, depending on the quality and uniqueness of the plant/oil or spice in question.

A detailed overview of common wholesale prices of the most common essential oil from different supplying countries can be found in the USA Chapter 2 - Table 9. The FOB prices/kg in US\$ for some of the selected oils are given in Table 12.

Sources for Up-to-date whole sales prices can be found at ITC Insider and Ultra International

Prices for other MAPs and essential oils from Nepal you can find via the monthly-published overviews in Nepal Rupees per kg in Kathmandu, Nepalgunj, Delhi and other trading centres in India. The price overviews can be downloaded from ANSAB at www.ansab.org/market-information/price-lists/

TABLE 10: COMMON PRICES OF THE SELECTED ESSENTIAL OILS

Essential oil	Market Prices per kilo in US\$ (importer/trader level)	
MINT		
Spearmint	India	19 - 20
Peppermint	India	26 - 28
Cornmint	India	12 - 13
SPICES		
Nutmeg	Indonesia	55 - 75
Clove	Indonesia	15 - 18
Cassia	China	36 - 38
Cummin (seed)	Egypt	100
FLORAL and GRASS		
Citronella	China	17 - 18
	Indonesia	16
Lemongrass	India	17
Chamomille	Egypt	1,300
	Nepal (organic)	600
Jasmine	Egypt (concrete)	3,900
Geranium	China	180
	Egypt	85 - 90
OTHER		
Ginger	China	75
Garlic	China	130

Source: Ultra International (2016)

For organically oils, prices can be 2-3 times higher than conventional oils, largely attributed to the superior quality and their scarcity where often demand often outweighs supply.

Prices for spices can be found via the Spices Board India which publishes indicative international prices. Other useful sources include Commodity Online (for cardamom, curcuma) and Spice Market News. A paid source is the Public Ledger, where a joint subscription could be considered among several Nepali companies (exporters, associations, cooperatives etc.).



Prices for spices can be found via the Spices Board India which publishes indicative international prices.

Information on the different grades for spices that give a reference can be found at the Aggropedia website.

Price Setting

When setting your price, consider the following issues that influence its level:

- The trade channels with typical mark-ups of each channel and retail category.
For example, if you sell via the Fair trade channel the bargaining power of a buyer will be less aggressive than when selling to a large flavour or fragrance house.
- Prices of other oils on the world market or comparing the average value/tonne from different supplying countries of an oil that can be found via ITC statistics.
- The production costs, incoterms, import duties, VAT level and other costs.
- The most 'reasonable' or 'tactical' price level according to some of your local contacts in the field (agents, other exporters from Nepal).

Trends and recommendations in prices setting

- **Fluctuations in volume oils.** In the large volume oil such as citrus oils and mint oils, the acute competition between, e.g., companies from India and China has resulted in the price of these oils depreciating in real terms over the years. The main beneficiaries of this situation have been the consuming industry. Prices of menthe arvensis oils (or corn mint oil) depend on demand and supply meaning that prices can largely fluctuate e.g. from US\$ 11.50 to 8.77 in 2014 per kg.
- **More variety in prices.** With the rising number of mixed essential oils, cheaper adulterated oils, synthetic oils and essential oil products, there is no doubt that there will be more variance across the prices of each essential oil.
- **Synthetic substitutes.** For the lower end of the market, prices are lower because of the quality of the oils and because of the fact that there are synthetic substitutes available such as for menthol. Generally, major users hold stocks which enable them to buy when the prices are lower.
- To compete with synthetic alternatives, the higher prices of e.g. natural mint oils need to be justified by value added packaging, branding strategies and product differentiation strategies. Or, you could

also compete by providing excellent quality of the oils with a long shelf life.

- **Consistent quality as a cost saver for the buyer.**
Through consistency from batch to batch, industrial processes can be smoother and the number of test runs can be reduced by flavour & fragrance houses or industrial segment.
- **Payment after delivery.** Worries about the quality incite buyers to pay after delivery when they have checked the product and are satisfied.

Margins

While it is difficult to quantify the costs from farmers to wholesale level it is estimated that harvesting costs make up between 10 to 35% of farm gate costs, with an average of 22%. Pest, weed and disease management costs are about 22%. In case of cultivated MAPs nutrition, which includes irrigation and fertilisers, are about 10% of farmers' costs.

At processor level there is much variability as it depends on the extent of refinement and processing of the oil. The exporter who purchases, stocks the oil and sells the oils after testing, takes up a large part of



the price with a commission around 30% if he sells to buyers in Western markets. Margins are much lower when selling to Indian or Chinese buyers.

Importers, processors or flavour and fragrance houses purchase and stock the oil asking 25-30% for established MAPs or oils, and 20%-25% for limited supply oils. Note that in example an approximate price is set and the average margins given still can vary according to the compositions/ activities of each actor in the chain.

Import duties

As for exporting to Western countries, Nepal MAPs and essential oils fall under the GSP system, the import duty is reduced to zero provided that a form-A can be submitted listing up the exported products with their related HS codes.

There is no comprehensive and exhaustive listing of harmonized tariff codes for MAPs. In this report, the selected MAPs fall as a medical substance, while other botanicals could be classified by some

TABLE 11: PRICE STRUCTURE FOR A LIMITED SUPPLY OIL, FOR EXAMPLE WINTERGREEN

Actor in the value chain	Selling price/kg in NRs	Margin	How the selling price is composed/remarks
Farmer/Collector	312		Price of 250 kg of raw wintergreen A farmer/collector earns 1 - 1.5 NRs per kg No breakdown is known between farmer/collector
Price to local processor	700	11%	Value of Wintergreen (312) Fee to Community Forest User Group (62) Oil processing cost (250) Processors' margin (76 i.e. 11% of 700)
District Trader	825	13%	Value of the wintergreen oil (700) Handling and packaging (10) Transport to Kathmandu (10) Traders' margin (105 i.e. 13% of 825)
Exporter NRs (in case he sells it to Western markets)	1,700	30%	Value of the wintergreen oil (825) Storage, re-packing and quality testing (60) Export permits and certifications (300) Exporters' margin (515 i.e. 30% of 1,700)
Exporter FOB US \$*	15.75		In case of organic wintergreen the exporters' selling price will be 2- 3 times higher
Transport, insurance, banking	1.5		Import duty to Western countries is 0 (GSP)
CIF price to Importer, processor, F&F house or direct to industrial key segments	17.25		
Importer, processor, F&F house	21.05	20-25%	Storage, labo testing, additional blending, marketing (selling, branding, promotion). F&F houses developing own products using wintergreen as ingredient. This also applies when industry segments buy direct from the exporter
Agent	19.00	8-15%	Selling, branding and promotion

* Exchange rate 1 Nepal Rupee = US\$ 0,00925

Source: USAid, Seance estimates (2016)

exporters exporters as a dried root or tuber, or by others as a spice.

For essential oils the HS codes fall can be found in Annex 1, but there are different codes used in the USA, China,

RECOMMENDATIONS FOR PRICE NEGOTIATIONS

DO'S

- Always consider what the market value (competitors prices) of your product is to decide prices. Good references are ANSAB price list, ITC Insider and Ultra International or the Spices Board India
- Bear in mind that your negotiation position will be stronger if there are shortages, therefore regularly check the latest crop forecasts from the sources mentioned earlier in this chapter.
- Consider carefully the mark-up levels of middlemen before making offers to a potential buyer.
- Be ready to inform buyers (importers, wholesalers, retailers etc.) about your prices when meeting them.
- Make a pricelist and product sheets giving buyers the impression that you thought already well about your pricing. Otherwise, they immediately will try to bargain.
- Be ready to re-calculate prices during meetings, according to changes they require (in e.g. raw materials, quantities). If it is too complicated, don't promise anything, but tell them you will look into it and inform them afterwards by e-mail. Here, you can explain step-by-step with a good argumentation why you cannot reduce your price.
- Make a quotation/estimate to processor or importers as they buy in larger quantities. Here, you should cover the appropriate Incoterms. The estimate is your binding offer also to the Chinese and Indians some of whom always will try to bargain afterwards. Issue the invoice based on the approved estimate.

- Availability and scarcity are always a threat for you when harvests are disappointing. The degree to which prices are affected depends on highly on the length of the growing period. If your growing period is long, realize that you have more risks than selling products that can quickly be recultivated.
- Justify higher prices with higher product performances and advantages. It is logical that higher customer service or special care in processing should be compensated with higher prices.

TO OFFER A COMPETITIVE PRICE:

- Consider whether there are benefits in collaborating with colleagues to share the cost (raw material).
- Consider other sales channels that are less price sensitive.
- Review your payment terms and your relationship with your bank.
If the buyer is very price sensitive, consider if he is the right buyer for your target market.

DON'TS

- Do not use discounts too quickly It does not mean you automatically sell more, or more profitably and it may reduce your credibility with buyers. Remember that price is also an indicator of quality.
- Do not sell at any cost This may affect your profitably negatively on the short, mid and long-run. Buyers never pay more for a product later on, once they have paid a low price in the beginning.

India and different coding definition in Europe. Many countries are struggling with the lack of specificity of their tariff schedules, although India is the most advanced regarding codes for the oils from Nepal.

3.7.3 Distribution strategy

Trade Structure

The trade structure of MAPs and Essential oils involves many different actors. The structure of essential oils differs from food commodities because of the prominent role of the flavour & fragrance houses developing specific product formulations (natural and synthetic) for the industrial segments.

Farmers. The traditional structure begins with the farmers who sell MAPs either to local collectors, (village)

traders or cooperative processors. They sell to a local processing house or to an exporter or which in Nepal are mostly located in the Kathmandu area. Larger-scale producers also sell to these houses and to brokers who are in contact with exporters.

There are a large number of farmers with different motivations to sell MAPs or oils in different areas under harsh circumstances (climate, earthquake, fuel crisis). It is a challenge for many of them to be organised into a continuous and a steady supply chain that provides a regular supply of raw materials, quality and sustainability during the year. Therefore, traders or brokers have taken up this role, acting as a facilitator and seller, asking a commission around 13%.

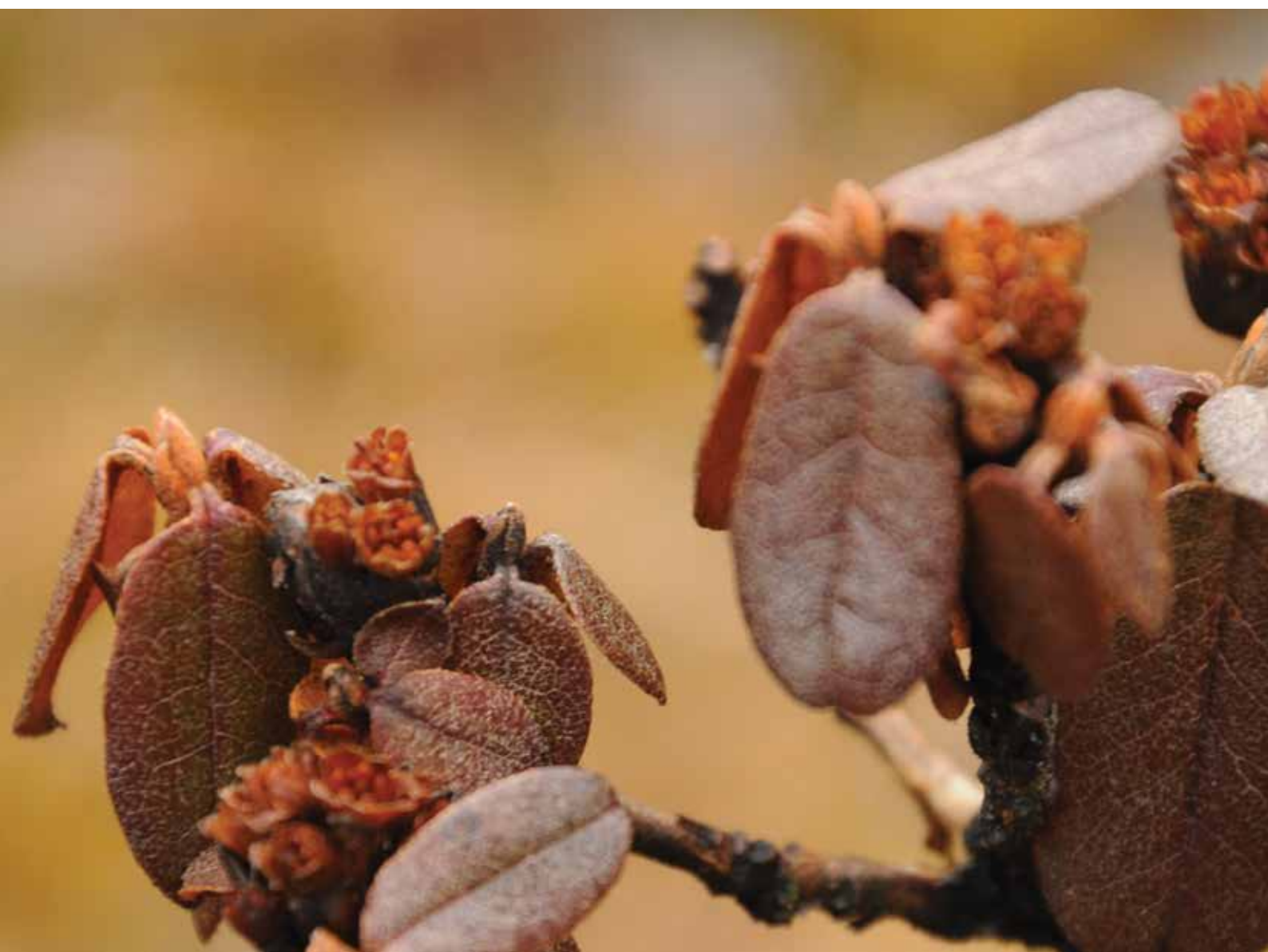
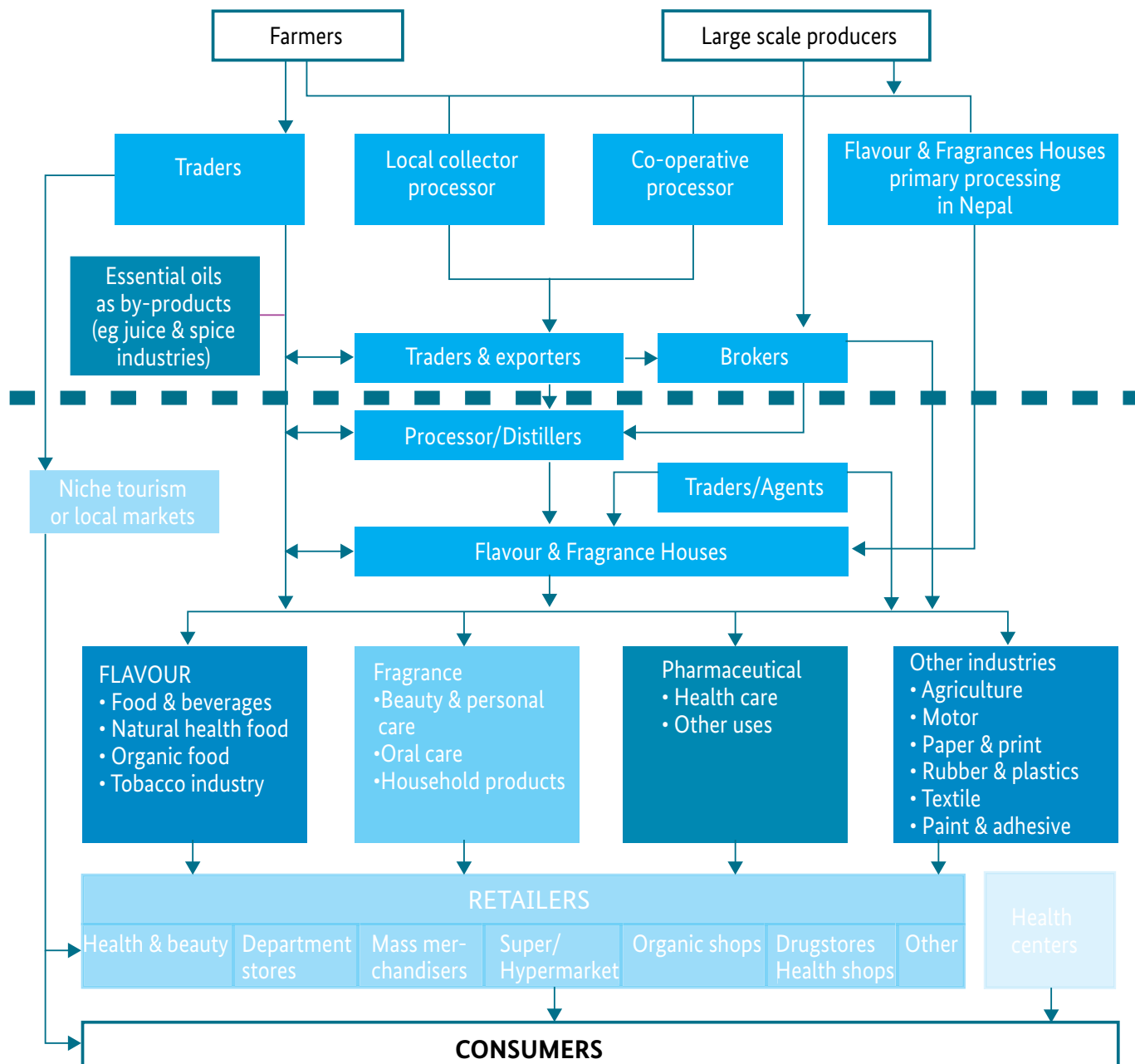


FIGURE 13: DISTRIBUTION CHANNEL FOR MAPs AND ESSENTIAL OILS



The local houses in Nepal do the primary processing of MAPs or the distillation of essential oil and sell them on the domestic market, to foreign importers/processors, or direct to foreign flavour and fragrance houses.

Traders, brokers and agents use their marketing and trading knowledge to buy directly from producers and collectors and sell either to the foreign flavour houses who sell to industrial segments (flavour, fragrance, pharmaceutical and other industries).

A broker or agent has several clients for whom they sell on an exclusive or non-exclusive basis. A client may have one or more brokers or agents acting on their behalf selling to different regions or industries. The function of a broker or agent is to find buyers for their client's products. They usually work on a commission basis (8 - 15% of the sales) depending

TREND TO SIMPLIFY THE VALUE CHAIN

The traditional trade structure has worked for many years, but the industry is trying to simplify the supply chain. As local producers became larger, the industrial segments and importing flavour and fragrance houses now tend to deal directly with them to reduce the cost of middlemen. Quality and consistent supply issues can be discussed directly with the producers, cooperatives or with local processors or flavour & fragrance houses in Nepal. For the producers it is now more certain that there is going to be a buyer for whatever they produce.

on volumes, geographical territory involved or exclusivity. Generally, they do not keep the MAPs or oils in stock.

Importers/processors/distillers source the basic (pure) oils also from all over the world. They sell to flavour and fragrance house, direct to the industrial segments, retailers as well direct to consumers via their websites. Larger processors have their own R&D (research and development) units in-house. This has been a key role for them and for the flavour

and fragrance houses. They can be competitive by developing new flavour mixes in accordance with changing tastes and preferences of their specific (consumer) target group.

Importers are more consumer oriented and sell branded products from well known international cosmetic or food brands (or fashion brands) or sell under their own brand name. Larger importers or mix their own essential oils and source the basic (pure) oils from all over the world.

Flavour and fragrance houses develop customized products being a key factor of their success. Their 'artistic' and unique flavour or fragrance is not easily interchangeable with other products and are well recognised by consumers if they are launched successfully. Most houses are selling essential oils by the Internet and or via direct sales women being very similar to the cosmetic brand Avon.

Some houses stock up to 3,000 raw materials coming from any country to have many grades of each material on a seasonal basis. Compounds are usually custom-made on a batch basis because of the high value, low volume and exclusive nature. Their production planning is often short term as they are flexible enough to respond to their customers quickly. Products should comply with technical requirements and regulatory considerations.

They build application capabilities in specific customer product areas and research consumer markets by testing the new product using consumer panels. In fact, they act as a partner in the development of a new flavour or fragrance of their client (industrial segment), which includes the search for raw material.

Industrial key segments. Since the 1990s, markets have become internationalised and multinationals expanded by global marketing strategies and buying locally strong brands. Their business units now cover food and non-food products. Many long established smaller sized manufacturers were disappearing from the industry, leading to high market concentration. The remaining small to medium companies specialised in specific flavour or fragrance products or sell to specific consumers groups. Others have become dedicated manufacturers for retailers, producing private labels. The growing power of

supermarket/hypermarkets and their vertical integration is reflected in the rising share of their private labels. In Germany, Switzerland, Spain and UK, the share of private labels is 34 - 45% in 2014.

Some significant trends to keep in mind are:

- **The increase of concentration in the industry**, which has strengthened the bargaining power of the industrial segment, in relation to flavour and fragrance houses. In retail, the role of super and hypermarkets, perfumeries and (organic) health shops is expected to become more important. Last but not least, Internet sellers are still successful in the aromatherapy market.
- **For new producers it is challenging to enter the market.** Once the consuming industry developed a product using specific oil, they do not want to change that oil or change the supplier, as they may fear a change in quality. On the other hand, for small companies, e.g. from Nepal there is always an opportunity to sell to small industries or to sell in the aromatherapy or health centre markets.
- **Direct purchases by professional aromatherapists.** In a recent 2013 survey of trends in the aromatherapy market in the US, over 62% of professional aroma therapists also made up products for re-sale in addition to their professional use. Almost all aromatherapists are self-employed, running their own small practices, but many also worked in education role (40%) and in retail/wholesale (26%). Distribution is very fragmented here with typical purchase volumes only purchasing each oil in small quantities (0.5 to 1 litre/yr) as opposed to 50-liter drums by importers/processors - for large volume oils.
- **Customers increasingly expect flexibility** from fragrance houses and their raw material suppliers in terms of high-speed service, complete service, fast processing and delivery of big as well as small orders. Besides, they expect clear product documentation.
- **The traceability of raw materials** of the consuming industries will move further towards the attention of the consumers. The sustainable principle won't stay at the board level in a company but is an integral part of the way all employees think and act on a daily basis.

Indirect or Direct?

The first decision as an exporter from Nepal you have to make is whether to approach your new market directly or indirectly.

- **Indirect.** An indirect approach means all export activities are taken care of by a broker, trader agent or agent. For large flavour and fragrance houses, the distribution is still via agents, importers or via specialised distillers. Whereas for MAPs, the distribution channels are mainly to processors, distillers or importers.
- **Direct.** If you decide to enter the market direct to flavour and fragrance houses or to the consuming key segments, be aware of the fact that you will have to take care of in-market stocks to be able to deliver quickly.

You could ask yourself:

- What is the buying policy of your potential customer, sales philosophy (e.g. Fair Trade) and do they operate in different countries?
- Do you have the required sales staff (relation management), logistical (stock keeping, fast delivery) and human resources (order control, customer service) to deal directly?
- What are the costs (margins involved) of each channel?
- What are the risks (e.g. losing control) for you when dealing with the selected channel?
- Is a multi-channel approach possible?
Since importers, processors and industries have become more concerned with the unpredictability of retailers' demand, they place new demands on their supply chain for faster replenishment of stocks and for providing additional services.

Agents

- A big advantage to work with agents is that they know the market very well and they can provide you information on competitors and trends. They are small and therefore flexible and can communicate with consuming industries or retailers in their own language and identify new niches in your target market. You could visit new clients and trade shows with them.
- Please note that you send the invoice subsequent deliveries direct to customers. Then you still need to pay the agreed commission to your agent for each

FOLLOW UP WITH THE POSSIBLE TRADE PARTNERS AFTER THE FIRST CONTACT WILL KEEP THE RELATION 'SWITCHED' ON.

delivery.

- Always consider carefully the advantages and disadvantages of working with agents. Agents (as opposed to importers) are very well protected by law. Once you are engaged with them, it would be very hard to bypass them and to deal directly with their customers.

Online sales

The online sales channel continues to grow in importance. There are the following options for you:

- Create your own web site with a possibility to sell online. Buyers increasingly look first at the website of a new supplier before talking to a new supplier.
- You could take part in a site for international creative people who would like to expose and sell their product. Although you must be able to open up an account to receive credit card payments. A well-known online 'marketplace for handmade products' that also offers essential oils from small companies is www.etsy.com

Identifying possible trade partners

Finding trade partners. You can find them via **trade fairs** (catalogues), local trade organisations, Chambers of Commerce, Trade directories (internet or in business libraries) or online telephone directories (yellow pages) or in the last sections of country Chapter in this report.

Checking on interesting trade partners by checking their company's website (organisation, type of products, area's, to whom they sell and financial stability via www.dnb.com.

Create interest and build the relationship. Tell to the interested trade partners that you are studying their market.

- **Contact them** and tell that you will visit his/her market shortly and would like to show your new essential oil range being more focussed on his/her

market.

- **Try to get an appointment for a visit.** Often you need to contact them several times.
- **Communicate with them.** It is important that you communicate well with the buyer. Are you both speaking a mutual language?
- **Follow up with them after the first contact** (personal or written) and keep the relation 'switched on' by keeping them informed about your business and new product development.

Samples

- Some buyers want you to send samples before giving the order. Sample shipments are very expensive. Try to judge from the buyers' explanation why he needs these samples first and if it is really worth your investment.
- If you promise to send a sample, try to do it quickly. This creates trust with your buyer.

Delivery conditions and terms of payment

Contracts are negotiated on the basis of samples supplied. Most traders prefer to receive prices on FOB (Free on Board), CIF (Cost, Insurance and Freight) or Cost and Freight (C&F) destination basis in US\$ or Euros. New exporters are usually paid after the receipt of the goods.

Established suppliers are paid either by Letter of Credit (L/C), on an advance payment basis or Cash Against Documents (CAD). In the pharmaceutical ingredients trade, it is increasingly common that products are only paid after the goods have been approved by the importer, for example after quality control by own/external laboratories, regarding residues.

Contracts may be made for the coming harvest with the exporters who have supplied products satisfactorily for several years. Contracts are usually negotiated on the basis of quantity delivered, purchasing price, mode of delivery and payment. *More information on the Incoterms can be found at / www.iccwbo.org/incoterms/.*

INFORMATION TO PREPARE WHEN TALKING WITH BUYERS

A buyer or customer will request detailed information before entering a possible business relationship with suppliers. Considering that these questions are generally the same, as a MAPs exporter you should prepare answers to questions such as:

- What MAPs varieties are commonly grown in Nepal and by the farmers you work with?
- Are you GACP or GLOBALG.A.P. certified? Do you have any other certification such as hygiene, environmental protocols or social certifications?
- What is your production period (harvesting seasons)?
- What are the peak production periods?
- Can you give an export calendar?
- What are the effective volumes produced and what is the production's forecast growth for the coming year?
- What percentage of the production is destined for exports and what percentages are left on the local market?
- How much volume can you send on a weekly/monthly basis? Be honest, realistic and conservative.
- Do you work directly with growers (farming contracts)? How many?
- Details about your company such as capital, location, contact details, number of permanent and seasonal employees, essential documents: letterhead etc.
- What are the airline companies flying out of Nepal?
- What are the flight frequencies and what is the cost of freight per airline?
- What are the sea freight companies from Nepal? What are the shipping schedules and what is the cost of freight per vessel?
- At what price do you expect to sell your MAPs in the export market? What is the minimum price under where you consider losing money? Keep some reserve here !

3.7.4 Promotion Strategy

So far, little promotion was done by Nepali companies, people are not aware about MAPs or essential oils from Nepal. They cannot recognise the difference between oils from Nepal, India or other Asian countries. Therefore, increasing the awareness of products and unknown oils made in Nepal will be a crucial step towards the upgrading of Nepali sector being helped by a recognisable collective brand and aromatherapy chart, which should be clearly communicated to consumer groups.

There are the following promotional tools:

Trade shows

This is one of the most important tools if you start exporting. In this sector, trade fairs are often the place where new trends in raw MAPs, essential oils are introduced in new applications (cosmetics, natural health and well-being) for the coming

season, especially at the new product corners e.g. at the Biofach or Vivanes (see photo). You will have to consider the attractiveness of a trade fair reaching potential new customers against the relative expense of participation. However, with proper planning, or perhaps working in conjunction with colleague companies, you can share the costs. Prepare some strips so that people can smell or check your oils.

If you cannot afford having a stand at a trade fair, you may find that it is a valuable experience just to attend a trade fair as a visitor. Although you will not have an opportunity to sell anything, you will meet other trade personnel in the industry.

Catalogue or brochure

It is essential that you are able to show a good clear photograph of your essential oil range, together with their key descriptions and some considered claims. You will use this to send to customers (in a mailing campaign) or to show them at trade fairs, presentations.

Website

Going online is fundamental in this sector. Especially when taking into account that trust and credibility are major challenges for you as an exporters, your website could conquer these already to some extent. A website showing a well-presented range, your mission statement, competitive advantages (e.g. USP, quality, cost reduction and delivery reliability) and how the MAPs are collected, helps create a trustworthy environment.

The celebrity influence

Marketing in the BPC segment is moving from pure product promotion towards more lifestyle promotion. Despite the recession, celebrities continue to act as ambassadors of large cosmetic companies. Other celebrities draw the attention to Nepal for charity purposes, which might be helpful to boost the awareness of MAPs and oils from Nepal.

Advertising

While the Internet is now used extensively, and cross-media advertising is increasingly common, many buyers continue to read the trade press, or the online equivalent, in order to keep ahead/well-informed of industry news, trends and developments. With advertisements, you are in control of the content, although they can be expensive to produce and require repetition to be effective.

- There are less expensive ways to feature in the trade press, such as press releases or advertorials, but you have less control over the final content in these cases.
- You can also place cheap advertisement in trade magazines in order to find trade partners.

The right timing

You could try to anticipate on National Promotion Campaigns by the industry especially related to perfumes, cosmetics and other gifts in the beginning of December (Christmas), in February (Valentines' Day) or in spring (Mothers' day) and integrate your promotions with your trade partner or across social media.

Joint promotion in Nepal

A collective brand will certainly give a contribution to the clear recognition of Nepal as an exporting country of MAPs and essential oils with a long tradition in their use and distillation. More exposure can be given by a one-stop showroom for MAPs and essential oils from Nepal. This could be in, e.g., Kathmandu, or in the export market to be controlled by a trusted trade partner.

The advantages of essential oils

Essential oils from Nepal corresponds well to the 'back to basics' need for natural ingredients in food, beauty & personal care, new oils for aromatherapy, exotic and rare scents in high class perfumery, and the tendency for relaxation, health and well-being in export markets. In the coming years, demand by companies for new ingredients and new, unknown



types of essential oils that are natural and give health benefits continues to grow. In general, essential oils:

- They have many different uses - see Annex 3
- They are antibacterial, antiviral, antifungal, and antimicrobial.
- Essential oils bypass the digestive system so they are beneficial for people with poor digestion/assimilation.
- They require no refrigeration and require very little storage space.
- They have the longest shelf life of any plant known to man.
- Essential oils are highly oxygenating. It is said that oxygen and disease cannot exist in the same environment.
- They are very cost-effective because they are one of the few substances that “the more you use them, the less you need them.”
- They are suitable for babies since they cannot swallow tablets and capsules thus essential oils provide a solution as they only come in liquid form.

Consumer Education

A major factor frequently identified is that sales are closely tied to consumer education – the more consumers are informed of how and why to use essential oils, the greater the sales and growth. For producers wanting to target this market, the use of websites and the full range of social media enables them to target both the professional aromatherapists and the retail consumers. In addition, these channels provide a powerful tool to communicate directly to buyers on the key factors that influence purchases, particularly sustainability issues.

Promoting Essential Oils from Nepal

On the next page an aromatherapy chart is given on how to apply essential oils from Nepal for different health care, remedies or other uses in aromatherapy.



Essential oils are highly oxygenating.



100% PURE ESSENTIAL OILS

Mental

chamomile, cinnamon, citronella,
lemongrass, mentha, palmarosa,
rhodondendron, spikenard, timur,
valerian, wintergreen

Respiration

calamus, cardamom, citronella,
lemongrass, gentian, mentha,
rhodondendron, timur, wintergreen

Antimicrobial

cardamom, chamomile,
citronella, lemongrass, palmarosa,
rhodondendron, timur, wintergreen

Organs

cardamom, gentian, mentha,
palmarosa, rhodondendron

Digestive

asparagus, calamus, cardamom,
chamomile, cinnamon, citronella,
coriander, curcuma, ginger,
lemongrass, mentha, palmarosa,
spikenard, timur, wintergreen

Women's health

chamomile, cinnamon, citronella,
curcuma, spikenard, valerian

Men's health

curcuma, yarshagumba

Muscles, joints & bones

chamomile, cinnamon, citronella,
curcuma, lemongrass, mentha,
palmarosa, rhodondendron, timur,
wintergreen

Arthritis & rheumatism

asparagus, calamus, chamomile,
cinnamon, citronella, curcuma,
lemongrass, mentha, timur,
rhodondendron, valerian,
wintergreen

Head

calamus, cardamom, chamomile,
cinnamon, lemongrass, mentha,
rhodondendron, spikenard, timur,
valerian, wintergreen

Dermatological

calamus, cardamom, chamomile,
citronella, curcuma, gentian,
lemongrass, mentha, palmarosa,
rhodondendron, spikenard, timur,
wintergreen

Immunesystem

chamomile, cinnamon

Cancer

cardamom, curcuma

Diabetes

timur

Epilepsy

spikenard

Obesity

rhodondendron

Anorexia-Appetizer

calamus, cardamom, chamomile,
cinnamon, curcuma, rhodonden-
dron, timur

Hormones

palmarosa (thyroid)

Pediatric

chamomile, ginger

Sedative - Pain

cardamom, valerian, wintergreen

Other:

Insect repellent or bites
cinnamon, citronella, gentian,
lemongrass, timur



MAPs INCLUDES A LARGE NUMBER OF MEDICINAL AND AROMATIC
PLANT SPECIES IN THEIR CRUDE FORM USED IN THE PROCESSING
AND PRODUCTION OF PHARMACEUTICALS, COSMETICS AND
COLOURING AGENTS.



ANNEX 1 PRODUCT COVERAGE & STATISTICAL CODES

ANNEX 1 PRODUCT COVERAGE and STATISTICAL CODES

SELECTED MAPs FROM NEPAL FOR THIS MARKET STUDY

ENGLISH	LATIN	NEPALI
1. Timur /Nepalese Pepper	<i>Zanthoxylum armatum</i>	Timur
2. Mentha /Cornmint	<i>Mentha arvensis</i>	Mentha
3. Asparagus	<i>Asparagus racemosus</i>	Kurilo, Satawari
4. Cinnamon	<i>Cinnamomum tamala</i>	Tejpat, Dalchini
5. Butternut	<i>Diploknema butyracea</i>	Chiuri
6. Spikenard	<i>Nardostachys jatamansi</i>	Jatamasi
7. Chamomile	<i>Matricaria chamomilla</i>	Chamomille
8. Soapnut	<i>Sapindus mukorossi</i>	Rittha
9. Wintergreen	<i>Gaultheria fragrantissima</i>	Machhino/Dhasingre
10. Anthopogon	<i>Rhododendron anthopogon</i>	Sunpati
11. Ginger	<i>Zingiber officinale</i>	Aduwa/Suntha
Citronella	<i>Cymbopogon winterianus</i>	Citronella
Palmarosa	<i>Cymbopogon martinii</i>	Palmarosa
Lemongrass	<i>Cymbopogon flexuosus</i>	Lemongrass
Valerian	<i>Valeriana officinalis</i>	Sugandhawal
Gentian	<i>Neopicrorhiza scrophulariiflora</i>	Kutki
Turmeric	<i>Curcuma longa</i>	Beshar/Haledo
Large Cardamom	<i>Amomum subulatum</i>	Alaichi
Sweet flag	<i>Acorus calamus</i>	Bojho
Yarshagumba	<i>Ophiocordyceps sinensis</i>	Yarshagumba/Jiwan buti

STATISTICAL CODES

MAPs (HS code 1211) includes a large number of medicinal and aromatic plant species in their crude form used in the processing and production of pharmaceuticals, cosmetics and colouring agents. MAPs are the starting materials for natural ingredients such as essential oils, dry and liquid extracts and oleoresins.

Spices are not included in the statistical MAPs category. In this report cardamom, curcuma (turmeric) and cinnamon in crude form are covered. They are a basis for medicinal or consumer health products and an important export product for Nepal. Commodities in crude form that are important for Nepal and quantifiable such as ginger, soapnut and rudraksha, are also covered in trade statistics.

Essential oils (HS code 3301) are concentrated hydrophobic liquids containing volatile aroma compounds from plants (MAPs). The oils are extracted in Nepal by distillation, often using steam, a process that is common since the 8th century. The oils can be distilled from the leaves, stems, flowers, bark, roots, seeds, fruits or other parts of a plant. Using various technologies, essential oils are sourced from 3,000 plants, and solvents in the world.

Many flowers contain little volatile oil and their chemical components are too delicate and can be easily denatured by the heat used in steam distillation.

Essential oils are used in perfumes, cosmetics, soaps, flavouring food, drink and for adding scents/ fragrances to incense and household cleaning products. Oils are also used in massage, diffused in the air, as a deodorizer heated over a candle flame, or burned as incense.

Concentrates and by-products are aqueous distillations and concentrations of essential oils and terpenic by-products of essential oils. These relate to different conditions based on processing of essential oils. Terpenes and terpenoids are the primary constituents of the essential oils. The trade of this category is substantial, albeit the process is also advanced. Synthetic variations and derivatives of natural terpenes and terpenoids enlarge the variety of aromas used in perfumery and flavours used in food additives.

Oleoresins are separations from trees (trunks or barks) and consist entirely—or mainly—of essential oil and resin. Prepared oleoresins usually contain non-volatile oils (so-called “fixed” oils). The type of solvent used in the extraction of prepared oleoresins should be considered carefully as they are difficult to remove

totally even under vacuum. In addition, prepared oleoresins are often used in food preparations.

Resinoids are mainly used as perfume preservative and extracted with solvents such as methanol, ethanol, toluene, or acetone. The products mainly consist of non-volatile, resinous compounds. They are usually sticky and are sometimes diluted to smoothen processing. As the extraction process is (too) advanced for most Nepali exporters, resinoids are covered in the report to a limited extent.

There are more than 90 essential oils in the world, and each has its own benefits. With so many plant species from which essential oils products are

sourced it is nearly impossible to accurately classify which plant belongs to which plant family or species. Although, the most traded oils in volume terms are broadly divided as above. The different types of essential oils is further specified into 6 categories in Table 1.

Please note that the trade flows between the continents is vague and complex because different HS codes are used in the USA, Europe, India and China.

TRADE STATISTICS IN THIS REPORT COVER THE FOLLOWING PRODUCT GROUPS:

ENGLISH	LATIN	NEPALI
MAPs	121190	Plants, parts of plants, incl. seeds and fruits, used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh or dried, whether or not cut, crushed or powdered (excl. ginseng roots, coca leaf and poppy straw)
COMMODITIES	0910110015	- Ginger whole
	0910110010	- Ginger whole organic certified (only for USA market)
	0910120000	- Ginger crushed or ground
	14049090	- Vegetable products - hard seeds, pips, hulls and nuts including Soapnuts (only for USA and Indian markets)
SPICES	14049070	- Vegetable products n.e.s including Rudraksha seeds (only for Indian market)
	091030	- Curcuma -Turmeric (powder, dried and fresh)
	090831	- Cardamom: neither crushed or ground
	090832	- Cardamom: crushed or ground
ESSENTIAL OILS CITRUS	3301 11	- Bergamot
	3301 12	- Orange
	3301 13	- Lemon
	3301 14	- Lime
	3301 19	- Other citrus fruits
MINT	3301 24	- Peppermint
	3301 25	- Other mints
FLORAL and GRASS	3301 21	- Geranium
	3301 22	- Jasmin
	3301 23	- Lavender
	3301 26	- Vetiver
Other essential oils	3301 29	This large, diverse group is further specified in Table 1
Concentrates and by-products	3301 90	Concentrates & aqueous distillates of essential oils and Terpenic by-products
Resinoids	3301 30	

TABLE 1 : HS CODES USED IN USA, EUROPE, INDIA AND CHINA

		USA	EUROPE	INDIA	CHINA
CITRUS	Bergamot	3301 11		3301 2540	
	Orange	3301 12	all citrus	same	all citrus
	Lemon	3301 13	same	as USA	same
	Lime	3301 14	as USA	3301 19 5120	as USA
	Other citrus fruits	3301 19		3301 19 90	
MINT	Peppermint	3301 24 0000	all mint	3301 24 00	all mint
	Corn mint and mint NES	3301 25 0010	same	3301 25 90	same
	Spearmint	3301 25 0020	as USA	3301 25 10	as USA
HERBS	Rosemary	3301 29 5137	HS codes		HS codes
	Sassafras	3301 29 5141	herbs		herbs
	Coriander		not	3301 29 22	not
	Dill		specified	3301 29 23	specified
SPICES	Patchouli	3301 29 5129		3301 29 34	
	Cinnamon (bark)			3301 29 17	
	Cinnamon (leaf)		HS codes	3301 29 18	
	Caraway	3301 29 5105	spices	3301 29 14	
	Cassia	3301 29 5107	not	3301 29 15	3301 29 40
	Clove	3301 29 5113	specified	3301 29 21	
	Nutmeg	3301 29 5125		3301 29 32	
	Curcuma/Turmeric (oil)			3301 29 49	
	Cardamom			3301 90 15	
FLORAL and GRASS	Geranium	3301 21	3301 21	3301 29 5116	3301 2991
	Jasmin	3301 22	3301 22	3301 29 5117	3301 22
	Lavender	3301 23	3301 29 79	3301 29 5118	3301 23
	Vetiver	3301 26	3301 26	3301 29 5142	3301 26
	Palmarosa			3301 29 33	
	Citronella	3301 29 5111		3301 19 10	3301 29 20
	Lemongrass	3301 29 5119		3301 29 42	
	Rose	3301 29 5135		3301 29 38	
	Ylang Ylang	3301 29 5143	3301 29 41	3301 29 43	
	Clove, Niaouli, Ylang Ylang		3301 29 11		
OTHER	Geranium, Jasmine, Vetiver		3301 29 71		
	Eucalyptus	3301 29 1000		3301 29 24	3301 29 26
	Ginger		HS codes	3301 29 26	
	Orris	3301 29 2000	Other oils		
	Anise	3301 29 5103	not	3301 29 11	3301 29 30
	Garlick	3301 29 5115	specified	3301 29 47	
	Onion	3301 29 5128			
	Petitgrain	3301 29 5133		3301 29 36	
	Sandalwood	3301 29 5139		3301 29 37	
	Cedarwood	3301 29 5109		3301 29 16	
	Rosewood or Linaloe	3301 29 5121		3301 29 47	
	Other essential oils	3301 29 5150	3301 29 41	3301 29 90	
	NES		3301 29 50		

Source: ITC Trademap (2016)

This large group includes camomille, timur, spikenard, wintergreen, valerian, asparagus, rhododendron etc etc..

Note 1: If no HS codes are mentioned it means that they are not specified**Note 2:** Selected types for the study are indicated in yellow

HS CODE USED FOR SOAPNUT - EXPORT

HS CODE	DESCRIPTION
1404	Vegetable Products Not Elsewhere Specified Or Included
14049029	Other
14049021	Powder
14049030	Hard seeds, pips, hulls and nuts, of a kind used primarily for carving
14049090	Other
3304	Beauty Or Make-Up Preparations And Preparations For The Care Of The Skin (Other Than Medicaments), Including Sunscreen
33049990	Other

Interpretation of trade statistics

Please note that there are several unregistered trade flows - especially of MAPs - from Nepal to India and from Nepal to China. Therefore, the trade statistics given in this report are useful to compare developments in these countries for the different types of products. However, they must be interpreted and used with extreme caution.

On the other hand, the registration of trade is compulsory and more strictly controlled between between Nepal and USA, France, Germany or the rest of the world. Even if trade statistics are more accurately represented, imports do not reflect domestic demand due to the presence of international trading companies who re-export to other countries. The USA is a large re-exporter to Canada, Mexico and Europe, while Germany re-exports both MAPs and Essential oils to Austria, Switzerland, France and Eastern EU countries. France is a significant re-exporter to Germany, Spain and Italy.

ANNEX 2 DETAILED IMPORT STATISTICS

ANNEX 2 DETAILED IMPORT STATISTICS

TABLE 1: GERMANY - IMPORTS OF MAPs AND SELECTED COMMODITIES AND SPICES, 2010-2014,
VALUE IN US\$ THOUSAND / VOLUME IN TONS

		2010		2014		CAGR*	MAIN SUPPLYING COUNTRIES (SHARE IN VALUE 2014)
		VALUE	VOLUME	VALUE	VOLUME		
MAPs	→	189,313	56,511	260,232	66,039	+7%	
Top 15 suppliers		135,928	41,492	193,539	49,562	+7%	Top 15 →
Poland		31,279	8,617	35,038	9,562	+2%	74% of German imports (value)
Egypt		16,505	6,779	28,290	9,728	+11%	75% of German imports (volume)
India		9,469	2,867	23,956	5,476	+21%	
USA		19,299	4,382	19,157	3,363	-0.2%	
Turkey		6,301	2,806	11,797	3,092	+14%	
Bulgaria		7,330	3,536	10,969	4,536	+8%	
China		6,969	2,235	10,623	2,533	+9%	
Spain		7,167	1,636	10,524	2,006	+8%	
Chile		9,837	2,619	9,431	2,165	-1%	
Albania		4,946	1,524	7,822	2,033	+10%	
Brazil		4,934	750	6,781	1,039	+7%	
France		4,331	1,566	5,908	921	+6%	
Australia		3,386	399	4,681	322	+7%	
Croatia		1,729	501	4,407	1,168	+20%	
Morocco		2,446	1,275	4,155	1,618	+11%	
Other suppliers		48,773	13,878	60,686	15,098	+4%	
Small Asian suppliers		4,612	1,141	6,007	1,379	+5%	Small Asian suppliers
							→ 2.3% of German imports (value)
							2.1% of German imports (volume)
Thailand		3,510	816	2,543	645	-6%	
Pakistan		591	212	1,336	349	+17%	
Afghanistan		0	0	699	216	+170%	
Malaysia		46	7	443	38	+57%	
Cambodia		0	0	438	56	+175%	
Indonesia		146	47	245	50	+11%	
Japan		45	4	97	2	+17%	
Sri Lanka		44	3	88	9	+15%	
Philippines		21	12	47	3	+17%	
Nepal		53	7	37	1	-7%	<i>Continued: Annex2, Table 5</i>
							Since 2013 Nepal exports dropped to rank no. 87 next to Latvia, Cameroon.
Vietnam		90	29	20	7	-16%	
Korea, Republic of		25	3	7	3	-22%	
Hong Kong, China		41	1	7	0	-29%	
COMMODITIES							
Ginger whole		27,463	8,404	41,670	10,920	+9%	China (48%), Netherlands (25%), Peru (14%), Nigeria (4%), Thailand (2%), India (2%), Brazil (2%), Sri Lanka
Ginger crushed/ground			10,810	3,625			
Seeds, nuts incl. Soapnuts		18,619	32,879	27,811	33,050	+8%	Austria (47%), Belgium (10%), France (6%), Netherlands (5%), China (5%), India (4%), Indonesia (3%), Peru (2%)
SPICES							
Curcuma		7,544	2,212	5,957	2,645	-4%	India (72%), Netherlands (11%), Vietnam (4%), Spain (3%), UK (2%), Peru (2%), Madagascar (1%), Indonesia (1%)
Cardamom whole		9,095	577	3,944	584	-13%	
Cardamom crushed/ground				447	60		Guatemala (63%), Netherlands (20%), UK (11%), India (3%)..... Nepal (0.3%) - no. 8

TABLE 2: GERMANY - IMPORTS OF ESSENTIAL OILS, 2010-2014 BY TYPE OF OIL AND SUPPLYING COUNTRIES
VALUE IN US\$ THOUSAND / VOLUME IN TONS

		2010		2014		CAGR*	MAIN SUPPLYING COUNTRIES (SHARE IN VALUE 2014)
		VALUE	VOLUME	VALUE	VOLUME		
TOTAL	→	202,231	15,862	308,413	21,319	+9%	
CITRUS		40,431	5,863	115,947	13,575	+23%	
Lemon		12,847	506	22,807	794	+12%	Italy (47%), Spain (18%), Argentina (8%), Brazil (7%), UK (7%), South Africa (7%)
Orange		14,257	4,900	72,650	12,240	+38%	Brazil (85%), USA (5%), Italy (2%), Spain (1%), UK (1%), USA (1%)
Other citrus		13,327	457	20,490	541	+9%	Italy (28%), USA (24%), USA (15%), Brazil (11%), UK (5%), Spain (4%)
MINT		32,519	1,461	35,340	1,280	+2%	
Peppermint		14,763	369	14,740	358	0%	USA (64%), India (28%), China (4%), France (2%), UK (1%), Italy (1%), Spain
Mints NES (incl. Mentha Arvensis)		17,756	1,092	20,600	922	+3%	USA (43%), India (33%), China (21%), UK (1%), Italy (1%), Spain..... Nepal no. 15
FLORAL, GRASS and SPICE		8,176		7,163		-3%	
Lavender		1,031		2,137		+16%	France (50%), Spain (16%), Bulgaria (13%), Moldova (11%), Austria (5%)
Geranium, Jasmine, Vetiver		952		655		-7%	Egypt (34%), France (30%), China (22%), India (13%), USA (1%)
Clove, Niaouli, Ylang Ylang		6,193	380	4,371	196	-7%	Terpenic France (51%), Madagascar (25%), Indonesia (11%), Singapore (4%), Netherlands (4%), Spain, UK, Sri Lanka Terpenless UK (40%), India (16%), Spain (15%), Australia (9%), USA (5%), China (3%)
OTHER		121,105	8,539	149,963	6,465	+3%	
Essential oils NES		89,134	3,470	115,130	2,989	+3%	France (28%), China (16%), Indonesia (7%), India (6%), USA (4%), Spain (3%), Australia (3%), Austria (3%), Egypt (2%), Bulgaria (2%)..... Nepal no. 49
Oleoresins		18,459	5,030	23,399	3,454	+4%	India (46%), Belgium (29%), UK (6%), Spain (6%), Netherlands (4%), China (3%)
Concentrates		9,422		7,662		-4%	Brazil (38%), France (12%), Poland (12%), USA (7%), India (5%), Turkey (4%), Italy
By-products of essential oils		1,813		1,489		-4%	USA (43%), Brazil (13%), Sri Lanka (8%), India (5%), China (5%), UK (4%), France
Resinoids		2,219	39	2,155	22	-0.5%	France (55%), USA (20%), India (6%), Canada (5%), Morocco (4%), Switzerland
Extraced oleoresins for liquorice and hops		58		128		+17%	

Source: ITC TradeMAPs (2016)

* Compound Annual Growth Rate in value 2010 – 2014

ANNEX 3 USES OF SELECTED MAPs,

ANNEX 3 USES OF SELECTED MAPs, ESSENTIAL OILS AND COMMODITIES

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMATHERAPY
1. TIMUR Zanthoxylum armatum spices	Flavoring agent in confectionery industry and in manufacture of soft drinks.	Refreshing, pleasant, spicy odour. Interesting odor characteristics and valuable perfume effects. The tenacity of the fragrance makes the oil interesting as a fixative in woody- floral or aldehydic-woody, modern fragrances. It blends excellently with "gamma"-methyl ionone (alpha-iso-methyl ionone), hydroxycitronellal, linalool, geranium oils, cinnamic alcohol, clove bud oil, etc.	Therapeutic properties: analgesic, anti-allergic, anti-infectious, antirheumatic, antiseptic, antibacterial, carminative, cholagogue, circulatory system, emmenagogue, digestive, diuretic, dyspepsia, febrifuge, fungicidal, sedative, stimulant, stomachic, tonic and vermifuge. Insect repellent.	Insect bites, insect repellent, skin infection, arthritis, rheumatism, sprain, muscles and joints, neuralgia, fever, colic, indigestion, nausea, headache, migraine, respiratory problems, appetizer, insomnia, nervous tension, stress, improves voice quality, diabetes, lymphatic system.
2. MENTHA Mentha arvensis	The oil is mainly a starting material in the production of menthol, one of the most important of all flavoring agents. Flavoring non-alcoholic beverages, candy, chewing gum, hard candy, chocolate fillings, ices, seasonings, confectioneries, alcoholic beverages (liqueur), jams, etc.	Strong, fresh, bitter-sweet minty odour. One of the largest and most important of all the essential oils, is hardly used at all in perfumery fragrances. In cosmetics, soaps, detergents, in all kinds of toothpastes, mouthwashes, gargles, etc.	Therapeutic properties: analgesic, anodyne, antifungal, anodyne, anti-infectious, anti-inflammatory, diuretic, expectorant, insomnia, respiratory, sedative. Cough syrups, pills, herbal teas. It has become customary to use mentha arvensis oil as adulterant for "peppermint oil" all over the world except in the U.S.A.	Asthma, respiratory problems, skin infections, poor circulation, arthritis, rheumatism, muscles and joints, headache, migraine, insomnia, kidney-liver and spleen diseases, nervous tension, stress.
3. ASPARAGUS Asparagus racemosus	Flavoring confectioneries. Food supplement, high availability of nutrients.	Roots are bitter, sweet oleaginous, cooling, and indigestible.	Therapeutic properties: antibacterial, antiseptic, antidepressant, anti-oxidant, antispasmodic, antitussive, appetizer, calming, dyspepsia, digestive, diuretic, laxative, immunostimulant, respiratory problems, psychological problems, fluid retention, pain, cancer, dementia, diabetes, epilepsy, stomach and gastric ulcers, kidney disorders, chronic fevers. Male-	

Continued: Annex 3

Continued: Annex3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
4. CINNAMON Cinnamomum tamala spices	Flavoring aromas, the alcohol is used for cinnamon notes and for rounding off fruit aromas. Cassia oil-Cinnamaldehyde is the major constituent and is used mainly for flavouring cola-type drinks.	Spicy notes, warm and woody-Oriental type. Cinnamic alcohol is valuable in perfumery for its odor and fixative properties. Component of many flower compositions (lilac, hyacinth and lily of the valley) and a starting material for cinnamyl esters, several of which are valuable fragrance materials.	female problems: PMS, menopause, galactagogue, uterine bleeding, phytoestrogenic properties, aphrodisiac, infertility and impotence. Some people use it to ease alcohol withdrawal.	Cardiac disorders, indigestion, infections, flu, fever, nausea, headache, arthritis, rheumatism, sprain, muscles and joints, poor circulation, insomnia, nervous tension, stimulant, tonic, appetizer, diarrhea, cramps, female problems.
5. BUTTERNUT Diploknema butyracea	Flavoring confectionery. Pulp can be consumed as a refreshing juice and provides significant nutritional value. Juice can be boiled to create a liquid sugar alternative. Butter can be used to cook as a substitute to vegetable oil.	Can be used as an alternative to Shea butter in the cosmetic industry for skin and hair related products, soaps.	Juice and seed oils can be used to treat rheumatic pain, indigestion and skin infections. Seed oils can also be used for treatment of headaches. Candle making. Resin can be used as glue to trap insects and as a pesticide.	
6. SPIKENARD/ JATAMANSI Nardostachys jatamansi	Banned for export without processing. In Medieval European cuisine widely used as part of the spice	When the oil is available, it can be used with advantage in perfumes such as Oriental bases, heavy florals, fougères, woody bases,	Therapeutic properties: aiding the regeneration of cells, anti-allergic, anti-aging, antibacterial, antifungal, anti-inflammatory, antispasmodic,	Deodorant, fever, maintains psychological and mental balance, cardiac palpitations, food poisoning, inflammations, skin infections, nau-

Continued: Annex3

Continued: Annex 3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
	blend to flavor Hypocras, a sweetened and spiced wine drink. From the 17th century it was one of the ingredients for a strong beer called Stingo. A modifier of calamus, valerian, hop, ginger, cardamom.	animal-ambre types etc. Natural deodorant. Hair preparations, hair loss and colour restoration. Anti-ageing properties.	circulatory, cicatrizing, laxative, powerful sedative properties, uterine health, varicosity, stimulant, tonic, epilepsy, eczema, psoriasis and incurable skin problems, psychological instability. Substitute for Valerian Oil, the reverse case has already occurred since Spikenard Oil is now a scarce oil . Diffuser, incense products, candles.	sea, flatulence, soothing skin, stimulant, colics, headache, epilepsy. Essential oils can be toxic when taken internally so should only be taken orally under the guidance of a qualified professional.
7. CHAMOMILE Matricaria chamomilla flower/grass	Non-alcoholic beverages, baked goods, frozen, gelatins- puddings, soft candy, teas Flavoring of alcoholic beverages, like certain liqueurs, particularly in those of the D.O.M. or the Benedictine type.	Sweet, herbaceous with fresh-fruity undertone. Oil is used in very small percentages in high-class perfumes to introduce a warm, rich undertone which lasts through all stages of evaporation. Wintergreen-forest type fragrances. Cosmetics, hair and bath products, soaps and detergents.	Therapeutic properties: analgesic, anodyne, antibacterial, antifungal, anti-inflammatory, antirheumatic, antiseptic, antispasmodic, carminative, cicatrizing, decongestant, digestive, febrifuge, hepatic, hormone influencer, immunostimulant, relaxant, sedative, stimulating, stomachic, tonic, vulnerary. The flower compounds have shown anti-tumor activity in laboratory tests (contains apigenin).	Inflammations, skin, oral and viral infections, allergies, fever, eczema and other skin problems, insomnia, nervous tension, stress, reduces blood pressure, stress, indigestion, arthritis, rheumatism, muscles and joints, wound healing. Suitable for children and babies.
8. SOAPNUT Sapindus mukorossi		Cleanser for hair, skin, as detergent and other household cleaning	Soap nuts are all-natural and have been used for centuries around the world. Hypo-allergenic, odorless and no damage to surfaces or fabrics. Therapeutic properties: expectorant, emetic, contraceptive, excessive salivation, epilepsy, psoriasis, hair problems, head lice and migraines. Studies have shown that saponin	

Continued: Annex 3

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	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
9. WINTERGREEN Gaultheria fragrantissima	Being vulnerable and economically important due to rich source of natural salicylic acid, Gaultheria has drawn much attention. There is an urgent need for biotechnological interventions not only for its conservation but also for bioprospecting its genome resources. Measures for sustainable development neccessaire. Flavoring agent for chewing gum, soft drinks (coca cola), baked goods, frozen dairy, gelatins- puddings, non-alcoholic beverages, teas, hard and soft candy, alcoholic beverages (rootbeer). Red berries (dried) are edible.	Sweet, woody odour, a peculiar fruity top note. Forest type fragrances in perfums and home. Skin-care, skin conditioner, shampoos, flavoring agent for toothpaste, Methyl salicylate*; = synthetic, = substitute, = of better quality consistency, but lacks fragrant notes, it can't be used in natural and organic cosmetics.	from soap nuts inhibit tumor cell growth. Natural mosquito repellent. Biodiesel. Used in pharmaceutical preparations as flavor corrector, home fragrances. Therapeutic properties: anaesthetic, analgesic, anticarcinogenic, antidiarrhoea, anti-inflammatory, antiviral, antirheumatic, antiseptic, antispasmodic, astringent, antitussive, anodyne, carminative, digestive, diuretic, emmenagogue, galactagogue, sedative, stimulant. Only methyl salicylate* and Umbellate Wintergreen (Chimaphilla umbellata) are allowed in EU! Research required for Gaultheria fragrantissima. Methyl Salicylate, original a natural pain reliever, is commercially produced and known under the name Aspirin. Biopesticide.	Inflammations, arthritis, rheumatism, muscles and joints, broken or bruised bones, flatulence, cellulitis, poor circulation, cramps, eczema, gout, hair care, psoriasis, headache, respiratory problems, pain killing, nervous tension, stress, stimulating. Don't use it when allergic for aspirin.
10. RHODONDENDRON Rhod. anthopogon flower/grass	Herbal tea to aid digestion, stimulate the appeanthopogontite.	A sacred flower to Buddhist monks and Tibetans. Antopogon oil, rare and extremely limited, 200 kilo a year. Exotic floral, fresh, sweet herbal aroma with lingering sweet fruity notes, faintly balsamic. Cleans, purify and soothe the skin due to its exceptional antimicrobial	Therapeutic properties: analgesic, antibacterial, antifungal, anti-infectious, anti-inflammatory, antirheumatic, antispasmodic for respiratory system, antiseptic, antiviral, antitoxic, carminative, digestion, dipurative, immunostimulant, vulnerary, sedative, stomachic, liver and	Colds, flu, appetizer, vomiting, blood disorders, inflammations, skin infections, irritated scalps, strengthening and shining hair, headache, relaxation, arthritis, rheumatism, muscles and joints, fibrous bones, insomnia, nervous tension, stress, stimulating, tonic, obesity.

Continued: Annex3

Continued: Annex3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
		activity. Skincare, shampoos, soaps, bath gel, fragrances in natural perfums.	kidney disorders, stimulant, siccitrizant, tonic, emmanagogue, parasiticide. Fragrance diffuser, incense, incense oils, candles, fragrance sticks	
11. GINGER Zingiber officinale	Flavoring alcoholic beverages (ginger ale), baked goods, confectioneries, condiments, curries, sauces, chips, relishes, frozen dairy, fruit juices, gelatins-puddings, fats oils, gravies, meat products, non-alcoholic beverages, teas, syrups, crystallized, soft candy, hard candy, processed vegetables.	Mens fragrances, aftershave, in formulations for skin and hair products, including refirming, massage and anti-dandruff preparations.	Therapeutic properties: analgesic, anti-inflammatory, antimicrobial, antiseptic, antispasmodic, anodyne, aphrodisiac, carminative, expectorant, febrifuge, rubefacient, stimulant, tonic, digestive, antispasmodic, respiratory, stomachic, gastro-intestinal, motion and morning sickness, food poisoning, maintains physical, mental and psychological balance, blood circulation. Insect repellent; against Anopheles culicifacies mosquitoes, transmitter of Malaria. Fragrance diffuser, incense, incense oils, candles, fragrance sticks.	Pain and ache, blood circulation, respiration, sinusitis, indigestion, nausea, diarrhea, flatulence, colics, spasms, motion and morning sickness, arthritis, rheumatism, muscles and joints, appetizer, cholesterol level, irregular and painful menstruation, impotence, depression. It should be noted that ginger oil is very strong and should be used carefully and sparingly.
CITRONELLA Cymbopogon winterianus flower/grass	Flavoring alcoholic beverages, baked goods, chewing gum, frozen dairy, gelatins-puddings, non-alcoholic beverages, soft candy, hard candy.	Fresh, powerful, lemony scent. Fragrances widely used in perfumery oils, limited extent for perfuming soaps and detergents, conditioning and soothing oily scalp and hair, toothpastes.	Main use is a starting material for the production of isopulegol, citronellol, and hydroxydihydrocitronellal. Therapeutic properties: antibacterial, antidepressant, anti-infectious, antiseptic, antispasmodic, anti-inflammatory, deodorant, diaphoretic, diuretic, febrifuge, fungicidal, stomachic, stimulant, tonic, vermifuge.	Depression, indigestion, infections, inflammations, increase sweating and urinating, nervous tension, stress, skin-, respiratory and internal infections, arthritis, rheumatism, spasms, deodorant, blood circulation, female problems, secretion of hormones, insect repellent.

Continued: Annex3

Continued: Annex3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
			Insect repellent; mosquitos, lice, body and head louses, fleas, worms. It has been found particularly effective on the mosquito, Aedes Aegypti, transmitting several tropical fevers like Yellow Fever, Dengue and the Zika-virus. Fragrance diffuser, incense, incense oils, candles, fragrance sticks.	
PALMAROSA Cymbopogon martinii flower/grass	Flavoring alcoholic beverages, non alcoholic beverages, frozen dairy, soft candy, baked goods, gelatins, pudding, tobacco.	Sweet, rose like odour, grassy nuances with citrus and lavender notes. Perfums due to excellent tenacity, cosmetics, soaps, lotions, facial steams, hair treatments. Palmarosa Oil is frequently adulterated with its close relative, Gingergrass Oil, but also with commercial geraniol, obtained from citronella oil or produced synthetically. It is a starting material for geraniol and geranyl esters of high odor quality. Palmarosa is superior in quality to gingergrass.	Therapeutic properties: antiseptic, antiviral, anti-bacterial, cicatrizing, cytophylactic, digestive, febrifuge, hydrating, psychological balance, sedative, cicatrizing.	Eliminates viruses, bacterial infections (geni-to-urinary organs, colon, kidneys), depression, indigestion, fever, moisture balance skin, anti-aging properties, nervous tension, stress, tonic, growth of the defensive cells, relaxation, wound healing,
LEMONGRASS Cymbopogon flexuosus flower/grass	Flavoring alcoholic beverages, baked goods, chewing gum, fats oils, frozen dairy, gelatins-puddings, hard candy, non-alcoholic beverages, meat and fish products, soft candy, curries, soups, sauces, confectioneries.	Fresh, grassy-citrus scent and earthy undertone. Fragrance in perfum, soaps and detergents. Cosmetics, skin care, deodorants, shampoos, lotions and tonics. It also works as an air freshener and deodorizer, especially when blended with other essential oils like geranium or bergamot.	Used in the production of ionones, methylion-ones, vitamin A, or for the isolation of citral. How-ever, lemongrass oil has declined in commercial importance due to the competitive synthesis of citral and isolation of natural citral from Litsea cubeba oil.	Headache, increase perspiration, spasms, stomachache, high blood pressure, convulsions, hair-scalp problems, indigestion, pain, vomiting, scabies, rheumatism, muscles and joints, fever, cough, the common cold, exhaustion, colitis, nervous tension, stress, promote urination.

Continued: Annex3

Continued: Annex 3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
VALERIAN Valeriana officinalis	Banned for export without processing. Flavoring alcoholic beverages, beer, liquors and apple flavorings, chewing gum, spice blends, tobacco.	In perfum for its warm-woody, balsamic, musky odour. Synthetic bornyl isovalerate is available and can be used in the adulteration of valerian oils, but the characteristic sweetness and musky under-tone is obtainable only from the true oil.	antifungal, antimicrobial, anti-septic, antispasmodic, astringent, carminative, deodorant, diuretic, febrifuge, fungicidal, galactagogue, inflammation, nervine, sedative, scalp problems, tonic. Insect repellent. Oil burner, diffuser, or vaporizer.	Migraine, insomnia and overall sleep problems, nervous tension, stress, uterine cramps, muscle tensions, menstrual agitation, dysmenorrhoea, rheumatic pain, restlessness.
GENTIAN Neopricorhiza scroph	Endangered plant. Banned for collection and export!	Endangered plant.	Endangered plant. Root, also known as kutki benefits overall health and substitute for Indian gentian (Gentiana kurroo) Therapeutic properties: antibacterial, anti-inflammatory, stomachic, strong laxative, antiperiodic, antioxidant, anticholestatic, hepatoprotective, decongestant, dyspepsia, emmenagogue, immunostimulant, respiratorial, emetic, abortifacient, cancer protective properties, epilepsy, antivenin. Picrorhiza is a mandatory ingredient	Endangered plant. Skin diseases, indigestion, constipation, fever, diarrhea, bronchial asthma, liver disorders (liver detox, cirrhosis, jaundice, hepatitis), infections, epilepsy, malaria, rheumatoid arthritis, scorpion stings and snake bites.

Continued: Annex 3

Continued: Annex 3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
TURMERIC Curcuma longa Spices	Indian saffran for food coloring, Flavoring curries (curry powder), rice, chutneys, soups, sauces, alcoholic beverages, baked goods, condiments, relishes, egg products, fats oils, gravies, meat products, nut products, processed vegetables.	Warm, spicy woody and camphorous odour. Many skin care formulas to look younger, anti-aging, because antioxidant and anti-inflammatory activity. Skin care products to scitimize eczema, wrinkles, pigmentation of skin, pimples, acne, psoriasis, cuts, burns and other skin infections. Facial moisturizer-treatment, body wash-cleans-er, eye cream, shampoo, sunscreen, sunless tanning, baby soap. Essential oil seems to have failed to catch the interest of most perfumers and flavorists.	for protecting the liver against the cumulative assaults of daily life! Therapeutic properties: anticarcinogenic, anti-in-flammatory, antispasmodic, antioxidant, anti-allergic, antibacterial, anti-arthritis, antimicrobial, antifungal, anti-parasitic, antiseptic, antiviral, antiworm, anorexia, aphrodisiac, amnesia, astringent, cardiac, colic, digestive, diuretic, dyspepsia, stimulant, carminative, stomachic, stimulant, tonic, vulnerary, antivenin. Antioxidants in turmeric protect the brain, kid-neys, and liver from damage by alcohol, drugs, radiation, heavy metals and chemicals. Potpourris, vaporizers, candles or diffusers.	Blood circulation, respiration, flatulent colic, indigestion, nutritive, appetizer, eczema, cardiac disorders, menstrual flow, cramps, amenorrhea-abdominal pain, rheumatic pain, sprain swelling, aphrodisiac, gastrointestinal upsets, anti-cancer properties, preventing hair loss and amazingly a cure for amnesia
CARDAMOM Amomum subulatum Spices	Flavoring garam massala for curries, hearty meat stews and similar dishes, dal, soups, tandoors and vegetable dishes, beverages, confectioneries, sweets, rice pudding, tea and even coffee. Sometimes used by large-scale commercial bakers because it is much cheaper dan green cardamom. Spice is hardly known to the American housewife.	Smoky and earthy in flavour. It is full of antioxidants, vitamin C and essential mineral potassium for a firm, toned and youthful look and fairer skin complexion.	Therapeutic properties: diuretic, gastro-intestinal, cardiovascular, respiratory, oral, urinary, carminative, anticarcinogenic, detoxification, anaesthetic, antiseptic, antibacterial, antiviral, anti-oxidant, immunostimulant, sedative, aphrodisiac. Anticarcinogenic properties: There are two antioxidants named 3'-Diindolylmethane (DIM) and Indole-3-Carbinol (I3C) which combat breast, colon, prostate and ovarian cancer.	Stimulate the gastric and intestinal glands, stomach acids, constipation, appetizer, cramps, cardiac rhythm, respiratory troubles (asthma, whooping cough, lung congestions, bronchitis, pulmonary tuberculosis etc), teeth infection, bad breath, facilitate urination, renal system, detoxifier, prevents growth of cancerous cells, headache, contact dermatitis' or skin allergy, nourish hair and scalp.

Continued: Annex 3

Continued: Annex3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
SWEET FLAG Acorus calamus	Used in small quantities in alcoholic beverage industry (e.g. absinthe). Use is legally restricted because of potential toxicity of basarone. Dried and powdered rhizome has been used as a substitute for ginger, cinnamon and nutmeg essence. Spice blends, chewing gum. Flavoring pipe tobacco.	Used in perfumes of the spicey-woody and oriental type. Fragrances in hair powders and mouth washes. However, oils from fresh roots are interesting for a wider field of applications for the perfumer and the flavorist.	Therapeutic properties: anticonvulsant, antiseptic, carminative, diaphoretic, expectorant, hypertensive, antispasmodic, stomachic, stimulant, relaxant, mildly tonic, vermifugal, anodyne, aphrodisiac, carminative, emmenagogue, febrifuge, hallucinogenic, hypotensive, sedative, dyspepsia, antioxidant, antimicrobial, insecticide. Chewing the rootstock of the plant can cause visual hallucinations. In modern Egypte it is thought to have aphrodisiac properties.	Digestive complaints, bronchitis, sinusitis, appetizer, skin eruptions, rheumatic pains, neuralgia. However if the dose is too large it will cause nausea vomiting and mild hallucinations!
YARSHAGUMBA Ophiocordyceps sinensis	The yarsagumba gold rush has bought a curse of greed and banditry to remote mountain regions. Year after year during harvesting season, the Himalayas are rocked by resource conflict, robberies, and even murders. Overharvesting, coupled with lack of regulation and investment into sustainable management, has experts concerned about the future of this unique medicinal fusion. 2014 - Locally in Nepal, harvesters get the equivalent of about \$18 per gram (a single dried specimen weighs less than half a gram). But by the time yarsagumba is sold in China, the major international trade		It regulates the normal functioning of various part of the body and strengthens the immune and circulatory system. It has traditionally been used for impotence, backache and to increase sperm and blood production. Therapeutic properties: stimulant, tonic, immu-nostimulant, aphrodisiac, infertility, sexually, analgesic, respiratory, prevents tumor activity, antibacterial, antiviral, insomnia, sedative, nocturia, circulatory, anemia, cardiovascular, allergies, vitality, controls organs (liver, kidney, lungs), arthritis, mentally. Neutralizes side effects caused by	

Continued: Annex3

Continued: Annex3

	FOOD INDUSTRY	COSMETIC & PERFUM INDUSTRY	PHARMACEUTIC & OTHER INDUSTRY	AROMA THERAPY
	<p>destination, it's worth as much as \$100 per gram. Gram for gram, that makes it more expensive than gold. The global market value has been assessed at between \$5 and \$11 billion.</p> <p>The government now earns substantial revenue of about 5.1 million rupees from the trade, according to the International Centre for Integrated Mountain Development (ICIMOD).</p>		<p>radiotherapy and chemotherapy. Protects against free radical damage and oxidative stress, thus slows down the effect of aging.</p>	

Source: VISSERS / SEARCE 2016

ANNEX 4 POSSIBLE ESSENTIAL

**ANNEX 4
POSSIBLE ESSENTIAL OILS
USED FOR PERFUMES**

WEST INDIAN SANDALWOOD

• *Amyris balsamifera* L. • wood • Haiti
soft and sweet woody note, near Sandalwood •
background note

ANISE • *Pimpinella anisum* • seeds • Spain
aniseed aromatic notes, fresh and sweet • top note /
heart

STYRAX BENZOIN / gum benzoin absolute • *Styrax*
benzoin • softwood balm • Indonesia
sweet note, powdery, balsamic, vanilla to almondy
accents • background note

CEDARWOOD • *Cedrus Atlantica* • wood • Morocco
note woody, sweet, heavy, animale • background
note

CEDARWOOD VIRGINIA • *Juniperus virginiana* •
wood • U.S.A.
note woody, soft and fresh, evoking the pencil
taillure • background note

ROSEWOOD • *Aniba rosaeodora* • wood • Brazil
fresh aromatic notes, floral, sweet and woody • top
note / heart

SANDALWOOD • *Santalum album* • wood • New
Caledonia
note woody, sweet, heavy, oily • background note

CARDAMOM • *Elettaria cardamomum* • Fruit •
Guatemala
spicy, fresh, camphor and balsamique • heart note

LEMON • *Citrus limonum* • zest • Italy
fresh notes, citrus (Citrus) • top note

CLOVE • *Eugenia caryophyllus* • nails / sheet •
Madagascar
hot and spicy sweet • heart note

CORIANDER • *Coriandrum sativum* • seeds • Russia
spicy notes, warm and flowery • heart note

INCENSE, FRANKINCENSE • *Boswellia carterii* •
Oleoresin gum • Somalia mineral
notes, peppery, resin-coated • background note

EUCALYPTUS RADIATA • *Eucalyptus radiata* • leaves
• Australia
rustic aromatic notes (country freshness to character
camphor) • top note

TONKO BEAN Absolute • *Dipteryx odorata* Will. •
Beans • South America
notes of vanilla, sweet, balsamic, with chocolate
accents • background note

GERANIUM • *pelargonium graveolens* • leaves and
stems • Egypt
floral note, dew, lemon - heart note

JASMIN GRANDIFLORUM absolute • *Jasminum*
grandiflorum • flowers • Egypt
floral note 'white flowers', heady, animal • heart note

LAVENDER true • *Lavandula angustifolia* • flowers •
Provence / France
note rustic, fresh, floral, aromatic • top note / heart

LAVANDIN • *Lavandula hybrida Grosso* • Flowers •
France
note rustic, fresh, herbaceous, aromatic - top note /
heart

LIME • *Citrus aurantifolia* • zest • Mexico
citrus notes, green, evoking the delicious cola • top
note

MINT curly • *Mentha spicata* • stems and leaves •
China
fresh and sweet aromatic notes, referring to the
chewing gum • top note

PEPPERMINT • *Mentha piperita* • stems and leaves •
U.S.A.
aromatic note to the icy coolness • top note

MYRRH • *Commiphora myrrha* • resin • Somalia
note woody, balsamic, resinous, reminiscent humus •
background note

SPIKENARD/JATAMANSI • *Nardostachys jatamansi*
• rhizomes • India
note woody, fruity, hot and animal • background
note

NUTMEG • *Myristica fragrans* • fruits • Indonesia
note spicy, sweet and peppery • heart note

OPOPONAX / Opobalsam • *Commiphora glabrescens*
• resin • Somalia balsamic
notes, warm, amber, leathery • background note

ORANGE Sweet • *Citrus sinensis* • zest • Brazil
fresh and sweet citrus note • top note

GRAPEFRUIT • *Citrus paradisi* • fruits • Florida
note slightly bitter citrus fresh • top note

PATCHOULI • *Pogostemon cablin* • dry leaves • Indonesia
note wooded rich, deep, earthy • background note

BITTER ORANGE • *Citrus aurantium var. aurantium*
• leaves • Paraguay
fresh note, green, fruity, woody • top note

BALSAM FIR • *Abies balsamea* • needles and branches • Canada
woody, fresh, resin-coated and balsamic • background note

CLARY SAGE • *Salvia sclarea* • ground parts • France
Note rustic, aromatic, musky, amber • heart note / background

VANILLA absolute • *Vanilla planifolia* • pods • Madagascar
note sweet, vanilla, tasty and hot • background note

EXOTIC VERBENA • *Litsea cubeba* • fruits • China
Note tangy, fresh, citrée, fruity • top note / heart

VETIVER • *Vetiveria zizanoides* • roots • Haiti
note wooded rich, deep, earthy, fumed, sweet, lemony • heart note / background

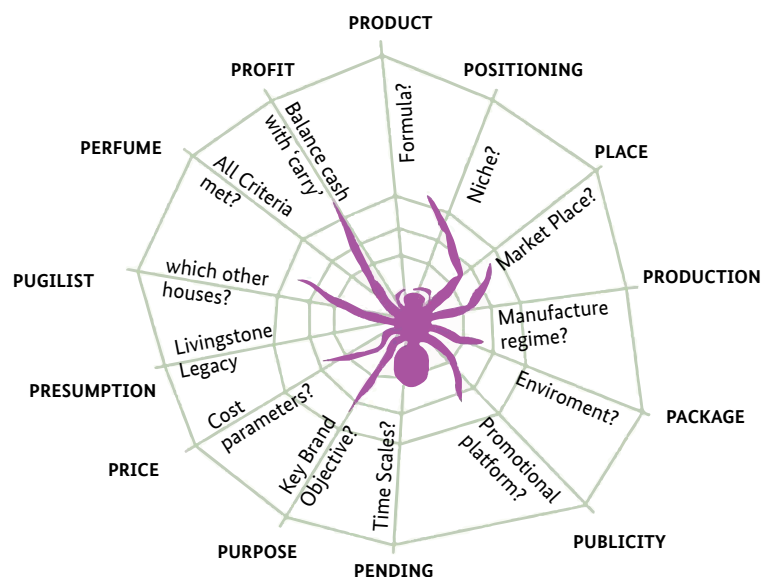
YLANG YLANG • *Cananga odorata* / complete distillation • flowers • Madagascar
floral note 'white flowers' sweet, voluptuous and animal • heart note



ANNEX 5 THE PERFUME

**ANNEX 5
THE PERFUME
BRIEF - THE 13 P's**

THE 13 'P' S THAT CONSTITUTE THE BUILDING BRICKS OF A SUBSTANTIAL FRAGRANCE BRIEF, WITH A GENERAL OUTLINE OF THE KEY THOUGHTS LINKED TO THEM.



PRODUCT	<p>What is the product formula?</p> <p>What chemical environment will the perfume face?</p> <p>Does the product have colour or any other physical characteristics such as base odour?</p> <p>Any special ingredients?</p>
POSITIONING	<p>What is the intended market position of the product?</p>
PLACE	<p>Is the product intended for the national, regional or global marketplace?</p>
PRODUCTION	<p>What production process will the product undergo, at what time and how will it be dosed?</p>
PACKAGE	<p>Can the packaging (e.g. aerosol can lining, soap wrapper) be affected by the nature of the fragrance?</p> <p>What colour will it be?</p> <p>Is there a design for the packaging?</p> <p>Will other sensory cues be reinforced by the perfume?</p>
PUBLICITY	<p>On what platform is the product to be promoted?</p> <p>Are there key words, such as smooth, gentle, caring, hardworking, that the perfume will need to evoke?</p>
PENDING	<p>What timescale does the brief have?</p> <p>If very short, perhaps a shelf product will suffice, if long term and a significant brief, market research may be feasible and a prerequisite.</p>
PURPOSE	<p>Is the product new or a range extension?</p> <p>What competition, if any, is it going up against?</p> <p>What is the key objective for the product?</p>
PRICE	<p>Cost per tonne finished product is a better focus than cost per kilo of product, as it gives flexibility on dosage. Keep within the parameters set (relevant to fragrances for functional products).</p>

PRESUMPTION	<p>Ensure you understand the nuances of the country. What does 'green' or 'fresh' mean in the context of the customer's requirements?</p> <p>Never presume anything about anything.</p>
PUGILIST	<p>Who are the competitive fragrance houses in the brief?</p> <p>What are their known strengths and weaknesses?</p>
PERFUME	<p>Does your final submission meet all the criteria above?</p> <p>If the customer mentions a fine fragrance by name does he or she really mean that particular brand or fragrance direction?</p> <p>Probe. How much fragrance is required for the brief testing?</p> <p>What regulations must the fragrance meet?</p>
PROFIT	<p>On submission, what margin (profit) suffices so that the winning of the business is worthwhile?</p>



ANNEX 6 CHEMISTRY AND RECOMMENDED ANNEX 6 CHEMISTRY AND RECOMMENDED QUALITY CONTROL

	CHEMISTRY	QUALITY CONTROL
TIMUR <i>Zanthoxylum armatum</i>	Linalool (up to 72%) Methyl cinnamate (10-19%) Limonene (6%) beta-Phellandrene	
MENTHA <i>Mentha arvensis</i>	Main components: (-)- Menthol (70-80%). Once distilled it should be a solid mass at room temperature, because of the high menthol content. To make it liquid it is necessary to dementholize it, reducing the amount of menthol to under 50% (usually 35-40%) Menthone Isomenthone Other important components (in Chinese cornmint) 3-Octanol Isopulegol Neoisopulegol cis-3-hexenyl isovalerate	
CINNAMON <i>Cinnamomum tamala</i>	Important to clarify what chemotypes are being produced. There are at least 2: cinnamaldehyde and eugenol.	
SPIKENARD <i>Nardostachys jatamansi</i>	Valerenal (1,2%)	Important to guarantee that the roots are not adulterated with roots of <i>Cymbopogon schoenanthus</i> and <i>Selenium vaginatum</i>
CHAMOMILE <i>Matricaria chamomilla</i>	Important compounds for the olfactory profile: Ethyl 2-methylbutyrate; methyl salicylate; 2-methoxy-4-methyl-phenol; indole	It would be paramount to specify which chemotype is being distilled: there are at least six: CT A: bisabolol oxide A 38-60% ■ CT B: bisabolol oxide B > 45% ■ CT C: a-bisabolol 45-60 % > a-bisabolol oxide B > a-bisabolol oxide A ■ CT D: a-bisabolol ≈ a-bisabolol oxide B ≈ a-bisabolol oxide A ■ CT E: a-bisabolone oxide A ■ CT F: very low in matricin Fundamental that the oil is protected from oxidation and direct light. Important to guarantee that it is not adulterated with oil from <i>Artemisia</i>
WINTERGREEN <i>Gaultheria fragrantissima</i>	95-98% methyl salicylate	Fundamental to ensure the oil is genuine and not synthetic methyl salicylate

Continued

	CHEMISTRY	QUALITY CONTROL
RODONDENDRON Rhododendron anthopogon	Important compounds for the olfactive profile: benzyl salicylate; benzyl benzoate; ethyl salicylate; geraniol; bet-phenylethyl alcohol	
GINGER Zingiber officinalis	Very important is the sesquiterpene fraction (20-30%; 50-70% in India). EO of indian origin is dominated by α - and β -zingiberene (50% up to 70%, but other oils might have 20 - 35%), and secondarily by ar-curcumen (5-7%, but can vary widely between 0.1% and 33%), beta-sesquiphellandrene (0-11%) and β -bisabolene (6-9%)	Important that it is distilled long enough to get the sesquiterpene fraction
CARDAMOM Amomum subulatum		
CITRONELLA Cymbopogon winterianus	Alcohol > 40% geraniol, citronellol (>15%), citronellal (35-55%)	
PALMAROSA Cymbopogon martinii	Alcohols (> 90%): linalool, geraniol (80-90%) nerol (25%), citronellol (tr.), p-mentha-1,8 (10)-dien-9-ol, farnesol (tr.) Other compounds: Geranyl and neryl formates, geranyl acetate, p-mentha-1,8 (10)-dien-9-yl acetate, geranyl butyrate and isobutyrate, geranyl and prenyl isovalerate, amyl, prenyl and geranyl hexanoate, prenyl and geranyl octanoate	Gingergrass (C. martini var. sofia) is a very common adulterant Others: turpentine, citronella and synthetic geraniol.
LEMONGRASS Cymbopogon flexuosus	Triciclene 0,16% α -pinene 0,21% Camphene 1,21% Methyl heptenone 2,14% Myrcene 0,08% N-octanal 0,15% Limonene 0,32% (Z)- β -ocimene 1,32%	Extremely cheap, not adulterated
VALERIAN Valeriana officinalis	Main component: (-)-bornyl acetate, plus other bornyl esters The main compound for aroma is: free isovaleric acid	

source: Marco Valussi (2016)

ANNEX 7 STANDARD FORMAT FOR BATCH

**ANNEX 7
STANDARD FORMAT FOR
BATCH CERTIFICATE
(EUROPAM)**

Proposed content of a batch certificate for medicinal and aromatic plants.**1. General information**

- 1.01. Product (commercial name)
- 1.02. Species (scientific name)
- 1.03. Plant part
- 1.04. Supplier
- 1.05. Batch number
- 1.06. Quantity
- 1.07. Cultivation or wild collection (if wild collection: permit required?)
- 1.08. Conventional or organic production
- 1.09. Origin (country and district)
- 1.10. Harvest year and harvest period

2. Cultivation

- 2.01. Irrigation (yes/no)
- 2.02. Fertilization (none/mineral/organic)
- 2.03. Plant protection products used (trade name/active substance)

3. Post-harvest processing

- 3.01. Washing (yes/no)

- 3.02. Freezing (yes/no)
- 3.03. Cutting (yes/no)
- 3.04. Distillation (yes/no)
- 3.05. Steam treatment (yes/no)
- 3.06. Irradiation (yes/no)
- 3.07. Drying (natural/artificial), if artificial name of combustible (direct heating only)
- 3.08. Fumigation (yes/no), if yes fumigant used
- 3.09. Separation procedures
- 3.10. Other post-harvest procedures
- 3.11. Packaging material
- 3.12. Storage conditions

4. Other comments**5. Compliance**

- 5.1. Production in compliance with GACP according to EMEA/HMPC/246816/2005? (yes/no/not applicable)
- 5.2. Name and position/title of person authorizing the batch release
- 5.3. Signature of person authorizing the batch release
- 5.4. Date of signature





COCO
EAU
DE PARFUM
CHANEL
PARIS

ANNEX 8 MAPs

International Market Study validation workshop

ANNEX 8

**MAPs International Market
Study validation workshop
(22nd of August 2016)**

WORKSHOP

After a presentation of the findings of the market study, questions & answers, a workshop was held with the participants from MAPs companies and from the Government Institutions and Associations.

The majority of the attendants were exporting companies of MAPs, Essential oils and some other natural food or cosmetic products.

The objective of the workshop was to develop a cluster or country-wise market entry strategy by the participating companies. The participants were divided by preferred export market 'clusters' i.e.

Cluster 1 for the USA

Cluster 2 for France & Germany

Cluster 3 for India & China.

Each group had to work out a very **basic export marketing strategy** by looking at the information given on panels

- Trends in the key market segments
- Opportunities for MAPs/Essential oils in each segment
- Market access requirements

Afterwards discuss within each cluster to answer eight questions. The participants received a synopsis of the market study prior to the workshop meeting.

Cluster 4 for Government Institutions, NGOs and Associations

The information and questions were related to export destination, quality improvement and infrastructure, encourage collaboration on all levels, increase the motivation, improve the assistance to companies and the future plans.

CLUSTER 4 - GOVERNMENT INSTITUTIONS NGOS AND ASSOCIATIONS



CLUSTER 1 - USA



CLUSTER 2 - FRANCE & GERMANY



CLUSTER 3 - CHINA & INDIA



THE THREE COMPANY CLUSTERS WERE DISCUSSING THE QUESTIONS BELOW FOR EACH MARKET:

QUESTIONS	USA CLUSTER 1	FRANCE & GERMANY CLUSTER 2	INDIA CLUSTER 3	CHINA CLUSTER 3
Why?	<ul style="list-style-type: none"> ■ Bigger & Attractive market ■ Easy communication & Dealing ■ USA prefer Nepali products ■ Customs facilities 	<ul style="list-style-type: none"> ■ Market promotion ■ Big perfumery producer ■ Introducing native products 	<ul style="list-style-type: none"> ■ Growing demand & quantity ■ Easy to communicate ■ Transport, Payment, Documentation ■ Quality issue is easy to handle 	<ul style="list-style-type: none"> ■ High demand & quantity ■ High prices for the procedures
Segments	<ul style="list-style-type: none"> ■ Flavour ■ Fragrance ■ Medicine 	<ul style="list-style-type: none"> ■ Flavour ■ Perfumery (fragr.) ■ Medicine 	<ul style="list-style-type: none"> ■ Medicine (herbal & traditional) ■ Flavour & Fragrance 	<ul style="list-style-type: none"> ■ Medicine (herbal & traditional)
MAPs (3)	<ul style="list-style-type: none"> ■ Yarshagumba (new) ■ Chiraito (new) 	<ul style="list-style-type: none"> ■ Ginger (new) ■ Phuhlwara butter/ Chiuri ■ Soap nut (new) 	<ul style="list-style-type: none"> ■ Timur ■ Chutro ■ Majito 	<ul style="list-style-type: none"> ■ Yarshagumba ■ Friilariae thunbergii ■ Satuwa
Ess. Oils (3)	<ul style="list-style-type: none"> ■ Lemongrass ■ Wintergreen ■ Jatamansi (new) ■ Ginger (new) ■ Timur (new) 	<ul style="list-style-type: none"> ■ Timur ■ Rhododendron anthopogon ■ Juniper 	<ul style="list-style-type: none"> ■ Jatamansi ■ Valerian ■ Sughanda kokila (Cinnamomum glaucescens) 	<ul style="list-style-type: none"> ■ Jatamansi ■ Wintergreen ■ Rhododendron anthopogon
Products Existing? New?	<ul style="list-style-type: none"> ■ See above 	<ul style="list-style-type: none"> ■ See above 	<ul style="list-style-type: none"> ■ Dietary supplement ■ Aromatherapy product ■ Import not allowed 	<ul style="list-style-type: none"> ■ Herbal drinks ■ Herbal soap (high quality) ■ Herbal cosmetics (such as Face packs)
USP Unique Selling Proposition	<ul style="list-style-type: none"> ■ Organic/Natural ■ Wild crafted ■ Competitive price 	<ul style="list-style-type: none"> ■ Small community based products ■ LAPA – Local Adaptation Plan of Action (added value) 	<ul style="list-style-type: none"> ■ Product from Himalaya ■ High quality & purity 	<ul style="list-style-type: none"> ■ Product from Himalaya ■ High quality & purity
Requirements (challenge)	<ul style="list-style-type: none"> ■ Meeting Buyers requirements ■ US Import regulations ■ Authentic certification (Certificate of origin) 	<ul style="list-style-type: none"> ■ Shipping ■ Laboratories ■ Unclear rules / regulations ■ Political instability 	<ul style="list-style-type: none"> ■ Transit permit ■ India Quarantine list of Nepal MAPs ■ Phyto-sanitary certificate refused by Indian government ■ Quarantine certificate rejected 	<ul style="list-style-type: none"> ■ Import permit needed by Chinese Govt. each product ■ High local development tax ■ Certificate for food supplements & Cosmetics
Other Challenges	<ul style="list-style-type: none"> ■ Quantity ■ Finding buyer (particip. Trade shows/Expo) ■ Cargo ■ Access to finance (payment, pre-financing) 	<ul style="list-style-type: none"> ■ Limited production ■ Documentation ■ Marketing or Promotion ■ Traceability ■ Harvesting (risks) 	<ul style="list-style-type: none"> ■ Lack of quantity due to wild harvest ■ Difficulty to reach right buyers 	<ul style="list-style-type: none"> ■ Lack of quantity due to wild harvest ■ Difficulty to reach right buyers

Continued

Continued

QUESTIONS	USA CLUSTER 1	FRANCE & GERMANY CLUSTER 2	INDIA CLUSTER 3	CHINA CLUSTER 3
Distribution Channels	<ul style="list-style-type: none"> ■ Buyer with smaller demand ■ Focus on special product ■ Company to Company 	<ul style="list-style-type: none"> ■ Indirect 	<ul style="list-style-type: none"> ■ Nepal trader → Indian product manufacturer ■ Indian Wholesaler/ Trader 	<ul style="list-style-type: none"> ■ Nepal Trader → Chinese Trader

THE PARTICIPANTS IN CLUSTER 4 WERE DISCUSSING THE QUESTIONS BELOW

QUESTIONS	GOVERNEMENT INSTITUTIONS / NGOS / ASSOCIATIONS CLUSTER 4
Country?	<ol style="list-style-type: none"> 1. China 2. USA 3. France 4. Germany 5. India
Segments	<ol style="list-style-type: none"> 1. Medicine 2. Flavour 3. Fragrance
Production	<ul style="list-style-type: none"> ■ Commercial cultivation ■ Input support / training ■ Sustainable forest management
Quality Infrastructure	<ul style="list-style-type: none"> ■ Follow GAP / GCP in the field ■ Quarantine certificate (HS Code) ■ Accreditation of Laboratory is in process (SPS / Toxicity)
Value Chain collaboration	<ul style="list-style-type: none"> ■ Capacity development / Training / Awareness ■ Producers / Collectors / FECOFUN / Cooperatives ■ Trader → Backward & Forward linkages (Price / Market / Buyer identify / Distribution channel / TREND)
Requirements	<ul style="list-style-type: none"> ■ GCP / GAP ■ Organic certification ■ MRLs ■ MSDs ■ Collective brands ■ Make awareness fund to get these certifications from GIZ (?)
Institutional capacity	<ul style="list-style-type: none"> ■ Train / Capacity stakeholders ■ Insurance ■ Assurance of the market ■ GAP / GCP - training ■ Royalty to be reviewed ■ Trade facilitation ■ Remove hurdles in policy
Motivation (smooth procedures)	<ul style="list-style-type: none"> ■ HRD not untraded ■ No support in capacity

Continued

Continued

QUESTIONS	GOVERNMENT INSTITUTIONS / NGOS / ASSOCIATIONS CLUSTER 4
	<ul style="list-style-type: none"> ■ Lack of coordination by stakeholders and Agency ■ Lack of involvement in policy making with CFUG / CSU ■ Inconsistent policy
Future Plan	<ul style="list-style-type: none"> ■ Link the programs by linking: <ul style="list-style-type: none"> - Market - Producer / Farmers - Sustainable MAPs management - Policy / Strategy

MAIN OBSERVATIONS COMPANIES

GENERAL

- Number of people participating was high and there was much enthusiasm and lively discussions.
- Each cluster picked up very well on the suggestion to introduce typical MAPs / Essential Oils from Nepal in order to be distinctive from India.
- There was no mood of competition between participants within each cluster.

ANSWERS TO THE QUESTIONS

- Structured approach and questions were well understood. However, especially Cluster 1 and 2, who were mainly young entrepreneurs, did not use the suggestions on the three opportunity sheets very well. They answered the questions based on their own situation – but did not add extra ideas that could be derived from the sheets. During the 10 minute presentations of the answers, group leaders did not precisely explained in which application the MAPs/Essential oils could be used and in which key segment. The product/market combinations should have been indicated more precisely. Now, they were too broad.

MARKETING IMPROVEMENT AND BUYER IDENTIFICATION

- The understanding of 'Marketing' was still not clear by all companies (Marketing is NOT Promotion).
- Market size and growth were main criteria to choose a country rather than specific market

segment or market niche.

- Finding the right buyer is a problem, which illustrates a lack of a targeted marketing strategy.
- The USPs (Unique Selling Proposition) mentioned were from perspective of Nepal or from the product (e.g. high quality, pure product). The USPs were not customer oriented being the basic principle of Marketing.

EXPORT MARKETS AND PRODUCTS

- In the Western countries – the flavour segment was mentioned first, followed by fragrance and afterwards pharmaceutical (Traditional/ Natural medicine including Aromatherapy). Timur, Rhododendron, Jatamansi, Ginger and Wintergreen were the main essential oils mentioned. While Ginger (whole), Chiuri and Soapnut were the main commodities mentioned for France and Germany.
- In India/China the Medicine segment was mentioned with Timur, Chutro (*Berberis aristata*) and Majito (*Rubia manjith*) as the best three MAPs for India, and Yarshagumba, *Fritilariae thunbergii* and Satuwa (*Paris polyphylla*) as best three MAPs for China. Jatamansi was mentioned as best essential oil to export to both India and China.
- Production capacity is still a problem, especially when targeting the Chinese market.



The USPs were not customer oriented being the basic principle of Marketing.

MARKET ACCESS REQUIREMENTS

- For exports to India, permit issues (transit), phytosanitary certificate and quarantine certificate are important constraints for Nepali companies.
- For China, import permits, certificates food supplements & cosmetics, high duties and taxes were main problems. Especially the necessity of high sales taxes (up to 40%) must be verified. This can be attributed to high corruptive practices in certain ports of entry.
From the resources used for the Chinese part of the market study such high tax rates were not mentioned. Besides Nepal is a Favoured Nation for the Chinese government. It depends on the port of entry and the degree of corruptive practices there.
- The difficulty to have good insight in Access requirements for the USA and especially for Europe is not surprising. The explanation of these requirement in the Market Study will give more insight in their necessity, relevance and how to deal with them. It will help companies to have a basic understanding for discussions with their trade partner.

DISTRIBUTION

- The preferred distribution channels were mostly Indirect – i.e. via agents, traders, whereas Cluster 1 (USA) was dealing direct with small companies. However, the tendency in export markets is to source direct from companies or cooperatives in developing countries. Therefore, Nepali companies should see this as an opportunity even if it required more effort to establish a business relation with e.g. a distiller or importer. Direct supply to the industries is difficult because larger quantities of a consistent quality are often required.

GOVERNMENT INSTITUTIONS/ NGOs / ASSOCIATIONS

EXPORT MARKETS

- The markets mentioned were: China, USA and afterwards France, Germany, India. But has Nepal the capacity to export to these big markets (China) considering all areas of improvement that are still needed?

GOOD INTENTIONS

- There are many ideas and good intentions mentioned especially:
- Follow GAP/GAC in the field as an important guideline towards cleaner cultivation, hygiene and quality control.
- Accreditation of the laboratory. Not all companies were aware of its existence.
- Stimulate collaboration among different actors in the value chain as well as between NGOs – including smaller NGOs having a close contact with cooperatives and CFUGs.
- Support for organic certification (grower group).
- Encourage commercial cultivation among famers combined with sustainable forest management. An idea could be to offer famers to lease land.
- To make all actors more aware about the most relevant market access requirements and doing trainings how to comply with them and how to organise their activity accordingly.

RECOMMENDATIONS AND NEXT STEPS

SECTOR DEVELOPMENT

- Further develop the processing of MAPs into essential oils to make the MAPs sector in Nepal more competitive by capitalizing on the opportunities in the five selected markets, especially in the USA and Chinese markets. Nepali companies could take the strict market access requirements in Germany and France as a challenge upgrade their export business. They should be able to demonstrate a mission statement that clearly contributes to job creation in Nepal, to an improvement in good agricultural and collection practices (GAP, GCP) and to more sustainability in the MAPs value chain. Besides, Nepali companies are advised to take a more customer-oriented approach by knowing the market and by anticipation, rather than being a supplier that sells on a customer request basis.
- Improvement of the quality of essential oils. Buyers in Western markets tend to stick to their current suppliers to minimize the variety in quality. The laboratory in Nepal will help companies to set standard methodologies to convince buyers that more is done on the quality control of essential oils. Nepali companies should

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use the laboratory and this should be made more known to them, as currently some companies are not aware of its existence. By testing their essential oils, they can recognise the required chemistry (Annex 6), adulteration, mix of different essential oils, use of MAPs from different harvests, discrepancies with samples etc...Customers in Western markets will find out such practices as they test the essential oils regularly by an accredited laboratory in their own country. If Nepali companies cannot guarantee a consistency in quality, this means a competitive disadvantage, limited applications, limited shelf life and an inability to establish long-term relations with customers.

COMPANIES

■ Increase production capacity by collaboration.

This could be between Nepali companies - or between companies and (MAPs) cooperatives able to produce essential oils of export quality. Similarly in export markets processors/importers work together e.g. on a contract basis. Along with the trend of mergers and acquisitions, smaller processors choose to join forces to deal with larger orders to compete with large companies - or to deal with cartelling practices.

■ The other option for Nepali companies is to sell small quantities of high quality oils for small customers on an exclusive basis. In this case, quality control is crucial for success.

■ Attract foreign buyers for sustainable sourcing who have an extensive knowledge/experience in the MAPs sector and who can provide know how (production, planning, organisation etc...) and fair prices to farmers, collectors, local processors and companies. Arrangements can be made about quantities and price level e.g. for one year. The foreign buyer is sure about a source of supply and a lower price - dealing direct with partners

in Nepal. Besides, they can control the quality or they can use different quality levels (see Case Madagascar in Chapter 3.6) and provide good packaging materials (cans/drums).

Arrangements can be made by semi-processing in Nepal and final processing by the foreign company - similar as the partnership between HTBL and Nateva (DevelopPPP of GIZ). Large US companies such as Aveda, DoTerra, Young & Living, Greenland (Denmark) and others have co-sourcing partnerships in Nepal. The 'Doing good' philosophy and win-win arrangements for sustainability are a tendency among buyers. This offers an opportunity for Nepal being in an urgent need to recover from the earthquakes, fuel crises and being affected by climate change.

→ To invest in Nepal should be more promoted e.g. at trade shows, via NGOs and via contact with cooperative/sustainable banks in export markets e.g. OikoCredit, Triodos amongst others.

■ The Nepali companies should try to take a more consumer focussed approach through better understanding of the key segments. Companies in competing countries and most Western importers are already successful in this approach. It is a challenge to understand how the trends in each key segment can be translated into opportunities. If they succeed to do so, companies can create more customer oriented solutions. For example, in France there is a rise in taxation (VAT) on sweetened soft drinks while French people still want soft drinks with a sweet flavour. French manufacturers have to find (unknown) alternative flavours in their soft drink that provide a good taste. In this case, ginger, lemongrass, timur or chamomile could be interesting to promote to French manufacturers, flavour houses or distillers. In the promotion, health aspects could be shown and combinations with typical elements from

Nepal can be made e.g. Timur cultivated by small Nepali communities, used in dishes (momo, thukpa or chicken chilli) as well.

- **Identify niche markets in the Western markets**
e.g. the Veterinary market (well-being of animals), oils for scent diffusers (polluted cities in China, India), natural pesticides and also Rudraksha beads for Buddhist practitioners. Other niche markets can be found in alternative natural DIY household cleaning products (e.g. soapnuts) and in the industrial uses (see overview in figure 3, Chapter 1) e.g. paper, print, textiles, rubber, plastics, paints etc. Market access requirements might be less strict in the industrial market as the MAPs/Essential oils are not for products that are direct in contact with people's skin or used as ingredient in food for humans.
- **Identify the right trade partners.** Most Nepali companies are recommended to sell via the indirect trade channel, i.e. via traders or agents. They know well the situation in export markets,

especially in China, speak the language and have contacts there. It is a challenge to find the right/trustworthy agent/trader who can advise on how to deal with the extremely high sales tax, import permits, other access requirements, copying issues and marketing issues.

In Western markets, agents make their role more pronounced by specialising in good quality extraction techniques, offer innovative product portfolios or develop unique customised concentrations and blends together with industrial segments that operate in the higher end of the market. The applies to smaller specialised distillers who are looking for direct sourcing in developing countries. In this respect, both agent and distiller are interesting partners for Nepali companies to establish a long-term relationship. Nepali companies could also do selling direct to retailers or internet sellers, but it will take much time to deal with them. Sales to online sellers must be considered carefully as they ask for exclusivity



and can suddenly re-position to e.g. discount as the competition between online sellers in western market intensifies.

- **Nepali MAPs, Essential oils and Commodities** (e.g. Chiuri as alternative for Shea butter in skin care) **should be more visible in export markets** because it is not enough recognised. A clear positioning can be inspired on the different faces of Nepal (traditional use, advantages of 100% pure oils for health, multi-functional uses). There are still many unknown facts that are related to e.g. spirituality, Buddhism that are difficult to imitate by Indian companies.
- **Join forces** of companies and other stakeholder (government and banks) and organise **joint promotion at trade fairs**. China, Thailand, India, Taiwan, Vietnam and Indonesia e.g. have been successful in this respect. Proposals for a collective logo for the whole Nepali MAPs sector (as a joint promotion tool) should be considered. For example, 'Authentic healthy oils from mountains in Nepal' will contribute to a better recognition of the sector. This logo can be used at trade fairs. On the other hand, companies can continue to sell under their own brand/logo.



GOVERNMENT INSTITUTIONS/ NGOs / ASSOCIATIONS

- **Support to Nepali companies by trainings and information.** The governmental institutions, Donor agencies, International organisations like GIZ, Trade organisations, NGOs and Associations such as FECOFUN, JABAN, NEHHPA or other NGOs could (continue to) encourage companies by:

→ Giving companies and other actors in the value chain access to the information e.g. given in this market study (in Nepali) - possibly dividing this study in parts (e.g. by country).

→ Provide specific trainings tailored to each group. The more knowledge e.g. farmers/processors have, the more potential they see if they cultivate MAPs of a good quality. If they are better informed about (fair) prices, it will reinforce the farmers' role towards traders and middlemen.

→ Advise farmers to make samples that are more according to the actual situation.

→ Inform farmers about the dangers of using low cost or obsolete chemical pesticides (e.g. DDT) and not respecting instructions on the labels. Inform the risks for their own health, for their land and their children.

Encourage the use of botanical pesticides (e.g. Neem, Artemisia, Accrus calamus or others) and by rotation of crops or permaculture. If they switch to organic farming, the risk of too high MRLs will be lower and they can participate in an organic grower group for (future) organic certification. If they do the same for some of their other crops, they can make organic food available to tourists being a good opportunity to increase their income.

→ Provide incentive packages to farmers and companies (targeted approach).

→ Stimulate private financing to invest further in cultivation, processing and exports of MAPs and essential oils. Support could be also given by loans or micro-finance.

→ Smoothing and simplifying the administrative procedures, providing release permits and reduce payment of royalties for e.g. smaller companies or co-operatives.

→ Support in case an application by an organic growers group is done for organic certification (via Ecocert or One Cert).

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- Provide training in marketing (with workshops) to Nepali companies supporting and encouraging them to take a customer-oriented approach and taking risks as an entrepreneur.
- Find out from the Indian government what the reason is behind the refusal of several certificates from Nepali companies. If this is based on a few exceptional cases, negotiations could be started up with the Indian government.
- Find out with the Chinese government what the issue is regarding sales tax (40%) and if this differs per entry point. Nepal is regarded as a MFN (Most Favoured Nation) with tax levels between 6% and 20%.
- The access of new MAPs or essential oils could be negotiated with the Chinese government.

■ Special assistance tools/incentives to farmers and young entrepreneurs

- It will be necessary to assist all actors in the value chain to start with the farmers and to encourage young entrepreneurs who are positive to start an exporting business in Nepal.
- A definition of companies could be e.g. young entrepreneurs (or small companies) with less than 10 employees and exporting less than e.g. 5 tonnes of essential oils/year.
- If they are discouraged by payments of royalties, administrative procedures etc., there is still a flow of young people working in the Gulf States.
- Like in Western countries, the government must assist/help/advice young entrepreneurs as an instrument to reduce unemployment, having them staying in the country.

■ Moving the MAPs forward by organisation

To realize the Good intentions mentioned by Cluster 4, an efficient MAPs sector organisation will be necessary. Important key questions to clarify are:

- How to organise these good intentions?
- Currently there are too many governmental organisations and NGOs, and much overlapping work seems to be done. Many different Ministries are involved in the MAPs sector, but little is shared between the institutions as well as between NGOs operating on different levels. All are working from different perspectives to improve the MAPs sector in Nepal.

Joining forces would contribute to enhance sustainability in the MAPs sector all over in Nepal (West, Central and East). Currently there are still organisations that operate on their own vests. They should try to share more experiences and information to prevent double work.

- A central organisation or federation that can overlook all activities and give them structure within a given time frame.



- The role of a sector organisation for MAPs
 - i. Similar ‘umbrella organisations’ in other Asian countries represent common interests. In most Asian countries, they are proactive and act a ‘motor’ to develop a sector. This proved to be successful in China, Taiwan, Korea, Vietnam, Myanmar and Indonesia (see Case patchouli in Chapter 2.4). It should be possible in Nepal as there is already so much knowledge available. Such organisation also acts as a main entrance for foreign buyers/investors, governments to reach co-operations, Nepali companies, local associations or Nepali experts in the field.
 - ii. Most important goals of the MAPs organisation could be:
 - Providing access or consultation of the sources for quality seeds from duty-free areas.
 - Enhancing cultivation methods of MAPs and the distillation of essential oils.
 - Making farmers and collectors more aware about use of fresh/clean plants of similar harvests, proper storage, hygiene, planning, quality consistency and good communication as tools to establish long-term relationships with customers.
 - Encourage exporting companies to invest in clean production, clean storage and work closer with famers/collectors towards a common goal/customer.
 - Suggesting technical and organisational improvements through trainings (by mentor on the spot).
 - Supervising the quality control and continued pureness of essential oils (see Annex 6 for specifications).
 - Promoting the MAPs sector of Nepal (not of individual companies), under a common brand e.g. at trade fairs (large international or small local fairs).
 - iii. This organisation could be financed by several Governmental departments (MoC, DoF or other). Current Trade Associations are export oriented and some (partly) operate for their own profit. This umbrella organisation should operate and coordinate on a higher level than NEPPHA, JABAN or FECOFUN etc... It should be action driven rather than becoming a platform organisation for ongoing discussions.





ANNEX 9

Presentation of summary of countries and products during the core group meeting (6th of November 2015)

ANNEX 9

**Presentation of summary of
countries and products during
the core group meeting (6th
of November 2015)**

5. SUMMARY – COUNTRY SELECTION

	MAIN EXPORT	DESIRED MARKETS	WORLD IMPORTER	MARKET GROWTH	OPPORTUNITY CHALLENGE
MAPs					
1. India	4	4	Medium	High	Bulk (continued)
2. Pakistan	2		Small	High	Bulk (continued)
3. China	1	1	Large	High	Limited
ESSENTIAL OILS					
1. India	4	4	Medium	High	Ph, Cos, Fo
2. Japan	1	3	Large	Low	Ph, Cos
3. China	1	2	Large	Medium	Ph, Cos, Fo
4. USA	4	4	Large	High	Ph, Cos , Fo
5. Germany	2	5	Large	Medium	Ph, Cos
6. France	4	4	Large	Low	Cos
7. Spain	2	2	Large	Low	
8. UK	1	2	Large	Medium	Cos , Fo
9. Switzerland	1	1	Medium	Low	Ph, Cos
10. Netherlands	1	1	Small	Medium	
Other Singapore, Taiwan, Korea, Thailand, Vietnam, Pakistan Belgium, Czech Rep. , Denmark, Ireland, UEA			Large > 10% Medium 5 – 10% Low < 5%		Pharmaceutical and well being Food Cosmetics

5. SUMMARY – PRODUCT SELECTION

MAPs	MAIN SPECIES	AREA NO. OF PRODUCERS (DISADVANTAGED)	AVAILABLE/ EUROPE	PRODUCTION	VALUE (PRICE)	MAIN APPLICATION FO, COS, PH
Priority (INMAPs)						
1. Timur	6	Mid West	191 (38)	Bul, D, Gr, I ,Rom	High	Fo
2. Mentha	5	Terrai			Medium	Fo, Cos, Ph
3. Asparagus	2	Mid West	516 (241)	D, Gr, UK	Medium	Fo, Ph
4. Cinnamon	5	Mid Hills			High	Fo, Cos
5. Chiuri	4	Terrai			Medium/High	Fo, Cos
6. Jatamansi	7	Mountains			High	Ph, Cos
7. Camomille	6	Terrai	429 (357)		Medium	Fo, Ph
8. Soapnut	3	Mid West			Medium	Cos, Ph
9. Wintergreen	4	Mountains			High	Cos, Fo, Ph
10. Rhodondend.	4	Mountains			High	Cos, Ph
11. Ginger	4	Terrai			Medium	Cos, Ph, Fo
Other Yarshagumba, Citronella, Kutki, Palmarosa, Lemongrass, Valerian Curcuma, Cardamom					Pharmaceutical and well being Food Cosmetics	

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ANNEX 11

LIST OF

ANNEX 11

LIST OF ABBREVIATIONS

List of Abbreviations

AFNOR	Association Française de Normalisation
APC	Advanced Payment Certificate
BB	Beauty Balm
BDIH	Bundesverband der Industrie- und Handelsunternehmen
BIP	Border Inspection Post
BPC	Beauty and Personal Care
BSCI	Business Social Compliance Initiative
CAD	Cash Against Documents
CAGR	Compound Annual Growth Rate
CBD	Convention on Biological Diversity
CC	Colour Control (cream)
CEO	Chief Executive Officer
CFDA	China Food and Drug Administration
C&F	Cost & Freight
CIF	Cost, Insurance, Freight
CIHEF	Interprofesional Committee of Essential oils in France
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMD	Chinese Medicine Division
CofA	Certificate of Analysis
DNB	Dun & Bradstreet (checking financial status of companies)
DomTom	Overseas territories of France
DSHEA	Dietary Supplement and Health Education Act
EC	European Commission
ECHA	European Chemical Agency (for REACH registration)
EFSA	European Food Agency
EMA	European Medical Agency
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration (United States)
FD&C Act	US Food, Drug and Cosmetic Act
FLO	Fairtrade Labelling Organizations International
FOB	Free on Board
FW	Fair Wild
GACP	Good Agriculture and Collection Practices
GLOBALG.A.P.	The Global Partnership for Good Agricultural Practice
GMPs	Good Manufacturing Practices
GSP	General System of Preferences
HACCP	Hazard Analysis Critical Control Point
HIV	Human Immunodeficiency Virus
IFF	International Flavour and Fragrances (leading Flavour and Fragrance House in the world)
IOAS	International Organic Accreditation Service
ITC	International Trade Center
KPMG	Klynveld Peat Marwick Goerdele (International Consulting and Accounting Firm)
L/C	Letter of Credit
LLC	Limited Liability Company
LVMH	Louis Vuitton Moët Hennessy (French multinational of fashion, perfumery and drinks)
MAPs	Medicinal and Aromatic Plants
MFN rate	Most Favoured Nation rate (China)

MOFCOM	Ministry of Commerce of the People's Republic of China
MRLs	Maximum Residue Levels
MSDS	Material Safety Data Sheet
NBSAPs	National Biodiversity Strategies and Action Plans
NES	Not Exactly Specified
NOP	National Organic Program
NSSI	Natural Sourcing Sustainability Index
NTFPs	Non-Timber Forest Products
OGG	Group of Organic Growers
OTC	Over The Counter (medicines)
PAN	Permanent Account Number
PPP	Public Private Partnership
PTSD	Post-Traumatic Stress Disorder
QVC	Quality, Value, Convenience (Home shopping TV Channel)
RB	Reckitt Benckiser Plc (American pharmaceutical company)
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals (EU- regulation)
SCCP	Scientific Committee on Consumer Safety
TCM	Traditional Chinese Medicine
UAE	United Arab Emirates
UNEP	United Nations Environment Programme
UK	United Kingdom
USA	United States of America
USDA	United States Department of Agriculture
USP	Unique Selling Proposition
VAT	Value Added Tax



ORGANIC
THYME

PEPPER FLAKES

ORGANIC
PARSLEY

